Apple IIGS

The Buyer's Guide

A Redgate Publication
Fall 1988, $2.95 U.S.

Apple IIGS

Fall Learning Issue:

Toddlers At The Keyboard
Priming For College With The Apple IIGS
Communications Update
Special AppleFest Roundup
GEOS Explored
More Than 400 Apple IIGS Product Descriptions

Desktop Publishing:
What's Hot And Why

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*To be very specific, you need an Apple IIc, Apple IIGS or Apple IIe enhanced with 128K of ROM, an 80 column card and a Super Serial card. **General Services is provided to you by Quantum Computer

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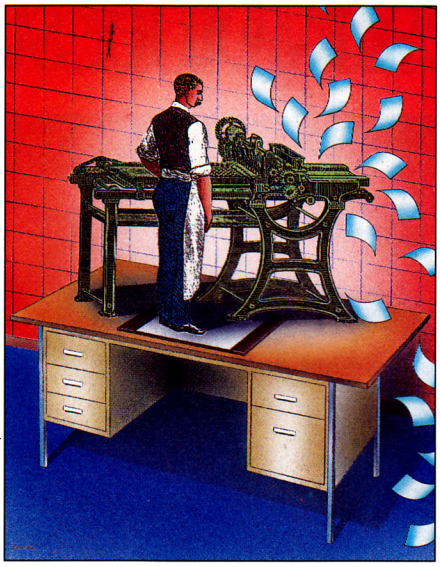

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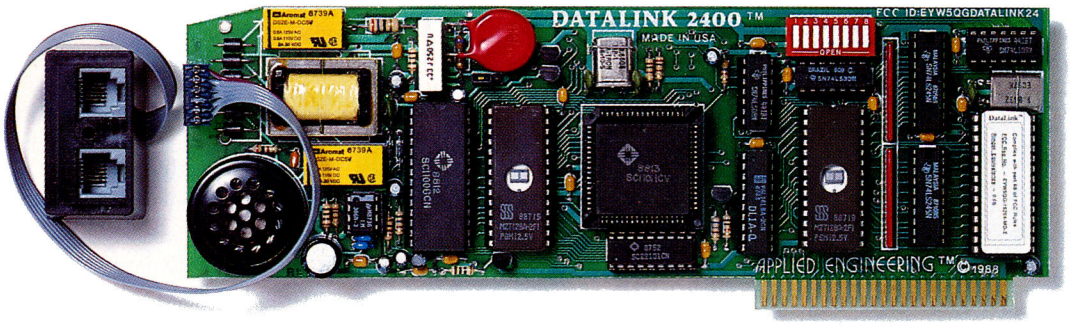

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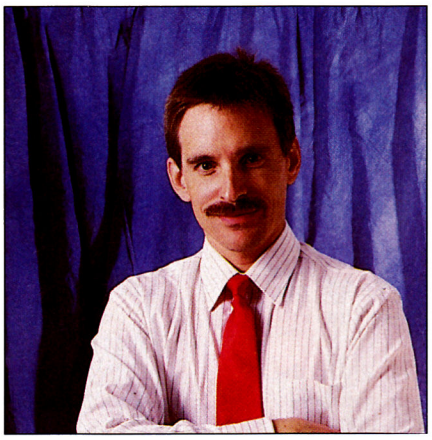
Advancing The Standard



Besides bringing graphics and sound to the computer masses, the Apple IIGS delivers a healthy injection of standards to the once wild and wooly Apple II world. Everything about the IIGS that we tend to associate with the Macintosh — the Finder, pull-down menus, dialog boxes and so on — really represents Apple's attempt to make Apple II hardware and software more consistent and easier to use. Before the IIGS came along, practically every developer created its own user interface, wrote proprietary printer drivers and built customized fonts.

OK Apple, thanks for the help. But did you go far enough? The Apple user interface takes a nice first step toward standardization, but there's room for improvement in future versions of IIGS system software. As we've seen in the Macintosh world, the definition for "system software" has been broadening of late. Tomorrow's IIGS system software could strengthen and considerably expand the standards already established. What follows is my "wish list" for future versions of ProDOS 16 or its possible successor.

More speed. This point seems obvious, but it's worth repeating. ProDOS 16 is slow, overly dependent upon five-year-old ProDOS 8 technology and does not take full advantage of the IIGS' 16-bit microprocessor. ProDOS 16's deficiencies were overlooked when the Apple IIGS first came out, but two years is long enough to wait for real improvement. The Finder simply has to be faster. As it stands, the sluggish IIGS desktop seems too much like Microsoft Windows Version 1.0 running on the original IBM PC.

Find File. Every Macintosh ships with this handy little desk accessory that finds files inside of folders. A similar program should be included with the IIGS Finder.

Hypercard for the IIGS. No, I don't have any inside information on whether this project is on anyone's "to do" list at Apple. But it should be. With Hypercard, anyone could create real IIGS programs, not just programming whiz kids. Speaking of kids, teaching Hypercard techniques in school could be more fun and effective than most BASIC, Pascal and Logo classes put together. Naturally, this hypothetical version of Hypercard should ship free of charge with every new IIGS.

Standardized word lists. A growing number of IIGS packages include built-in spell checkers and thesauri. On my IIGS hard disk, I can count three word processors, two desktop publishing packages and a couple of other add-on programs that each have their own spell checker. Unfortunately, none of them share the same word list. New words tacked onto one are never added automatically to the others.

Wouldn't it be great if Apple could standardize on one format for these disk space gobblers? That way, each developer could continue advancing the underlying program logic, but all programs would use the same word list. In fairness, this growing problem plagues not only IIGS users, but Macintosh and MS-DOS people as well.

Apple may choose to ignore one or all of these suggestions and allow third-party developers to work their free-enterprise magic. Given a need, somebody will eventually supply a solution. The IIGS will get faster, even without a new version of ProDOS 16, when several speed-up boards now under development reach dealer shelves. And certain items in the above list, including the Find File request, have already been filled at least partially by several vendors.

Yet, we all depend upon Apple to advance the IIGS standard and to make those improvements available to all. A brand new version of ProDOS 16 and an updated Finder would certainly help in this regard. ■

— Paul Pinella, Editor-In-Chief

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If only I had storage management software that could give me complete control of my hard-disk by installing itself onto my hard-disk and then installing my programs automatically . . .
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And there could be another program just like it, for my RamCard. It could load my programs onto my RamCard and present them to me on a menu . . . and I could flip from program to program like turning a page . . . and would have great features like autoload, back up, restore and statistical displays. And it could be incredibly fast and easy to use.

And they could work together to give me the greatest storage management system ever . . .
. . . and come with a manual that could explain ProDOS in a way that even I could understand . . .
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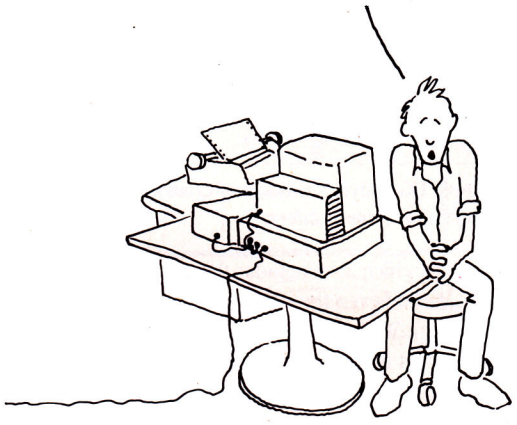

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The editors of* The Apple IIGS Buyer's Guide *and Contributing Editor Philip Chien answer letters and questions from readers.

1) Thank you for the fine series of articles in the Spring 1988 issue.

I humorously noted that you replied to a reader who asked how you select the reviews that appear in the magazine by saying, in part, that "products must be available on 3.5-inch diskettes." The first product to be reviewed in the same issue, MouseWrite, was shown in its accompanying photo on 5.25-inch diskettes.

Paul D. Kinney
Louisville, KY

It is amusing, but there's a good reason for our using that photo.

Roger Wagner Publishing, the publisher of MouseWrite, provides most of its products on both 3.5- and 5.25-inch disks — at no extra cost to its customers, as noted in the text of the article. Don't forget that MouseWrite, while primarily an Apple IIe/IIc product, works just as well on an Apple IIGS.

Fortunately, the publisher has decided to help its customers by providing its products on copyable 3.5- and 5.25-inch disks, even though it's possible for a customer or dealer to transfer MouseWrite from a 5.25- to a 3.5-inch disk.

By supplying the extra disks, Roger Wagner makes life easier for users. Other publishers also provide their products in both formats, a trend we want to encourage.

One other note on the product-selection process. *The Apple IIGS Buyer's Guide* is an Apple IIGS magazine, but we realize that the Apple IIGS is just one member of the Apple II family, which also includes the Apple IIe, IIc, II+ and even the original 11-year-old Apple II. Whenever possible, we note when a product is compatible with earlier Apples and often review packages available for all Apple II family members.

We do look for products that are at least available in the 3.5-inch disk format, however.

2) I'm a new Apple IIc owner. Can you furnish me with a list of software that works with my computer?

Also, I'm having trouble finding software that works with my Apple Color Plotter. Any suggestions?

Robert Barnabo
Hurley, WA

A list of software compatible with the Apple II would fill up a large encyclopedia! There are more than 10,000 different programs available for the Apple II family, but only a couple thousand are actually marketed commercially. Of the commercially available programs, many users would only be interested in a couple of dozen at most.

The directory listings in *The Apple IIGS Buyer's Guide* contain more than 400 products currently available for the Apple IIGS. There are also several large software directories, sold at bookstores, that list Apple-compatible software and sources. One such book is *The Apple II Guide* from Menu International Software Database Corp. You can contact them at 800-843-6368 or 303-482-5000.

As for your plotter, the primary programs that work with a plotter are graphics packages — such as charts and business projections — and CAD (computer-aided design) programs. Two examples are CADApple 3.5 (VersaCAD Corp.; see the listing in the directory section for details) and Business Graphics (originally sold by Apple Computer and now available through Sun Remarketing, Inc.).

Sun Remarketing, Inc. is an excellent source for plotter supplies, including pens and paper. The company can be reached at PO Box 4059, Logan UT 84321 (800-821-3221, ext. UT, or 801-752-7631, ext. UT; and ask for customer service).

Other plotter programs are available from a variety of sources, including program guides, dealer discontinued software bins, user groups and the occasional advertisements from smaller software houses. Make sure any program you acquire specifies "Apple Color Plotter" on its list of compatible plotters.

Most programs for the Apple are compatible, but there are a couple that are designed to work only with a specific plotter model.

3) I'm interested in getting a modem for my IIGS. What are the advantages and disadvantages of internal vs. external modems?

What type of phone do they require?

Ty Harris
Atlanta, GA

For the most part, external and internal modems operate identically, but there are minor advantages and disadvantages to each type. An external modem can be used with other computers, not just your IIGS. If for

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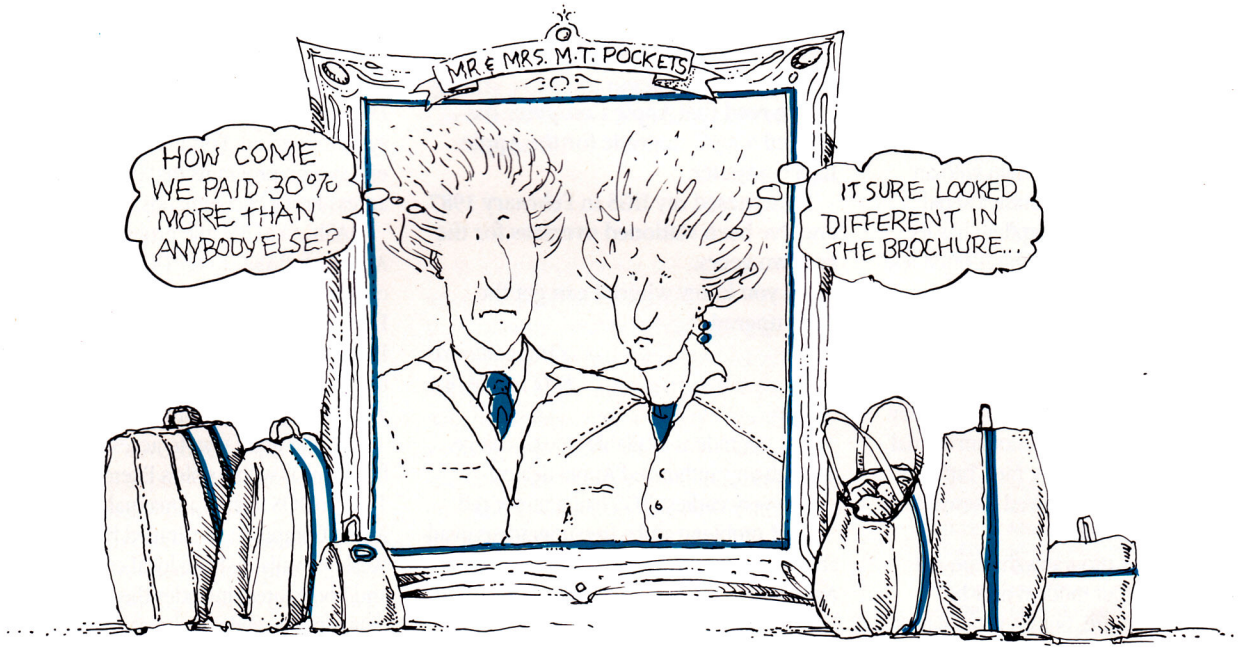

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some reason you want to use your modem with a Macintosh or Apple IIc, for example, all you need is a new cable and Mac terminal program. You don't have to purchase another modem.

An internal modem, on the other hand, doesn't require an extra plug outlet, doesn't need its own power switch, doesn't take up any space on your desk and doesn't require a serial interface card (not a big deal on a IIGS or a IIc, because they include built-in serial ports).

If you use an external modem with an Apple IIe, you have to purchase a serial interface card. An internal modem has its own built-in serial interface and is often less expensive than an external modem.

From a user's point of view, internal and external modems are identical. The rare exceptions are programs that "assume" you're using a IIGS' built-in serial port; they won't work with an internal modem's serial interface. Such programs are rare, but they do exist. CDA Power, reviewed elsewhere in this issue, is one example.

It's possible that programs that are not compatible with your modem may be upgraded in the future, but it's usually best to get programs that are compatible with your hardware.

To answer the second part of your question, most modems currently available are direct-connect devices that plug into the wall like any standard telephone. If you have an extra RJ-11 modular phone jack (a standard phone jack), just plug your modem into that phone line jack and go.

Many modems come with Y-jacks or second phone jacks that make the connection even easier. Just unplug a current phone, plug your modem into the wall jack and plug your phone into the modem's extra jack.

The connection can be more difficult with multiline phone systems. You may have to get your phone company to install an extra jack for your modem.

A good solution many offices use is a special-purpose phone line (e.g., an automatic credit card verification phone line, an alarm system phone line, etc.) as the modem phone line. Another solution, if you plan to use your modem often, is a totally separate phone line for the modem. Because your phone company can't charge you any more than for any other phone line, it may be worth the cost.

A special-purpose modem, called an acoustic coupler, uses a foam handset to cover your phone's speaker and microphone and makes a non-electrical connection to the phone line. An acoustic coupler is typically used with a portable computer, when you might want to use your modem from a public phone, hotel room or even from a radio phone on an airplane.

4) I've read that Apple Computer has offered a ROM upgrade for the Apple IIGS computer.

I purchased my IIGS in February 1987 and I've been stationed overseas for the last two years.

Do you know where I can get the ROM upgrade?

Carlos Oliveras
FPO Seattle, WA

The upgrade is available free of charge through any authorized Apple dealer.

The very earliest IIGS had a minor red "fringe" problem, and a free upgrade is available that corrects the problem. In addition, Apple has upgraded the System ROM in the IIGS, which is the program that tells a IIGS what to do when it's turned on.

The original IIGS says "Apple IIGS" when you turn it on. However, systems with the new ROM also give a copyright date and note "Version 01" at the bottom of the screen when turned on.

The color video and ROM upgrades are offered by Apple Computer as in-warranty, carry-in services through local dealers. The trouble is that a computer warranty is only good in the country where a computer was purchased.

Dealers in foreign countries may only have the capabilities to fix their own computers. There are also slight differences between international and domestic Apples (current, video standards, character sets, keyboards, documentation, etc.).

Probably the best solution for you is to send your computer back to a friend in the United States who can take it to an authorized Apple dealer. The computer can then be upgraded and shipped back to you.

Of course, it would be easier if somebody could ship the ROMs to you for you to install. However, Apple restricts upgrades to authorized dealers.

5) How can I access ProDOS on an Apple IIGS — i.e., enter commands? Also, how can I learn to use machine language? Is it difficult? Can I use a joystick?

Doug Welzel
Cherry Hill, NJ

Because it's an operating system, as opposed to a language or application, ProDOS can only be accessed from the proper system program. Fortunately, there are several system programs that easily let you access ProDOS commands.

BASIC.SYSTEM, the program that attaches Applesoft BASIC to ProDOS, is the most obvious example. Once you boot up a ProDOS BASIC disk you can use Applesoft ProDOS commands to open files, read locations, create files and read directories, among other ProDOS functions.

Another good way to access ProDOS functions is with Apple's Exerciser program. The ProDOS technical manual (written by Apple Computer; distributed by Addison-Wesley; available from local computer shops and bookstores) includes the Exerciser program and excellent technical information on how ProDOS works.

As far as learning machine language, it's certainly more difficult to use than BASIC or Pascal. However, it's also much more powerful.

One minor term that causes confusion: Assembly language generally means programming your computer's microprocessor by adding an Assembler program that converts your commands, comments and labels into the binary data the computer uses.

Machine language normally refers to the ones and zeros your microprocessor uses, or the HEX (base 16) equivalents that you can type directly into your computer. Assembly and machine language are generally used interchangeably, because they're similar in both form and function. Anything that can be done in a high-level language can be done better, and usually more efficiently, in machine language.

The best way to learn is to get a book with a good tutorial and learn by doing. One fairly generic 65816 programming book is *Programming the 65816* from Brady Books. The book isn't Apple IIGS specific, but it does lead you through the various 65816 commands.

Give yourself a simple project — such as a program that draws a graphics screen — and teach yourself how to write that program in machine language!

6) Can you recommend a programming language for adventure game programming on an Apple IIGS? Is there existing software to aid a programmer in creating good graphics, text and so on — after a user has learned the programming language?

John Gates
Des Plaines, IL

There are specific custom programming languages designed specifically for the purpose of writing adventure games — and nothing else. Several software publishers have designed their own in-house adventure languages, which makes it easier to produce several different adventures, especially if the publisher wants to publish the same game on several different computers.

Infocom (a division of Mediagenic) uses a sophisticated text-oriented interpreter for its Zork adventure series. Versions of that interpreter are available for the Apple, IBM, Macintosh and other computers.

Once Infocom's authors design their adventures for one computer, it's relatively easy to copy them for other computers. Similar interpreters, many supporting graphics and sound capabilities, are used by various companies.

As a rule, these companies keep their interpreters highly treasured in-house secrets. If you have a good idea for an adventure, you may be able to get a license to develop your idea using their language. Naturally, you have to pay royalties to sell programs developed with a software publisher's adventure programing language.

You may be able to find Eamon, a public domain adventure writing program, in a user group's library. Eamon was specifically designed to help non-programmers develop game-style adventure programs. We've seen ads for a non-public domain version of Eamon with added graphics capabilities, and you may be able to find it through local stores.

7) I purchased my Apple IIGS soon after the computer was first introduced on the market.

When the ROM upgrade was announced, I had the new ROM chip installed in my computer. I have noticed a difference in the way the system now runs. I seem to get more fatal errors, and the computer seems to get lost more frequently and does not always reset when Command, Control and Reset are executed.

What gives?

Chris Davis
Paso Robles, CA

As mentioned earlier, the IIGS ROM upgrade solves several problems. However, it also causes a couple in the process.

Programs that make incorrect assumptions about how Apple intended code to interface with the ROMs cause a variety of problems with the new ROMs. In the old ROM, for example, one memory location is zero when false and 1 when true. The new routine in the ROM is still zero when false, but 255 when true.

If a programmer's routine checks whether a value is zero, it's probably safe. If the program checks whether the value is one or zero, it will probably fail with the new ROMs. How it fails and what happens when it fails will vary from program to program.

All of Apple's developers were notified about the ROM upgrade and received technical documentation describing the changes. They should have updated their software to correct the problems.

Unless a IIGS program does something unusual, you should be able to recover from a problem by using the Control-Open Apple-Reset command.

Most likely the situation you describe is a hardware problem or an interference between an interface card in your IIGS and the motherboard. Some improperly designed hardware boards can fail, causing your system to "hang." You have to shut off the system to recover.

Another possibility causing your Reset problem is that your new ROM isn't totally seated in its socket and has come loose. You can carefully press down the ROM in its socket yourself. Otherwise, you might want to let your dealer check out your system for you.

(Continued on page 15)

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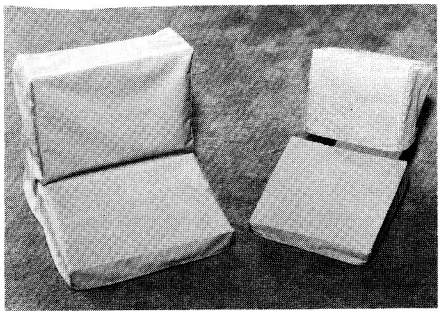

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AppleFest, Take Two

This was the year that Boston hosted the biggest Apple II show ever.

Dozens of Apple II hardware and software manufacturers displayed their wares at the AppleFest conference in Boston. The next AppleFest stop: San Francisco, September 16 to 18.

Last May, some 30,000 Apple II fans converged on the Hynes Convention Center in Boston to witness the second AppleFest conference and exposition in modern times. Those who braved the rainy weather, construction noise and lack of parking were rewarded with an impressive turnout of Apple II VIPs (old and new), demonstrations of new or soon-to-be released IIGS products, and enough graphics and sound product performances to rival the nearby Boston Pops.

Although not a graphics or sound product per se, Apple's new AppleLink - Personal Edition service was announced with plenty of glitz. AppleLink is a new online communication and information service tailored specially for users of Apple II and Macintosh computers.

The service rivals other online databases, including Compuserve, The Source and Genie, in many respects. For example, it equips users with electronic mail, stock-quote checks, access to public domain software and online forums. Yet, it also provides a direct technical support link to Apple and a growing number of third-party suppliers, including Applied Engineering, Beagle Brothers, TML Systems and more.

Non-prime time access charges are set at $6 per hour for any rate up to 2,400 baud.

Apple II Comes First

As a show of support to Apple II users, Apple announced that AppleLink access software would first be made available for the Apple II. Macintosh software was promised for late 1988. Several versions of the Apple II telecommunications package were running in live demo sessions at AppleFest.

On the Apple IIGS, the software takes advantage of super-high-resolution graphics in several screens, but text comes across in standard Apple II text mode.

Interesting IIGS sound products in various stages of customer delivery vied for consumer attention.

Diversi-Tune, a IIGS program from Diversified Software Research, Inc. that combines a music synthesizer, screen display and MIDI song recorder, attracted attention with live demonstrations by jazz piano improvisator Nathen Page. Songs recorded by Page using Diversi-Tune were distributed on disk at the show. The program uses the music-generating capabilities of the Ensoniq sound chip and requires no extra hardware. One nifty feature: As a song plays, the words and a "bouncing ball" appear on screen.

Applied Engineering's (A.E.) booth also aroused attention with demonstrations of two "soon-to-be-shipping" IIGS sound products: Sonic Blaster and Audio Animator. Sonic Blaster, a stereo digitizer, comes with an Ensoniq digital-oscillator sound chip to record, amplify and play back in stereo. Audio Animator combines stereo digitizing and playback with MIDI input and output. An external connector box for Audio Animator provides the necessary connections to keyboard, stereo, CD players and other computers.

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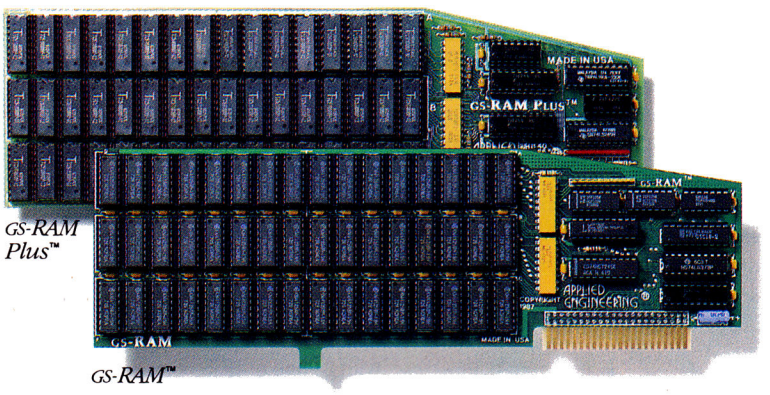

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More than Just Hardware

Each GS-RAM and GS-RAM Plus includes the most powerful set of IIGS software enhancements available anywhere. In fact, our nearest competitor offers only a fraction of the invaluable programs that we include with each GS-RAM card. This software includes the most powerful disk-caching program available, the GS-RAM Cache. The Cache will make most of your applications run up to *7 times faster.* Also included is a diagnostic utility that lets you test your GS-RAM by graphically showing the location of any bad or improperly installed RAM chips. And for AppleWorks users, we give you our exclusive Expander program that dramatically enhances both the capabilities and speed of AppleWorks.

Making AppleWorks Even Better

Applied Engineering's Expander program eliminates AppleWorks internal memory limits allowing it to recognize up to 8 megabytes of desktop workspace. You can increase the limits from only 7,250 lines to 22,600 lines in the word processor and from 6,350 records to 22,600 records in the database. The Expander allows all of AppleWorks, including print functions, to automatically load into RAM. The clipboard size will increase from 255 to 2,042 lines maximum. GS-RAM will automatically segment larger files so you can save them onto multiple floppies. And GS-RAM provides a built-in print buffer that allows you to continue working in AppleWorks while your printer is still processing text. You can even load Pinpoint or MacroWorks and your favorite spelling checker into RAM for instant response.

Grow by Kilobytes or Megabytes

We offer GS-RAM in two configurations so you can increase your memory 256K at a time (GS-RAM) or a megabyte at a time (GS-RAM Plus). Both are IIGS compatible and both come with our powerful enhancement software. GS-RAM can hold up to 1.5 MEG of 256K chips and GS-RAM Plus can hold up to 6 MEG using 1 MEG chips. And since both use standard RAM chips (not high-priced SIMM's), you'll find expanding your GS-RAM or GS-RAM Plus easy, convenient, and very economical. For further expansion, you can plug a 2 MEG "piggyback" card into the GS-RAM's expansion port for up to 3.5 MEG of total capacity. Or up to a whopping 8 MEG on GS-RAM Plus. If a GS-RAM owner outgrows 3.5 MEG, he can easily upgrade to GS-RAM Plus for a nominal charge.

Permanent Storage for an "Instant On" Apple

With our RamKeeper™ back-up option, your GS-RAM or GS-RAM Plus will retain both programs and data while your IIGS is turned off! Now when you turn your IIGS back on, your favorite software is on your screen in under 4 seconds! With RamKeeper you can divide your IIGS memory into part "electronic hard disk," and part extended RAM. Even change the memory boundaries at any time—and in any way—you want. Because Applied Engineering has the most experience in the industry with battery-backed memory for the Apple, you are assured of the most reliable memory back-up system available. And in the world of battery-backed memory, *Reliability* is everything. That's why Applied Engineering uses state-of-the-art "GEL-CELL's" instead of Ni-Cad batteries (if Ni-Cads aren't discharged periodically, they lose much of their capacity). RamKeeper has about 6 hours of "total power failure" back-up time. That's 6 times the amount of other systems. But with power from your wall outlet, RamKeeper will back-up GS-RAM, GS-RAM Plus, or most other IIGS memory cards indefinitely. Should you ever have a "total power failure," RamKeeper switches to its 6-hour battery. When power returns, RamKeeper will automatically recharge the battery to full power. RamKeeper incorporates a dual-rate charger, status L.E.D.'s, and advanced power reducing circuitry. RamKeeper comes *complete* with battery, software, and documentation.

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Steve Wozniak, the creator of Apple Computer

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Circle Reader Service Number 2

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The Applied Engineering products will both ship with IIGS-specific super-high-resolution software. At its booth, A.E. engineers entertained the crowd by sampling voice recordings and then modifying them in graphical format using an oscilloscope-like software display.

Graphics Galore

On the graphics side, the first shots were fired in the pending "battle of the desktop publishers." The latest product information — and inside story on the 8-bit/16-bit debate — is covered in this issue's feature story on desktop publishing.

Other graphics programs grabbed their share of attention. Perhaps the most noise centered around the StyleWare booth, where working versions of GSWorks took on cinematic proportions. Free baseball caps were distributed, and sessions dedicated strictly to GSWorks were held.

(Editor's Note: Several weeks after AppleFest, Claris announced that it had acquired StyleWare and GSWorks and had renamed the program AppleWorks GS. The product will be available the fourth quarter of 1988 and will retail for $249.)

GSWorks is an integrated, IIGS-specific package aimed at providing AppleWorks users with more power, windows and pull-down menus. At press time it's release date was still uncertain.

Can GSWorks go disk to disk with AppleWorks? Maybe so. The program reads AppleWorks spreadsheet, word processing and database files seemingly without any problems, making upgrading especially convenient. Unlike AppleWorks, GSWorks uses the bit-mapped graphics mode and, theoretically, suffers the same speed penalty paid by all IIGS-specific software.

The programmers at StyleWare have uncovered the most speed we've seen yet in a graphics IIGS environment, however. They've also added a couple of new twists not even available on the Macintosh, including a way to move information from one window to another by selecting the text or graphic to be moved and dragging it to a new window.

Other new features include page layout, paint, draw and communications capabilities. Time will tell whether GSWorks functions like a Swiss Army Knife or a vacuum cleaner with too many attachments.

If AppleWorks continues to hold its crown, much of the credit should go to Beagle Brothers. At last year's AppleFest, the company released the now-popular TimeOut series of AppleWorks add-ons, including a respectable spelling checker and utility. This year Beagle Brothers premiered TimeOut Thesaurus, PowerPack, DeskTools II, MacroTools and a new booth populated mostly by enthusiastic fans.

New software and hardware iterations of older graphics-based products also lit up the show. FingerPrint GSI, version II, from Thirdware Computer Products was effectively displayed. Users were shown capturing text and graphics from within IIGS programs and printing them out.

New IIGS software for ComputerEyes, the economical video digitizer from Digital Vision, Inc., was also demonstrated (see a review, this issue).

On the software side, several new IIGS-specific games made their splashes, some with more pizzazz than real arcade games. Among the more interesting were Accolade's Pinball Wizard, a make-it-yourself pinball game, and Bubble Ghost, where a player has to blow a bubble through 35 castle rooms filled with obstacles and hazards.

Cinemaware Corp. previewed several new games based on movie-like themes, including Defender Of The Crown and Three Stooges. Speaking of movies, PBI Software, Inc. demonstrated Alien Mind, a graphics-packed adventure that follows an "Aliens" (the movie) theme.

Viking Technologies, publishers of several "magazines on disk," used AppleFest to launch UpTime For The Apple IIGS. According to the publisher, each monthly edition will feature IIGS-specific programs, desk accessories and clip art.

"Doctors" in scrubs and surgical masks contributed to the carnival atmosphere at the Berkeley Softworks booth, where GEOS — the Graphic Environment Operating System — was on display. The theme was: Consider GEOS as painless "brain surgery" for your Apple II. Although of primary interest to Apple IIc and IIe users, GEOS creates a respectable Mac-like environment, including pull-down menus, icons and a mouse. (See the review in this issue for more information.)

Here Comes The Hardware

AppleFest held few hardware surprises, although it was refreshing to see many of the products we've been hearing about alive and working. FutureSound, a stereo hardware and software combination from Applied Visions, Inc., ran a continuous IIGS "cartoon" showing a hapless dog with a Pluto-like voice chasing a balloon.

On a more subdued level, printed circuit-board maker Applied Ingenuity was on hand with its line of IIGS boards, including G.S. Juice (a 1 MB memory board) and GStereo, a sound board for the IIGS.

At least two new modems of interest to IIGS owners were also displayed: the Classic II modem from Epic Technology, Inc. (see review, this issue) and CommLink 2400, an external modem in platinum gray from MDIdeas, Inc. With modem prices plummeting, there's little reason these days to consider anything other than a 2,400-baud modem.

With all the focus on high-octane technology and marketing, it was refreshing to pause Sunday morning — the last day of the show — and listen for an hour to the keynote speech by Steve Wozniak, an Apple Fellow, Apple co-founder and Apple II inventor. Wozniak's speech spanned his grade-school years, when he would stay up late sending Morse-code messages to friends, and detailed seemingly harmless college pranks that led to his probation for "computer abuse."

Among Wozniak's more memorable highlights: When the first microprocessor came out, Wozniak perceived it as "just like a microcomputer, but all on one chip." While trying to devise the first Apple II, he wisely discarded earlier designs with front-panel switches in favor of one that used a television-set display. "The right paradigm for a microcomputer is a terminal," predicted Wozniak, years ahead of his time.

Today's personal computer market has gone far beyond its hobbyist roots first spawned by Wozniak and other hackers. Still, the Apple IIGS carries on the discovery spirit in home attics, basements, bedrooms and classrooms everywhere.

Maybe there's still truth in Wozniak's assessment of computer life in the early 1970s: "This was not a business. It was just our little step along the way." ■

— Paul Pinella, editor-in-chief

(Continued from page 11)

8) I'm trying to use DeluxePaint II on an Apple IIGS and a Xerox Jetink 4020 printer, but I'm having problems. It appears that DeluxePaint II will only work with an Apple ImageWriter or LaserWriter, and I'd like a better color printer for graphics.

I have contacted Xerox, and they referred me to Electronic Arts, the publisher of DeluxePaint II. Electronic Arts, in turn, referred me to Apple Computer, which referred me to Xerox. It's a vicious circle!

Paul Torgues
Chicago, IL

One new feature for the Apple IIGS was printer drivers. With earlier Apples, a separate printer driver has to be written for each type of printer, and the various drivers vary in format and support.

On a IIGS, any properly written program can access the printer through a set of standardized drivers, making a programmer's job much easier. Naturally, it's in Apple's best interests to support its own in-house printers first — the LaserWriter and ImageWriter.

As of this date, Apple still has not released a driver for the ImageWriter LQ printer, and the LaserWriter printer does not support screen fonts. Hopefully, these drivers will become available when programming time at Apple becomes available.

Some other printer manufacturers have decided to write IIGS drivers for their printers to expand their markets. For most manufacturers, though, writing the printer drivers isn't worth the extra programming costs. Most IIGS users purchase Apple printers. Those who don't usually purchase printers for a specific purpose or program.

There are bright spots, though. Drivers are available for Epson/IBM-compatible printers from third-party companies, and at least one IIGS paint program, 816/Paint from Baudville, bypasses Apple's drivers altogether. This program drives the printer directly, and Baudville has decided to support dozens of different printers. ■

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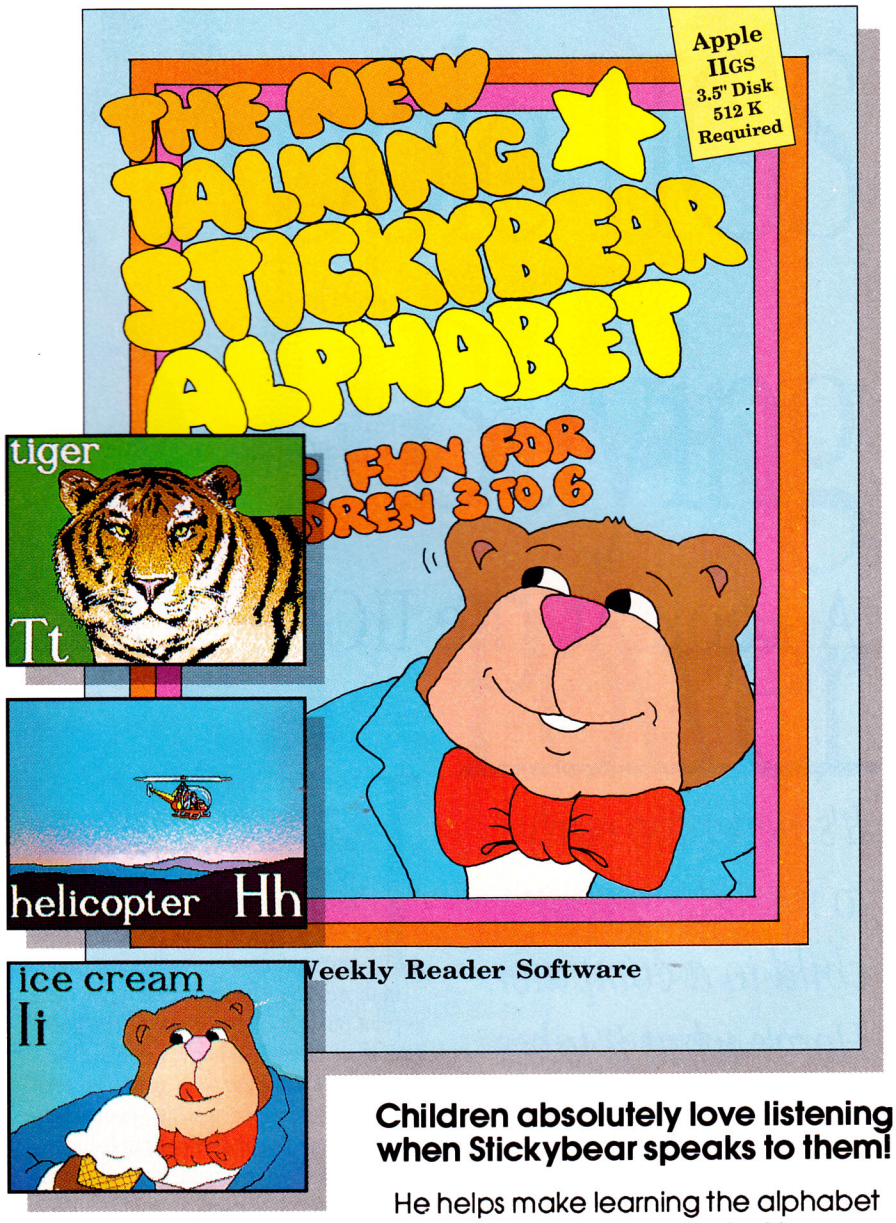

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my IIGS and me

A Look At The IIGS In The Formative Years

It's never too early to introduce your child to a computer. Here's what it takes for them to become the best of friends.

It's difficult to remember when computers were not the standard educational fare. Yet, it's been only 10 years since school keyboarding labs consisted of electric typewriters instead of electronic devices hooked up to printers.

In those days, students used typewriters to print out school newspapers. The good typists prepared final copy, reserving the fancy graphics for the class artists. Posters and banners for special school events were drawn by hand, and desktop publishing hadn't even been invented. How unsophisticated the technological ways of the 1970s appear to us now.

There's no question that computers are revolutionizing the way we do things and even the way we think. They are tools for acquiring new skills and reinforcing old ones.

It's more than colleges feeling the impact of the technology, too. Today, computers are common at the preschool and primary grade levels. Children as young as two and three are drawn to the moving images on computer screens. They squeal with delight at the bright colors, laugh in amazement at the positive-sounding beeps and buzzes, and enjoy being able to manipulate screen images from their keyboards.

Increase Your Apple IIGS Buying Power

As an Apple IIGS owner, you know how useful your computer is. You also know that only one magazine — *The Apple IIGS Buyer's Guide* — concentrates exclusively on your machine.

Every issue of *The Apple IIGS Buyer's Guide* spotlights a range of products that exploit the IIGS' leading-edge technology. *The Apple IIGS Buyer's Guide* explores the incredible promise of the Apple IIGS with how-to features, practical reviews, new developments and exclusive interviews.

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Apple II GS
The Buyer's Guide

Circle Reader Service Number 23

Preschool instructors and grade-school teachers use computers for a variety of tasks, including letter and number recognition, word processing, math, vocabulary, remedial reading and interactive simulations. With proper cables, cards and the necessary attachments, computers may serve as adjuncts to courses in science or technology.

Enter The Apple IIGS

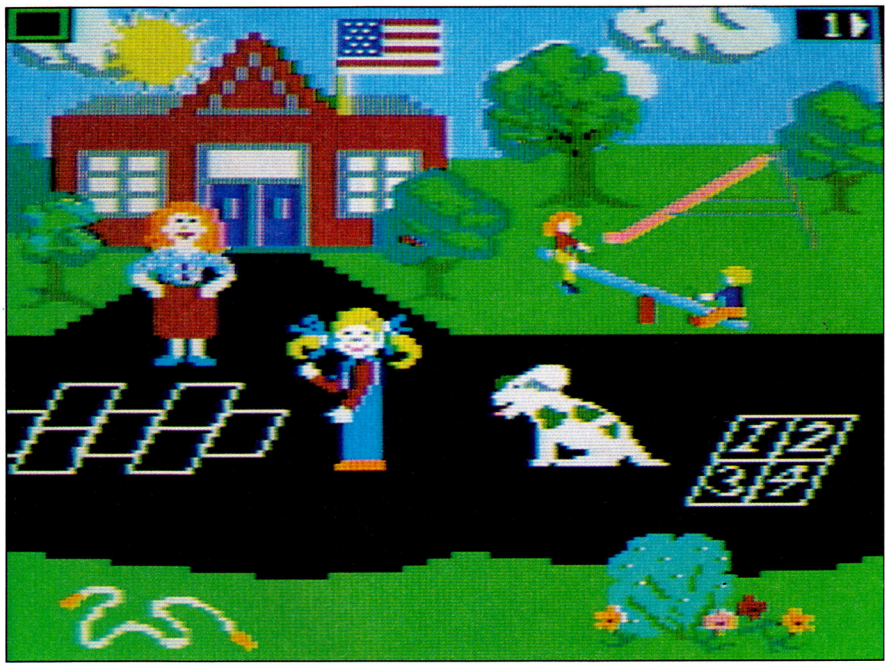
Preschoolers and Apple IIGS computers make an effective combination. The IIGS is well suited to preschool and elementary grade levels. Its friendly user interface and high-quality screen make the computer an ideal platform for educational software.

A IIGS' user interface affords far greater control over what the computer does than is possible with the more conventional keyboard approach of the 8-bit Apple IIs. The IIGS runs programs with lots of bright, crisp colors and offers terrific sound capabilities. With a relatively fast central processing unit (CPU), programmers can develop software with vastly improved animation and more activities that run simultaneously.

Explore-A-Series, developed by Learningways, Inc. (under the D. C. Health label) and marketed by William K. Bradford, Inc., is a good example of how a program can be improved by running it on a IIGS. The series is composed of a number of Explore-A-Story and Explore-A-Science programs.

The Story set supplements reading and language-arts skills for children in grades K to 5. The Science series stimulates scientific investigation and teaches scientific facts about the desert, Tyrannosaurus Rex, wolves, whales or animal tracks to children who have slightly more advanced reading skills.

All the programs in the series have the same look and feel. Students read a story from a book and follow along on their computers, turning electronic pages by clicking on a box in the upper right corner of the screen. The graphics are animated. Children can modify the scenes by moving things around, uncovering buried objects, placing additional animated props, inserting pretyped labels or typing their own short messages.



The Explore-A-Story programs encourage creative writing by displaying scenes and then letting students add the text and graphics. The programs all run best on the Apple IIGS.

Story Starters are included as background screen shots. Students select a Story Starter scene and then add their own text and graphics. The Story Starters give children the chance to be creative and innovative while they practice their writing skills.

The Explore-A-Series runs on Apple IIe and IIc computers, in addition to the IIGS. Only 5.25-inch disk versions are available, but 800K floppies are expected to be out by the time this article appears in print.

There are a number of differences that result when the programs are loaded into the memory of an 8-bit Apple II vs. the 16-bit IIGS. These differences have to do with color, input devices and animation quality.

When the software was first marketed, it did not work well on IIe or IIc computers with digital RGB (red, green, blue) monitors. Users needed to hook up composite monitors to obtain color graphics. On a digital RGB monitor, the graphics appeared in monochrome (shades of gray), but, technically, the color display on any RGB monitor is supposed to be visually sharper, more brilliant and better defined.

The programmers at Learningways soon made it possible for digital RGB monitors to run the software in color. Some of the older Explore-A-Series packages are still around; you may have to return them to D.C. Heath for an exchange.

Another good reason for using Explore-A-Series on a IIGS is the software's user interface. The program incorporates icon control, menu bars, windows and dialog boxes. Program activities work so nicely with the IIGS mouse that operation is almost intuitive.

Even though program options can be selected from the keyboard, the mouse is a much more elegant device. It eliminates memorizing keyboard-equivalent commands, gets you where you want to go faster and pinpoints menu selections more accurately.

Perhaps the most important improvement realized when using the Explore-A-Series on a IIGS is the handling of animation. Given the limitations of an 8-bit CPU, students soon discover that animated movement slows down considerably after a few items are placed on screen. Because the clock speed of an 8-bit Apple II microprocessor is only 1 megahertz (MHz), the computer can handle a relatively limited number of animation operations quickly, smoothly and efficiently.

The art of scientific investigation doesn't have to wait until college. Young students learn facts early on about dinosaurs, nature and the animal kingdom in Explore-A-Science.

The clock speed of a 16-bit IIGS is 2.8 MHz (switchable to 1 MHz). The increased power of the IIGS microprocessor, coupled with the faster clock speed of the machine, enables users to place more animated objects on screen without a noticeable slowdown in operation. Kids who experiment with the Explore-A-Series programs enjoy working with as many animated objects as possible.

The Power Of Speech

Do children notice the difference between software developed for the 8-bit Apple II and the 16-bit Apple IIGS? Yes, especially if a program has speech capabilities.

Take Reader Rabbit, for example. There are two Apple versions currently available. Both versions offer the same activities to develop reading readiness in children age 5 to 8. Youngsters learn to recognize more than 200 three-letter words as they match words with a target pattern; label pictures; fill a train car with a word that differs by just one letter from the word in the preceding car; and play a game that requires matching pictures to pictures, words to pictures or words to words.

In a classroom situation where the amount of time a teacher has for each child is limited, the personalized attention offered by a talking program serves as a real teaching aid.

The IIGS version of Reader Rabbit uses digitized speech, and children invariably prefer the friendlier rabbit that talks. The program's human-like voice helps a child recognize, remember and spell words more effectively than its non-talking counterpart. The IIGS rabbit explains the activities and pronounces each word clearly. The visual display is also greatly improved, because the IIGS version uses 16-color graphics.

Several programs are currently available with speech capabilities, even for the 8-bit Apple II.

No Extra Hardware Required

Programs developed for the IIGS do not need an additional speech synthesizer. The powerful IIGS Ensoniq chip is the only technology required. Sound mavens might want to take advantage of a IIGS' stereo output capabilities by adding a stereo-sound generating card, but this is overkill for the current crop of talking software.

Third-Grade Publishing That's First Rate

The video-oriented program at Hewitt Elementary in Trussville, Alabama got a big boost last year when Sandra Pilley, a third-grade teacher, brought her Apple IIGS into the classroom.

As part of the school's multimedia program, students are required to submit their work for publication in any of the small journals the school publishes with the help of computers. When Pilley's IIGS was introduced, the advanced capabilities were immediately utilized.

For example, when a student thinks his daily journal entries are good, he can use the Magic Slate word processor to type it in, and Dazzle Draw or Paintworks to create illustrations to accompany the story. Smaller works can be included in newsletters or magazines that the class produces.

More ambitious pieces are often made into real books. One very professional production recently wowed members of the U.S. Congress during hearings. Some outstanding members of the school publish three to five books a year.

Pilley's class has done all of this without a specific desktop publishing program. Packages include GraphicWriter and Magic Slate for word processing, and PrintMagic, SuperPrint, DazzleDraw and The Print Shop, among others.

Pilley sees the computer as a natural progression from the strictly textbook instruction of the past. She feels it is necessary to do something different, to be able to compete for the children's attention. "In this generation, you have to look at another way to teach a concept, " she says.

At Hewitt Elementary — with the aid of an Apple IIGS — they seem to be doing just that.

— James Washburn

Because there's no need to install a synthesizer card, you don't forfeit a slot on the motherboard when you run talking software on a IIGS. Moreover, the computer does not require superfluous speakers and wires.

In the world of talking software, First Byte's Talking Notebook Series deserves special mention, as does its Building Blocks For Learning Series. The latter series, which is aimed at preschoolers, teaches reading readiness and writing skills. First Shapes and First Letters And Words feature the amicable Ted E. Bear, a truly personable computer host who introduces even very young children to beginning concepts about shapes and forms and uppercase and lowercase letters.

If you would like your preschooler to begin experimenting with musical notation and uppercase and lowercase letters, you should take a look at the talking KidsTime II by Great Wave Software.

Talking software helps foster a sense of competence in youngsters who are beginning to acquire proficiency in reading, writing and arithmetic. Many children are capable of understanding the programs' oral instructions and often learn how to use the software without adult coaching, which gives them a sense of being in control.

When a program has speech capabilities, however, my five-year-old daughter is less reluctant to try computing on her own. In addition, she gravitates to the warmth and charm of an electronic personality who has nothing but clearly spoken verbal praises for her ability to match letters and count objects successfully.

The fact that First Byte and Great Wave use synthesized rather than digitized speech is of no consequence to her or other children who use the programs. The robot-like quality of the voice doesn't bother the kids, either; they often try to mimic it. In fact, the alien computer sounds generate very personalized interaction. Kids enjoy their computer activities as a result.

Because talking software programs from First Byte and Great Wave consist of large applications requiring lots of memory, they work well on a 16-bit Apple IIGS with added RAM.

First Byte's Talking Notebook Series helps develop spelling and math skills in slightly older children (ages 5 to 15). Speller Bee offers students the chance to practice with dictionary words — from the program's own dictionary — or words typed in from weekly spelling assignments.

Another electronic personality, Professor Matt A. Matics — of MathTalk and MathTalk Fractions — serves as an easy-going, unpretentious math tutor who is always ready to assist with addition, subtraction, multiplication and division. These programs both teach and entertain. Their voice capabilities motivate children to become involved with the learning tasks at hand.

KidTalk from First Byte could best be described as a talking word processor. Students type in words, and the program speaks the words out loud. Beginning and experienced users will enjoy this program's many features. There are options for typing, editing, saving and printing documents; hearing text as it is typed letter by letter, word by word or sentence by sentence; manipulating the speech output by altering voice gender (female or male), speed, pitch, volume or tone — for an entire story or user-specified text; changing the way words are pronounced; and accessing a secret code dictionary.

The latter option makes it possible for children to enter a special word in the code dictionary as a replacement for a written word in text. When the text is spoken, the code word — not the written word — is heard. Kids enjoy making zany substitutes for some words in their stories.

Many of the programs mentioned in this section could also be used to aid children with disabilities or special learning needs.

A Different Drill Sergeant

There is an ongoing debate about computer use in the classroom. Proponents of the technology argue that the machines foster excitement, playfulness and a love of learning among children who might otherwise be bored doing mundane assignments.

Programs such as Addison-Wesley's Information Laboratory Software: Life Science For The IIGS are on the side of the computer proponents. The software is basically an encyclopedia on disk that contains a wealth of information organized into a variety of life-science topics. Because each topic is linked to other related topics, students can quickly explore the database and retrieve information suitable for a lab report.

Detractors of the proliferation of computers in schools counter that children should master basic skills before they rely on machines to perform their tasks. This argument does not carry much weight, however. In the elementary grades, computers are being used as supplements to traditional curricula, not substitutes. Often, the software a school first purchases includes applications designed to help children grasp the basics of reading, spelling, math and typing.

The IIGS is a wonderful teaching tool for this purpose. Its fast execution speed and access to more memory offer a great deal of potential to augment learning in a number of key areas.

Mavis Beacon Teaches Typing is a good case in point. This program not only presents keyboard drills to teach students how to type (in either QWERTY or Dvorak format), its use of real words will improve spelling skills. The 16-bit IIGS version has elaborate graphics and sound to complement instruction of typing fundamentals, including correct posture and hand position. Typing speed and accuracy improve as children work through the program. (See the review in the Summer '88 issue of *The Apple IIGS Buyer's Guide.*)

Other software programs are available to drill students in basic math facts. These programs come in handy if kids balk at doing handwritten calculations. Giving students page after page of dry math problems to solve may not be the best way to build strong foundations in math fundamentals. Sitting in front of computers that combine instruction with entertainment may be more motivation to practice the skills being taught.

The nice thing about programs such as DLM's Math Masters (grades 1 to 5), Davidson's Math Blaster Plus (grades 1 to 5) or

Math And Me (preschool to kindergarten) is that they teach while reinforcing basic mathematical concepts in exciting ways. Teachers or parents can set instructional levels to the needs of individual students. Kids are permitted to move at their own pace, receiving lots of positive reinforcement as they progress. The programs' colorful graphics capture children's attention and imagination.

The same can be said for Davidson's new Read 'N Roll, a powerful tool designed to improve reading comprehension in students age 8 to 12. The program's not designed to replace traditional reading instruction. Rather, teachers and parents should use it to reinforce what is being taught in the classroom.

Children who have difficulty recognizing the main idea of a story, recalling its facts, identifying the story's sequence of events or drawing inferences could take advantage of what Read 'N Roll offers. There are 320 reading passages aimed at four grade levels. Children select the level and skill they wish to work at, read a short paragraph and answer a question. Correct answers are always rewarded with colorful graphics and encouraging sound.

An arcade-like vocabulary builder called Strike 'N Spare is included on the Read 'N Roll disk. The game takes words from reading passages. Children must define a word correctly to direct the movements of an animated bowler. Bowling a strike is not easy, but it's lots of fun. Kids return to the questions for more chances to knock down pins. In the process, their vocabulary increases.

While these programs are available for use on an 8-bit Apple II as well as the IIGS, the IIGS affords a number of advantages. At the top of the list is its Mac-like user interface. Pull-down menus, dialog boxes and icons make program operation with a mouse a breeze. All the kids have to do is point and click.

Using a mouse on an 8-bit Apple II requires the purchase of an optional mouse card. The IIGS comes with a mouse that plugs into the computer via the ADB port on the keyboard. It does not cost extra or take up a valuable slot on the motherboard.

In addition, the IIGS 3.5-inch disk format is better. Programs that require students to use the other side of a 5.25-inch floppy could be trouble. Disks get bent out of shape when they are jammed accidentally into a disk drive. Fingerprints and dirt particles also wreak havoc.

Such problems are, for the most part, eliminated with 3.5-inch diskettes, which are contained in plastic cases that are relatively immune to dust, dirt and kids' fingers. The 800K capacity of 3.5-inch diskettes also makes it possible for an entire program to be saved on one disk. Programs operate more quickly and efficiently when the need for disk swapping is eliminated.

The IIGS works especially well with the Davidson products. These programs experience the same problem as the original Explore-A-Series. Math And Me, Math Blaster Plus and Read 'N Roll revert to a monochrome hue when booted on a digital RGB monitor. On the IIGS, however, their colors are vibrant and crisp.

As computer programs become more complex, youngsters are challenged to move beyond the limitations faced by previous generations. Our children will discover knowledge as yet uncharted, conquer new frontiers and develop high-order thinking skills beyond our achievements. Realizing the potential of our most precious resource — children — requires providing them with extensive access to computers. ■

— Carol S. Holzberg, Ph.D., contributing editor

Products Mentioned

(See the "Apple IIGS Hardware And Software Directory" for additional contact and pricing information.)

Building Blocks For Learning Series
First Byte
Circle Reader Service Number 30

Calendar Crafter
MECC (Minnesota Educational Computing Corp.)
Circle Reader Service Number 31

Draw Plus/Paintworks Plus/Paintworks Gold
Activision (Mediagenic)
Circle Reader Service Number 32

Explore-A-Science/Explore-A-Story
William K. Bradford, Inc./D.C. Heath
Circle Reader Service Number 33

Information Laboratory Software: Life Science
Addison-Wesley Publishing Co., Inc.
Circle Reader Service Number 34

KidsTime II
Great Wave Software
Circle Reader Service Number 35

Math And Me/Math Blaster Plus
Davidson & Associates, Inc.
Circle Reader Service Number 36

Math Masters Series
DLM Teaching Resources
Circle Reader Service Number 37

Mavis Beacon Teaches Typing
The Software Toolworks
Circle Reader Service Number 38

Reader Rabbit
The Learning Co.
Circle Reader Service Number 39

Read 'N Roll
Davidson & Associates, Inc.
Circle Reader Service Number 40

The Graphics Studio
Accolade
Circle Reader Service Number 41

The Print Shop IIGS
Broderbund Software, Inc.
Circle Reader Service Number 42

Talking Notebook Series
First Byte, Inc.
Circle Reader Service Number 43

Top Draw
StyleWare, Inc.
Circle Reader Service Number 44

Priming For College With The Apple IIGS

Helpful hints for students and parents alike to get maximum learning potential from the Apple IIGS—often by using the software they already own.

Many parents, as they purchase Apple IIGS computers, believe that the machines will contribute substantially to their children's educations. As a new school year begins, it seems appropriate to consider how high school and college students can use their IIGS computers to do well in school.

By using their computers, students can enhance their achievement in school courses and pursue other learning interests. Along the way, they can build skills that, though perhaps not directly related to school grades, can be very valuable to them.

It is impossible for schools to provide all the learning experiences necessary for life. School curricula tend to emphasize knowledge and skills that can be identified and measured, such as the ability to write complete sentences, perform mathematical calculations and recite historical facts. Yet so much knowledge exists in most disciplines that high school or college courses can only skim the surface. A great deal remains for interested students to explore.

This article will consider how IIGS computers can help students perform better in school, build skills and knowledge not necessarily covered in school, and expand their knowledge base beyond the material covered in school courses.

Learn To Type

The first consideration in using a IIGS as a learning tool is a practical one: students should be able to type. High school students used to learn how to type so they could produce their own term papers in college or prepare for secretarial careers. Those days are gone.

It is impossible for anyone who has to hunt for keys to feel truly at home with a computer. Even people who know where to find the keys can benefit by learning touch-typing skills. The speed and accuracy of knowing where the keys are and using the correct fingers to strike them is superior to the two-finger system.

Many high schools and community education programs offer keyboarding classes that teach students how to work efficiently with computers. Software products that teach fingering and other touch-typing skills are another option. For students willing and disciplined enough to devote a half hour a day to working with such a program, it's an excellent way to learn typing skills.

Depending on each student's dexterity, a few weeks should be all it takes to achieve a minimal skill level. That's when fingering becomes automatic, even with the symbol keys. After that, most of a student's practice time can be spent using the computer, though it's a good idea to go through the typing program's speed drills from time to time.

Apple IIGS

While many specialized software products exist that help students improve their school performance, perhaps the best place to start is with more general tools. The three major tools — word processors, databases and spreadsheets — can help students complete assignments, learn their school material and build personal skills. Furthermore, the tools enable students to perform tasks that, though not actually required, help them learn more about their studies.

Word Processing

Using a word processor can make it easier for high school and college students to learn writing skills; produce neat, professional-looking assignments; and develop their writing creativity.

Educators have defined writing as a process rather than a task. The process consists of gathering and organizing ideas, writing drafts, and revising and editing the drafts to produce final documents. By hand, this process is time consuming and tedious.

Most students don't go through the entire process when they write compositions. Many simply write out rough drafts, copy it over — perhaps making a few changes — and hope for the best. This approach to writing is not conducive to earning good grades or building writing skills.

An Apple IIGS and a word processor make following the steps involved in writing more practical. After all, it's easier to type than it is to write by hand, and the computer is useful throughout the entire writing process. Students can type in brainstormed thoughts, deleting inappropriate ideas later.

Organizing ideas into outline form is easy with the cut and paste features of most IIGS word processors. When it's time to write a rough draft, it's easy to create an outline by replacing words and phrases with complete sentences.

One of the hardest things for students to do is provide concrete details in support of their written statements. With the help of their parents or teachers, students can make outline templates that can be used for guidance through the writing process. Specific questions — such as "Why do you say this?" "Can you give another reason?" and "Is there anything else?" — could be included.

The templates might also include separate versions for specific types of writing, such as expository, descriptive and persuasive essays. By using the Save As command immediately after opening their template files, students could reuse the templates as often as necessary.

Word processors can aid writing in yet another way by permitting experiments with various writing techniques. When writing by hand, the only way to try different ways of organizing paragraphs is to write them out.

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Circle Reader Service Number 10

With word processing software, however, it's easy to rearrange sentences. Students can write paragraphs first one way and then another.

The ability to experiment with various writing techniques makes word processing an ideal tool for creative writing. Whether assigned to do so or not, many students like to express themselves by writing poetry, short stories and plays. These activities form a creative outlet for emotions and ideas and also build writing skills. As with many endeavors, one learns to write by writing.

Making It Better

Many teachers make the revising and rewriting process an additional assignment. Even if not assigned, it's a good idea to return a corrected composition to the teacher for further comment. Though most teachers are very busy, few will refuse to acknowledge a student's extra effort. Even if a student decides not to resubmit a paper, revising it according to the teacher's suggestions will pay off in improved writing skills.

Many word processors include a spelling checker and thesaurus. Spelling checkers compare words in a document with words in a dictionary file. If a word matches a dictionary entry, the program considers it correct. If the word doesn't match a dictionary entry, it is highlighted and presented as a potential misspelling. A user must then decide whether or not the word is misspelled.

An online thesaurus, when properly used, can improve most students' vocabularies and their written and oral forms of expression. Like a written thesaurus, an online thesaurus provides a list of words similar in meaning to the word in question. Seeing selections of words with like connotations helps students choose the right one.

Professional Output

Another advantage of word processing is the ability to produce professional-looking papers. It is hard to overestimate the impact of clean, neat compositions. While most teachers try not to let appearance unduly influence their judgment, papers that are messy and difficult to read will probably not be valued as highly as ones that can be read easily.

Of course, poor-quality printing can make a good composition look bad. Students should make sure their printers are working properly, are set up to produce the highest-quality output and that their printer ribbons are fresh.

Students can also use word processing as a personal study tool. Nearly anything that can be written by hand can be written with a word processor. Many students are more willing to write as they study if they can write at a keyboard.

Much can be gained by rewriting notes after class every day. Lectures are fresh enough in memory so that sloppy handwriting can be deciphered, and details that students may not have had time to jot down in class can be included.

Text Vs. Graphics

Which word processor should you choose? Many excellent products are available for the IIGS. Graphics-based word processors, which provide more fonts and other special effects, tend to be slower. Text-based word processors are fast, but the few special effects they offer are not shown on screen.

Perhaps the best way to decide is to consider the needs of each student. Younger students, and those focusing on subject areas that often use graphs and illustrations, may benefit from using a graphics-oriented word processor. Less academically oriented students may be more willing to work with the more interesting graphics-oriented programs.

Students who must produce long compositions, reports and term papers that require quotations, end notes and footnotes will find text-based word processors better suited to their needs.

Database Managers

Like word processors, databases are general-purpose application programs that students can use to complete assignments and enhance their personal skills. Database programs are tools that enable users to store, categorize and sort facts. Much of what students deal with in school is factual material. Using database programs to manage those facts can be helpful.

Using a database manager is not as easy as using a word processor. To get full benefit from the experience, students may need help from their parents — who do not have

Word Processing Template For A Personal Narrative Essay

1) Where did it happen?

2) Who was with you?

3) What is your relationship to that person?

4) What made you remember it?

5) What mood were you in?

6) When did it happen?

7) What kind of day was it?

8) Why did it happen?

9) How did it happen?

10) Describe the sequence of events.

11) Did you have any clues ahead of time that it would happen? What were they?

12) Did anything happen later because this happened? What? When?

13) How did you feel after it happened?

14) How do you feel about it now?

Using any word processor, parents can set up simple outlines to help children structure essay assignments.

to be experts in database management. The students are most likely to need guidance in determining what to include in their records and help in interpreting the results of their searches.

Usually, you begin a database by designing the records. These records contain the fields that will hold your data. In a simple name-and-address database, a record would be the complete group of elements that make up the information for one person. The fields would be the name, street address, city, state and Zip code. A lot of thought goes into designing a good database. Students, like most of us, learn best by trial and error.

Working with a database manager also gives students practice in making sense of discrete bits of information. Isolated facts are largely meaningless. They take on importance only when grouped and analyzed. It is this grouping-and-analysis activity that provides students with real learning experiences.

Students can use databases to organize and store information from class notes. For students willing to take the time to do so, the experience provides a review of the facts and a greater understanding of the material. This is a much more complex process than the rewriting of class notes mentioned earlier.

Say, for example, that a teacher has given a week of lectures on Civil War battles. Reworking notes from the lectures into a database — which might include battle locations, troop numbers, casualty numbers, the winning side and each battle's effect on the war — would help students learn the facts and provide a better understanding of the events of that time.

With such a database, students would be better equipped to test, for instance, the hypothesis that the side with the largest number of soldiers usually won the battle.

Another use for databases might be to replace the traditional 3 by 5 index cards used for writing term papers. While index cards are more portable, the information they contain must be located by sorting through dozens, if not hundreds, of cards. Placing the same material into simple databases with keyword fields allows students to locate information about specific term-paper topics very quickly.

A second database could be used to manage term-paper bibliographies. This database would include separate records for each source consulted by students while researching their topics.

Database Templates For A Bibliography And Term Paper Notes

File: Bibliography	**File:** Note Cards
Report: Bibliography	**Report:** Note Cards
Name of Publication:	**Reference Title:**
Author/Editor of Pub.:	**Page Number:**
Name of Article:	**Quoted/Paraphrased:**
Author of Article:	**Topic/Keyword:**
Date of Publication:	**Information:**
Published By:	
Location:	
Pages Cited:	
Topic/Keyword:	

Once-painful research tasks, such as writing notes on three-by-five cards, take on more enjoyment — and flexibility — when maintained on a database program.

Spreadsheets

Spreadsheets are also harder to use than word processors, but they, too, can provide students with significant learning experiences. As in working with databases, students may get the most out of working with spreadsheets if their parents help out, particularly in the beginning stages.

Because they deal primarily with numbers, spreadsheets are most valuable in mathematics. Most spreadsheets offer a large set of numerical and mathematical functions, such as average, sum, tangent and square root. Experimenting with spreadsheet functions can help students arrive at a clearer understanding of mathematical concepts, particularly if the students choose to experiment with concepts being covered in class.

If, for example, students are learning to calculate square roots in algebra class, they might experiment with the square root function in a spreadsheet to get a better understanding of what the likely results will be for given numbers.

With this kind of experimentation, students can learn a great deal about the relationships between numbers — including the way numbers behave in various operations — without carrying out a number of repetitive calculations by hand.

It is important to ensure that students do not use their spreadsheets as shortcuts. They must actually learn how to perform calculations. In the example above, students must still learn how to calculate square roots. If spreadsheets are used to circumvent the learning process, students will probably not be able to pass their classroom tests. The correct idea of using spreadsheets is to enhance understanding; not replace learning.

Many high school students have only vague ideas of how decimals and percents actually work, particularly in real-world areas such as money and interest rates. Spreadsheet-payment and mortgage-calculation functions can help build an understanding of what interest rates add to the cost of a purchase.

Many schools include work with electronic spreadsheets in their accounting courses. Students whose schools don't yet use computers in these courses can benefit from

working with spreadsheets at home. Class work that is to be done by hand can be transferred to a spreadsheet program to experiment with at home.

Tracking Grades

Another way in which students can use spreadsheets is to keep track of grades. If teachers use numerical rather than letter-based grading systems, their students can keep spreadsheet progress records that show precisely where their scores stand at any given time. This exercise helps students understand the value of individual assignments and shows how missing one assignment can affect their grades.

Many spreadsheets have useful graphing capabilities. Transforming numerical data into graph form is an excellent way to increase the understanding of mathematical concepts. Representing ratios and proportions in graphic form can greatly clarify their meaning.

Spreadsheet-generated graphs can be useful in other ways, too. Students can include such graphs in term papers or other reports to convey and clarify data. In a sociology paper, for example, an individual student might describe the racial makeup of a society in his or her own words. Adding a graph to complement the information would increase reader understanding.

Drawing And Paint Programs

Another type of software can be used to enhance student performance. Drawing and paint programs help students produce illustrations, diagrams, charts, maps and graphs. Including illustrations in written assignments can increase the value of the information presented and make favorable impressions on teachers.

Students may also find drawing software helpful as a study tool. The process of drawing phenomenons (in this case, observable facts or events) can make the phenomenons clearer to students, helping to clarify details and fix them in the mind. That's one reason science teachers request drawings with lab reports.

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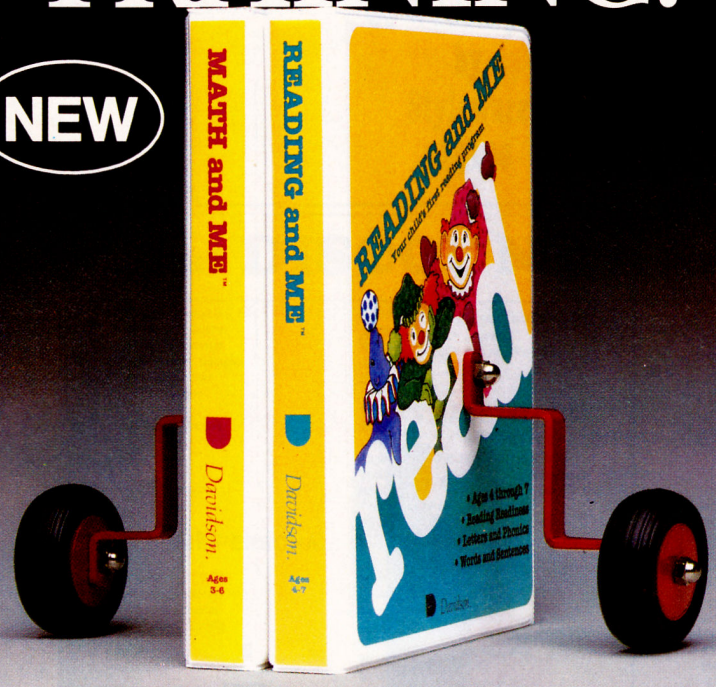

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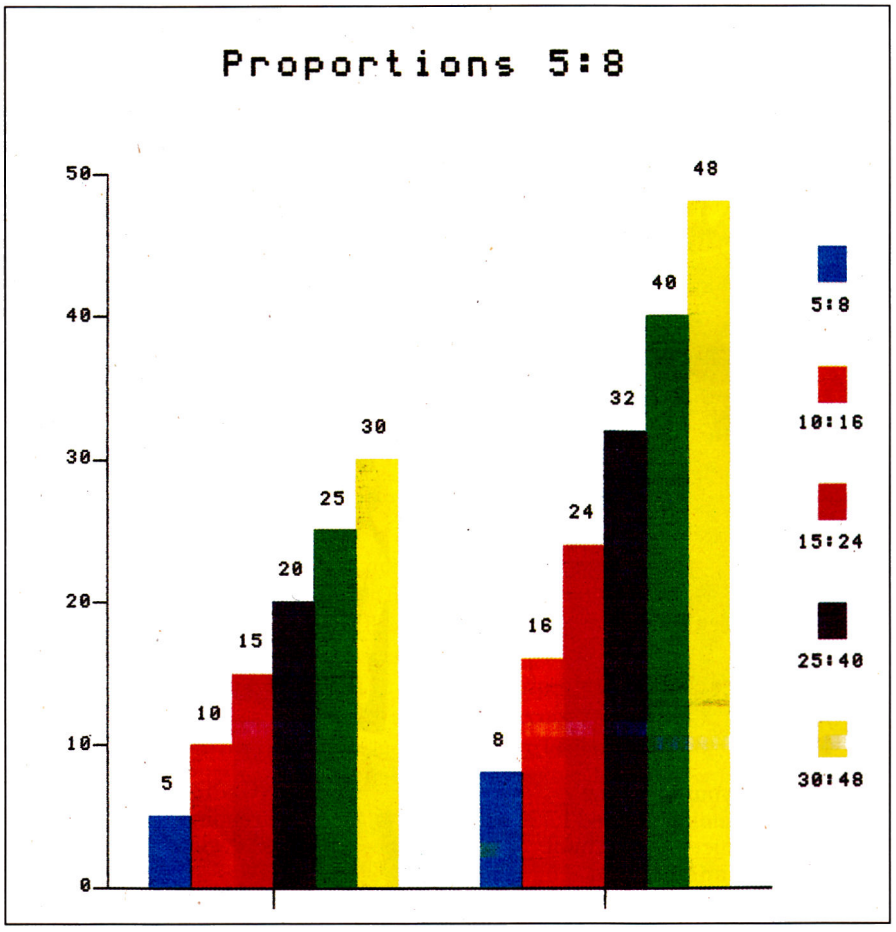

Simple graphics, such as this proportions chart, can drive home the principles behind mathematics. Many spreadsheet packages have graphics built-in.

With their teachers' concurrence, students can also use drawing or painting software to create projects for art classes.

The use of general-purpose software to enhance learning and school performance is just one side of our story. There are many specific software products designed to enhance learning. Such products may be used either for remediation or for enrichment.

Getting Specific

Students doing poorly in some subjects may benefit from tutorial software designed to teach specific material. For example, students who don't understand French verb conjugations can get additional help and drills in that area. Algebra students mystified by word problems can learn to work through them step by step with the right software package. Anatomy students can work with a pictorial program that shows the various anatomical structures and then quizzes the students about the information presented.

Students can also use their Apple IIGS computers to pursue individual learning interests. Instead of using their computers for remediation, students can use them to go beyond what their schoolwork offers. Examples include exploring writing, math, history, the natural sciences — you name it. Such interests are worth developing.

A music student might, for example, build on what has been learned in class by using a music construction program to experiment with theory and composition. A history student might be fascinated by colonial America, the French Revolution or World War II. Such interests may be explored by using historical simulations in which the students assume the identities of individuals who lived during the period being studied.

The list of possible interests is virtually limitless, and so is the potential for development of innovative software to expand on those interests.

Finding The Right Package

The best way to know whether a product is suitable for a particular purpose is to try it before purchasing it. Some stores allow this practice. These stores, which are hard to find, deserve all the support you can give them. Their prices may be a bit higher, but it's better to pay more for a program you know is appropriate than to shell out money for one that may not be suitable.

Some public and school libraries are beginning to develop collections of software that may be checked out. Borrowing from such libraries provides a wonderful opportunity to test software. Products needed for remedial purposes can be used and simply returned.

A word of caution is in order. Many students are fascinated by computers and genuinely love to work with them. That's great, as long as the students concentrate on learning and completing their assignments during study time. Students who spend all evening creating designs with paint programs without getting their lab drawings done have not accomplished their tasks.

The best way for parents to ensure that students are doing productive work is to show an interest in what is being accomplished. Ideally, parents can do this in a non-suspicious and non-judgmental manner. It's reasonable to ask to see what your child has been working on. "Show me how your database is working out," might be one approach. Looking in from time to time to see what your child is doing might be another. ■

— Sandra Irish

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A First Look At The New Desktop Publishing Packages

In recent weeks, several desktop publishing packages rivaling the best in the Macintosh and IBM worlds have appeared for the Apple IIGS. Which ones make sense for you?

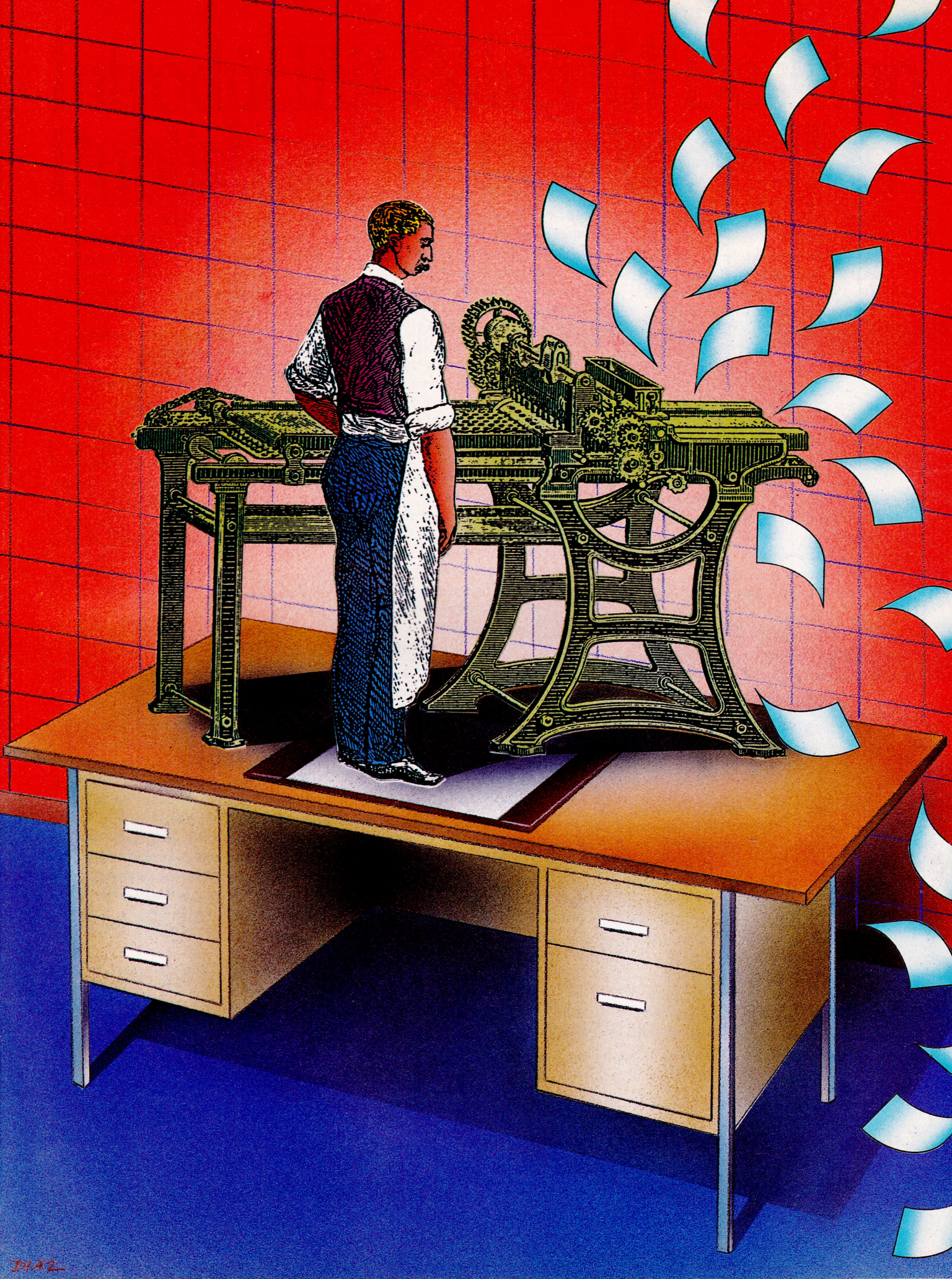
Desktop publishing is a buzzword that computer enthusiasts have heard for several years. Unfortunately, the term has become synonymous with newsletters. In reality, desktop publishing has a much broader base. You can use your Apple IIGS to produce invoices, letterheads, resumes, brochures, fliers and advertisements. In short, almost anything that needs to be printed can be produced on a good desktop publishing system.

Desktop publishing can be used to cut printing costs because you can set your own type and create your own art directly on the computer. As a result, desktop publishing should be regarded as preparing art for print — whether the art is text or graphics. This brings desktop publishing squarely into the realm of print production and graphic design.

Many Apple II desktop publishing packages are meant to be used on 8-bit computers, such as the Apple IIc and IIe, as well as on the more powerful (16-bit) Apple IIGS. Even though these programs work slower than most IIGS-specific packages and are intended for computers with limited memory, they could be just the ticket for you.

Because of the limitations of single and double high-resolution graphics, the 8-bit programs tend to be in black-and-white only. As we shall soon see, this does not have to restrict final products to black-and-white artwork.

The 16-bit programs on the market all emphasize the color capabilities of an Apple IIGS. The output must come from your dot matrix printer, however.


DIAZ

If you take a color printout to a professional print shop, color separations must be made by the printer in order to reproduce the document. Color separations are created by taking four different shots of the original; one shot for each of the process colors — yellow, magenta, cyan and black. Such a procedure can cost as much as $300 per page.

Most professional printers need black-and-white originals. This does not mean that a print shop cannot add color, however. All you have to do is indicate where you want color to be printed. This can be accomplished by writing directions to the printer in non-photo (non-reproducible) blue on the original.

If you provide a print shop with a photograph or continuous-tone artwork, the printer can photographically reproduce the image as a series of black-and-white dots called a halftone. The halftone can then be dropped into the appropriate spot on a page. The easiest way to indicate the spot is to use a desktop publishing program to place a black rectangle in the exact position where you want the picture to appear.

Problems With WYSIWYG

WYSIWYG means "What You See Is What You Get." Taken literally, the acronym indicates that what is output to a printer will match dot for dot the image on a monitor. This is a great idea, but only if the IIGS had better screen resolution. Even in super-high-resolution 640 mode, a IIGS' display is extremely coarse when compared to the highest resolution final output.

A more accurate way to express the relationship between a printer and monitor would be to say, "What You Get Can Be Better Than What You See." This phrase is especially true if your printer is a LaserWriter.

The greatest hurdle we have to cross when training students to use desktop programs is that what they see on screen is only an approximation of what they will get when they print out their documents. It is a matter of expectations. They are often frustrated by the inaccuracies of the computer monitor and the low resolution of the screen.

Multiscribe GS And Writer's Choice Elite

Multiscribe GS and Writer's Choice Elite are 16-bit word processors that use the IIGS interface effectively. Each provides high-quality output to either an ImageWriter or LaserWriter printer. Both programs have most of the word processing features you might need. However, they don't offer multiple columns or adequate graphics capabilities.

Multiscribe GS has limited object-oriented graphics and the disconcerting habit of not displaying graphics while entering text. Picture files can be imported from a paint program. If you want to have text wrap around a graphic, you must remember where the graphic is located and insert the appropriate carriage returns. Multiscribe GS does have a spell checker and thesaurus.

Writer's Choice Elite is an excellent word processor, but no graphics tools are featured in the program. It is possible to import picture files, but text cannot occupy the same line with graphics. Therefore, your layouts have to be extremely simple. Graphics are displayed while inputting text.

Medley

Medley, by the Milliken Publishing Co., is the newest contender in the Apple IIGS desktop publishing arena. This 16-bit program has many sophisticated features that will allow you to create professional-looking layouts. The beta version we received had almost all its features operative. Medley should be ready for release by the time this article appears in print.

The package for Medley will contain four 3.5-inch disks — a Medley Program disk; a Medley Startup disk, which is actually the Apple IIGS System Disk 3.2; a Dictionary disk; and a Clip Art disk. Our beta version came with the Apple IIGS System Disk 3.1.1. None of the disks are copy protected. The interface follows IIGS standards, and graphics and text are displayed in super-high-resolution 640 mode.

As stated in its manual, "Medley is designed to be used as a word processor first." Creating a layout first will slow the program down, because of the way in which text wraps around the screen.

The major problem we encountered with Medley was the slow speed of entering text. We were able to type ahead of the cursor by typing with only two fingers. Hopefully, the release version will allow faster keyboard entry. If it doesn't, it will still be possible to use AppleWorks to compose documents and then import the text into Medley.

As a word processor, Medley has all the necessary features. You can cut, copy and paste selections, as well as find and replace words. Both arrow keys and the mouse can be used to move around the screen. Paragraphs can be flush right, flush left, centered or justified. You can even toggle spaces, tabs and the Return character on and off. Automatic tab leaders are easy to create.

Medley imports AppleWorks and ASCII files. AppleWorks files maintain most of their formatting. Text can also be exported to an ASCII file.

The integrated dictionary that comes with Medley contains 80,000 words, but this feature is slow. It took about 2.5 minutes to check the spelling of an 800-word document.

Customized document dictionaries can be added for each individual document, and a multitude of auxiliary dictionaries can be created for spell checking any document. Words can be added and deleted from these additional dictionaries. However, the main dictionary cannot be edited.

If you often search for just the right word, then Medley can help. Its Dictionary disk contains a thesaurus and lists synonyms that correspond to word usage, word tense and whether a word is singular or plural. It will probably take about a minute for the program to find the synonyms.

Character, word, line and paragraph spacing can be adjusted in points. The character and word spacing capabilities would be more powerful if they could be localized to a specific line rather than entire paragraphs. The awkward spaces created when justifying text on narrow columns could also be minimized.

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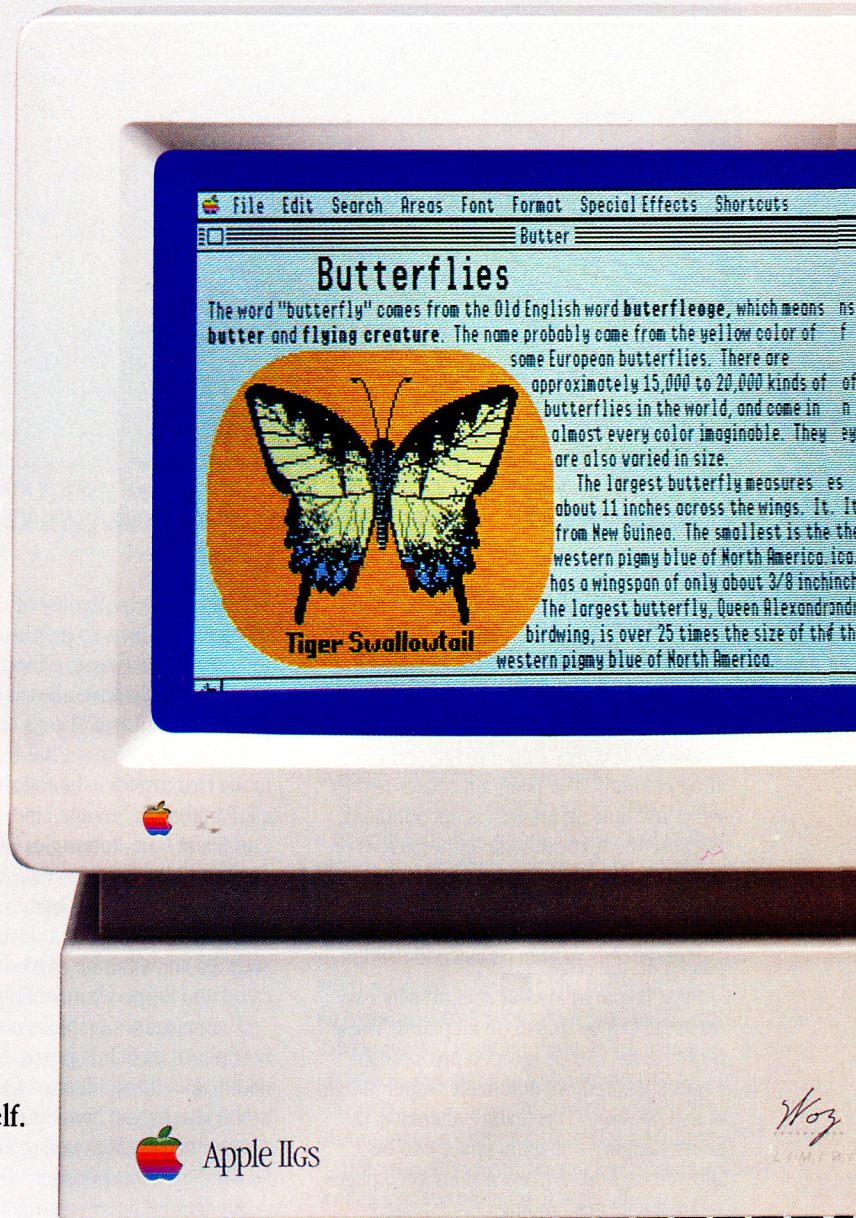

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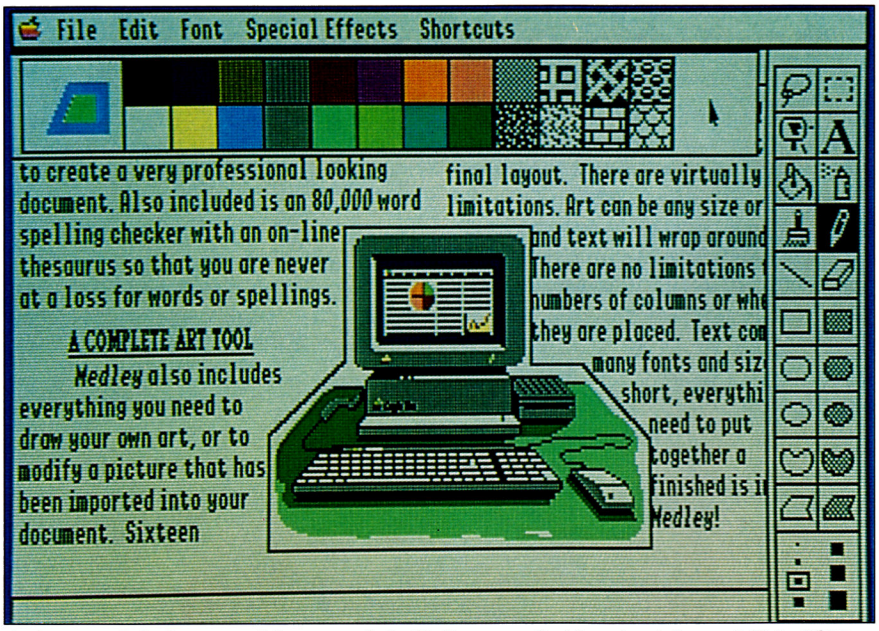


An integrated dictionary and thesaurus help Medley users find just the right word. This 16-bit program is among the first desktop publishers designed specifically for the Apple IIGS.

Kerning is listed as one of Medley's features, but the program's authors have confused kerning with proportional spacing. True kerning allows you to adjust the spacing between specific letters.

Medley features a unique method of creating columns. The program causes text to wrap any time an art area is encountered. Because the text can wrap either across or down a page, complex layouts can be designed. The space between columns is determined by the width of the art areas placed on the page.

Page layout in Medley is extremely easy. Art areas can be drawn on all pages. These Global areas can be ignored on specific pages if desired. An automatic Gutter Margin is also possible. This feature alternates the gutter margin — so extra space will be allowed on odd- and even-numbered pages — and facilitates binding.

Art areas in Medley can be rectangles, ovals or polygons. These areas can also change their size and shape, if selected. Not only can ovals be turned into rectangles or polygons and vice versa, but art areas can be turned into text areas. Any text typed into such an area will conform to the shape of the area.

Unfortunately, Medley offers only bit-mapped graphics, so graphics output with the program is coarse. Object-oriented graphics would have allowed program output to be at a LaserWriter's resolution.

Medley does have a full-featured graphics mode that includes the following tools: Pencil, Paintbrush, Straight Line, Text, Spray Can, Paint Can, Rectangles (filled or hollow), Ovals and Polygons.

A Magnifying Glass feature allows you to zoom in on an area of a document, and selected areas can be moved, resized, duplicated and flipped horizontally or vertically.

The program's graphics mode is extremely sophisticated. It is possible to adjust the width, speed and fill rate of the Spray Can tool. Patterns and brushes can be edited. Also, either the Marquee or Lasso tool can be used to select portions of an art area.

Art created in other programs can be imported into Medley. The program will import either Apple Preferred, paint or binary files in 320 or 640 resolution. The only problem is that all the original colors in an imported file will be lost.

Colors in the Medley palette can be shifted from one location to another, but the actual palette colors cannot be modified.

GraphicWriter 2.0

When GraphicWriter was first announced, the name conjured up images of a word processor. Actually, the earlier version was a word processor with graphics capabilities. GraphicWriter 2.0 is now a full-fledged desktop publishing program owned and marketed by Seven Hills Software.

GraphicWriter 2.0 requires a IIGS and at least 512K of memory. The package — a 16-bit program that uses the super-high-resolution 640 mode of a IIGS — includes both a master copy of the program and a backup. Both disks are for 3.5-inch drives, and the program is copy protected.

GraphicWriter, which has 13 fonts, excels as a word processor. The type styles included in the program are Plain, Bold, Italic, Underline, Outline, Shadow, Superscript and Subscript. A custom feature can create type that is 1 to 72 points in height. If your output device is an ImageWriter and you are outputting in High Quality mode, the largest size that can be used is 34 point.

It is possible to automatically select words or all the copy within a Region. A Region is an area that can contain either text or graphics. You can cut, copy and paste selected text. Finding and replacing text is also featured.

It is also possible to convert text to uppercase or lowercase. A nice touch is the ability to capitalize only the first letter of selected words.

Special characters can be printed, such as pi, the English pound sign, the cent sign, infinity, bullets, check marks, copyright marks, registration marks and trademarks. Text automatically wraps down columns and flows into the next column.

Paragraphs can be aligned flush left, flush right, centered or justified. Tabs can be flush left, flush right, centered or decimal. Leading is specified in lines per inch.

Page layout is easily accomplished by creating graphics or text Regions. The lack of a vertical ruler is a major omission here.

Unfortunately, text cannot be made to flow from Region to Region. There is only one border width for Regions. It is possible to view an entire page, but you can only reposition Regions and text while in this viewing mode.

Automatic headers and footers can appear on every page. You can also specify that they appear only on odd- or even-numbered pages. If you want to use the Automatic Page Number feature, the current page number must appear in a footer.

Another nice feature is the program's ability to save templates of pages that can be easily loaded when you boot the program.

GraphicWriter features both bit-mapped and object-oriented graphics. You must specify whether a Region will be in bit-mapped mode before drawing in the Region. Type cannot be entered into a bit-mapped area.

Object-oriented shapes can be hollow or filled. Objects can be lines, rectangles, rounded rectangles, triangles, ovals or half rectangles. There are six different line thicknesses available in the program. Objects can be opaque or transparent.

A unique feature allows you to place a colored object over text or any other object to change the color of black areas. Black areas will become the color of the object placed over them. No other color will be affected.

Objects can be resized, aligned on a grid, rotated 90 degrees and forced to become equilateral. Send to back, bring to forward, zoom and grouping are important object-oriented features missing from this program.

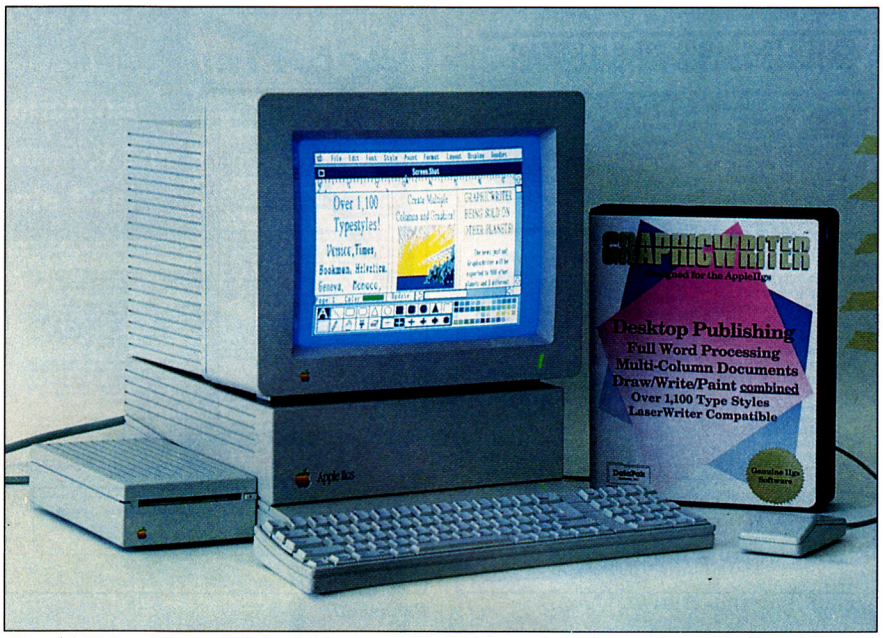
Bit-mapped graphics can create the same shapes and use the same basic tools as object-oriented graphics. Added to these features are freehand drawings, a paintbrush, an eraser, a marquee and zoom. These tools cannot be used with objects.

GraphicWriter 2.0 has the ability to create a scrap file of frequently used images.

Another feature allows you to output color separations to your printer. This makes it possible to send camera-ready art to a professional printer.

Publish It!

Timeworks' Publish It! program is an excellent choice for desktop publishing, even though it doesn't support the IIGS super-high-resolution drawing mode. Only the most essential graphics features for page layout are included in the program, and only single and double high-resolution pictures can be imported.



GraphicWriter 2.0 excels in both bit-mapped and object-oriented graphics. With 13 resident fonts, automatic text flow and headers and footers, the program also serves as a suitable word processor.

There are no graphics tools to modify bit-mapped pictures. If pictures need to be modified, you must use a separate painting program. This program is intended to be used to lay out pages for print, which it does extremely well.

Only object-oriented graphics can be drawn in Publish It! Horizontal lines, vertical lines, circles and rectangles — with either 90-degree or curved corners — can be produced. All these objects can be hollow or filled. The borders of each object can be any of six different widths, and the objects can be hollow or filled with 24 different patterns. Custom patterns can be defined.

Publish It! imitates the standard IIGS interface — such as pull-down menus — but some of the icons that run down the left side of the screen are unusual and require reading the manual to find out what features they offer.

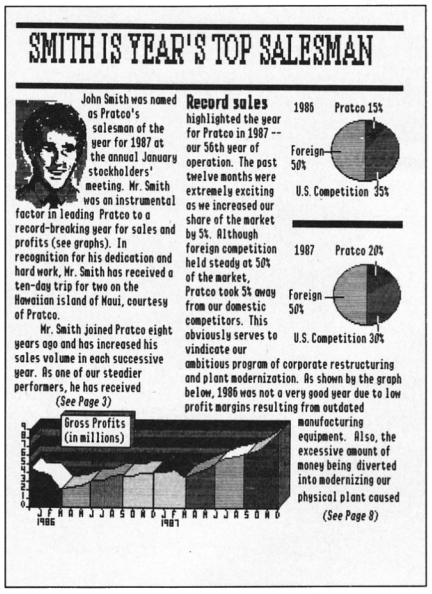
Publish It! is written to run on an 8-bit computer with only 128K of memory. If you run it on a IIGS, Publish It! won't recognize the additional memory. As a result, the program is segmented, and each segment is loaded when needed. Be sure to go to the Control Panel of your IIGS and change the Display Type setting to Monochrome.

Page layout commands include a Snap To Guides feature. A page can be subdivided into either 1, 4, 9 or 16 equal parts. Columns, objects or graphics frames will automatically align to these guides. This feature speeds up page layout and helps ensure a pleasing relationship between page elements.

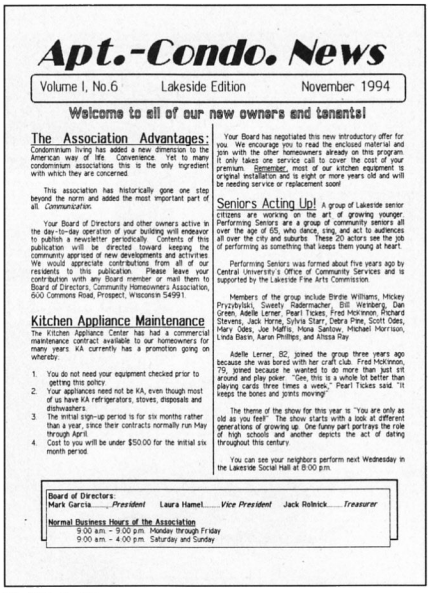
It is possible to view an entire page or see a page in full, double or half size. Columns, objects and graphics frames can be resized, but we found the handles to be too small. Clicking on a handle was hit or miss.

Publish It! contains most of the necessary word processing features. Six different typefaces come with the program, and each one can be printed in either plain, bold, italic, underline, outline, shadow, superscript or subscript. Type sizes are limited, and there's a maximum of six different sizes for each font.

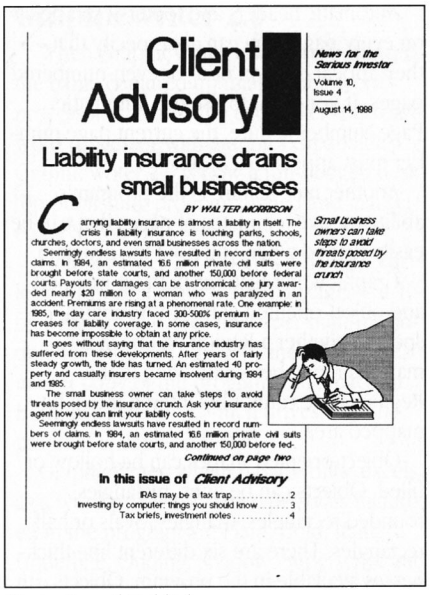
Unfortunately, a custom size feature was not written into the program. It is possible to cut, copy and paste text, but selecting text to be edited can only be accomplished by positioning the cursor and clicking and dragging the mouse. It is not possible to automatically select a word, sentence, paragraph or all the text.



Medley



Publish It!



Springboard Publisher

Springboard Publisher

Springboard Publisher has too many features. This may seem like a contradiction, but the program is unrelentingly slow. Changing from one mode to another takes almost 30 seconds, and the program is segmented into so many parts that pulling down the Font menu causes disk access.

This 8-bit program should have been written to take advantage of a 16-bit IIGS. For the moment, however, the speed of a IIGS doesn't help much.

Springboard Publisher will run on a IIe, IIc or IIGS. Only 128K of memory is required. A single 3.5-inch disk was included in the package.

The IIGS interface is mimicked beautifully, and graphics are displayed in high-resolution only. A key disk scheme is used to copy protect the disk. You can make copies, but you must keep the master disk around so the program can check it.

The program's Page Mode displays rulers along the top and left side of a page. Frames are created to hold either text or graphics. Equal width columns can be generated automatically on either a complete page or in Text Frames.

Changing the width of a column is done by clicking on the gutter between columns and moving it to a new location. Text automatically wraps from column to column. Text can even wrap across Graphic and Text Frames.

Page numbering is automatic and can be either numeric, Roman numerals or alphabetic. The length of a document is determined by disk space.

There can be 30 frames per page and 256 frames per document. Frames can have four different border widths. Twenty-four patterns are available for borders, and it is possible to cut, copy, paste, resize and overlap frames.

The Text Mode of Springboard Publisher is used for word processing. Only three fonts are available, but the style of these fonts can be changed to Plain, Bold, Italic, Underline All, Underline Words, Underline Characters, Outline, Shadow, Superscript, Subscript and Inverse. Unfortunately, the sizes are limited for each font, and custom font sizes are not supported. The space between individual characters can be increased or decreased, as desired.

Text selection is one of Springboard Publisher's best features. A word, line, sentence or paragraph can be selected automatically. You can then cut, copy or paste the selected text.

Text can be imported into the program from AppleWorks, Bankstreet Writer, DOS 3.3 ASCII or ProDOS ASCII files. Still, importing files is a drawn-out, often frustrating process.

Standard graphics features include a freehand drawing tool, a line tool, zoom, multiple paintbrushes, a spray can tool, an eraser and a marquee for selecting portions of the graphics window. Hollow and filled rectangles, rounded rectangles, ovals, polygons and freehand shapes can all be draw. Images can be resized, inverted, rotated 90 degrees and flipped horizontally or vertically.

Springboard Publisher has many of the features found in the best paint programs. Paintbrushes can be edited. You can also grab a section of a bit map and use it as a brush.

Personal Newsletter

Personal Newsletter by Softsync, Inc. is an inexpensive desktop publishing program. Even though it lacks many of the features of more expensive programs, it may serve your needs adequately. This 8-bit program can run on either an enhanced Apple IIe with an 80-column card, a IIc or a IIGS.

Personal Newsletter comes with three 5.25-inch disks — a program disk, a font and samples disk, and a clip art disk. All the disks are unprotected. If you have only one 5.25-inch disk drive, anticipate a lot of disk swapping.

Experts and users agree GraphicWriter 2.0 is the desktop publishing program for the Apple IIGS.

inCider magazine says, "GraphicWriter 2.0 is a giant step forward for the Apple IIGS. It's a powerful way to produce exciting page layouts, and it's easy to do."

A+ magazine declares, "GraphicWriter facilitates a smooth blend of text and graphics, and the result is a tool that you can use for everything from writing a letter to creating page layouts with color separations."

Compute has this to say: "GraphicWriter really comes into its own when you want to integrate text and graphics." And 10,000 owners agree. Laurie Knight of Hemet, CA proclaimed, "Terrific program! It does everything I need to do." Roger Ruthberg of Philadelphia, PA thinks it's excellent, well worth twice the price."

GraphicWriter, which is color and laser printer compatible, combines word processing, graphics and page layout into one complete, easy-to-use package. The program needs only 512K of memory, and is not copy protected. And, most importantly, it's available NOW.

Suggested retail only $149.95

Seven Hills
Software

2310 Oxford Road
Tallahassee, FL 32304-3930

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GraphicWriter is a trademark of DataPak Software, Inc.
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See us at AppleFest, Booth #906.

1 - 8 0 0 - 6 2 7 - 3 8 3 6

Circle Reader Service Number 14

It is possible to import clip art from The Print Shop or Newsroom, as well as high-resolution or double high-resolution screens. All files to be imported must be on a ProDOS formatted disk.

The program works in black-and-white only and uses the double high-resolution screen. If you are using Personal Newsletter on a IIGS, you will have to go to the Control Panel and change the Display Type setting to Monochrome. If not, the text on screen will be multicolored and unreadable.

Only one page can be on the desktop at a time, and each page must be saved to disk separately. Only 12-point type is available in Text mode. In addition, you must enter text in the Graphics mode to alter the point size for headlines or subheadings.

ProDOS ASCII files can be loaded into Personal Newsletter.

Help screens are available. This is an important feature, because Personal Newsletter uses an antiquated interface. You select a feature by pressing a letter on the keyboard that corresponds to the first letter of the feature you want to use.

One of its better features concerning windows allows you to print either all edges of a window or the top, bottom, left or right sides of a window. Text can be forced to flow from one window to another.

The ways in which text can be manipulated in Personal Newsletter are limited. Don't look for find, replace, indent or tabs; these features aren't included.

It is possible to cut, copy and paste selected text, but selecting text is where Personal Newsletter is most awkward. First, you must press Closed-Apple-S to select the Style command. Next, press "R" to select the Range command. Now move the cursor to the beginning of the text you want to select and press Return. Then move the cursor to the end of the text and press Return again.

Personal Newsletter does have some sophisticated graphics tools such as Line, Oval, Rectangle, Sketch, Text, Edit, Fill, Move, Undo, Brush and Pattern. The best feature, though, is a two-level Zoom.

If you want to flip an image, you must flip the entire image. The marquee only selects an area to fill, invert, add a pattern, turn white or turn black.

Personal Newsletter supports 15 different dot matrix printers and 37 interface cards. The LaserWriter is not supported.

Price, Speed, Graphics And More

Desktop publishing can save time when preparing art for printing, but many factors must be examined before taking the plunge. Only you can decide whether a particular package will be appropriate.

Have a clear idea about what you want to produce and what kind of output you require. All the programs mentioned in this article can produce output on an ImageWriter, and Medley, Publish It!, GraphicWriter 2.0, Multiscribe 3.0 and Writer's Choice Elite are currently able to output to a LaserWriter. Most of these programs will also deliver the best color output on an ImageWriter II printer.

Springboard Publisher, Publish It! and Personal Newsletter are all 8-bit programs that are unable to use super-high-resolution graphics. The programs with the most powerful features are Medley and Springboard Publisher, but both are slow. You may find them frustrating.

If you are on a limited budget and don't mind a quirky interface, then Personal Newsletter may adequately serve your needs.

It is possible to use any of these programs to produce much more than newsletters. By putting your imagination and IIGS together, nearly anything involving printing on paper can look professionally produced. ■

— Gary J. Ramey

The author is the director of advertising design at the National Education Center, Bryman Campus in Phoenix, Arizona. He has a master's degree in art and has been teaching computer graphics for five years.

Products Mentioned

(Additional company and product information is listed in the "Apple IIGS Hardware And Software Directory.")

GraphicWriter v2.0
Seven Hills Software
Circle Reader Service Number 45

Medley
Milliken Publishing Co.
Circle Reader Service Number 46

MultiScribe GS v3.0
Styleware, Inc.
Circle Reader Service Number 47

Personal Newsletter
Softsync, Inc.
Circle Reader Service Number 48

Publish It!
Timeworks, Inc.
Circle Reader Service Number 49

Springboard Publisher
Springboard Software, Inc.
Circle Reader Service Number 50

Writer's Choice Elite v2.0
Activision, Inc. (Mediagenic)
Circle Reader Service Number 51

IIGS, Phone Home

The following article offers sound advice to help all Apple IIGS owners overcome the failure to communicate.

Connecting your Apple IIGS to the phone lines has never been easier, less costly or more rewarding. By entering the world of telecommunications, you can make new friends, find answers to your computer-related questions and acquire thousands of software programs — for little or no cost. All that's required is your IIGS, a modem, a telecommunications software package and a telephone number to call.

A modem is a peripheral that can go into one of the empty slots on your IIGS or connect directly into the built-in modem port. Modem prices have fallen steadily during the past year. Good, dependable high-speed modems (1,200 bits per second) can now be purchased for $100 to $150. Finding a telephone number to call is as easy as contacting your local Apple user group or joining a large, international online network, such as Compuserve or The Source.

Break into Apple Corporate Headquarters.

Before you get overly excited, we're not giving you direct access to our CRAY mainframe.

But if you have an Apple® II personal computer* and a modem, we do have a wonderful new information and communications tool for you.

It's called AppleLink®-Personal Edition. And it lets you tap into a wide array of information sources provided by Apple Computer. And a whole lot more.

You can check out the latest products from Apple. Download hundreds of public domain software programs from business applications to educational games. Try out "demoware" programs so you can test run software before you pay for the actual programs.

You can attend on-line Forums with software wizards, hardware gurus and other prominent personalities from the Apple community.

You'll be able to take classes at Apple University where you'll learn how to master the intricacies and the short-cuts of Apple software programs. You'll have access to special Apple reference libraries where you'll find technical and product information, software reviews and Apple user group news.

In addition to being able to commandeer all this information directly from your keyboard, you'll also

*To be very specific, you need an Apple IIc, Apple IIGS or Apple IIe enhanced with 128K of ROM, an 80 column card and a Super Serial card. **General Services is provided to you by Quantum Computer

be able to tap into a much richer source of what's new and now: Apple users just like yourself from all over the country. You can chat live on-line with other users, share tips, get insights into program quirks, find out about how other people have solved the problems you're facing now. And soon, you'll be joined on-line by thousands of Macintosh® personal computer users. Which will be even more fun and informative.

And that's just one side of the story.

The other side of the story is something called General Services** where you can watch Wall Street, check out the news or join a group of people who love the same things you do. Whatever they may be.

AppleLink is so easy to use, you can get on-line with a few clicks of a mouse or a couple of touches to the old cursor buttons. It's really that easy.

Just pick up the phone and call 800-538-9696 ext. 450 for the name of the authorized Apple dealer nearest you. Then get ready to modem.

We're waiting for you with open arms.

The power to be your best.™

Services, Inc. Just so you know: ©1988 Apple Computer, Inc. Apple, the Apple logo and AppleLink are registered trademarks of Apple Computer, Inc. CRAY is a trademark of Cray Research Incorporated.

Telecommunications software is the critical link. If you acquire a good software package, you'll have an incredible amount of information available to you, all easily accessible. If you use software that was written prior to the introduction of the IIGS or is poorly implemented, you may find yourself lost and frustrated. This article will explore telecommunications programs. We'll look at some specific features of the best programs and examine Apple IIGS compatibility.

Not all of the programs mentioned use the IIGS user interface and its associated mouse, pull-down menus and color. Remember, there are two computers "under the hood" of your IIGS. There's an Apple IIe/IIc that runs 8-bit software, plus a IIGS that runs 16-bit programs and IIGS-specific software. True 16-bit telecommunications packages are rare, but they exist. The majority of the programs mentioned here work on all Apple II models, including the Apple IIGS.

On Common Ground

All telecommunications packages allow you to connect your computer to another computer. The other machine could be an Apple, but it may also be a mainframe or a minicomputer.

A number of powerful, easy-to-use programs have been released for your IIGS. Some, which have been around for years, have recently been updated for the IIGS. Others are brand new. All of these programs have a lot in common, such as:

The Editor. A common way to communicate with other online computer users is through electronic mail (E-mail). A built-in editor makes this easy. An editor is a mini word processor that's available for use during online sessions. The better the editor, the easier it is to create documents to send to fellow computer users.

Review Buffer. This feature is referred to by different names in different programs, including scroll-back buffer and review buffer. Whatever the name, it's a nice feature to have.

When reading information as it flows across a screen, the human eye cannot keep up with a computer. A review buffer allows you to temporarily stop incoming information from being displayed and lets you go back to read what you may have missed.

File Transfers. One reason to go online is to access a library of public domain software and download it into your computer. By doing this, you can acquire word processing programs, arcade games, databases and even telecommunications software.

Many different file transfer protocols are available. These protocols provide common ground rules for transferring computer files. Two of the more valuable and recent file transfer enhancements include Binary II and Turbo Xmodem.

The most popular method for transferring files between incompatible computer systems is Gary Little's Binary II File Format. In the past, it was difficult and time consuming to transfer files between non-Apple II systems. More recently, the Binary II File Format has become a de facto standard for file transfers.

When downloading a file that has been encoded into this format, the file must be extracted, or converted to an executable ProDOS file, before it can be run. Extraction can be done manually by running a public domain utility program. It can also be done as part of the download process, if that feature is included in the terminal program.

A growing number of telecommunications programs have an automatic Binary II unpacking feature, which makes it easy to ensure that what you end up with on your machine is exactly the same program or file that left the other computer, without the need to run an additional utility program.

During a file transfer, considerable time is spent by communications software automatically checking for errors and making sure all data is received intact. Given today's improved phone lines, errors in transferring files are less common than they used to be. Because of this, a new Xmodem protocol has been developed that greatly decreases the amount of time it takes to transfer files.

To use Turbo Xmodem, you must have "clean" phone lines and must be writing all incoming data to a RAM disk. If you are able to use Turbo Xmodem, you can download files twice as fast as regular Xmodem. Several of the programs written about here incorporate this timesaving feature.

Macros. It's possible to automate dialing, logging on, giving your password and reading your E-mail through the use of macros. Current IIGS-compatible programs have this capability, but many users never take advantage of it. We'll look at some of the ways different programs make macros available for even novice telecommunicators.

Terminal Emulation. Students and professionals often need to communicate with mainframe computers, whether at universities or on the job. Built-in terminal emulation is an advanced feature that not everyone needs, but it's extremely important for those who do. Most of the programs we'll look at have some terminal emulation capabilities.

Remote Operation. Wouldn't it be nice if you could leave your computer on while you're away, so friends and associates could call and send you programs and files? Some of the programs written about here offer this capability. Others provide security by asking incoming callers for a password. To run a full-scale bulletin board system (BBS), additional software is required. For simple file exchanges in your absence, however, the programs discussed here work well.

Copy Protection. None of the programs reviewed here are copy protected, meaning that they will operate from high-capacity storage devices such as hard drives or RAM disks.

ASCII Express

Nicknamed AE Pro, this program has long been considered the most powerful telecommunications application for the Apple II. It works with all members of the Apple II family and virtually any modem. Of all the programs listed here, AE Pro has the greatest potential for customization. As an example, AE Pro's editor can be customized to closely resemble your favorite word processor.

AE Pro provides both VT52 and VT100 terminal emulation, can be operated remotely to set up a mini BBS system, allows for very powerful macros and has a review buffer that holds the last 23K of data that scrolls across the screen. Commands are given to AE Pro

by pressing the Control key in combination with another key, such as using the Control-S combination to send a file.

All in all, AE Pro packs more power than an average user will ever need. For long-term power users, though, AE Pro is indispensable.

MouseTalk

If you know how to use a mouse, you know how to use MouseTalk. This program, written by the same development team as AE Pro, is a pleasure to use. Because it is completely operated by a mouse, the program is ideally suited for an Apple IIGS. Of all the programs mentioned here, this one is the most Mac-like, making extensive use of pull-down menus.

MouseTalk includes a powerful, easy-to-use editor. The program accommodates cut and paste, has a Find feature and, in many ways, resembles Macintosh word processing programs. The editor can be used for all online and offline word processing tasks.

MouseTalk's review buffer can contain up to 8K, and it is easy to cut part of the text contained in the buffer and paste it into the editor. In addition, an Auto Answer feature allows other users to call your computer. MouseTalk also makes use of a Clipboard for easy cut and paste operation and has online help available.

An upgraded version of MouseTalk, Version 1.5, should be available by the time this article is printed. Some planned features include VT100 and VT200 terminal emulation, the addition of automatic Binary II file extraction and automatic recognition of RAM cards.

FreeTerm GS

FreeTerm GS deserves mention as the first ProDOS 16 telecommunications program to make use of the IIGS user interface. FreeTerm requires 512K of RAM and only works with external modems connected to the IIGS modem port. All commands are entered through the use of pull-down menus and the mouse.

FreeTerm, as its name implies, is free of charge. Even though it is copyrighted, it is perfectly legal for you to make copies of the program for your friends. You can download FreeTerm from all the major electronic networks and from many local BBSs. Many user groups include FreeTerm in their public domain software libraries.

Completely mouse driven, FreeTerm has a built-in 32K review buffer, automatic Binary II extraction, and it allows cut and paste operations. Because it uses a IIGS' super-high-resolution screen — rather than the text screen most other programs use — it scrolls slowly, as do most native IIGS programs.

FreeTerm is simple to use, but it lacks a lot of the power of commercially available software. Many people, who enjoy having a IIGS-specific telecommunications package, use it as their program of choice, however.

FreeTerm is worth the cost of downloading. If you do not need the more powerful features available in commercial programs, FreeTerm may be a good choice for you.

Talk Is Cheap

Nicknamed TIC, this program — classified as shareware — is in a class by itself. Shareware works on the honor system. If you try it and like it, you are expected to send the author a shareware registration fee. In most cases, the fee is just a fraction of what you'd pay for a similar commercial program. Upon payment of the fee, you receive a manual and notices of future updates.

Despite the shareware label, TIC has some great features not found in commercial packages. The program is distributed electronically — as well as through user groups — and can be found on virtually every BBS in the country.

TIC allows for automatic Binary II file extraction. It also supports Turbo Xmodem. If you have a 1,200-baud modem, therefore, you can download at the equivalent throughput of 2,400 baud.

Online help is available for every command. Commands are entered by using the Open Apple key in combination with a letter key. As an example, Open-Apple-R opens a 46K review buffer.

Versions of TIC greater than 2.0 have built-in terminal emulation for 14 popular terminals (not including the VT100 yet) and let users define their own terminal characteristics.

The program requires a Hayes-compatible modem connected to either the modem port or a Super Serial Card.

TIC's power lies in its ability to transfer files quickly and dependably. Even though it does not have a built-in editor, the program can be used in conjunction with any Apple II word processor. And lacking the ability to be operated remotely, TIC is still a powerful and relatively easy-to-use program that is finally gaining the wide acceptance it deserves.

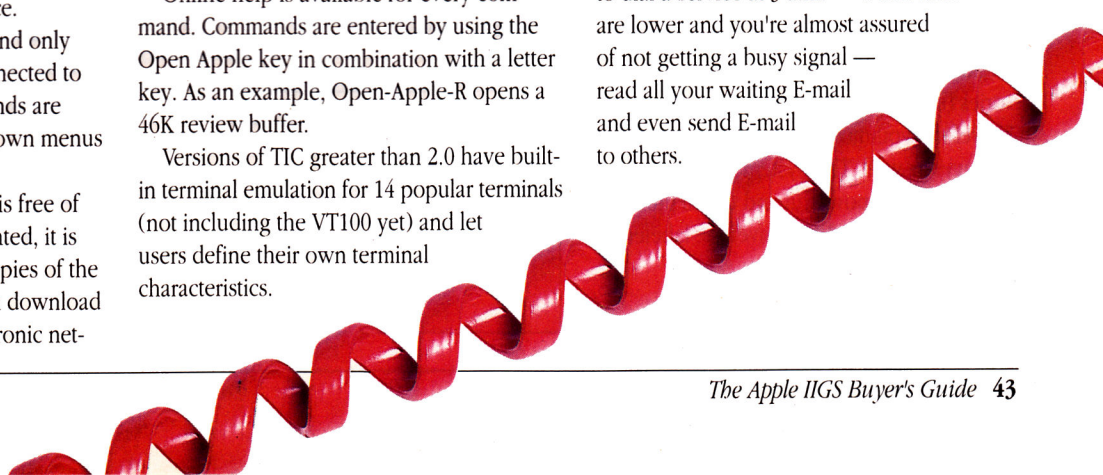
Point-To-Point

Nicknamed PTP, this program has virtually every feature imaginable. Modeled, in certain respects, after AppleWorks, it uses the same file-card method of menu selection. Many of the commands, issued through pressing both the Open Apple key and a letter key, are the same commands used in AppleWorks.

Written by Gary Little, author of the Binary II File Format, PTP allows for automatic Binary II extraction and automatic packing, the process of squeezing a file to its smallest possible size prior to uploading. The program is attractive to users who upload a lot of files. Version 2.1, released in February, has a full screen editor that is similar to the AppleWorks word processing module. The lack of this editor in previous versions was a major flaw.

Of all the programs we reviewed, PTP is the easiest to use with AppleWorks files. And its powerful macro system also makes loging onto a particular service easy. Because it recognizes the IIGS clock, you can set the program up to do a job at a later time.

As an example, you can program a macro to dial a service at 3 a.m. — when rates are lower and you're almost assured of not getting a busy signal — read all your waiting E-mail and even send E-mail to others.



Proterm

Proterm has a lot of potential. Checkmate Technology recently released Proterm Version 2.0., and many Apple IIGS users may find Proterm hard to beat.

Proterm has a unique approach with macros. They are written by the program itself, not by the user. When first calling a new BBS or network, you simply use the Auto-Learn feature, and the program records all your keystrokes. It then creates and saves a macro, which means you never again have to manually enter your password or other log-on information. This feature allows first-time telecommunicators the luxury of creating and using sophisticated log-on macros without having to master a programming language.

Proterm has two review buffers. One of the buffers is viewable by using your arrow keys. In Version 2.0, this scroll-back buffer has a whopping 45K. It takes advantage of any RAM expansion cards you have installed and produces a review buffer of up to 2.5 MB.

Proterm incorporates the automatic Binary II packing and extraction feature. In addition, if you are connected to another Apple II using Proterm, you can easily send entire disks. For owners of Proterm 1.2, a low-cost upgrade is available.

Communications Manager

This IIGS-specific program resembles a classic desk accessory (CDA). CDAs are accessed in the same manner that you access the IIGS Control Panel. Once installed, Communications Manager can be called up in the middle of another application, such as AppleWorks or anything else. Communications Manager is unique in that respect. The program requires 512K and one 3.5-inch drive.

Communications Manager is part of The Desktop Manager series of desktop accessories (see review, Spring '88 issue). Therefore, you must purchase The Desktop Manager as well. This system provides access to some powerful and useful utilities, including a notepad and envelope labeler.

Once these utilities are installed, you can run any ProDOS 16 or ProDOS 8 application and still access the Communications Manager in seconds. Think of this telecommunications program as being part of a larger integrated package of IIGS utilities.

Because of the integration, the Communications Manager is, in many ways, the most feature-laden program mentioned here. Combined with the automatic Binary II feature, Turbo Xmodem, VT52 terminal emulation and the fact that it is always accessible, this program is powerful, useful and — although not mouse driven — it takes full advantage of a IIGS' unique capabilities.

On The Horizon

Mediagenic (Activision, Inc.) is putting the finishing touches on a IIGS-specific program called TeleWorks Plus. This program was originally written by the same French team that developed Paintworks Plus. As of this writing, a somewhat-limited prerelease version is available. What is known is that the new program makes full use of the IIGS user interface and implements a powerful macro language similar to Proterm. In addition, it supports the IIGS clock.

The programs mentioned above make it easy for you to go online and join the growing community of telecommunicators. Whatever else happens, don't let the new terminology intimidate you. Unlike many other applications, the manuals that come with telecommunications programs are often well written and informative.

Once you go online, you'll be able to find answers to many of your unanswered questions. The answers will be provided by other members of the telecommunications community. These people were once beginners, too, and they are usually happy to share their knowledge. ■

— Joe Kohn

The author, a true fan of telecommunications, is the Sysop (system operator) of Applesig, the Apple II User Group on The Source.

Products Mentioned

(More product information is available in the "Apple IIGS Hardware And Software Directory.")

ASCII Express
United Software Industries
Circle Reader Service Number 52

MouseTalk
United Software Industries
Circle Reader Service Number 53

Talk Is Cheap
Don Elton
Circle Reader Service Number 54

FreeTerm GS
Available from Apple user groups or electronically
Circle Reader Service Number 55

Proterm
Checkmate Technology, Inc.
Circle Reader Service Number 56

Communications Manager
On Three, Inc.
Circle Reader Service Number 57

Point-To-Point
Pinpoint Publishing
Circle Reader Service Number 58

TeleWorks Plus
Mediagenic (Activision, Inc.)
Circle Reader Service Number 59

System Saver

More Than A Fan

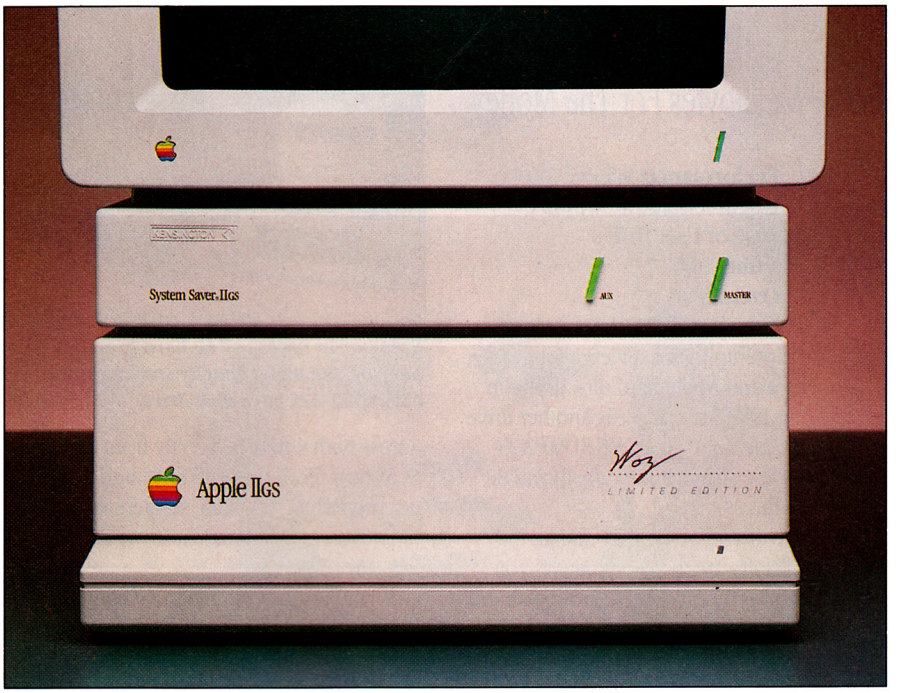
Performance: 8.0
Documentation/Support: 7.0
Ease Of Use: 9.0
Value: 8.0
Overall: 8.0

The Apple II family carries a proud tradition of flexibility and expandability. Whatever you want from your Apple II, it's safe to assume that you can build it or add it to your system. Yet an unfortunate byproduct from such hardware additions as printers, monitors, disk drives and external modems is a messy tangle of extension cords. Merely powering up your computer — and everything else with a separate power switch — can be an act of epic proportions.

The Kensington System Saver IIGS is designed to alleviate these problems and more. Designed in Apple Platinum and molded in plastic with lines resembling the IIGS itself, the System Saver is a rectangular box that fits squarely over the Apple IIGS system unit. On the rear are four power outlets labeled Computer, Monitor, Printer and Aux. The front panel includes two switches illuminated by green LEDs (light-emitting diodes) similar to the power-on light on the IIGS Apple monitor. The switches are labeled Master and Aux.

As can easily be deduced, the power outlets in back are meant to accept the plugs from the computer, monitor and other accessories. Once these devices are plugged in, they can be permanently switched "on" — future power control will be directed from the front panel switches.

Besides providing central control over power, the System Saver contains a built-in cooling fan. The fan works by drawing heat up from the IIGS and then dispersing it out the sides. The System Saver fits snugly against the IIGS and forms a tight fit with the case, and the fan does its job well. Moreover, it works very quietly — quieter, in fact, than the Apple 40SC hard disk we have connected to our Apple IIGS and quieter than the internal fan in a Macintosh SE we have in the same office.



System Saver IIGS helps control the usual tangle of power cords and provides protection against power supply surges and spikes.

Another function provided by System Saver is protection again power-line problems. Such problems as surges and spikes can be deadly to computers, and System Saver protects against both. It clamps voltage spikes at 340 volts, which its vendor — Kensington Microware Ltd. — says is a safe level, and comes equipped with a circuit breaker for cutting off power completely before damage occurs. The circuit breaker activates itself at 10 amps. If it ever cuts off, a Reset switch on the back of the unit restores power.

We haven't had any problems with the System Saver. Our Apple IIGS has been equipped with the system for several months with full reliability. But future expansion could be a problem. For example, we're using a hard disk drive, monitor and printer as it stands. If we wanted to add an external modem or any other peripheral, we would need another power outlet to do so. The System Saver only has four outlets.

Of course, we could add a power strip to one of the outlets — System Saver is rated to 10 amps, so overloading would not be a problem — but System Saver itself is meant to be a deluxe power strip. Just one or two more outlets would make a nice product even nicer.

— Paul Pinella

Product: System Saver IIGS
Price: $99.95 retail
Company: Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY
Requirements: Apple IIGS; external peripherals

Circle Reader Service Number 67

CMS Hard Disk Drive

More Megabytes For The Money

Performance: 9.5
Documentation/Support: 8.5
Ease of Use: 10.0
Value: 10.0
Overall: 9.5

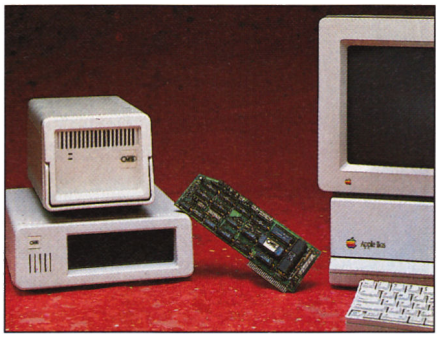
As a follow-up to our review of the Sider, HyperDrive and Apple hard disk drives in our Spring 1988 issue, there is another drive worth considering — the CMS SD60/A2S. (The CMS line also includes 20, 40 and 80 megabyte drives.)

With the arrival of the IIGS and all the wonderful software to accompany it, you may find that you quickly outgrow your old 10 or 20 megabyte (MB) hard drive. To be honest, 60 MB at first seems like overkill, but with IIGS applications becoming larger and larger daily — and with the cost per MB decreasing as the size of the drive increases — the 60 MB drive may be a good buy while allowing for future expansion.

Current versions of Apple ProDOS will recognize volumes up to 32 MB in size only, thus the CMS 60 MB drive is partitioned into two 30 MB volumes. You may name these volumes whatever legal ProDOS names you wish and, other than their large size, they function just like any other ProDOS volumes — except they are noticeably faster. For example, AppleWorks 2.0 takes 28 seconds to load from an Apple 3.5 disk but only 5 seconds to load from the CMS drive. The average access time of the SD60/A2S model is 61 milliseconds (ms); in contrast, the Sider's average access time is 85ms.

The CMS drive is a SCSI (Small Computer Systems Interface) device, and this affords some nice features. You may connect up to 8 SCSI devices to the same cable (bus); the only limitation is that the total cable length may not exceed 20 feet. If you own two IIGS systems, for example, you may connect both to the same CMS drive; each computer will have read/write access to one volume and read-only access to the other volume. You may also connect two CMS drives to the same Apple/SCSI card.

On the other hand, if you purchase a 20 MB drive now and later find the need to purchase a second 20 MB drive, you may



Even power users will be hard pressed to outgrow the high-capacity storage of the CMS SD60/A2S hard disk drive.

access both volumes directly from the same SCSI card. Both the CMS drive and SCSI card are properly terminated, so there is no need to add or remove terminators when connecting other CMS drives.

If you purchase a CMS drive configured for the Apple IIGS, installation is a breeze. Simply insert the SCSI card into any free slot (except slot 3), attach the cables to the SCSI card and drive, turn your system on and away you go. The drive comes preformatted for ProDOS (DOS 3.3, Pascal and CP/M operating systems are not supported) and it is ready to accept your files immediately.

Using Filer, Prosel or any other ProDOS file copier, you may copy ProDOS (8 or 16) and associated files to the first CMS volume, set the IIGS Control Panel to boot from the slot where the CMS controller card resides and boot directly from the CMS drive.

If you purchase the A2S model, the system comes complete with everything you need to install the system in your IIGS — drive, SCSI controller card, all cables, brackets, a manual and utilities disk.

To use a CMS drive configured for a Macintosh, or to configure a IIGS-configured drive with multiple computers, all configuration is done via DIP switches on the SCSI card itself.

The CMS SD60/A2S drive looks like a small IBM PC in the Apple IIGS platinum color. The drive's desktop footprint is 10 inches wide by 11 inches deep by 3.5 inches tall; it's flat top is suitable for stacking other drives on top. Unlike some other hard drives that are loud, the CMS drive is very quiet — a soft whirl is heard only during read/write activities. A green LED on its front panel lights when there is read/write activity, and an internal fan keeps the system cool.

The actual unformatted drive size is 62.4 MB. The 30-page manual is well written and comprehensive for installation and configuring, but does not provide any warranty information or technical specifications. The manual does provide tips for large capacity hard disk drive operation.

A 3.5 inch utilities disk contains software for testing and formatting the drive, parking the heads (necessary only prior to moving the drive) and the ProDOS Filer utility. We have found the Prosel utilities (reviewed in our Summer '88 issue) to be ideal for making backups, copying files, organizing disks, finding files and printing hard copies of volume directories.

The manual states that the drive must be up to speed before powering on the computer, but CMS made a modification to the system so that this is no longer true. We booted our system from an Applied Engineering RamKeeper/ROM volume (battery-backed up RAM disk), and there was an approximate 10 second delay while the CMS drive came up to speed before its volumes were accessible. Warm boots of the system (pressing Escape-Reset) result in loosing the CMS volumes; you must then turn both the drive and IIGS off and back on to have the IIGS recognize the CMS volumes again. Although this has no deleterious effects on either the CMS drive itself or the integrity of any files on the drive, it is a minor annoyance.

If you're in the market for a fast and quiet hard disk drive that allows flexibility for future expansion, the CMS drive is well worth considering.

— *Kenneth Buchholz*

Product: CMS SD60/A2S Hard Drive
Price: $1,195 retail; includes SCSI card and all hardware
Company: CMS Enhancements, Inc.; 1372 Valencia Ave.; Tustin, CA 92860; 714-259-9555
Requirements: Apple IIGS; other Apple II computers
Warranty: 1 year

Circle Reader Service Number 60

ComputerEyes IIGS

Captures In Color

Performance: 8.0
Documentation/Support: 8.0
Ease Of Use: 7.0
Value: 9.0
Overall: 8.0

Is it live, or is it the Apple IIGS? The ComputerEyes IIGS digitizer makes you wonder with its conversions of real-world images to computer graphics.

Graphics on the Apple IIGS are excellent. You can use a variety of different graphics programs to design and edit sophisticated photograph-like pictures. The trouble is, how can you take a real-world graphics image, like a photograph, and convert it into a IIGS graphics picture? One of the best, inexpensive solutions is to use a hardware video digitizer board that converts real-world images into IIGS graphic pictures.

The original ComputerEyes board was introduced in 1984 for the Apple II, II+ and IIe. It took 30 seconds to scan a low-resolution picture, and it produced adequate black-and-white results.

Since then, Digital Vision has released a version for the Apple IIc, a more sophisticated, faster version for the Apple IIe and more recently, a color version for the Apple IIGS. Some of the practical applications for ComputerEyes include machine vision, electronic signatures, company logos, ID photos and many other applications where you need to convert a real-world image into a computerized form. The ComputerEyes board is well oriented for desktop publishing applications where you can integrate text and pictures on the same page.

ComputerEyes GS plugs into a IIGS expansion slot. You can use slot 7 (normally unused). However, the best slot is usually 3 or 4. The special design of ComputerEyes lets you use these normally unusable slots without loosing the slot's normal function (80 column display for slot 3, mouse interface for slot 4). You can't use a board in slot 4 without loosing your mouse's function, or slot 3 without loosing your 80-column display. The design of ComputerEyes allows you to use all of these functions at the same time.

Three video cables emerge from ComputerEyes: a video input cable, a cable that attaches to your video monitor and a cable that goes to your IIGS' composite video output port. Only the video input cable is absolutely necessary to use this product— however, if you have a composite monitor, the extra cables let you double the use of your computer monitor. It will be used both for your IIGS' video display and as a preview monitor to check your framing and focus before you scan an image. The video input cable can be attached to any standard composite video source, such as a video camera, VCR or a videodisc player.

The ComputerEyes utility disk uses AppleWorks-style menus and is very easy to use. It's written in ProDOS 8, the older but faster version of Apple's operating system. Files created by ComputerEyes are totally compatible with ProDOS 16 programs, and you can use your digitized pictures with standard IIGS paint or desktop publishing programs.

Grabbing pictures is extremely easy. It took only 10 seconds, less than one third the time for earlier video digitizers, to produce the digitized picture of our model. All we had to do was aim and focus a color video camera, and within six seconds the ComputerEyes board grabbed a 320 by 200 pixel color picture. Four seconds later the software calculated its color levels and displayed her picture.

Besides the color 320 by 200 pixel-mode picture shown here, the board can also scan black-and-white images with the same resolution or double the horizontal resolution (640 by 200 pixels). In the black-and-white 320 mode, ComputerEyes scans images with 16 gray levels producing an excellent high-quality image. Color pictures, though, are limited by the IIGS' hardware that only produces 16 colors at a time.

In practice, real-world images — especially pictures of people — are composed of thousands of different subtle shades and intensities. However, the IIGS can still produce adequate images, especially with the ComputerEyes' "dithering" techniques (patterns that increase the apparent number of colors to the eye). When you're happy with the picture, it can be saved as a super-high-resolution picture for use within a IIGS program; you can print it in color or black-and-white to an ImageWriter printer; or you can modify the picture with the enhancement utilities.

The utilities are excellent and almost worth the price of the hardware alone. You can convert pictures back and forth between all of the Apple IIGS graphics modes,

including the original standard high-resolution graphics (280 by 192 pixels), double high resolution (560 by 192 pixels) and all of the super-high-resolution modes. As a bonus, Digital Vision is adding support for the IIGS version of The Print Shop.

Other modify functions include: the capabilities to create mirror images, negatives, high contrast dark/light images, scroll images around the page, shrink an image to as little as 10 percent of its original size, or expand a small corner up to 1,000 percent.

The earlier $129.95 black-and-white version of ComputerEyes designed for use with the Apple IIe also works fine on the IIGS. Naturally you can't produce color pictures, and the software isn't as sophisticated. The standard software supplied with the board produces single and double high-resolution pictures, and you can purchase an enhancement package from Digital Vision that will digitize black-and-white super-high-resolution pictures. If you don't need color capabilities, this alternative can save you some money.

With the introduction of adequate desktop publishing programs for the Apple II — especially programs that support super-high-resolution graphics on the IIGS — you can now produce even more professional, sophisticated printouts with ComputerEyes and your IIGS. Programs such as Publish It! and Springboard Publisher will use ComputerEyes pictures once you digitize them and convert them into the earlier single or double high-resolution formats. IIGS-specific page layout packages, such as Medley, can use the super-high-resolution pictures created by ComputerEyes directly.

— Philip Chien

Product: ComputerEyes IIGS
Price: $249.95
Company: Digital Vision, Inc.; 66 Eastern Ave.; Dedham, MA 02026; 617-329-5400
Requirements: Apple IIGS; composite video source (e.g., video camera, VCR, etc.); printer recommended
Warranty: one year

Circle Reader Service Number 61

The Classic II

Low-Cost, High-Speed Modem

Performance: 9.0
Documentation/Support: 8.0
Ease Of Use: 9.0
Value: 9.0
Overall: 8.75

The long wait for a dependable, low cost, high speed modem from Epic Technology is now over. The Classic II 2,400 baud internal modem has arrived.

Epic Technology created quite a stir at last September's AppleFest in San Francisco by introducing a $169 internal 2,400- baud modem. The Epic Classic I modem shipped several months after it's introduction, and problems with the modem surfaced immediately. Epic has offered a number of free upgrades for the Classic I. Yet, that modem is still problematic and exhibits difficulties while transferring files from one computer to another.

The Classic II modem, on the other hand, has been completely re-designed. Based on extensive testing, it appears to be highly dependable.

The Classic II modem fits into one of the internal slots in the IIGS; slot 2 is recommended. To your Apple IIGS, it appears to be an external Hayes 2400 Smartmodem connected to a Super Serial Card. That means that it can be used with virtually any telecommunications program. For testing, it was used with the following packages: ASCII Express Version 4.31; MouseTalk Version 1.3; Talk Is Cheap Version 2.03; Point-To-Point Version 2.0; Proterm Version 2.0; AppleLink Personal Edition Version 1.0.7; and the free demo software included with the modem, Let's Talk. The Classic II modem performed equally well with all of the programs, whether at 1,200 or 2,400 baud.

The only exception was the prerelease AppleLink Personal Edition software. At present, that software is not yet capable of recognizing *any* internal modems. The AppleLink programmers are aware of this problem and are taking steps to correct it.

The modem appears to be a sturdy piece of equipment, well made and carries a five year warranty. It also appears to be 100 percent Hayes compatible. The hardware includes a speaker that can be set through your software; a non-volatile battery-operated RAM that can store several telephone numbers; two phone jacks; and a port for a future module that will allow a connection to an external status light display. That display should be available in August 1988 for $29.

There are four DIP switches on the modem. These have been preset at the factory, so all that's involved in installing the modem is opening your IIGS and — with the power off — inserting the modem in slot 2 and then connecting the modem to your phone system with the supplied cable. Additionally, you must change the Slots Setting to "Your Card" in the IIGS Control Panel. The installation process couldn't be simpler.

Included with the modem is a demo version of Let's Talk by Russ Systems of Santa Cruz, California. Not all the features of this full, commercially available software product are included, but enough is here to call a BBS, log on and start transferring files.

Because of the problems with the Classic I, Epic Technology will be offering registered owners of that modem the opportunity to "trade up" to the Classic II for $49. It is strongly urged that all owners take advantage of this offer. Epic has notified all registered owners of this upgrade; if you haven't sent in your registration forms, now is the time to do so. Epic is ready to please owners of their products. The technical support people seem knowledgeable and eager to help. They can be reached via a toll-free number.

All in all, the Epic Classic II is a dependable, high speed modem that could easily be a best seller. Carrying a retail price of $219 and available from some mail order houses for as little as $175, this modem is a bargain.

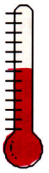
— Joe Kohn

Product: The Classic II
Price: $219
Company: Epic Technology; 5680 Stewart Ave.; Fremont, CA. 94538; 800-634-9992 or 415-683-0932 (CA)
Requirements: Apple IIGS
Warranty: Five years

Circle Reader Service Number 62

CDA Power

Handy Utilities



Performance: 7.0
Documentation/Support: 5.0
Ease Of Use: 7.0
Value: 5.0
Overall: 6.0

CDA Power is a set of four Classic Desk Accessories (CDAs) for the Apple IIGS. You're already use to using two CDAs — the Control Panel and Alternate Display Mode accessed with the Open Apple-Control-Escape command. The Control Panel and Alternate Display Mode are built into the IIGS' System ROM and are automatically available when you turn on your Apple.

CDA Power's extra utilities are added via a ProDOS 16 system disk. You have to copy the proper files from the CDA Power distribution disk into the Desk Accessory folder of your System Disk.

When you boot the disk, the desk accessories will be loaded into memory and the choices will appear on your menu when you hit Open Apple-Control-Escape. Up to 14 CDAs can be added at the same time, and they remain in place until they are cleared out of memory or a hard reset is performed — even if you boot another disk or run a commercial program. If CDAs are installed on your hard drive, they will be automatically loaded when you boot your hard drive. If you don't have a hard drive, you can install CDAs on each of your boot disks.

The primary advantage of CDAs like CDA Power is that they're almost always available. As a general rule, if you have enough extra memory — and as long as an application doesn't specifically prohibit you from accessing the CDA menu — you can access the CDA Power utilities. Each of the four modules in CDA Power is loaded separately and has its own menus and functions. Most of the CDA Power accessories will work with any operating system; however, the accessories that save data to your disk will only work if you've booted a ProDOS 16 disk.

The 360 Scratchpad Editor is a quick and dirty text editor. As with the other CDA Power Desk Accessories, its primary advantage is that it's always in memory and ready to go. The Scratchpad Editor certainly isn't as powerful as a word processing program or even the editors built into many other applications, but it can come in handy if you need to edit a text file quickly and your current application doesn't have its own editor.

360 Desktools is primarily a cheat-chart for programmers. There's an ASCII chart, 65816 processor reference guide and a scientific calculator with a 16 digit display. Each of the three Desktools modules shows up separately on the CDA menu. If you're an assembly language programmer, then you'll find the 65816 chart handier than looking up an op code, and even BASIC programmers will find the ASCII chart useful.

The scientific calculator is a 16 digit mouse and keyboard driven calculator. It has an eight value memory stack, calculates in base 2 (binary), 10 (decimal) and 16 (hexadecimal), translates between those bases, and performs trig in degrees, radians and gradiens. Some of the functions include the Yth power of X, roots, factorials, pi, logs and exponents.

If you need a quick calculation while you're running another program the calculator is convenient — as long as you remembered to boot a disk with the Desktools installed beforehand. The major disadvantage to the calculator is its inability to save results for transfer to the program you are running. If it's a complicated answer, then the easiest solution is to write it down on a piece of paper and retype the number into your application.

360 Deskshell is a set of ProDOS utilities. Many applications don't let you access ProDOS routines from within the program. While such applications may let you load and save data files, you often can't rename files, copy them to other disks or perform other ProDOS file or volume maintenance.

As long as 360 Deskshell has been previously installed things are much easier. Besides the capability to rename and copy files, you can also format blank disks, create subdirectories and examine catalogs. You can also list all of the available ProDOS volumes, including the number of blocks free and total number of blocks for each volume; search through all of your directories for a file by name (excellent if you have a hard drive with a complicated directory tree); display the subdirectories (tree) on any volume; and even search for a particular text phrase in whatever files you specify. The utilities only work with ProDOS disks, but they're extremely handy and useful.

360 Desklink is a miniature modem program. A major limitation in this accessory, is that it's written only for use with an external modem attached to the IIGS' serial port. It won't work with an internal modem (e.g., Applied Engineering DataLink or similar modems).

360 Desklink does have a 40 number phone list, can upload and download text files, and will autodial both modem and voice phone numbers. It is not a full-featured communications program, but may be an adequate voice phone dialer, and it is also useful for quick sessions where you want to download or upload a small amount of text quickly.

The CDA Power desk accessories are useful for a high-level programmer. Yet, many users will find them intimidating. Typical IIGS users don't often need an editor or calculator while running another program, but when they do, CDA Power does the job well.

— Philip Chien

Product: CDA Power
Price: $59.95
Company: 360 Microsystems;
12272 Fox Hound Ln.;
Orlando, FL 32826-3668; 407-275-6418
Requirements: Apple IIGS; extra memory recommended

Circle Reader Service Number 63

The GEOS Operating Environment

Point And Click For The Apple II Family

Performance: 8.0
Documentation/Support: 8.0
Ease Of Use: 7.0
Value: 6.0
Overall: 7.25

GEOS means "earth" in Greek. It also stands for Graphic Environment Operating System, a new Berkeley Softworks product for the Apple II family. An earlier version of the software for the Commodore 64 has been credited with extending the life of that classic 8-bit computer.

Can it do the same for the Apple IIe and IIc? Maybe. Does it operate smoothly on a IIGS? Yes. Do its features justify learning a whole new set of procedures and conventions? For most IIGS users, probably not.

GEOS is a proprietary operating system with ProDOS file compatibility. The heart of GEOS is the deskTop (yes, that's how it's spelled!) where you manage files and devices and launch applications by pointing and clicking on icons. The GEOS deskTop resembles the Apple Desktop (as implemented on the Macintosh and the Apple IIGS Finder). Two major applications — GeoWrite and GeoPaint — are included in the package, along with a spelling checker, a 28,000-word dictionary, a variety of desk accessories and other utilities.

Planned future applications include GeoPublish, GeoProgrammer (a Basic interpreter and assembly language development tool), GeoCalc and GeoFile, plus additional desk accessories and fonts.

Operating systems have not been a happy part of the Apple II's history. The original Apple DOS, which ended years ago with Version 3.3, was hard to learn and had severe limitations when used with large-capacity drives. Apple Pascal, which required its own operating system, never caught on commercially.

Actually, 8-bit ProDOS was derived from SOS, the sophisticated operating system of the doomed Apple III. Now up to Version 1.4, ProDOS 8 has been plagued by bugs, but it enjoys wide acceptance as an official standard. ProDOS 16, the emerging operating system for the IIGS, still sits as a shell on top of ProDOS 8, which limits disk input/output speed and other operations.

GEOS is handsomely packaged in a cardboard slipcase, including a loose-leaf, three-hole IBM-style binder. Its indexed operating manual is clearly organized and well illustrated. Dividers are included for planned future applications. The software takes up three 5.25-inch disks — on both sides.

For Apple IIe owners who do not have mouse devices, there is a tiny circuit board (two chips and three resistors) that goes in slot 7 and provides the "interrupts" GEOS requires. Apple IIGS owners can ignore this, because mouse interrupts are built-in to the IIGS system. GEOS does not require a mouse — you can move the cursor and make selections with a joystick or the keyboard.

Using GEOS is a little like using a telephone in a foreign country. The basic principles may be familiar, but the details can be frustratingly different. GEOS does not follow the Apple Human Interface Guidelines, which define the look and feel of all Macintosh — and some new Apple II — software.

There are icons, folders, mouse clicks and menu bars, but they work differently. The conventions of pointing, selecting and dragging are not the same. To delete a file on any Apple Desktop, you put the cursor on the file, hold down the button and drag the file onto the trash-can icon. On the GEOS deskTop, you click once to select, click again to drag, then click once more to deposit something in the wastebasket icon.

GEOS uses keyboard shortcuts (combining one letter with the Closed Apple or Option key), but none of them follow the standard Apple conventions. There is no "right" or "wrong" keyboard shortcut, of course, but the beauty of a standard is that everything is consistent.

While the Apple Desktop holds as many file and folder icons as you can crowd onto the screen, the GEOS deskTop is limited to eight icons per "page." To see more of the icons on your disk you must "flip" through the pages.

New users, who have not worked with the Apple Desktop, should have no trouble with the GEOS way of doing things. Users experienced with standard Apple ways, however, may find GEOS almost maddening at first.

GEOS is not just copy protected, it is copy protected with a vengeance. The boot disk contains a hidden "Kernal" (sic) file that cannot be copied. One backup disk is included in the package. The other program disks can be copied, but you cannot start up any GEOS application without a valid boot disk. And there is a complex installation procedure that requires you to permanently record your name on every GEOS application prior to use.

GEOS allows only one hard disk installation per boot disk — it creates a ProDOS System File, but also installs the hidden Kernal file, which can be destroyed by certain hard disk utilities.

Many buyers are turned off by software that regards users as potential thieves. Regardless of the program's features or performance, this sort of copy protection discourages some users from purchasing GEOS.

GeoPaint is a bit-mapped graphics program. According to Berkeley Softworks, it uses the same bit-image format as the Macintosh screen. Unfortunately, on the Apple II's high-resolution screen, which has a different aspect ratio, this format tends to distort images by stretching them vertically. A true circle looks like a football on the GeoPaint screen, and a true square becomes a tall rectangle. Everything prints out in the proper proportions, however.

At present, none of the GEOS applications support color.

GeoPaint provides 14 different graphics tools, 32 different brush shapes, 32 monochrome patterns, and handy Zoom and Page Preview options. You can hide the tool icon bar if it gets in your way and add text to a graphic by defining a Text Region of up to 254 characters.

Photo Manager, a GEOS utility program, can be used to store graphics in multiple "photo albums" on a disk. An album can contain up to 127 pages of graphics, and you can easily paste a graphic into a GeoWrite document. At present, there is no way to convert graphics from standard ProDOS formats, but a forthcoming Graphics Grabber desk accessory promises to import The Print Shop, Newsroom and PrintMaster graphics.

GeoWrite is a full-featured word processor that supports multiple fonts and type styles. Nine handsome fonts are included with the package — some with as many as six sizes. You can easily select italic, boldface, underline, outline and other styles.

The default margins are set at 0.7 and 7.7 inches, and changing them is not easy. The problem is the ruler bar at the top of the screen. The tiny symbols for tabs, paragraph indentation and margins overlap and hide one another. Even the program manual says, "This can sometimes be confusing." We found it infuriating. It should be possible to set global tabs and margins from a dialog box without fishing around for tiny symbols.

Text Grabber, another GEOS utility, converts AppleWorks, WordPerfect, MultiScribe and plain ASCII text files to GeoWrite format. It was not difficult to convert text files downloaded from a bulletin board and dress them up with multiple fonts, styles and sizes. When we mistakenly tried to convert a text file using the AppleWorks text grabber, the program did not catch the error and hung up.

GeoMerge is a standard mail-merge program that is smoothly integrated with GeoWrite. GeoLaser is a printer driver for the Apple LaserWriter. The GEOS package we examined contained a flier from a service bureau that offers fast turnaround on high-quality laser printing of GEOS documents.

GEOS is fast. IIGS users accustomed to the sluggish performance of most ProDOS 16 applications will be pleased to launch, load and switch applications so quickly. The programmers at Berkeley Softworks won their spurs squeezing maximum performance out of the Commodore 1541 disk drive, a device even slower than the Apple Disk II. On an Apple 3.5-inch drive, the GEOS' performance is even more impressive; several applications can reside on one device.

GEOS supports 25 different printers and most popular serial and parallel interfaces (including the IIGS serial port). It supports a variety of clock cards and RAM disks. It will only recognize four ProDOS devices, however. (ProDOS itself recognizes up to 16.)

For most Apple IIGS owners, the lack of color and the relatively low screen resolution weighs against choosing this product. The obtrusive copy protection and the non-standard user interface are additional drawbacks. Users who are already familiar with GEOS on the Commodore 64, however, should be delighted with the way it runs on Apple hardware.

— Mike Markowitz

Product: GEOS
Price: $129.95 retail
Company: Berkeley Softworks; 2150 Shattuck Ave.; Berkeley, CA 94704; 415-644-0883
Requirements: Any Apple II

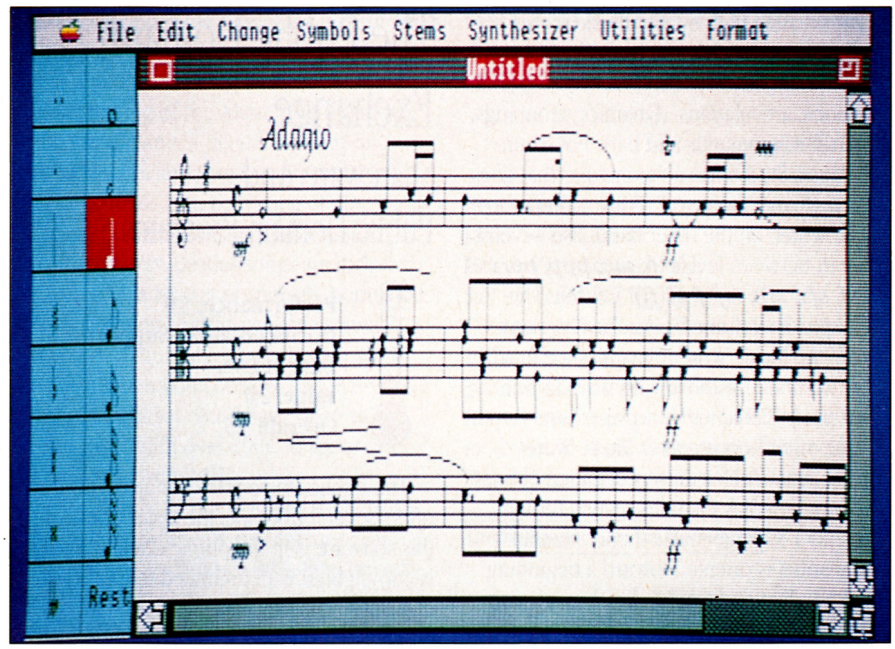
Circle Reader Service Number 64

Pyware Music Writer

Sophisticated Music Software

Performance: 8.0
Documentation/Support: 7.0
Ease Of Use: 7.0
Value: 6.0
Overall: 7.0

One of the best purposes for the Apple IIGS is as a music instruction tool. With excellent graphics and sound capabilities built into every IIGS, schools are using IIGSs not just to teach computers, but also to teach applications, such as music.



Pyware Music Writer helps users create musical scores, from simple four instrument pieces to complicated compositions for an entire orchestra.

Pyware Music Writer is a music writing program. It won't create computer generated music, and it comes with very few example songs. You don't purchase Music Writer to play music — you use it to write music. For a professional musician or arranger, Music Writer lets you create complicated music scores with up to 32 staves (staves is the plural of staff — the music term for the five lines used for music scores), providing the capabilities of a full orchestra.

If you're use to using pen and paper to create music scores, you'll quickly find Music Writer much more powerful and easier to use. For example, instead of playing a score on a keyboard, you can tell Music Writer to play several different parts of a song at the same time using different instruments, and thereby experiment with different variations to simulate an orchestra.

Besides the ease of use, when compared to using a pen and music paper, Music Writer lets you preview your score by playing it through the IIGS' Ensoniq chip with a variety of instruments. The professional version of Music Writer handles up to 32 staves for sophisticated arrangements. The special edition produces up to six staves, and the limited edition produces up to three staves.

Three staves aren't adequate for most serious applications. The limited edition really only serves as an example of what Music Writer can do. Six staves are adequate for most small groups or bands. However, if you're creating an arrangement for a high school orchestra, choral group or other large group you'll appreciate the capabilities to manipulate and print 32 different parts at a time.

Most other computerized music programs are either note editors (where you manually input notes through a keyboard, mouse or other pointer) or sequencers (electronic recorders that "tape" your notes from a piano-style keyboard). Music Writer combines the two types for a very sophisticated integrated program. If you have a MIDI input port (e.g., Apple Computer's IIGS MIDI box) attached to a piano keyboard, then notes played on the keyboard will automatically be converted into musical notations in Music Writer.

Once music is stored inside Music Writer, you can use the mouse and IIGS keyboard to edit or adjust your score as desired. You can transpose the song into another key, add incidentals, lyrics or dynamics (commands that specify how to play the music, for example, forcefully, pleasantly, soft, loud, etc.). The final score, whether it's one staff or 32 different parts, can be printed to an ImageWriter or LaserWriter printer.

For creating high quality music scores, Music Writer can't be matched. There's over 100 different notes, rests, ornaments, special functions, articulations, dynamics, groupings, clefs, time commands and bars. For example, Music Studio has a volume bar that goes from ***p*** (Piano - soft) to ***f*** (Forte - loud). Music Writer, on the other hand, lists several more in-between levels (***p, mp, ppp, pp, fz, sf, sfz, sfp, mf, f, ff, fff***). While The Music Studio volume bar has just as many levels, the Music Writer dynamics are much more accurate for those who want to print out a professional music score.

One other bonus makes Music Writer especially useful for music education classes. The program disk includes several tutorial files and a 39-page music theory manual. The manual is oriented toward a beginning music student and teaches basic music concepts such as staves, measures, beats, lengths for notes and steps. Music Writer isn't a substitute for piano lessons but it could be part of a music theory course.

Less sophisticated versions of the special and professional editions are available for the Apple IIe and IIc. Naturally they can't offer the same quality sound, because those Apple's lack the sophisticated Ensoniq chip and the full graphics-oriented interface.

If all you want is to play around with music on the IIGS, then Music Writer is probably overkill. However, if you're a serious musician, or if you want to create a sophisticated multipart score, Music Writer lets you add more staves and create more complicated scores than any other IIGS music package we've seen.

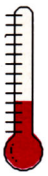
— Philip Chien

Product: Pyware Music Writer
Price: $119 retail; Limited Edition
$295 retail; Special Edition
$595 retail; Professional Edition
Company: Pygraphics Corp.;
PO Box 639; Grapevine, TX 76051;
800-222-7536 or 817-481-7536
Requirements: Apple IIGS; 768K RAM; stereo board and MIDI port recommended

Circle Reader Service Number 65

The Public Domain Exchange

Shareware And Public Domain Programs



Performance: 5.0
Documentation/Support: 2.0
Ease of Use: 5.0
Value: 2.0
Overall: 3.5

The Public Domain Exchange (PDE) now offers several IIGS-specific disks. Some of this software is in the public domain, some is copyrighted with unlimited free distribution authorized and some is not really free at all but it is shareware.

Shareware is copyrighted software that can be distributed and tried out freely, but you are legally required to send a fee to the author if you continue to use it. These fees are usually quite reasonable, but you should realize that you may incur fees above PDE's price for some of these disks.

This review covers the first 10 IIGS disks from PDE, which are all on 3.5-inch disks and cost $9 each (less in quantity).

Sound reasonable? It turns out that you are getting mostly empty disks containing a smattering of software that is freely available anyway. Let's take a closer look.

Disk 1 holds 110K of shareware from Bill Basham's Diversified Software Research, including his Diversi-Key, Diversi-Cache and Diversi-Hack utilities. Registering all this shareware with DSR would cost over $100.

Disks 2, 3 and 4 feature desk accessories, both classic (CDAs) and new desk accessories (NDAs). The desk accessories on these disks take up only 55K, 52K and 41K respectively. Disks 2 and 4 have all their files in the main directory, while Disk 3 also includes an older version of the IIGS system software. This implies the disk is to be booted, but to what purpose? Desk accessory programs, in order to be installed, must reside in the boot disk's /SYSTEM/DESK.ACCS subdirectory. On this disk they are randomly scattered throughout the main directory and a couple of individual subdirectories.

What are you supposed to do with Disk 3? Booting it will serve no purpose, because the desk accessories will not be installed. Further, there is no start program on the disk so the boot process fails anyway. This is unnecessary and really complicates things for the novice user.

These three disks could have been combined into one, using less than one quarter of its available space. A short document file could have been included explaining what to do with the files, and the disk would have been easily usable even by beginners. This could have given the DA collection some real value, but, as is, this is a small return on $27 worth of mostly blank disks.

The desk accessories are mostly well-known, and in some cases, include source code and documentation. Disk 2 includes Prosel author Glen Bredon's CDA package, which is widely available on the commercial networks. This package consists of Master CDA (which allows you to install more than the normally allowed number of CDAs), a notepad, calendar and CDAs to display and print text files and hex dumps.

Disk 3's CDAs include a "visible bell" that replaces the Apple's beep with a screen character (useful for hearing-impaired users), a CDA to quickly change speed and slot assignments, a Hex-Decimal-Binary converter, and more.

Disk 4 is the NDA disk, and it features Gary Little's on-screen Clock and his Mouse Locator programmer's aid. Jason Harper's Meltdown is here, along with the obligatory Four-Puzzle, a memory status display, and an older version of a graphic Control Panel.

Disk 5 contains 66K of graphic conversion and display programs. An older version of Jason Harper's SHRConvert (a $15 shareware package) is on this disk. SHRConvert, converts graphics files from various different computer formats to Apple IIGS super-high-resolution format. This is useful for users of online services such as Compuserve and GEnie, where a wealth of such files are available. Other utilities specifically convert MacPaint and Atari ST graphic files into IIGS format. There are also a couple of "slide show" programs, a IIGS color demo and some document and source files.

Disk 6 contains two files totaling 84K: FreeTerm GS, a freeware GS-specific terminal program, and a document file explaining its use. This particular version of FreeTerm

appears a bit buggy, especially when used with System Disk Version 3.1. Crashes while online are frequent. It seems to crash less frequently when run under System Disk Version 1.1, however. FreeTerm is a nifty little program, supporting up to 2,400 baud in the IIGS graphic environment. Automatic Binary II processing, Xmodem protocol and text file transfers are supported.

Disks 7, 8 and 9 each contain about 350K in about a dozen graphics files per disk. These disks also contain system software and the same version of SHRConvert as Disk 5. The graphics are good to excellent.

Disk 7 features digitized photos of the next generation starship Enterprise and poster art from several movies, a stunning goldfish painting, and more.

Disk 8 includes excellent paintings of planets, racing cars and an ocean wave. Digitized images of Star Trek's Admiral Kirk and a moonwalking astronaut also appear.

Disk 9 includes the same Kirk picture and digitized TV images from Moonlighting, Max Headroom and Amazing Stories. There's a terrific painting of the Alien from the movie of the same name, a digitized photo of Ronald Reagan and some comic art.

Disk 10 totals 47K, consisting of nine songs for Music Construction Set. Two classical pieces and seven Beatles songs are included.

Overall, this is a set of sparsely populated disks containing readily available software that can be acquired for free. It's good software, but when you consider that everything of value in this set could have been stored on two disks with over 100K to spare, it's very hard to justify PDE's prices.

PDE could have put together some real value packages here by putting more on each disk and spending a little time organizing the disks' contents and documenting their use. As is, they appear to have hastily slapped these disks together with the expectation that you will pay for them. ■

— Joe Walters

Product: The Public Domain Exchange, Disks 1 Through 10
Price: $9 retail; each disk
$49.95 retail (all 10 disk)
Company: The Public Domain Exchange; 2074C Walsh, Dept. 71; Santa Clara, CA 95050; 800-331-8125 or 408-496-0624
Requirements: Apple IIGS; 512K; printer, modem and Music Construction Set recommended for some programs and files

Circle Reader Service Number 66

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Department AP
Pueblo, Colorado 81009

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Apple IIGS Hardware And Software Directory

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 name. The product directory also includes many products identified with a box (■). These are Apple IIGS products that are either new or listed for the first time in *The Apple IIGS Buyer's Guide*. These descriptions are longer than the others because they are appearing for the first time.

In order 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 disk 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 or ProDOS 16 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* assumes responsibility for the accuracy of the product descriptions nor the suitability of any product for specific tasks.

An electronic version of the Apple IIGS Hardware And Software Directory can be found on The Source. Type Applesig at any system prompt for additional information.

Accessories

A-B Box
Switch box with a 2-inch-Mini DIN8 cable
Apple IIGS.
$99.95 retail
Kensington Microware Ltd.;
251 Park Ave. S; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

Anti-Glare Filter IIGS
Cuts down glare by 91 percent
Apple IIGS.
$49.95 retail
Kensington Microware Ltd.;
251 Park Ave. S; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

Anti-Glare Screen MFM12
Anti-glare screen
Apple IIGS.
$35.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

■ Apple IIGS Armor
Security system
Apple IIGS.

The Apple IIGS Armor is a security system that locks up all components — monitor, disk drives, CPU keyboard and mouse. Users may use the unit in the locked position with only the keyboard and mouse outside.
$165.95 retail
Omni Tech Corp.; 21850 Watertown Rd.;
Waukesha, WI 53186; 414-784-4112

Apple Security System
Security kit with cables, screws and a padlock
Apple IIGS.
$49.95 retail
Kensington Microware Ltd.;
251 Park Ave. S; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

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, 4 Clips for plain Cables
$25 retail; 25 Clips for Connection Boxes
Kensington Microware Ltd.;
251 Park Ave. S; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

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; 617-879-7330

Cable Assemblies
Cable connections for the IIGS and peripherals
Apple IIGS.
$9.95 retail to $28.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

■ Computer Accessories Cables
Cables
Apple IIGS.

The Computer Accessories cables are fully shielded with tinned copper braid, have UL2464 wire, meet FCC Class B performance standards, have gold plated contacts and a lifetime warranty.
$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 Expressions Imprinted Mouse Pads
Customized with Apple-generated artwork or company logos
Apple IIGS; mouse.

Computer Expressions employs a photographic process for penetration of ink into the pad. This avoids cracking or interfering with the mouse and allows the entire pad to be imprinted. Multicolor jobs are permitted.
$9.50 each; 12 pieces
$6.90 each; 72 pieces
$4.70 each; 144 pieces
Quantity discounts available
Computer Expressions; 3833 Chestnut St.;
Philadelphia, PA 19104; 800-443-8278

Copy Stand
Reading and typing aid for word processing
Apple IIGS.
$29.95 retail
Kensington Microware Ltd.;
251 Park Ave. S; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

■ Desktop Printer Stands
Modular desktop printer stands available in beige (PRT-1B) or gray (PRT-1G)
N/A

The desktop printer stands feature an adjustable design to accommodate both standard and wide carriage printers. They require no more work space than a printer, and are angled to provide easier access to the printer. Paper is stored beneath the printer.
$19.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

Disk Accessories
Disk drive cleaning kit and holder
Apple IIGS.
$29.95 retail; Disk Drive Cleaning Kit
$9.95 retail; Disk Pocket
Kensington Microware Ltd.;
251 Park Ave. S; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

Disk Drive Cleaner Model DSK165
3.5-inch disk drive cleaner
Apple IIGS; disk drive.
$6.99 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

DSM802 And DSM804
Two- and four-way compact data switches with 8-pin connectors
Apple IIGS; peripherals.
$52.95 retail; DSM802
$59.95 retail; DSM804
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

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

Dust Covers
Protect your computer
Apple IIGS.
$24.95 retail
Co-Du-Co; 4802 W. Wisconsin Ave.;
Milwaukee, WI 53208; 414-476-1584

Flightstick
Aircraft joystick with pistol grip
Apple IIGS.
$74.95 retail
CH Products; 1225 Stone Dr.;
San Marcos, CA 92069; 619-744-8546

JuiceBox
Surge suppressor and fan
Apple IIGS.
$79 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; 800-451-7592 or 413-525-7039

■ Keyboard/Computer Vacuum Model MC4
Portable vacuum
Apple IIGS.
The Keyboard/Computer Vacuum Model MC4 is a portable, battery-powered, hand-held vacuum designed to remove dust and small particles from a computer.
$24.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

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

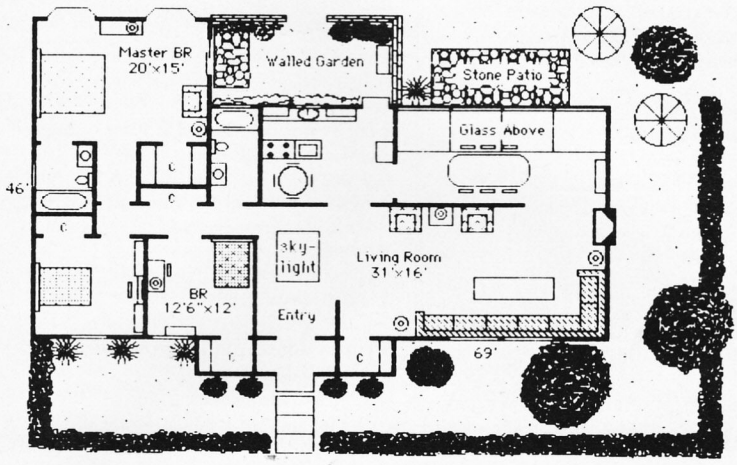
Kraft Premium II
Two button joystick with "center-lok" mode
Apple IIGS.
$32.95 retail
Kraft Systems, Inc.; 450 W. California Ave.;
Vista, CA 92083; 619-724-7146

Kurta IS/GS
Cordless graphic input system; graphics tablet
Apple IIGS.
$495 retail
Kurta Corp.; 3007 E. Chambers St.;
Phoenix, AZ 85040; 602-276-5533

Mach II And Mach III Joysticks
Two- and three-button joysticks
Apple IIGS.
$39.95 retail; Mach II Joystick
$54.95 retail; Mach III Joystick
CH Products; 1225 Stone Dr.;
San Marcos, CA 92069; 619-744-8546

■ Mach IV Plus
A professional mouse/joystick
Apple IIGS
The Mach IV Plus is a professional mouse replacement and joystick that comes with self-centering and free floating modes. Enhanced features over its predecessor include an absolute mode that tracks and acts like a mouse.
$89.95 retail
CH Products; 1225 Stone Dr.;
San Marcos, CA 92069; 619-744-8546

DESIGN YOUR OWN HOME™ on your Apple IIGS



Now you can have a designer home with a most prestigious name: yours.

Each program includes dozens of pre-drawn shapes, thousands of GS colors, standard drawing tools, rulers, a customizable work screen, plus a scan feature that lets you view dozens of included read-to-go plans as well as the Design Your Own Home Libraries. Requires 512K and prints on Imagewriter and Laserwriter.

Arcbitecture
For drawing floor plans or side views. Includes architectural scales and rulers, grids, overlays, auto line dimensioning, shape grouping. And the stud/beam repeater calculates needed lumber. Dozens of architectural shapes and symbols included or create your own. $89.95.

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Draw room plans, arrange furniture and explore dramatic or subtle color schemes. Includes hundreds of furniture pieces, each with 12 different rotations. Create a top view and the automatic side view feature lets you view your room from many positions, with depth. $89.95

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Create a full-color plan for your property with breathtaking speed. Dozens of plants included, or draw your own. Create a top view and the automatic side view feature lets you view your plan from any direction. Includes depth, slopes, scaling, and plant "aging," plus plant identification, and shopping lists! $89.95

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- Architecture Library 3 (modern, Spanish, Tudor, Cape Cod, Victorian, French)
- Architecture Library 4 (offices)
- Interiors Library 1 (homes)
- Interiors Library 2 (offices)
- Landscape Library 1 (homes)

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Abracadata
the source of plan-making software
PO Box 2440, Dept GS
Eugene, OR 97402
(503) 342-3030

Circle Reader Service Number 18

■ MacPack
Micro maintenance kit
Apple IIGS.

MacPack provides all the necessary cleaning products needed to properly care for all microcomputers using 3.5-inch disk drives.
$34.95 retail
Perfect Data Corp.; 1825 Surveyor Ave.;
Simi Valley, CA 93063; 805-581-4000

■ Mirage
Joystick/mouse interface
Apple IIGS; joystick.

Mirage is a multifeatured interface for using CH Products' Apple compatible joysticks. It turns a joystick into a high performance mouse alternative that is compatible with all Apple mouse ports and software. Mirage plugs into the computer where the mouse usually does, and the joystick plugs into Mirage.
$54.95 retail
CH Products; 1225 Stone Dr.;
San Marcos, CA 92069; 619-744-8546

Modunet
Networking connectors
Apple IIGS; AppleTalk network.
$37.95 retail to $47.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

Mouse Accessories
Accessories for mice
Apple IIGS; mouse.
$24.95 retail; Mouse Cleaning Kit with Mouse Pocket
$9.95 retail; Mouse Pocket ADB
$9.95; Mouseway
Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY

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

■ Mousetrap
Workstation accessory
Apple IIGS; mouse.

The Mousetrap is a workstation accessory designed to keep a mouse in an enclosed, yet accessible area. It affords plenty of room underneath the base for a user's hand to maneuver the controls and it fits all mousepads.
$39.95 retail
Gered Corp.; 2401 N.E. Cornell Rd., Ste. 125; Hillsboro, OR 97124; 503-591-8658

Printer Accessories
Noise reduction by 75 to 80 percent; paper storage underneath; and raises printer 1 1/2-inches at the front and 4 1/2-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
$19.95 retail; Universal Printer Stand
Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY

■ QuadLynx Trackball
Input device, alternative to mouse
Apple IIGS; other computers.

The QuadLynx Trackball is a precision cursor control input device that plugs directly into the mouse port of an Apple IIGS.
$99 retail
Asher Engineering Corp.; 15115 Ramona Blvd.; Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

Smart Connector SMC25
Universal serial printer connector
Apple IIGS.
$39.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

System Saver IIGS
Power center with four outlets, surge suppression and cooling fan
Apple IIGS; monitor; two peripherals.
$99.95 retail
Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY

■ Tilt Swivel Base Model W30
Twelve-inch tilt swivel base
Apple IIGS.

The 12-inch tilt swivel base reduces strain at workstations. It supports a monitor and offers full 360 degree rotation.
$29.95 retail
Computer Accessories Corp.; 6610 Nancy Ridge Dr.;
San Diego, CA 92121; 619-457-5500

■ Turbo Mouse And Turbo Mouse ADB
Replaces standard mouse
Apple IIGS; mouse attachments.

The Turbo Mouse and Turbo Mouse ADB have been recently upgraded to include new features. Optical levering is a new patented technology that increases the precision of the Turbo Mouse and Turbo Mouse ADB to 200 counts per inch. They both feature the same automatic acceleration found in the original versions. Both have two mouse buttons. One button serves as a regular click button, the other as a click lock.
$169.95 each retail
$60 upgrade option
Kensington Microware Ltd.; 251 Park Ave. S; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY

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

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 94903-2101; 800-527-6263

The Graphics Studio
Easy-to-use paint program with animation
Apple IIGS; color monitor; 512K; ProDOS 16; copy-protected.
$49.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

■ Quiet On The Set
Computer production studio
Apple IIGS.

Quiet On The Set is the first integrated hardware and software presentation package for the Apple IIGS. It allows users to create low cost multimedia presentations. By combining an audio digitizer, a video digitizer with presentation and animation software, the Apple IIGS becomes a computer production studio.

The basic package includes: Stage Right from LearningWays, which is an interactive presentation graphics system that allows users to create their own software that features graphics, animation, text and sound; FutureSound from Applied Visions, which is a sound input and output card that features stereo recording and sound editing; and ComputerEyes from Digital Vision, which is a full color video digitizer that digitizes high quality images from any standard video source. The package also includes a manual and sample presentations.
$495 retail
Applied Visions, Inc.; 1 Kendall Sq., Ste. 2200;
Cambridge, MA 02139; 617-494-5417

■ Stage Right
Interactive presentation graphics system
Apple IIGS; 512K; ProDOS 16; not copy-protected.

Stage Right is an interactive presentation graphics system. It allows users to create their own software that features graphics, animation, text and sound. The program does this by using a unique interactive scripting system. Screens are all created visually. Animation is controlled by actually moving the object with the mouse and recording how it was moved. Buttons, controls and complex program logic are all handled by an easy to use script manager.
$129 retail
LearningWays, Inc.; 222 Third St., Ste. 2300;
Cambridge, MA 02142; 617-576-3007

Video Link
Access to video laser players
Apple IIGS; laser disc player; 512K; ProDOS 16; not copy-protected.
$79 retail
Knowledgeware; PO Box 2292;
Paso Robles, CA 93447; 805-238-5233

Viva Presents!
Interactive video authoring system
Apple IIGS; videodisc player; 512K; ProDOS 16; not copy-protected.
$179 retail
Knowledgeware; PO Box 2292;
Paso Robles, CA 93447; 805-238-5233

AppleWorks

1040Works-X
Tax forms for preparing individual tax returns; copes with the new tax laws
Apple IIGS; other Apple II models; 256K; ProDOS 8; not copy-protected.
$27.95 retail; $3 for 3.5-inch disk
Personal Financial Services; PO Box 1401; Melville, NY 11747; 516-261-8652

■ 1985 To 1988 Collectors Guide — Topps Baseball Cards
Hobby software
Apple IIGS; other Apple II computers; AppleWorks; 128K; ProDOS 8; not copy-protected.
Collectors Guide — Topps Baseball Card is a database for AppleWorks. It lists each card by number, player name, team and current value. Interesting notes are included on special players.
$19.95 retail
$6.00 retail; updates
Pop-Fly Software, Division of Product Control, Inc.; 345-B N. McLean Blvd.; So. Elgin, IL 60177; 312-741-5915

AppleWorks Version 2.0; AppleWorks/Network
Provides word processing, database management and spreadsheet analysis; extends to the AppleTalk Network System
Apple IIGS.
$250 retail; AppleWorks Version 2.0
$1,616 retail; AppleWorks/Network
Claris Corp.; 440 Clyde Ave.; Mountain View, CA 94043; 415-960-2790

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; 800-544-3228 or 818-894-1131

Graphic Edge
Creates color charts and graphs within AppleWorks spreadsheets
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.
$89 retail
Pinpoint Publishing; 5865 Doyle St., Ste. 112; Emeryville, CA 94608; 415-654-3050

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

■ The TimeOut Series
AppleWorks enhancements
Apple IIGS; other Apple II models; AppleWorks; each program requires 128K; ProDOS 8; not copy-protected.
The TimeOut Series is a family of AppleWorks enhancements that work from inside AppleWorks. There have been four recent additions to the series. These include TimeOut Thesaurus, TimeOut PowerPack, TimeOut DeskTools II and TimeOut MacroTools.
$69.95 retail; TimeOut QuickSpell
$69.95 retail; TimeOut SuperFonts
$89.95 retail; TimeOut Graph
$59.95 retail; TimeOut UltraMacros
$49.95 retail; TimeOut SideSpread
$49.95 retail; TimeOut FileMaster
$49.95 retail; TimeOut DeskTools
$49.95 retail; TimeOut Thesaurus
$49.95 retail; TimeOut PowerPack
$49.95 retail; TimeOut DeskTools II
$49.95 retail; TimeOut MacroTools
Beagle Bros., Inc.; 6215 Ferris Sq., Ste. 100; San Diego, CA 92121; 800-992-4022 in CA (orders), 800-345-1570 (orders), or 619-452-5500

■ Vacation Orlando
Travel software series
Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy-protected.
Vacation Orlando takes the guess work out of vacation planning. Hotel and resort listings include room rates, descriptions, locations and reservation phone numbers. Area attractions are compiled with ticket prices and hours of operation. Shopping and dining guides for Orlando and Disney World are featured separately.
$19.95 retail
Pop-Fly Software, Division of Product Control, Inc.; 345-B N. McLean Blvd.; So. Elgin, IL 60177; 312-741-5915

WriteWorks
Makes the AppleWorks word processor a more powerful, flexible word processing system
Apple IIGS; other Apple II models; 256K; ProDOS 8; not copy-protected.
$29.95 retail
Michael 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
Tab Books, Inc.; PO Box 40; Blue Ridge Summit, PA 17294-0850; 717-794-2191

Advanced AppleWorks — 2nd Edition
Insight into AppleWorks
$17.95 retail
Tab Books, Inc.; PO Box 40; Blue Ridge Summit, PA 17294-0850; 717-794-2191

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
$18.95 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
Provides an extensive description of the mechanisms and internal operations of an Apple IIGS
$24.95 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 for book
Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Apple IIGS ProDOS 16 Reference
Technical reference source packaged with ProDOS 16 software and the System Loader
$29.95 retail
Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

Apple IIGS Technical Reference
Apple IIGS architecture overview book
$19.95 retail
Osborne/McGraw-Hill; 2600 Tenth St.; Berkeley, CA 94710; 415-548-2805 or 800-227-0900

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

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

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

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

■ **LaserWriter Reference**
Technical resource for laser printers
The LaserWriter Reference provides authoritative information necessary for programming Apple's PostScript-based laser printers, including the LaserWriter, the LaserWriter Plus and the new LaserWriter IINT and LaserWriter IINTX.
$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/ Prentice Hall; One Gulf + Western Plaza;
New York, NY 10023; 212-373-8232

Programming The Apple IIGS In C And Assembly Language
Source for programmers who want to program in C and to integrate assembly language routines into their programs
$18.95 retail
Howard W. Sams & Co.; 4300 W. 62nd St.;
Indianapolis, IN 46268; 317-298-5400

■ **Public Domain Catalog**
Public domain software catalog
Apple IIGS; other Apple II models; 512K; ProDOS 8 or ProDOS 16; not copy-protected.
The Public Domain Catalog contains complete descriptions of Apple II public domain software. More than 200 different disk volumes are listed in the catalog by categories such as business, education, games, The Print Shop graphics, personal domain, utilities, AppleWorks and word processing.
$7.50 each; disk
Catalog free on request
Big Red Computer Club; 423 Norfolk Ave.;
Norfolk, NE 68701; 402-379-4680

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

Business And 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.
$195 retail; each module
$95 retail; System Manager
$495 retail; complete system bundle
Manzanita Software Systems;
One Sierra Gate Plaza, Ste. 200-A; Roseville, CA 95678;
800-531-3552 or 800-447-5700 in CA

Cadapple 3.5
Contains sophisticated precision drafting tools for educational and professional use
Apple IIGS; other Apple II models; 128K; Pascal; 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.
$59 retail
MECC; 3490 Lexington Ave. N.;
St. Paul, MN 55126-8097; 612-481-3500

■ **Darad IIe**
Database and report generator
Apple IIGS; 128K; ProDOS 8; not copy-protected.
Darad IIe is a menu-driven database that includes the following features: search mode, edit mode and print mode. The database can handle up to 50 records with nine fields each. Each field can be numeric, alphanumeric or semi-alphanumeric, and the program will define them based on the data contained therein. Users can name each field and set the length.
$54.95 retail; Darad IIe
$74.95 retail; Darad IIe with Self Teaching Manual
$34.95 retail; Darad IIe Report Generator
Dar Systems International; PO Box 16-4933;
Miami, FL 33116-4933; 305-529-3572

DB Master Version 5; DB Master Professional
Versatile database management systems; DB Master Professional brings multifile, relational capability to the DB Master user
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.
$179 retail; DB Master Version 5
$295 retail; DB Master Professional Version
$500 retail; DB Master Version 5/Multiuser
$500 retail; DB Master Version 5/Classroom
Stone Edge Technologies, Inc.; PO Box 200;
Maple Glen, PA 19002; 215-641-1825

Dental Office Management IIP
An 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 92286-2080; 619-365-9718

Desk Manager
Five utilities for automating notetaking, appointments, letter writing and more
Apple IIGS; other Apple II models.
$39.95 retail
Softsync, Inc.; 162 Madison Ave.;
New York, NY 10016; 212-685-2080

The Food Processor II
Nutrition and diet analysis with 2,400 foods and 30 nutrients
Apple IIGS; other Apple II models; two disk drives; 128K; ProDOS 8; not copy-protected.
$250 retail
ESHA Research; PO Box 13028;
Salem, OR 97309; 503-585-6242

GS File
Graphical database management system designed for the IIGS
Apple IIGS; 512K.
$99.95 retail
Softwood Co.; PO Box 90331;
Santa Barbara, CA 93190; 805-964-8622

■ **Lionheart Press Software**
Apple IIGS; 512K; ProDOS 16, not copy-protected.
Lionheart Press produces statistical and management software for business, technology and science.
$95 retail; Anova
$95 retail; Arima Techniques
$145 retail; Biometrics
$125 retail; Cluster Analysis
$145 retail; Decision Analysis Techniques
$95 retail; Decision Trees And Tables
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$95 retail; Linear And Non-Linear Programming
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$145 retail; Optimization
$145 retail; Project Planner (PERT & CPM)
$145 retail; Quality Control And Industrial Experiments
$95 retail; Regression
$145 retail; Sales And Market Forecasting
$200 retail; Sales And Market Forecasting With Forecasting And Time-Series
$145 retail; Experimental Statistics
$145 retail; Business Statistics
$125 retail; Multivariate Analysis
$85 retail; Exploratory Data Analysis
$145 retail; Marketing Statistics
$190 retail; Package Of Experimental And Business Statistics
Lionheart Press; P.O. Box 379; Alburg, VT 05440;
514-933-4918

List Plus
Database and report generator for business or personal records, mailing lists, labels and more
Apple IIGS; 768K; ProDOS 16; not copy-protected.
$99.95 retail
Activision, Inc.; 3885 Bohannon Dr.;
Menlo Park, CA 94025; 415-329-0500

Managing Your Money 3.0
Financial planning and small business package combining nine integrated programs in one
Apple IIGS; two disk drives; 256K; ProDOS 8; not copy-protected.
$149.95 retail
MECA Ventures, Inc.; 355 Riverside Ave.; Westport, CT 06880; 203-226-2400

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 92286-2080; 619-365-9718

Notes 'N Files
Database filing system with a word processor-like editor
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$129.95 retail
DataPak Software, Inc.; 14011 Ventura Blvd., Ste. 507; Sherman Oaks, CA 91423; 800-327-6703 or 818-905-6419

Personal Accountant 2.0
Personal accounting system for personal and small business use
Apple IIGS.
$49.95 retail
Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

Profiler 3.0
Flexible database management system; uses both a textual and mouse-based interface
Apple IIGS; other Apple II models; hard disk drive recommended; 128K; ProDOS 8; not copy-protected.
$129 retail
Pinpoint Publishing; 5865 Doyle St., Ste. 112; Emeryville, CA 94608; 415-654-3050

The Public Domain Exchange
Disks of public domain shareware and software; write for catalog
Apple IIGS.
$9 retail; each disk
$49.95 retail; special (includes 10 disks)
$69.95 retail; special (includes 15 disks)
The Public Domain Exchange; 2074C Walsh Ave., Dept. 71; Santa Clara, CA 95050; 408-496-0624

■ Quicken
Single-entry bookkeeping software
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.
Quicken is a single-entry bookkeeping software package for small business and personal use. It is checkbook-based, making it a fast and simple way to write checks, do tax record keeping, produce income and spending reports, produce detailed tax deduction reports and more.
$49.95 retail
Intuit, Inc.; 540 University Ave.; Palo Alto, CA 94301; 415-322-0573

■ Real Estate Analyzer
Investment software
Apple IIGS; other Apple models; 128K; ProDOS 8; not copy-protected.
The Real Estate Analyzer has built-in and fully automated the latest tax laws through Spring 1988. The impact of the new tax rules for passive activities are seen in its logical tables of 10-year projections for cash flow and return on investment, both before and after taxes.
$295 retail
$95 tax law updates
HowardSoft; 1224 Prospect St., Ste. 150; La Jolla, CA 92037; 619-454-0121

Salary Magic
Spreadsheet/database program for calculating annual wages
Apple IIGS; 512K; ProDOS 8; not copy-protected.
$395 retail
Magic Software, Inc.; 1706 Galvin Rd. S.; Bellevue, NE 68005; 800-342-6243 or 402-291-0670

Tax Preparer
Tax accounting software
Apple IIGS; 128K minimum; ProDOS 8; not copy-protected.
$250 retail
$75 annual updates
HowardSoft; 1224 Prospect St., Ste. 150; La Jolla, CA 92037; 619-454-0121

■ ThunderView
Creates personalized slide shows
Apple IIGS; other Apple II models; RGB monitor recommended; 64K; ProDOS 8; not copy-protected.
ThunderView is a low-cost program for creating personalized slide shows. It is designed for users of painting software and scanners. The program includes an Image Library, a collection of clip art graphics that can be used in most painting and desktop publishing programs. Release of volume two of the Image Library is planned for late 1988.
The Apple IIGS version supports the super-high-resolution mode. It can use files created with ThunderScan for Apple II, Paintworks Plus, DeluxePaint II and 816/Paint.
$39.95 retail
Thunderware, Inc.; 21 Orinda Way; Orinda, CA 94563; 415-254-6581

Trio
Integrated word processor, database, spreadsheet
Apple IIGS; other Apple II models.
$59.95 retail
Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

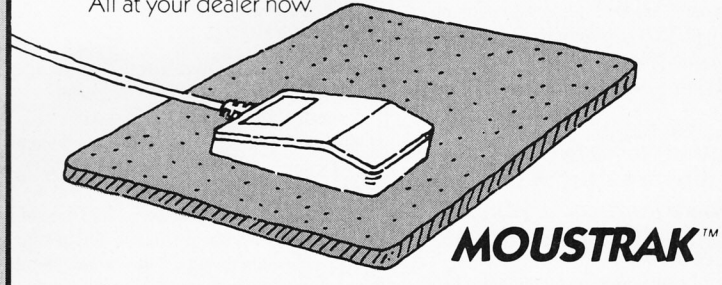
Mouse upgrade, $7.95 to $10.95.

Your mouse can go through a lot of wear and tear every time you use it. Moustrak offers you a solution with an instant upgrade in mouse performance.

That's why hundreds of thousands of Mac and Apple II owners rely on Moustrak. Its surface reduces mouse wear, keeps the rollers clean and the tracking smooth. Unlike your desktop.

Each Moustrak is made from the highest quality materials available, in a variety of colors, sizes, prices and surfaces.

All at your dealer now.



To order, call: **1-800-221-MOUS**
In Calif. (707) 963-8179

Apple II is a registered trademark of Apple Computer, Inc.

Circle Reader Service Number 19

VIP Professional
Integrated spreadsheet with database and graphics features
Apple IIGS; extended memory card recommended.
$299.95 retail
ISD Marketing, Inc.; 2651 John St., Unit 3; Markham, Ontario, Canada L3R 2W5; 416-479-1880

Visualizer
Business graphics program
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$99.95 retail
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

Creative

816/Paint
Color graphics program that supports all Apple color graphics modes
Apple IIGS; other Apple II models; color monitor; 512K; ProDOS 16; not copy-protected.
$75 retail
Baudville, Inc.; 5380 52nd Street SE; Grand Rapids, MI 49508; 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.
$39.95 retail
Baudville, Inc.; 5380 52nd Street SE; Grand Rapids, MI 49508; 616-698-0888

Car Builder
Scientific simulation program for designing, constructing, modifying and testing cars
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Clip Art Gallery
Database of more than 650 images designed for use with several Apple IIGS graphics programs
Apple IIGS; graphics program; 512K; ProDOS 16; not copy-protected.
$29.95 retail
Activision, Inc.; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

■ Clip Art Library
Graphics in four formats
Apple IIGS; 512K; ProDOS 16; not copy-protected.
The Clip Art Library collection for the Apple IIGS includes graphics in four different formats: Apple Preferred, Top Draw, Apple's Pict standard format and the Paintworks/Writer's Choice Elite paint format.
$29.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E; Houston, TX 77081; 713-668-1360

Deluxe Library
Color clip art disks for DeluxePaint II
Apple IIGS: DeluxePaint II; 768K; ProDOS 16; copy-protected.
$29.95 each retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

DeluxePaint II
Paint software containing more than 90 painting tools and effects
Apple IIGS; color monitor; 768K; ProDOS 16; not copy-protected.
$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

DeluxePrint II
Creativity program for designing cards, signs, banners, letterhead, labels and calendars
Apple IIGS; 768K; ProDOS 16; not copy-protected.
$49.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Design Your Own Home, Architecture
Allows users to draw floor plans, view building plans and structural details
Apple IIGS; 768K; ProDOS 16.
$89.95 retail
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

■ Design Your Own Home, Interiors
Allows users to draw room plans and more
Apple IIGS; 768K; ProDOS 16; not copy-protected.
Design Your Own Home, Interiors has been rewritten for the Apple IIGS. The program allows users to draw plans, arrange furnishings and explore dramatic or subtle color schemes and patterns. It keeps plans and furniture true to scale automatically and generates a side view of a room from a user created top view. Included are dozens of sample plans and hundreds of furniture shapes from which to choose. The program features pull-down menus, on-screen measurements and distance finder. It prints, saves to disk and displays in full color. Availability is scheduled for August 1988.
$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; 768K; ProDOS 16; not copy-protected.
Design Your Own Home, Landscape has been rewritten for the Apple IIGS. It enables home owners and professionals to plan the grounds around home or office. Users may choose from dozens of sample plans and a shape library of predrawn plants, trees and shrubs that can be "grown." They may also create a top view site plan by arranging buildings, walks and other permanent elements, and look at a computer generated side view from all four directions.
$89.95 retail
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

■ Design Your Own Home, Libraries
Architecture; Interiors; Landscape
Apple IIGS; one of the Design Your Own Home *programs; 768K or more; ProDOS 16; not copy-protected.*
Design Your Own Home, Libraries consist of seven add-on modules containing more than four dozen predrawn plans per library. These plans are suitable for using as is or can be customized. The four Architecture libraries contain floor plans for 13 different styles of homes ranging from vacation and solar to Victorian, French and Cape Cod. One Architecture library also includes office plans. Interiors has two different libraries of predrawn room designs, one for homes and one for offices. Landscape has one library of landscaping plans for homes.
$29.95 retail; each
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Draw Plus
Full color drawing program for use with Paintworks Plus, Writer's Choice Elite and Clip Art Gallery
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$89.95 retail
Activision, Inc.; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

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; ProDOS 16; 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; ProDOS 16; not copy-protected.
$179.95 retail
Activision, Inc.; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Paintworks Gold
Sophisticated paint program
Apple IIGS; RGB monitor; 1.25 MB; ProDOS 16; not copy-protected.
$99.95 retail
Activision, Inc.; 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; ProDOS 16; not copy-protected.
$69.95 retail
Activision, Inc.; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

Postcards
Creative paint and print product
Apple IIGS; Paintworks Plus; 512K; ProDOS 16; not copy-protected.
$29.95 retail
Activision, Inc.; 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
Apple IIGS; 512K; ProDOS 16; copy-protected.
$59.95 retail
Broderbund Software, Inc.; 17 Paul Dr.;
San Rafael, CA 94903-2101; 800-527-6263

Top Draw
Object-oriented drawing program
Apple IIGS; color monitor; 512K; ProDOS 16; copy-protected.
$89.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E;
Houston, TX 77081; 713-668-1360

Desk Accessories

■ CDA Power: Volume I Desk Accessories
360 Scratchpad Editor; 360 DeskTools;
360 DeskShell; DeskLink 360
Apple IIGS; 150K RAM in addition to the memory requirement the primary application needs.

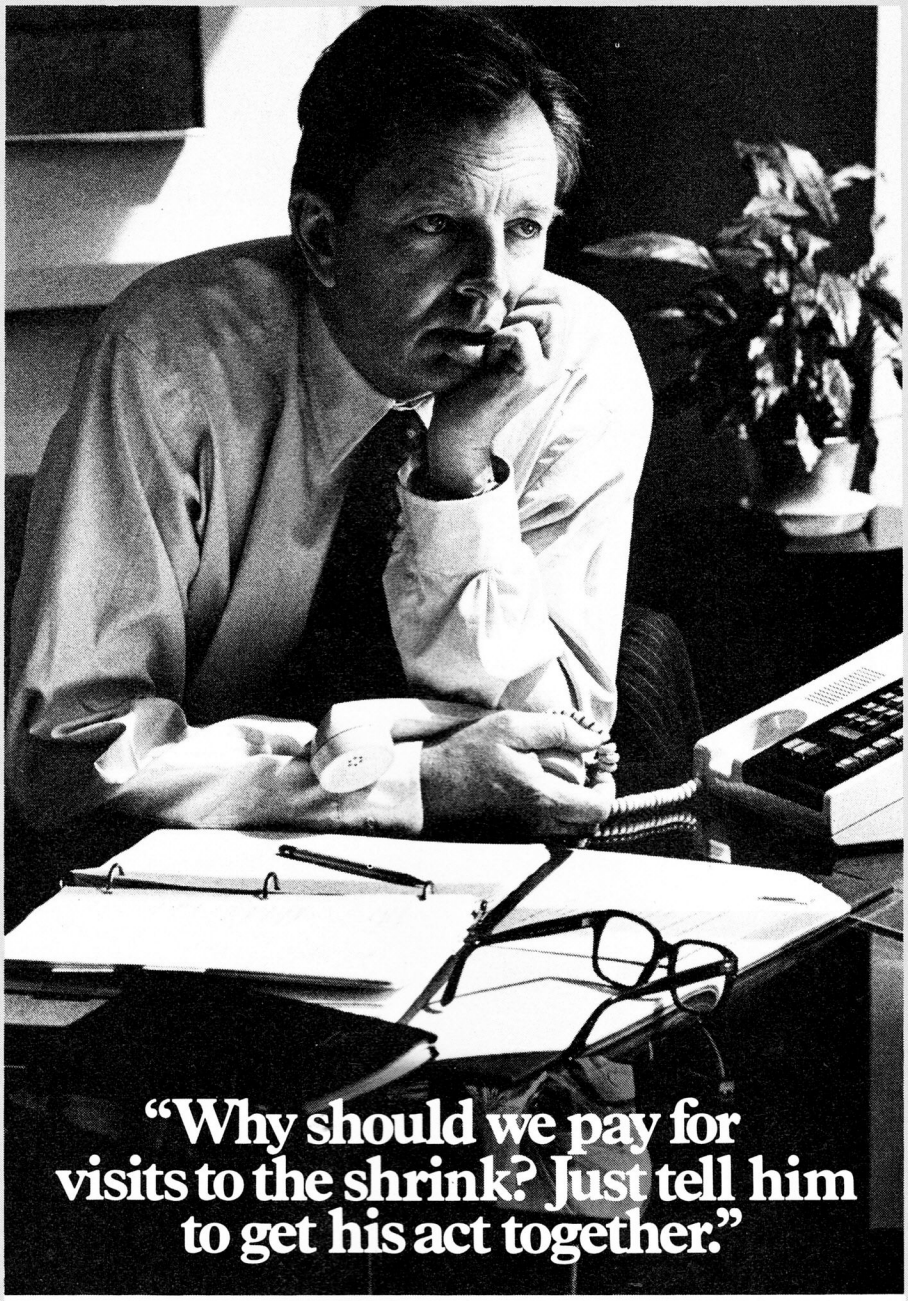
CDA Power: Volume 1 is a set of desk accessories designed for programmers. Each desk accessory in the CDA Power line integrates with the others, as well as most popular 16-bit programming environments, such as APW and ORCA/M.
$19.95 retail; each
$59.95 retail; Volume I

36Δ Microsystems; 12272 Fox Hound Ln.;
Orlando, FL 32826; 305-275-6418

The Communications Manager
Desktop communications for The Desktop Manager; supports Xmodem and Binary II file transfer protocols
Apple IIGS; 512K; The Desktop Manager.
$49.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
North Ridge, CA 91324; 800-443-8877

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.
$99.95 retail
SSSI, Inc.; 4612 N. Landing Dr.;
Marietta, GA 30066; 404-924-2667

The Desktop Manager
Accessories include: Note Pad; Calculator; Printer Manager; Envelope Labeler; ASCII chart; Screen Print; Cut and Paste; and Appointment Calendar
Apple IIGS; 512K.
$89.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
North Ridge, CA 91324; 800- 443-8877



In companies where professional treatment for mental illness is still viewed negatively, everybody suffers.

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And the company suffers. From increased absenteeism and loss of productivity.

But you can help change all that. By recognizing that mental illness is a medical illness that requires medical treatment. And by looking into medical insurance coverage that encourages employees to seek professional treatment without fear or hesitation.

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Learn more. For an informative booklet, write: The American Mental Health Fund, P.O. Box 17700, Washington, D.C. 20041. Or call toll free: 1-800-433-5959. In Illinois, call: 1-800-826-2336.

Learn to see the sickness. Learning is the key to healing.

THE AMERICAN MENTAL HEALTH FUND

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DeskWorks
Collection of accessories including scrapbook, notepad, phone dialer, scientific calculator, keyboard macros and more
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$59.95 retail
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The Disk Manager
Provides access to utilities from within any program
Apple IIGS; 512K; The Desktop Manager.
$39.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
North Ridge, CA 91324; 800-443-8877

Pinpoint Desktop Accessories
Includes appointment Calender, Calculator, Communications Window, Telephone Dialer, Graphmerge, Notepad, Quicklabel and Typewriter
Apple IIGS; other Apple II models; two disk drives; AppleWorks 1.3 or later version or selected ProDOS applications; extended memory card recommended; 128K; ProDOS 8; not copy-protected.
$89 retail
Pinpoint Publishing; 5865 Doyle St., Ste. 112;
Emeryville, CA 94608; 415-654-3050

Pinpoint Starter Pak
Combines Pinpoint Desktop Accessories, Spell 816 and KeyPlayer macro keys on one disk
Apple IIGS; 512K; ProDOS 8; not copy-protected.
$149 retail
Pinpoint Publishing; 5865 Doyle St., Ste. 112;
Emeryville, CA 94608; 415-654-3050

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 lock-out; a clock with job timer capabilities; and more
Apple IIGS; 512K; The Desktop Manager.
$39.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
North Ridge, CA 91324; 800-443-8877

TDM Toolkit
Contains information needed to create a user's own desk accessories that work under The Desktop Manager
Apple IIGS; 512K; The Desktop Manager; APW assembler.
$39.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
North Ridge, CA 91324; 800-443-8877

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;
8399 Topanga Canyon Blvd., Ste. 200;
Canoga Park, CA 91304; 800-332-7244 or 818-887-5800

Mac.Transfer
Transfers data back and forth from Apple II and IBM PC computers to the Macintosh or Apple IIGS
Apple IIGS; other computer; cables or modem; 256K; ProDOS 8; not copy-protected.
$60 retail; Mac.Transfer
$22 retail; cables
Southeastern Software; 7743 Briarwood Dr.;
New Orleans, LA 70128; 504-246-8438

MouseTalk
Telecommunications product that accommodates data transfer speeds up to 19,200 bits per second; uses mouse
Apple IIGS; other Apple II models; modem; 128K; ProDOS 8; not copy-protected.
$119.95 retail
United Software Industries;
8399 Topanga Canyon Blvd., Ste. 200;
Canoga Park, CA 91304; 800-332-7244 or 818-887-5800

Point-To-Point
Versatile telecommunications program
Apple IIGS; other Apple II models; two disk drives; extended memory card recommended; 128K; ProDOS 8; not copy-protected.
$129 retail
Pinpoint Publishing; 5865 Doyle St., Ste. 112;
Emeryville, CA 94608; 415-654-3050

Proterm
Telecommunications program featuring scrollback buffer for capturing text on screen
Apple IIGS; other Apple II models; 128K.
$129 retail
Checkmate Technology, Inc.; 509 S. Rockford Dr.;
Tempe, AZ 85281; 800-325-7347 or 602-966-5802

■ Talk Is Cheap
Shareware communications program
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.

Talk Is Cheap is a shareware ProDOS-based communications program. The latest version can now upload AppleWorks word processing files as if they were text files.

Talk Is Cheap supports multiple file transfer protocols including ASCII text, Xmodem, Xmodem CRC, Ymodem, Ymodem CRC and ASCII Express-compatible ProDOS Xmodem protocols.
$30.00 retail
Carolina System Software; 3207 Berkeley Forest Dr.;
Columbia, SC 29209-4111; 803-776-3936
(bulletin board system support line)

Teleworks Plus
IIGS-specific telecommunications program; availability scheduled for Summer, 1988
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$99.95 retail
Activision, Inc.; 3885 Bohannon Dr.;
Menlo Park, CA 94025; 415-329-0500

Desktop Publishing

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.
$19.95 retail; Font Disk 1
$19.95 retail; Font Disk 2
Third Wave Technology, Inc.; 11934 Lorain Ave.;
Cleveland, OH 44111; 216-671-8991

Font Library For The Apple IIGS
Font utility program with 90 font files; compatible with most IIGS-specific software
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$39.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E;
Houston, TX 77081; 713-668-1360

■ Fontsmith
Font editor
Apple IIGS; 512K; ProDOS 16.

Fontsmith edits existing Apple IIGS fonts and creates original character sets. The program can be customized to accommodate specific needs. Features include mouse-based editing, editing of existing fonts to add accents, creating special characters, replacing unused characters and creating new fonts for use with any IIGS-specific application including MultiScribe GS, Top Draw, DeluxePaint II and Paintworks Plus.
$59.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E;
Houston, TX 77081; 713-668-1360

■ Graphics And Pictures Converter
Converts graphic formats between Apple II programs
Apple IIGS; other Apple II models; 512K; ProDOS 8; not copy-protected.

The Graphics And Pictures Converter allows users to transfer a wide variety of graphic formats between Apple II programs. It can be used to convert graphics in Print Shop IIGS, Newsroom clip art, regular high resolution or double high-resolution formats to regular high resolution, double high-resolution or super-high-resolution formats.
$9.95 retail
Big Red Computer Club; 423 Norfolk Ave.;
Norfolk, NE 68701; 402-379-4680

GraphicWriter Version 2.0

Desktop publisher with combination page-layout, graphics and word processing
Apple IIGS; extended memory card recommended; 512K; ProDOS 16; not copy-protected.
$149.95 retail
Seven Hills Software Corp.; 2310 Oxford Rd.;
Tallahassee, FL 32304; 904-575-0566 or 800-627-3836

■ GS07 And GS08 Graphics For Print Shop IIGS

Graphics, borders and fonts for The Print Shop IIGS
Apple IIGS; 512K; ProDOS 8; not copy-protected.

GS07 and GS08 are two disks containing multicolor graphics, borders and fonts compatible with The Print Shop IIGS. Each disk contains 70 color graphics for a wide range of occasions, 10 full color borders, 10 single color borders and 15 fonts. The multicolor graphics can also be used with the Labels, Labels, Labels program available from the vendor.
$7.50 each
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.

Labels, Labels, Labels (LLL) allows users to make labels and more. The program uses The Print Shop IIGS graphics, fonts and borders, and prints in seven different colors. It allows users to create custom-sized labels and to save their creations to disk.
$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.
$59.95 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 63132-0579; 314-991-4220 or 800-643-0008

Personal Newsletter

Graphics and page composition program
Apple IIGS; other Apple II models.
$59.95 retail
Softsync, Inc.; 162 Madison Ave.;
New York, NY 10016; 212-685-2080

The Print Shop Graphics Library Sampler Edition

Clip art for The Print Shop IIGS
Apple IIGS; The Print Shop IIGS; 512K; ProDOS 16; not copy-protected.
$34.95 retail
Broderbund Software, Inc.; 17 Paul Dr.;
San Rafael, CA 94903-2101; 800-527-6263

The Print Shop IIGS

Personal publishing program with multicolor graphics editor
Apple IIGS; printer; 512K; ProDOS 8; copy-protected.
$59.95 retail
Broderbund Software, Inc.; 17 Paul Dr.;
San Rafael, CA 94903-2101; 800-527-6263

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.
$49.95 retail
Third Wave Technology, Inc.; 11934 Lorain Ave.;
Cleveland, OH 44111; 216-671-8991

Printrix 1.1

Font printing package
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 bookmarks, mailing labels and envelope cachets
Apple IIGS; other Apple II models; one disk drive; dot matrix printer; 512K; ProDOS 8; not copy-protected.

The Apple IIGS version of PS Lovers' Utility Set has features for printing catalogs of graphics, borders and fonts in full color on supported color printers. It also allows users to convert graphics, borders and fonts from older versions to The Print Shop IIGS format.
$39.95 retail
Big Red Computer Club; 423 Norfolk Ave.;
Norfolk, NE 68701; 402-379-4680

■ Publish-It!

Desktop publishing program
Apple IIGS; other Apple II models; 128K; ProDOS.

Publish-It! is a desktop publishing program that allows users to edit, design, layout and print documents.

Page layout commands allow a page to be divided into columns, objects or graphics frames.

Publish-It! allows users to draw object oriented graphics. The program will accept imported graphics from Dazzle Draw, The Print Shop or any double hi-res graphics program.

Text is entered directly into the word processing program or may be imported from an AppleWorks or other ASCII text file.

Publish-It! Laser Accessory Pack enables a user to achieve near typeset quality output from a LaserWriter, LaserWriter Plus or other PostScript-compatible printer.
$99.95 retail
Timeworks, Inc.; 444 Lake Cook Rd.;
Deerfield, IL 60015; 312-948-9200

Springboard Publisher

Desktop publishing program with full-featured word processor and graphics tools
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.
$139.95 retail; Springboard Publisher
$39.95 retail; Laser Driver
$29.95 retail; Style Sheets
Springboard Software, Inc.; 7808 Creekridge Cir.;
Minneapolis, MN 55435; 612-944-3915

■ Springboard Publisher Library

Add-on products
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.

Springboard Software, Inc. provides a library of add-on products to extend the capability of Springboard Publisher.
$39.95 retail; Works of Art
$29.95 retail; Springboard Publisher Style Sheets - Newsletters
$29.95 retail; Springboard Publisher Fonts
$39.95 retail; Springboard Publisher Laser Driver
Springboard Software, Inc.; 7808 Creekridge Cir.;
Minneapolis, MN 55435; 612-944-3915

Education

■ "And If Re-elected..."

Presidential decision-making simulation for grades 7 through 12
Apple IIGS; other Apple II models; 48K; ProDOS 8; copy-protected.

"And If Re-elected..." is an interactive program designed to give students insight into the presidential campaign. Students play the role of an incumbent U.S. President as they try to solve crises. The public, represented by 21 special interest groups, reacts to the presidential decisions. Popularity polls are used to reflect the public's reaction to presidential performance.
$89 retail
Focus Media, Inc.; PO Box 865; Garden City,
NY 11530; 800-645-8989 or 516-794-8900

■ Ant Farm

Helps students examine assumptions using trial and error
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

In Ant Farm, the challenge is to find the "work stations" of nine ants inside an ant farm. Each ant has its own work pattern that must be gauged accurately in terms of direction and length. The program is designed to encourage students to examine assumptions using trial and error; to teach students to identify similar situations and to show students the importance of making projections based on information gathered. It is appropriate for grades 3 to 12.
$65 retail; includes backup
Sunburst Communications, Inc.;
39 Washington Ave.; Pleasantville, NY 10570;
800-431-1934 or 914-769-5030

■ Bounce!

Introduces the concept of pattern and helps develop recognition skills
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

Brightly colored balls bounce on top of pedestals in a particular sequence and students are challenged to identify the pattern. Bounce introduces the concept of pattern and helps develop recognition skills while encouraging the use of different strategies in information gathering. The environment will appeal to visual, auditory and kinesthetic learners alike.
$65 retail; includes backup
Sunburst Communications, Inc.;
39 Washington Ave.; Pleasantville, NY 10570;
800-431-1934 or 914-769-5030

■ 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.

Checkerboard Trails is a game involving mathematical and problem solving skills. Designed for one to six players, this program motivates students to practice their addition, subtraction, multiplication and division skills.
$49 retail
Focus Media, Inc.; PO Box 865;
Garden City, NY 11530; 800-645-8989 or 516-794-8900

■ The Children's Writing And Publishing Center

Word processing and desktop publishing for ages 9 and up
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

The Children's Writing And Publishing Center brings word processing and desktop publishing together for young writers. Easy to follow instructions and colorful screens give children more flexibility to create stories, letters, reports or newsletters. More than 150 pictures provide both illustrations and ideas for writing topics. The Print Shop IIGS and other compatible add-on graphics libraries also can be used.
$59.95 retail
The Learning Co.; 6493 Kaiser Dr.;
Fremont, CA 94555; 415-792-2101

■ Classroom Jeopardy

Education program
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

Classroom Jeopardy is patterned after the TV show. The teacher prepares the game prior to class using the built-in word processor. Six categories, each holding five levels of "answers" are entered by the instructor, along with the Daily Double and Final Jeopardy. The class is split into two or three teams, and captains are chosen.

As categories are chosen, the "answers" are displayed in gigantic letters for all to see. The action is fast, interesting and challenging as the teams score points and approach Final Jeopardy.
$29.95 retail
DEC Software; 5307 Lynnwood Dr.;
West Lafayette, IN 47906;

Computer Mad Libs

Strategic word and party game using SmoothTalker
Apple IIGS; 768K; ProDOS 16; not copy-protected.
$19.95 retail
First Byte; 3333 E. Spring St., Ste. 302;
Long Beach, CA 90806; 213-595-7006;
distributed by Electronic Arts

Coordinate Math

Teaches graphing points in a Cartesian coordinate system for grades 4 through 12
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.
$59 retail
MECC; 3490 Lexington Ave. N.;
St. Paul, MN 55126-8097; 612-481-3500

CSL Marks

Grading software for teachers
Apple IIGS.
$75 retail; individual teacher license
$250 retail; school site license
Chancery Software, Ltd.; 500-1168 Hamilton St.;
Vancouver, BC, Canada V6B 2S2; 604-685-2041

■ Cyberlearn

A teacher-definable learning tool; AppleShare compatible
Apple IIGS; other Apple II models; not copy-protected.

Cyberlearn is an automated learning tool which, according to its vendor, stimulates the creative and interactive communication of ideas. Utilizing simple forms of artificial intelligence, Cyberlearn's purpose is to help students communicate effectively. It can be used with courses such as English, foreign language, history and chemistry.
$295 retail; teacher site license
Cyberlearn, Inc.; 20863 Stevens Creek Blvd., Ste. 330;
Cupertino, CA 95014; 408-980-7424

■ Dataflo Math Duo

Introduces number concepts and provides subtraction and multiplication practice
Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy-protected.

First Math introduces a user to number concepts and provides constantly changing quizzes in addition and/or subtraction. It offers four modes of operation and four skill levels.

Flash Math provides a user with addition, subtraction and multiplication tutorials. There is also provision for both ordered and random testing to determine proficiency.
$49.95 each
Dataflo Computer Services, Inc.; HC 32-Box 1;
Enfield, NH 03748; 603-448-2223

■ Dataflo Spelling And Vocabulary Trio

Available in Spanish and English
Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy-protected.

Dataflo Computer Services, Inc. offers three programs designed to improve a user's spelling and vocabulary skills. Included are the following: Lelps, which randomly scrambles the spelling of each word and challenges a user to unscramble it; Spell and Tell, which shows a user a series of blank spaces that, when filled, reveal the correct word; and Tell and Spell, which is a classic spelling bee simulation.These programs are available in both English and Spanish versions.
$49.95 each
Dataflo Computer Services, Inc.; HC 32-Box 1;
Enfield, NH 03748; 603-448-2223

■ Designasaurus

Primary education program
Apple IIGS; 768K; ProDOS 8; not copy-protected.

Designasaurus is composed of three components: Walk-A-Dinosaur, in which the user helps a dinosaur survive through an environment complete with predators; Build-A-Dinosaur, in which a user creates unique prehistoric giants from various fossils; and Print-A-Dinosaur, where the user can print any of 12 dinosaurs in its natural setting, along with important information about the creature.
$49.95 retail
Britannica Software; 345 4th St.;
San Francisco, CA 94107; 415-546-1866

■ Electric Crayon Deluxe - Dinosaurs Are Forever

Teaches dinosaur evolution
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.

Enchanting and fun-loving dinosaurs come back to life in Electric Crayon Deluxe - Dinosaurs Are Forever. Users will learn how each dinosaur evolved, its approximate size, eating habits and more. An evolutionary tree poster is included in the package.
$29.95
Polarware, Inc.; 1055 Paramount Pkwy., Ste. A;
Batavia, IL 60510; 312-232-1984

■ Electric Crayon Deluxe - Holidays And Seasons

Computer coloring book
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.

With Electronic Crayon Deluxe - Holidays And Seasons, users can choose from 30 line drawings of holidays and Spring, Summer, Fall and Winter scenes. A pallette offers 256 colors. Users point and click on the color of choice, move the crayon to the area they want to fill and click to fill it.
$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

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 55126-8097; 612-481-3500

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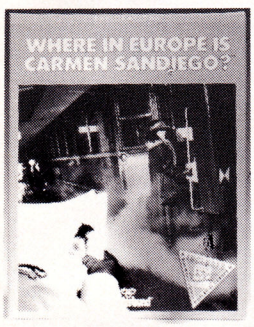

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Lab Pack $87.95

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Certificate Library $18.00

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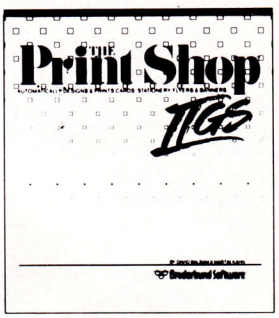
Graphics Packs $20.95



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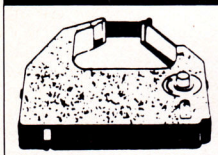

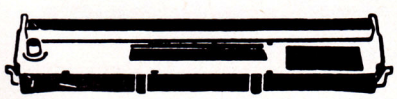

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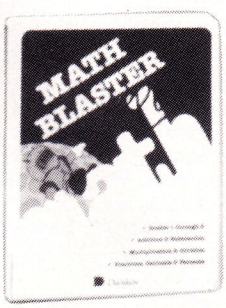

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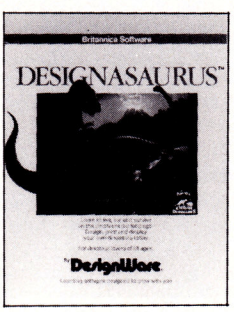

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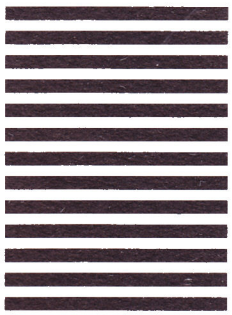

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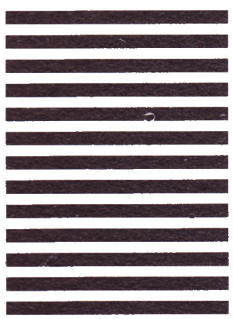

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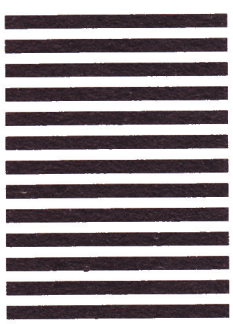

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■ ESC System

Integrated learning system
Apple IIGS; 1.25 MB per workstation; ProDOS 16; copy-protected.

ESC System is an integrated learning system that features a comprehensive K through 8 reading, language arts and mathematics software curriculum. The software motivates students with a full-color display, music, friendly characters, graphics, animation and digitized voice. The entire curriculum is stored on a single compact disc (CD-ROM). An extensive instructional management tracks students progress. The software works in a networked environment on most industry-standard microcomputers.

N/A
Educational Systems Corp.; 6170 Cornerstone Ct. E; San Diego, CA 92121; 619-587-0087

■ Explore-A-Science

Reading/writing based scientific investigations
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

The Explore-A-Science software series offers elementary and middle school students exciting and realistic investigations in the sciences.

Each of the six titles (Whales, Wolves, Tracks, The Desert, The Dinosaur Construction Kit and Weather) presents a unique opportunity for students to explore and inquire within a chosen environment through a series of engaging cause and effect animations.

$75 retail; academic
Home version available Fall 1988
D.C. Heath and Co.; 2700 N. Richardt Ave.; Indianapolis, IN 46219; 800-334-3284

■ Explore-A-Story

Writing skills software
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

The Explore-A-Story series is a reading and writing skills environment for elementary and middle school students. It provides an interactive medium for producing creative and imaginative on-screen stories and for publishing colorful books. Each of the 12 titles is based on an original storybook written for the series. Students "enter...explore...and rewrite" the stories.

The most helpful feature for young writers is the program's approach to story sequencing. Each scene in the story is portrayed on screen as it appears in the accompanying storybook. Students can page through the screens, selecting specific scenes to build their own stories.

$75 retail; academic
Home version available Fall 1988
D.C. Heath and Co.; 2700 N. Richardt Ave.; Indianapolis, IN 46219; 800-334-3284

First Letters and Words

Alphabet learning program with talking narrator for children 3 to 6
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail
First Byte; 3333 E. Spring St., Ste. 302; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

First Shapes

Basic geometric shapes recognition program for children ages 3 to 8
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail
First Byte; 3333 E. Spring St., Ste. 302; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

Fraction Practice Unlimited

Develop fraction skills for children in grades 4 through 6
Apple IIGS; other Apple II models; 128K; CDOS; copy-protected.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

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 55126-8097; 612-481-3500

■ Geometry

Interactive educational program
Apple IIGS; 512K; ProDOS 16; copy-protected.

Geometry is an interactive program compatible with major textbooks. It is meant to serve as an extension of classroom work, a refresher or a private tutor. Geometry takes full advantage of the IIGS' graphic capabilities by allowing users to create and to move angles on screen.

$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 94903-2101; 800-527-6263

■ Gertrude's Secrets

Builds basic thinking and problem-solving abilities for children ages 4 to 7
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

This program uses friendly Gertrude the goose to build a child's basic thinking and problem-solving abilities. Each of the seven games uses simple shapes and colors to make puzzles that change each time they are played. As children try to discover Gertrude's Secrets, they learn general classification skills, such as grouping, sequencing and organizing.

$39.95 retail
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

■ Hide And Find

Memory game
Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy-protected.

Hide And Find is a memory game designed to reinforce recognition of the alphabetic and numeric characters and basic math symbols. The screen contains 26 playing cards that are labeled alphabetically. The user must find the matched pairs that are hidden underneath the cards.

$29.95 retail
Dataflo Computer Services, Inc.; HC 32-Box 1; Enfield, NH 03748; 603-448-2223

Homework Helper-Math Word Problems

Solving math word problems by building equations; grades 7 through 12
Apple IIGS; 64K; ProDOS 8; not copy-protected.
$49.95 retail
Spinnaker Software Corp.; 1 Kendall Sq.; Cambridge, MA 02139; 617-494-1200

Homework Helper-Writing

Term paper program for students in grades 7 through 12
Apple IIGS; 64K; ProDOS 8.
$49.95 retail
Spinnaker Software Corp.; 1 Kendall Sq.; Cambridge, MA 02139; 617-494-1200

Homeworker

Secondary education program providing Work Processor, Outliner, Flash Card Maker, Grade Keeper Calendar and more
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.
$89.95 retail; Home Edition
$249.95 retail; Classroom Edition with 10 disks
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

Information Laboratory Software: Earth Science

Research database containing more than 600 data cards and illustrations following earth science themes
Apple IIGS; 512K; ProDOS 16; copy-protected.
$96 retail; consumer
$72.00 retail; academic
Addison-Wesley Publishing Co., Inc.-Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 800-227-1936 or 415-854-0300

Information Laboratory Software: Life Science

Database containing more than 600 data cards and illustrations following life science themes
Apple IIGS; color monitor; 512K; ProDOS 16; copy-protected.
$72 retail; school
$96 retail; consumer
Addison-Wesley Publishing Co., Inc.-Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 800-227-1936 or 415-854-0300

KidsTime II

Letter-recognition/keyboard skills and introductory music programs for ages 3 to 10
Apple IIGS; color monitor; 512K; 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
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail
First Byte; 3333 E. Spring St., Ste. 302; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

■ Magic Spells

Sharpen spelling skills for children ages 6 to 12
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

Magic Spells enriches a child's understanding of letter relationships by providing spelling practice. Hundreds of words in sample word lists encourage players at all levels. The adjustable timer and the ability to enter weekly spelling words with the "Spells Writer" editor enhance game longevity. Plus, Magic Spells rewards and motivates children with captivating graphics and amusing sound effects.
$39.95 retail
The Learning Co.; 6493 Kaiser Dr.;
Fremont, CA 94555; 415-792-2101

Math And Me

Builds early math skills for children ages 3 to 6
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.
$39.95 retail
Davidson & Associates, Inc.; 3135 Kashiwa St.;
Torrance, CA 90505; 213-534-4070

Math Blaster Plus

Addition and subtraction, multiplication and division, fractions, decimals and percents
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.
$49.95 retail
Davidson & Associates, Inc.; 3135 Kashiwa St.;
Torrance, CA 90505; 213-534-4070

■ Math Masters

Addition and subtraction, multiplication and division
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

Math Master consists of two programs that cover basic mathematical operations for all numbers from 0 through 25.

Both programs offer teachers the capability to provide students with motivating game play, to assign built-in problems or to create individualized content on worksheets in vertical or horizontal format, to generate printed worksheets for class or homework and to keep track of progress by reviewing and printing the 35 most recent games and worksheet records for 40 students.
$46 retail
DLM Teaching Resources; One DLM Park;
Allen, TX 75002; 214-727-3346

■ Math Rabbit

Key math concepts for children ages 4 to 7
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

Math Rabbit introduces key math concepts in a series of four imaginative games that can be played many different ways. The Clowns' Counting Game teaches early counting and number recognition. In the Tightrope Game, players learn number relations by matching sets of objects, numbers and math problems. In the third game, a train of elephants helps number sequences.

In the Fortune Teller Game, children practice the skills they have learned while sharpening memory and concentration.
$39.95 retail
The Learning Co.; 6493 Kaiser Dr.;
Fremont, CA 94555; 415-792-2101

MathTalk

Talking notebook featuring math tutorials, simulations and games
Apple IIGS; 768K; ProDOS 16; not copy-protected.
$49.95 retail
First Byte; 3333 E. Spring St., Ste. 302;
Long Beach, CA 90806; 213-595-7006;
distributed by Electronic Arts

MathTalk Fractions

Talking notebook featuring decimals, fractions and percents
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail
First Byte; 3333 E. Spring St., Ste. 302;
Long Beach, CA 90806; 213-595-7006;
distributed by Electronic Arts

Mavis Beacon Teaches Typing!

Expert typing teacher
Apple IIGS; 512K; ProDOS 16; copy-protected.
$44.95 retail
The Software Toolworks; One Toolworks Plaza;
13557 Ventura Blvd.; Sherman Oaks, CA 91423;
818-907-6789

Money Works

Teaches money recognition, counting and more
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.
$59 retail
MECC; 3490 Lexington Ave. N.;
St. Paul, MN 55126-8097; 612-481-3500

■ The Muppet Series

Learning series for grades K through 1
Apple IIGS; other Apple II models; works with regular keyboard, Muppet Learning Keys, or Touch Window; 64K; ProDOS 8; copy-protected.

In Muppets On Stage, children become familiar with the computer as they practice with assistance from the Muppets. The program helps children recognize letters, numbers and colors; match uppercase letters to lowercase letters; discover initial consonant sounds; count numbers and develop a one-on-one correspondence.

In Muppetville, Kermit the Frog invites everyone to visit the Statler and Waldorf Hotel, Gonzo's Zoo and other places where shapes, colors and numbers abound. The program is designed to develop skills in sorting and classifying, determining likeness and differences and more.
$65 retail; Muppets On Stage (includes backup)
$65 retail; Muppetville (includes backup)
Sunburst Communications, Inc.; 39 Washington Ave.;
Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

Numeric Concept And Memory Skills

Used with individuals (ages six to adult) who have head injuries and learning disabilities
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$395 retail; includes seven programs
Network Services; 1915 Huguenot Rd.;
Richmond, VA 23235; 804-379-2253

■ One For The Books

Teacher device for motivating students to read; for grades 3 through 6
Apple IIGS; other Apple II models; 128K ProDOS 8; copy-protected.

One For The Books is designed for school librarians and teachers to use in motivating students to read. This is accomplished by each student completing a survey at the computer. Students tell their favorite topics and types of characters they prefer. The computer responds by printing out a list of 10 books corresponding to the interests and abilities of each student.
$149 retail
Focus Media, Inc.; PO Box 865; Garden City, NY 11530;
800-645-8989 or 516-794-8900

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
Davidson & Associates, Inc.; 3135 Kashiwa St.;
Torrance, CA 90505; 213-534-4070

■ Read, Write And Publish

Writing skills software
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

The Read, Write And Publish software is a writing skills environment for grades K through 8.

The program presents one elaborate graphic environment at a time. Eight environments appear in each grade level package. Each graphic environment centers on a theme intended as the basis of the students' writing.
$99 retail; academic
Home version available Fall 1988
D.C. Health and Co., 2700 N. Richardt Ave.;
Indianapolis, IN 46219; 800-334-3284

Reader Rabbit

Talking early education program for children ages 4 to 7
Apple IIGS; color monitor recommended;256K; ProDOS 16; copy-protected.
$59.95 retail; home edition
$79.95 retail; school edition
$39.95 retail; home edition without speech
The Learning Co.; 6493 Kaiser Dr.;
Fremont, CA 94555; 415-792-2101

■ Reading And Me

Prepares children for reading
Apple IIGS; other Apple II models; extended 80-column card; 128K; ProDOS 8; not copy-protected.

Reading And Me prepares children for reading and focuses on building early reading skills by helping children to classify objects, recognize letters, understand phonics, learn words and read simple sentences. The program contains four sequential learning areas each containing three activities. Areas of learning are Readiness, Alphabet, Phonics and Words.
$39.95 retail
$129.95 retail; school lab pack
Davidson & Associates, Inc.; 3135 Kashiwa St.;
Torrance, CA 90505; 213-534-4070

■ Reading Comprehension

Helps children learn important reading skills
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

Reading Comprehension helps children of all ages learn important reading skills, such as recognizing main ideas, predicting outcomes, or recognizing cause and effect. It includes 20 high-interest story and question sets. For ages 9 and up, the program is an advanced skills program, and is appropriate to follow Stickybear Reading Comprehension.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

■ Recycling Logic

Basic principles of logic
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

Traveling along roads such as "Aristotle Street" and "Descartes Way," students collect cans of recyclable paper and metal and try to avoid picking up trash. Working with logic statements ranging from "and" and "not" to "either/or" to "if...then," students must determine which cans hold only paper or metal to be hauled away in a truck. Learning about true/false values adds to the fun of working with logic statements. The program is appropriate for ages 6 to adult.
$65 retail; includes backup
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

■ The Research Companion: Supreme Court Decisions

Social Studies database for grades 9 through 12
Apple IIGS; other Apple II models; 48K; ProDOS 8; copy-protected.

The Research Companion: Supreme Court Decisions is a Social Studies database divided into two parts. Part I enables students to play one of two roles: a law student or a legal assistant to a Supreme Court Justice. With access to approximately 60 landmark cases, students will deal with such vital concerns as First Amendment guarantees, discrimination and equal protection.
$119 retail
Focus Media, Inc.; PO Box 865; Garden City, NY 11530; 800-645-8989 or 516-794-8900

■ Rocky's Boots

Develops logical thinking and problem-solving skills for ages 9 and up
Apple IIGS; other Apple II models; color monitor; 128K; ProDOS 8; copy-protected.

Rocky's Boots is designed to develop logical thinking and problem-solving skills and encourages creativity. Players build simple logic circuits and make Rocky the Raccoon "kick" the correct targets. Over 40 games are included.
$49.95 retail
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Sky Travel

Astronomy database program featuring 1,200 stars, 88 constellations and more
Apple IIGS; 256K; ProDOS 8; not copy-protected.
$39.95 retail
MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

SpaceLace

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

Speller Bee

Incorporates talking notebook and graphics to improve spelling skills; for children ages 5 to 13
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail
First Byte; 3333 E. Spring St., Ste. 302; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

Stickybear Math

Basic addition and subtraction for ages 6 to 9
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Stickybear Math 2

Basic multiplication and division for ages 7 and up
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Stickybear Numbers

Counting and number recognition program for ages 3 to 6
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

■ Stickybear Opposites

Teaches beginning learners about opposites, and helps build reasoning skills
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

Stickybear Opposites features big, colorful animated pictures to help children ages 3 to 6 learn opposites. Children may use the keyboard by themselves, encouraging a sense of exploration and discovery. A guide is included that provides ideas for additional activities.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

■ Stickybear Parts Of Speech

Helps children recognize parts of speech
Apple IIGS; other Apple II models; ProDOS 8; copy-protected.

Stickybear Parts Of Speech helps children recognize nouns, pronouns, adjectives, verbs, adverbs, conjunctions, prepositions and interjections. A versatile, flexible product, it allows children to work at their own paces and allows teachers to tailor the program for a particular student or class.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Stickybear Reading

Builds word and reading skills
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Stickybear Reading Comprehension

Multilevel reading program containing 30 stories; ages 7 to 9
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Stickybear Spellgrabber

Builds spelling and vocabulary skills; ages six to 9
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Stickybear Typing

Typing instruction for all ages
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

■ Super Factory

Problem-solving strategies
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

In the Super Factory, students are given a three-dimensional cube on screen to look at as long as they like. Then they are asked to duplicate the cube exactly, and in the process learn many problem-solving strategies.
$65 retail; includes backup
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

Talking Text Writer

Combines word processing with the Echo board from Street Electronics
Apple IIGS; 512K; ProDOS; copy-protected.
$199.95 retail; to educators (includes Echo board)
$149.95 retail; to educators (without Echo board)
$249.95 retail; home version (includes Echo board)
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

■ Think Quick!

Develops thinking skills for ages 7 to 14
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

This fast-paced adventure game helps children develop important thinking skills needed for future learning. Players overcome six increasingly difficult game levels as they race through more than 100 rooms in the magical Castle of Mystikar. Secret panels, magic objects, maps, clues, slime worms and an enchanted knight all add up to a delightful exploration for children.
$49.95 retail
The Learning Co.; 6493 Kaiser Dr.;
Fremont, CA 94555; 415-792-2101

To Preserve, Protect And Defend

A 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 55126-8097; 612-481-3500

■ Tutor-Tech 2.2

Apple IIGS hypermedia tool for educators
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.

This is a new version of the original Tutor-Tech program that offers pull-down menus, dialog boxes, a toolbox of writing and drawing tools, text fonts and various buttons. New features include synthesizer control; an importing capability, which recognizes MousePaint, The Print Shop and Newsroom formats; and an increased list of compatible printers.
$195 retail; (basic)
$295 retail; (complete)
Techware Corp.; 1085 Belle Ave.;
Winter Springs, FL 32708-2997; 407-695-9000

Typing Tutor IV

Customized keyboard instruction
Apple IIGS; RGB color monitor recommended; 512K; ProDOS 16; not copy-protected.
$54.95 retail
Simon and Schuster Software; 1 Gulf & Western Plaza;
14th Fl.; New York, NY 10023; 800-624-0023 or
800-624-0024 in NJ

■ Vocabulary Development

Increases vocabularies and strengthens reading skills
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy-protected.

Vocabulary Development is designed to help children ages 8 and up increase their vocabularies and strengthen reading skills. It focuses on synonyms, antonyms, homophones, multiple meanings, prefixes, suffixes and context clues. Children match words to meanings through a series of multiple-choice questions.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.;
10 Station Pl.; Norfolk, CT 06058;
800-327-1473 or 203-542-5553

■ Word Attack Plus

Teaches students 700 new words and their definitions; for grades 4 through 12
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

Word Attack Plus teaches students 700 new words and their definitions as they build vocabulary skills essential to reading and writing. The program contains five learning activities and groups the word lists into 10 levels of difficulty.
$49.95 retail
$149.95 retail; school lab packs
Davidson & Associates, Inc.; 3135 Kashiwa St.;
Torrance, CA 90505; 213-534-4070

■ Writer Rabbit

Builds reading comprehension and writing skills for ages 7 to 10
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

Writer Rabbit teaches children how to put words and phrases together to build good sentences and stories. In six sequenced games, children use Writer Rabbit at a sentence party and learn to create complete sentences and stories.
$49.95 retail
The Learning Co.; 6493 Kaiser Dr.;
Fremont, CA 94555; 415-792-2101

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 55126-8097; 612-481-3500

Entertainment

4th & Inches

Football simulation featuring 20 plays and
11 different formations
Apple IIGS; joystick or mouse; 512K; ProDOS 16; copy-protected.
$44.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

Alien Mind

Space arcade adventure game that challenges users to neutralize adversaries and regain control of a research space station
Apple IIGS; RGB monitor; SuperSonic stereo card recommended; 512K; ProDOS 16; copy-protected.
$54.95 retail
PBI Software, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-349-8765

■ Bad Street Brawler

Save the grannies
Apple IIGS; 256K; ProDOS 16; not copy-protected.

Bad Street Brawler takes players on an excursion into the streets of the big city, where they are faced with gangsters, muggers and madmen. The goal is to save all the grannies from the vicious elements that have gone wild in the city. The program features graphics, animation, sound, 10 stages of play and non-stop action.
$34.95 retail
Mindscape, Inc.; 3444 Dundee Rd.;
Northbrook, IL 60062; 312-480-7667

Beyond Zork

Adventure into the Great Underground Empire
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$44.95 retail
Infocom, Inc.; 125 Cambridge Park Dr.;
Cambridge, MA 02140; 617-492-6000

Black Jack Academy

Card game on disk
Apple IIGS; 256K; ProDOS 16; copy-protected.
$39.95 retail
MicroIllusions; 17408 Chatsworth St.;
Grenada Hills, CA 91344; 818-360-3715

Bubble Ghost

Bubble-blowing arcade action
Apple IIGS; 256K; ProDOS 16; copy-protected.
$34.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

California Games

Games of skill: Surfing; Half Pipe Skateboarding; Roller Skating and more
Apple IIGS; 512K; ProDOS 16.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

Cavern Cobra

Fast action arcade game involving a mission to destroy the world's most dangerous terrorist
Apple IIGS; 768K; ProDOS 16; copy-protected.
$49.95 retail
PBI Software, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-349-8765

■ Defender Of The Crown

Adventure into the Age of Chivalry
Apple IIGS; 512K; ProDOS; copy-protected.

Defender of the Crown takes a player into the Age of Chivalry during the time of lusty wenches and black hearted villains. King Richard has been murdered and England thrown into civil war. A player is chosen by the Saxon knights to lead them into battle against the hated Normans. To save England requires skills as a swordsman and a military leader. The reward for success is the Crown of England and the love of many damsels.
$49.95 retail
Cinemaware Corp.; Bannockburn Executive Plaza;
2275 Half Day Rd., Ste. 350;
Bannockburn, IL 60015; 312-940-8484

Destroyer
Simulation game of a Navy destroyer
Apple IIGS; 512K; ProDOS.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

Dondra: A New Beginning. . .
A graphics quest for the Apple IIGS
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail
Spectrum Holobyte; A Division of Sphere, Inc.;
2601 Challenger Dr.; Alameda, CA 94501;
415-522-3584

Dream Zone
Graphic adventure game with stereo sound
Apple IIGS; 512K; ProDOS 16; copy-protected.
$49.95 retail
Baudville, Inc.; 5380 52nd Street SE;
Grand Rapids, MI 49508; 616-698-0888

Famous Course Volume II
Three golf courses for Mean 18
Apple IIGS; Mean 18; 512K; ProDOS 16; copy-protected.
$19.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

Famous Course Volume III & IV
Golf course simulations for Mean 18
Apple IIGS; keyboard or mouse; Mean 18; 512K; ProDOS 16; copy-protected.
$34.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

Fire Power
Arcade tank battle game
Apple IIGS; 512K; ProDOS 16; copy-protected.
$24.95 retail
Microlllusions; 17408 Chatsworth St.;
Grenada Hills, CA 91344; 818-360-3715

■ Gauntlet
Arcade featuring ghosts, grunts, demons and sorcerers
Apple IIGS; 256K; ProDOS 16; copy-protected.
Gauntlet features the heroes of popular arcade games — Thor, Thyra, Merlin and Questor. The goal is to survive the monsters' attacks for as long as possible while competing for food, treasure, door keys and magic potions. Game features include multilevel play, two-player action and more than 100 mazes to conquer.
$44.95 retail
Mindscape, Inc.; 3444 Dundee Rd.;
Northbrook, IL 60062; 312-480-7667

GBA Championship Basketball: Two-On-Two
Basketball simulation for one or two players
Apple IIGS; 512K; ProDOS 16; copy-protected.
$44.95 retail
Gamestar; 3885 Bohannon Dr.; Menlo Park, CA 94025;
415-329-0500

Hacker II: The Doomsday Papers
Strategic adventure to save the world
Apple IIGS; 512K; ProDOS 16; copy-protected.
$19.95 retail
Activision, Inc.; 3885 Bohannon Dr.;
Menlo Park, CA 94025; 415-329-0500

Hardball!
Baseball simulator
Apple IIGS; color monitor; 512K; ProDOS 16; copy-protected.
$44.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

■ Hunt For Red October
Submarine combat simulation
Apple IIGS; 512K; ProDOS 16; not copy-protected.
Hunt For Red October is based on Tom Clancy's best-selling novel of defection, intrigue and high-stakes robbery — the stealing of Russia's most sophisticated nuclear submarine, the Red October. A player portrays the Red October's commander, Captain First Rank Marko Ramius. The challenge is to evade the Russian navy long enough to reach a rendezvous point in the Atlantic where the US Navy will seize the Red October.
$39.95 retail
Datasoft/IntelliCreations, Inc.; 19808 Nordhoff Pl.;
Chatsworth, CA 91311; 818-886-5922

King's Quest I
3-D medieval adventure
Apple IIGS; 512K; ProDOS 16; copy-protected.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485;
Coarsegold, CA 93614; 209-683-6858

■ The Last Ninja
Action/adventure martial arts game
Apple IIGS; 512K; ProDOS 16; copy-protected.
The storyline tells of the gruesome Shogun Kunitoki who has stolen the sacred scrolls of the White Ninjitsu Brotherhood, and brutally slaughtered all but one member, known as The Last Ninja. A player's mission as The Last Ninja is to recover the sacred scrolls and kill the evil shogun to avenge the murder of a player's comrades.
$39.95 retail
Activision, Inc.; 3885 Bohannon Dr.;
Menlo Park, CA 94025; 415-329-0500

Leisure Suit Larry
Be a nerd for the night in "Lost Wages"
Apple IIGS; 512K; ProDOS 16; copy-protected.
$39.95 retail
Sierra On-Line, Inc.; PO Box 485;
Coarsegold, CA 93614; 209-683-6858

Mean 18
Realistic golf simulator
Apple IIGS; 512K; ProDOS 16; copy-protected.
$44.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

Mini-Putt
Miniature golf simulation
Apple IIGS; 512K; ProDOS 16; copy-protected.
$44.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

■ Mixed-Up Mother Goose
Transports children to an "adventure in dreamland"
Apple IIGS; 512K; ProDOS 16; not copy-protected.
Mixed-Up Mother Goose is designed for the home, nursery school and kindergarten class. Requiring no reading skills, the program provides hours of enjoyment for young children. Characters in the game talk to children with both text messages and pictures, so children of different ages and abilities can equally enjoy the magic of Mother Goose. Removable direction key stickers are provided for additional ease of use.
$29.95 retail
Sierra On-Line, Inc.; PO Box 485;
Coarsegold, CA 93614; 209-683-6858

Monte Carlo
Blackjack, roulette, craps, baccarat, poker and trente-et-quarante
Apple IIGS; 512K; ProDOS 16; copy-protected.
$39.95 retail
PBI Software, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-349-8765

■ Paperboy
Paper route packed with the unexpected
Apple IIGS; joystick; 256K; ProDOS 16; copy-protected.
This arcade adventure takes Paperboy through the avenues of not-so-typical suburbia as he tries to deliver the day's news. The goal is to deliver the morning paper to all subscribers without incident, making it through the entire week.
$39.95 retail
Mindscape, Inc.; 3444 Dundee Rd.;
Northbrook, IL 60062; 312-480-7667

Pinball Wizard
Arcade pinball simulation
Apple IIGS; 256K; ProDOS 16; copy-protected.
$34.95 retail
Accolade; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

■ Pirates! IIGS
17th century Spanish adventure
Apple IIGS; 256K; ProDOS 8; copy-protected.
Pirates! takes place on and around the Caribbean Sea during the years from 1560 to 1700, the era of the buccaneer. As a simulation, the program re-creates the politics, economics, maritime technology and personalities of the time. It features digitized sound effects, synthesized harpsichord music, random assignment of colors worn by various characters and more.
$39.95 retail
MicroProse Software, Inc.; 180 Lakefront Dr.;
Hunt Valley, MD 21030; 301-771-1151

■ Police Quest
3-D animated adventure
Apple IIGS; color monitor (SuperSonic stereo card optional); 512K; ProDOS 16; not copy-protected.
Police Quest puts players in the role of Sonny Bonds, a police officer in Lytton, a typical American town. The goal is to stop the flood of illegal drugs into the once relatively crime-free community. The program features digitized sound effects and stereo musical scores to take full advantage of IIGS capabilities.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485;
Coarsegold, CA 93614; 209-683-6858

■ Questron II
Sequel to Questron
Apple IIGS; 512K; ProDOS 16; not copy-protected.
In Questron II players are hurled back to the distant past before the time six mad sorcerers created the Evil Book of Magic. They must find the sorcerers and prevent them from committing this abominable deed.
$44.95 retail
Strategic Simulations, Inc.; 1046 N. Rengstorff Ave.;
Mountain View , CA 94043; 415-964-1353

Realm Of Altair Trilogy
Trilogy of all-text adventures with sophisticated vocabulary interpreter: The Gem of Zephyrr; The Sword of Altair; The Quest for Varsar
Apple IIGS; 256K; ProDOS 8; not copy-protected.
$89.95 retail
Dar Systems International; PO Box 16-4933;
Miami, FL 33116-4933; 305-529-3572

Roadwar 2000
Futuristic war game
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$44.95 retail
Strategic Simulations, Inc.; 1046 N. Rengstorff Ave.;
Mountain View , CA 94043; 415-964-1353

■ Rocket Ranger
Movie tale involving time travel
Apple IIGS; 512K; ProDOS; copy-protected.
Rocket Ranger is an interactive movie tale involving time travel, vile Nazis, mind control machines and a jet propelled rocket suit. . .all set in the year 1940. It includes arcade sequences, in-depth strategy, a non-linear plot and music and sound.
$49.95 retail
Cinemaware Corp.; Bannockburn Executive Plaza;
2275 Half Day Rd., Ste. 350;
Bannockburn, IL 60015; 312-940-8484

■ S.D.I.
Strategic Defense Initiative
Apple IIGS; 512K; ProDOS; copy-protected.
Two star-crossed lovers hold the key to the survival of the human race: he is a young General assigned to America's military space project, The Strategic Defense Initiative; she is a beautiful Russian Commander hopelessly caught in the crossfire when ruthless KGB fanatics stage a coup d'etat in the Soviet Union. This is a heroic mission to rescue the Russian lover from a barbaric KGB torture squad.
$49.95 retail
Cinemaware Corp.; Bannockburn Executive Plaza;
2275 Half Day Rd., Ste. 350;
Bannockburn, IL 60015; 312-940-8484

Sea Strike
Arcade game involving oil tankers under attack
Apple IIGS; 512K; ProDOS 16; copy-protected.
$39.95 retail
PBI Software, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-349-8765

Shanghai
Derived from an ancient oriental game called Mah Jongg
Apple IIGS; 512K; ProDOS 16; copy-protected.
$44.95 retail
Activision, Inc.; 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

Space Quest
Animated 3-D adventure game, digitized sound effects, advanced animation, arcade sequences and more
Apple IIGS; 512K; ProDOS 16; copy-protected.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485;
Coarsegold, CA 93614; 209-683-6858

Strategic Conquest II
Strategy war game
Apple IIGS; 128K; ProDOS 8; copy-protected.
$49.95 retail
PBI Software, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-349-8765

Sub Battle Simulator
Command a Navy sub between 1939 and 1945
Apple IIGS; 512K; ProDOS.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

■ Superstar Ice Hockey
Ice hockey simulation
Apple IIGS; 512K; ProDOS 16; copy-protected.
Superstar Ice Hockey is a multilevel hockey game. The player's challenge is to manage and play a team throughout successive seasons. Players compete with 19 other teams within four divisions. The program can track up to nine seasons.
$44.95 retail
Mindscape, Inc.; 3444 Dundee Rd.;
Northbrook, IL 60062; 312-480-7667

■ Tetris IIGS
Game for developing quick reflexes
Apple IIGS; 256K; ProDOS 16; not copy-protected.
Adopted from the popular Soviet Union game, Tetris IIGS requires fast reflexes and action. Players must try to rotate or flip moving pieces as they descend from the top of the screen. The object is to make the pieces fit precisely with the others to form a complete row with no blank spaces.
$39.95 retail
Spectrum Holobyte; A Division 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; 209-683-6858

■ Tomahawk
Flight simulator
Apple IIGS; joystick; 512K; recommend 768K; ProDOS 16; not copy-protected.
Tomahawk simulates the cockpit of the U.S. Army's AH-64A Apache, one of the world's most feared hunter/killer helicopter. Features include 3D, real-time graphics and display; offensive and defensive flight maneuvers; ground attack and air-to-air interception.
$29.95 retail
Datasoft/IntelliCreations, Inc.; 19808 Nordhoff Pl.;
Chatsworth, CA 91311; 818-886-5922

The Tower Of Myraglen
Adventure action game; revolves around a dying world known as Myraglen
Apple IIGS; 512K; ProDOS 16; copy-protected.
$54.95 retail
PBI Software, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-349-8765

■ UpTime For The IIGS
Monthly disk subscription service
Apple IIGS; one 3.5 inch disk drive; 512K; ProDOS 16; not copy-protected.
UpTime For The IIGS is a monthly disk subscription service that delivers more than 100 programs per year. Sample programs include applications, desk accessories, clip art that capitalizes on the 16-bit architecture and sound and graphics.
$1 per program
Viking Technologies, Inc.; PO Box 299;
Newport, RI 02840; 800-437-0033

Winter Games
Enter the Olympics: bobsledding, downhill skiing, ice skating, ski jump and more
Apple IIGS; 512K; ProDOS.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

World Games
International games
Apple IIGS; 512K; ProDOS.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

Hardware And Peripherals

Apple 3.5 Drive
The IIGS standard drive; provides 800K of program and file storage
Apple IIGS.
$399 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.
$299 retail
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

Apple Hard Disk 20SC
Provides 20 MB of storage; works in conjunction with the Apple II SCSI Card and Cable
Apple IIGS; Apple SCSI Card; System Cable.
$1,019 retail
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 IIGS Memory Expansion Card
Extended memory board expandable to 1 MB using additional memory in 256K increments
Apple IIGS.
$129 retail
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

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

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
Simultaneously displays high-resolution text and color graphics
Apple IIGS.
$499 retail
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

■ Audio Animator
MIDI device, stereo digitizer and stereo playback machine combined
Apple IIGS; 1 MB; ProDOS 16; software not copy-protected.

Audio Animator is a MIDI device, stereo digitizer and stereo playback machine combined.

It is able to record left and right channels separately, allowing users to mix sounds. The system records stereo, CD player, television, VCR or microphone sounds. A built-in oscilloscope allows users to control recording levels visually and analyze inputted data. Recording features include a zoom function in graphical format, an editing function and a dedicated Analog to Digital converter for sampling sound at a fast rate. Availability is scheduled for late summer or early fall.
$239 retail
Applied Engineering; PO Box 5100;
Carrollton, TX 75011; 214-241-6060

Central Point 3.5 Drive
Disk drive providing 800K of storage on an Apple IIGS
Apple IIGS; Universal Disk Controller.
$225 retail; 3.5-inch drive
$90 retail; Universal Disk Controller
Central Point Software, Inc.; 9700 SW Capitol Hwy.,
Ste. 100; Portland, OR 97219; 503-244-5782

CMS Series Hard Disk Subsystems
Apple SCSI hard disk drives
Apple IIGS; other Apple II models; ProDOS 8 or ProDOS 16.
$895 retail; SC20/A2S Compact Series
$895 retail; SD20/A2S ProDOS Stack Series
$1,095 retail; SD43/A2S ProDOS Stack Series
$1,195 retail; SD60/A2S ProDOS Stack Series
(Prices include a SCSI II Interface Card)
CMS Enhancements, Inc.; 1372 Valencia Ave.;
Tustin, CA 92680; 714-259-9555

ComputerEyes IIGS
Color video digitizer that captures images for use in popular paint programs
Apple IIGS; video source; 512K; ProDOS 8; software not copy-protected.
$249.95 retail
Digital Vision, Inc.; 66 Eastern Ave.;
Dedham, MA 02026; 617-329-5400

ComputerEyes/2
Video digitizer with GS software support
Apple IIGS; video source; 256K; ProDOS 8; not copy-protected.
$129.95 retail; ComputerEyes/2
$19.95 retail;
ComputerEyes/2 GS Support Package
Digital Vision, Inc.; 66 Eastern Ave.;
Dedham, MA 02026; 617-329-5400

Conserver
Surge suppressing unit for the IIGS providing six AC outlets, surge protection and a fan
Apple IIGS.
$149.95 retail
MDIdeas, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-573-0580

■ CT20
20 MB external hard disk drive
Apple IIGS.

The CT20 is a 20 MB external hard disk drive and is provided with the Chinook SCSI controller card, cables and operating and utility software. Average access time is 68 milliseconds. It is compatible with ProDOS 8 and ProDOS 16 non copy-protected programs.
$650 retail
Chinook Technology, Inc.; 601 Main St., #635;
Longmont, CO 80501; 800-727-5544

■ Data Display A200
Display panel
Apple IIGS.

The Data Display A200 is an LCD display panel that projects computer images via an overhead projector.
$1,199 retail
Computer Accessories Corp.; 6610 Nancy Ridge Dr.;
San Diego, CA 92121; 619-457-5500

■ DataLink 1200 And DataLink 2400
Internal modems
Apple IIGS.

DataLink 1200 is a 1,200-baud internal modem and DataLink 2,400 is a 2,400-baud internal modem for the Apple IIGS. Because either card looks to the computer like an Apple Super Serial card attached to a Hayes Smartmodem, DataLink is compatible with many communications software packages designed for this combination. The modems themselves use a one-chip design, fit into any Apple IIGS slot and have a second jack for connection to a telephone.
$179 retail; DataLink 1200
$239 retail; DataLink 2400
Applied Engineering; PO Box 5100;
Carrollton, TX 75011; 214-241-6060

■ DCA1000
Six outlet strip with surge suppressors and phone/modem protection
Apple IIGS.

The EMI/RFI surge protector includes modem/telephone surge protection. It features six outlets with full voltage surge, spike and overload protection. It also features a lighted on/off switch, 6-foot heavy-duty power cord and built-in modular connector for modem/phone use.
$62.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

■ Deluxe Power Console-Plus Surge Suppressor And Noise Filter

Surge suppressor and noise filter
Apple IIGS.

The Deluxe Power Console-Plus (DPC+) Surge Suppressor And Noise Filter is part of the company's Spike-Spiker line. It is an eight outlet device that includes 1 picosecond response time, 131 Volt clamping, outlet wiring integrity checker, dual filtered and isolated banks, massive energy handling capability, fail-safe system cut-out and noise filtering.
$125.95 retail
Kalglo Electronics Co., Inc.; 6584 Ruck Rd.;
E. Allen Township; Bethlehem, PA 18017-9359;
215-837-0700 or 800-524-0400

Digitizer and Digitizer Professional

Two-channel multifunction audio digitizer
Apple IIGS.
$59.95 retail; Digitizer
$189.95 retail; Digitizer Professional
MDIdeas, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-573-0580

■ Disk Pack

Removable hard disk
Apple IIGS, other Apple II models.

The Disk Pack is a removable hard disk that combines the speed and power of a fixed drive with the portability of a floppy, its vendors say. A small cartridge (full hard disk with heads and drive mechanism) holds from 20 to 100 MB in a fully portable unit. It can be daisy-chained for up to one gigabyte of online fast access storage.
$695 retail; base unit
$849 retail; 20 MB hard disk
$1,349 retail; 45 MB hard disk
$1,699 retail; 70 MB hard disk
$1,999 retail; 100 MB hard disk
Mega Drive Systems; 1801 Avenue of the Stars,
Ste. 507; Los Angeles, CA 90067; 800-329-4747

Echo IIb Speech Synthesizer

Text-to-speech board compatible with speech, educational and special-needs software written for the Echo II and Echo+ boards
Apple IIGS; 256K.
$129.95 retail
Street Electronics Corp.; 6420 Via Real;
Carpinteria, CA 93013; 805-684-4593

■ Epic 2400 Plus And Classic II Modems

External and internal modems
Apple IIGS.

Epic Technology, Inc. offers two modems for Apple IIGS computer users. The Epic 2400 Plus is an external modem that operates at 300/1,200/2,400-baud rates. The Classic II is an internal modem that also operates at 300/1,200/2,400 baud rates.

Both modems feature auto dial/answer, auto-baud capability, "AT" command set, mixed dialing, call progress detect, audio monitors, speakers with software control, data-to-voice switching, non-volatile memory allowing storage of three phone numbers or 33 characters, programmable DTR and more.
$189 retail; Epic 2400 Plus
$219 retail; Classic II (includes software)
Epic Technology, Inc.; 5680 Stewart Ave.;
Fremont, CA 94538; 415-683-0932 or 800-634-9992

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

Screen dump graphic utility board
Apple IIGS; printer.
$99 retail
Thirdware Computer Products; 4747 NW 72nd Ave.;
Miami, FL 33166; 305-592-7522

FingerPrint-Key

Voice translator; uses advanced macros to convert long text strings and numbers into just a few keystrokes
Apple IIGS; accessories.
$199 retail
Thirdware Computer Products; 4747 NW 72nd Ave.;
Miami, FL 33166; 305-592-7522

FutureSound

Stereo output/digital recorder with sound editor
Apple IIGS; two speakers or stereo amplifier recommended; 512K RAM, 1 MB recommended; ProDOS 16; software not copy-protected.
$279 retail
Applied Visions, Inc.; 1 Kendall Sq., Ste. 2200;
Cambridge, MA 02139; 617-494-5417

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
Apple IIGS.

GS Juice Plus is a line of memory boards providing OK to 1 MB of expanded memory. GS Juice Plus works on either side of the MemorySaver board, enabling a user to have a total expandability of 8 MB. The cards are compatible with the Apple IIGS and function properly with DMA devices.
$75 retail; OK
$499 retail; 1 MB
Applied Ingenuity; 14922 Ramona Blvd., Unit M;
Baldwin Park, CA 91706; 818-960-4415 or 818-960-1485

GS-RAM And GS-RAM Plus

Extended memory boards
Apple IIGS; ProDOS 8.
$139 retail; 0K GS-RAM
$249 retail; 256K GS-RAM
$409 retail; 512K GS-RAM
$729 retail; 1 MB GS-RAM
$1,049 retail; 1.5 MB GS-RAM
Call for pricing; GS-RAM Plus, available 1 through 8 MB
Call for pricing; GS-RAM 2 MB expander
Applied Engineering; PO Box 5100;
Carrollton, TX 75011; 214-241-6060

GSX

Add-on board that enables the IIGS to run at 5.6 MHz; not yet available
Apple IIGS.
N/A
MDIdeas, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-573-0580

HyperDrive FX/20

External SCSI hard disk drive; contains HyperDrive System Software on both 3.5- and 5.25-inch disks
Apple IIGS; SCSI board.
$999 retail; HyperDrive FX/20
$30 retail; conversion kit
General Computer Corp.; 580 Winter St.;
Waltham, MA 02154; 617-890-0880

■ ImageBuffer

ImageWriter II printer buffer
Apple IIGS; other Apple models; ImageWriter II.

The ImageBuffer fits inside the printer's expansion port to maximize speed and throughput of a user's Apple IIGS. It provides 64K (expandable to 128K) of buffer storage — up to four times the capacity of other buffers. The ImageBuffer is easy to install and requires no cables, boxes or power supplies.
$59 retail
Orange Micro, Inc.; 1400 N. Lakeview Ave.;
Anaheim, CA 92807; 714-779-2772

ImageWriter II

Apple standard printer
Apple IIGS; other Apple models.
$595 retail; ImageWriter II
$99 retail; ImageWriter II 32K Memory Option
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
$150 retail; Color Ribbon (pack of six)
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

■ KoalaPad+

Graphics input system
Apple IIGS; 48K; DOS 3.3.

The KoalaPad+ is a graphics input system for the Apple II family of computers. The drawing tablet is supplied with two graphics programs, Koala Painter and Graphics Exhibitor. The tablet is held in the hand or placed on the desk while drawing. It has two control buttons so that the drawing function can be activated and menu choices made without the need to use the keyboard.
$139.50 retail
Koala Technologies/A Pentron Company;
269 Mt. Hermon Rd; Scotts Valley, CA 95066;
408-438-0946

MemorySaver
Hardware/software system that transforms standard IIGS memory boards into instant-access ROM disks
Apple IIGS; compatible memory card.
$149.95 retail
Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 800-325-7347 or 602-966-5802

MultiRam GS
Extended memory board adding from 256K to 2 MB of memory
Apple IIGS; 256K.
$269 retail; 256K
$429 retail; 512K
$749 retail; 1 MB
$1,248 retail; 2 MB
$7.95 retail; MemorySaver Adapter
$39.95 retail; MemorySaver Extender
Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 800-325-7347 or 602-966-5802

OctoRam And OctoRam ESP
Extended memory boards
Apple IIGS.
$149.95 retail; OctoRam with 256K
$599.95 retail; OctoRam with 2 MB; other configurations available
$179.95 retail; 128K OctoRam ESP (requires OctoRam board)
MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-573-0580

On-Board
Extended memory board that provides up to 4 MB of memory
Apple IIGS.
$149.95 retail
On Three, Inc.; 8920 Yolanda Ave.; North Ridge, CA 91324; 800-443-8877

Parallel Pro And Buffer Pro
Parallel printer interface and buffer
Apple IIGS; other Apple II models.
$99 retail; Parallel Pro
$119 retail; Buffer Pro Option with 32-page buffer
$169 retail; Buffer Pro Option with 128-page buffer
$239 retail; Buffer Pro Option with 256-page buffer
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Passport MIDI Interface With Drum Sync
Provides industry standard MIDI in, MIDI out and drum out connections
Apple IIGS.
$129.95 retail
Passport Designs, Inc.; 625 Miramontes St., Ste. 103; Half Moon Bay, CA 94109; 415-726-0280

Passport MIDI Interface With Tape Sync
Provides industry standard MIDI in, MIDI out, drum out and tape sync connections
Apple IIGS.
$199.95 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; software not copy-protected.
$519 retail; PC Transporter with 384K
$599 retail; PC Transporter with 512K
$679 retail; PC Transporter with 640K
$759 retail; PC Transporter with 768K
$269 retail; 5.25" 360K Drive
$399 retail; Dual-Drive 5.25" System
$139 retail; optional IBM-style Keyboard
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Phasor
Sound board that runs many sound-oriented software programs written for Apple II computers
Apple IIGS; 64K; ProDOS 8; software not copy-protected.
$169 retail
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Plus Hard Disk Systems
Hard disk drives
Apple IIGS; SCSI port.
$895 retail; Plus-30
$1,195 retail; Plus-60
$995 retail; 60 MB tape backup system
MacPeak Systems; 1201 Spyglass; Austin, TX 78746; 512-327-3211

■ Power Director Model 25
Power protection and surge suppression
Apple IIGS.
The Power Director Model P25 is a four-outlet power control center that provides surge suppression and fingertip power control of up to four peripherals.
$99.95 retail
Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

■ Power Saver Plus
Standby power supply
Apple IIGS.
The Power Saver Plus is a lightweight (29 lbs.), two-inch high standby power supply designed to fit under any monitor for easy power status information and fingertip power control to all peripherals.
$699.95 retail; Power Saver Plus Model U4
$699.95 retail; Power Saver Plus Model U5
Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

■ PowerLine
Three surge suppressors
Apple IIGS.
The PowerLine is designed for computer systems located in close proximity to an AC wall outlet. They protect multiple electronic devices against surges, spikes and harmful levels of electromagnetic or radio-frequency interference. The three models provide various power outlet options.
$14.95 retail; PowerLine One Model S1
$34.95 retail; PowerLine Four Model S4A
$49.95 retail; PowerLine Strip Model S10
Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

ProGrappler
Parallel printer interface
Apple IIGS; Apple IIe.
$119 retail
Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

ProModem 1200A/2
Hayes-compatible 300/1,200-baud internal modem with built-in ROM software that supports 80 columns and all modem functions
Apple IIGS; communications software; 64K; not copy-protected.
$169 retail
Prometheus Products, Inc.; 7225 SW Bonita; Tigard, OR 97223; 503-624-0571

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

RamPak 4GS
Extended memory board; standard 512K of memory expandable to 4 MB
Apple IIGS.
$279 retail; 512K RamPak 4GS
Call for pricing; 256K Expansion Kit
Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

■ RAMTalker
Speech board
Apple IIGS; Apple IIe; 64K; ProDOS 8; software not copy-protected.
RAMTalker is a speech board that provides quality SmoothTalker synthesized speech. Features include: compatibility with all Echo software; digitized speech output; immediate speech access through PR# command; compatibility with AppleWorks; and an external speaker with stereo headphone jack and volume control. It is upgradeable through software.
$160 retail
Electronic Learning Systems, Inc.; 2630 NW 39th Ave.; Gainesville, FL 32605; 800-443-7971

RAMTalker Plus
Multifunction speech board that combines a battery-protected RAM disk, high quality SmoothTalker speech and a clock/calendar function
Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy-protected.
$279 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 subsystem
Apple IIGS; IIe; 256K.
$595 retail; Sider Model D2
$795 retail; Sider Model D4
$895 retail; Sider Model T6
$1,695 retail; Sider Model C46
$1,795 retail; Sider Model D9
$2,695 retail; Sider Model C96
First Class Peripherals; 3579 Hwy. 50 E.;
Carson City, NV 89701-2826; 800-982-3232

Smartmodem 1200A
Provides 1,200-baud communications and more
Apple IIGS; communications software.
$349 estimated retail; Smartmodem 1200A
$119 to $149 retail; Smartcom software
Hayes Microcomputer Products, Inc.;
PO Box 105203; Atlanta, GA 30348; 404-449-8791

■ Sonic Blaster
Stereo digitizer
Apple IIGS; 512K; ProDOS 16; not copy-protected.

The Sonic Blaster is a stereo digitizer that records, amplifies and plays back in full stereo. It is designed to boost the impact of all IIGS programs using the Ensonic sound chip. Users can record sounds from their home stereo, CD player, television or VCR and alter them with its Macintosh-like editing functions. Availability is scheduled for Summer 1988.
$129 retail
Applied Engineering; PO Box 5100;
Carrollton, TX 75011; 214-241-6060

■ SoundAce
Inexpensive audio digitizer
Apple IIGS.

SoundAce incorporates high resolution graphics and digital effects. Users can record sounds, manipulate them, play them back and save them on disk. SoundAce provides many sound manipulation functions, such as graphic cut and paste, pitchbend, echo, mixing and backwards playback.
$44.95 retail
Parallax, Inc.; 5249 Locust Ave.; Carmichael, CA 95608;
916-721-5451 or 916-481-6331

Supersonic
Digitized stereo board; supports Ensoniq sound chip
Apple IIGS.
$59.95 retail
MDIdeas, Inc.; 1163 Triton Dr.;
Foster City, CA 94404; 415-573-0580

ThunderScan
Replaces an ImageWriter's ribbon cartridge with a digitizing scanning cartridge
Apple IIGS; 64K.
$219 retail
Thunderware, Inc.; 21 Orinda Way;
Orinda, CA 94563; 415-254-6581

Universal Disk Controller Card
Connecting card for combinations of disk drives
Apple IIGS; compatible drives.
$90 retail
Central Point Software, Inc.;
9700 SW Capitol Hwy., Ste. 100; Portland, OR 97219;
503-244-5782

Music

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
$55 retail; mail order direct
Diversified Software Research, Inc.; 34880 Bunker Hill;
Farmington, MI 48331-3236; 313-553-9460

ECS Music Training Programs
Family of music training products
Apple IIGS; 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
Electronic Courseware Systems, Inc.; 1210 Lancaster Dr.;
Champaign, IL 61821; 217-359-7099

Instant Music
Music creativity tool; up to four instruments can be played at once
Apple IIGS; 512K; ProDOS 16; copy-protected.
$49.95 retail; Instant Music
$29.95 retail; It's Only Rock 'N Roll
$29.95 retail; Hot & Cool Jazz
Electronic Arts; 1820 Gateway Dr.;
San Mateo, CA 94404; 415-571-7171

Master Tracks Jr.
Personal MIDI recording studio
Apple IIGS; 256K; MIDI interface; MIDI equipped instrument.
$149.95 retail
Passport Designs, Inc.; 625 Miramontes St., Ste. 103;
Half Moon Bay, CA 94109; 415-726-0280

Music Construction Set
Music composition system; 33 digitized instruments; MIDI output; and stereo music capability
Apple IIGS; stereo card and speakers recommended; 256K; ProDOS 8; copy-protected.
$49.95 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 paintbox and more
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$99.95 retail
Activision, Inc.; 3885 Bohannon Dr.;
Menlo Park, CA 94025; 415-329-0500

MusicShapes
Creative learning environment that involves the user in the process of music making and idea development; uses Ensoniq sound chip
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$175 retail
Music Systems for Learning, Inc.; 311 E. 38th St., Ste. 20C;
New York, NY 10016; 212-661-6096

Pyware Music Writer
Professional music writing program designed for the IIGS
Apple IIGS; printer; optional MIDI compatible synthesizer; 768K; ProDOS 16; not copy-protected.
$119 retail; Limited Edition
$295 retail; Special Edition
$595 retail; Professional Model
Pygraphics Corp.; PO Box 639; Grapevine, TX 76051;
800-222-7536 or 817-481-7536

■ Sonix
Music interface for BASIC programs
Apple IIGS; two drives; RGM monitor; 1 MB; ProDOS 8; not copy-protected.

Sonix gives a user the ability to use the features of the IIGS' Ensoniq synthesizer from BASIC under ProDOS 8. Its two editors and three user interfaces create a full-function sound and music environment that can be controlled from BASIC programs. Included are a Waveform editor, 30-voice editor, 30-voice sequencer, Longloader data handling utility and BASIC interface.
$49.95 retail
So What Software; 10221 Slater Ave., Ste. 103;
Fountain Valley, CA 92708; 714-964-4298 or
714-963-3392

Networking

AppleShare File Server V. 2.0
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

■ 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.

The Inter•Poll Network Administrator's Utility is a software application containing tools that an AppleTalk network administrator can use to implement a network support program. It includes an administrator's guide with suggestions for network planning and configuration. In addition, the Inter•Poll application lets network administrators generate lists of active network devices to monitor internetworks and to locate network cabling breaks.
$129 retail
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

■ MouseFiler Network Utilities

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.

The MouseFiler Network Utilities is a software package that enables the Apple II user to work with an AppleShare server over the AppleTalk network. A user of an Apple II workstation can use MouseFiler Network Utilties to manipulate the files, folders and programs that are stored on the AppleShare server disk. A complete set of functions is provided for accessing the contents of the server without having to learn ProDOS pathnames.
$199.95 retail
Harbor Software, Inc.; 403 Great Rd., Ste. 8;
Acton, MA 01720; 617-263-8918

Online Databases

■ AppleLink - Personal Edition

Allows users to access Apple-specific and general online information and resources
Apple IIGS; other Apple II models; one disk drive.

AppleLink - Personal Edition is jointly developed and co-marketed by Apple Computer and Quantum Computer Services. It is organized into two main sections: The Apple Community section, where Apple Computer provides information and direction, and the General Services section, managed by Quantum Computer Services.

The Apple Community section inlcudes Forums of particular interest to Apple computer owners; Industry Connection; Software Center; Apple Headquarters; Apple University; Reference Library; and Calendar and Events. The General Services section includes People Connection; Financial District; Recreation Center; Club House; News Room; The Mall; Customer Service; and Learning Center.
$35 retail; includes software, user guide, first year's subscription and the monthly *AppleLink Update* magazine
$35 retail; annual subscription fee
$6 per hour (6 p.m. to 7 a.m. weekdays and all day on weekends)
$15 per hour (prime time use)
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

Compuserve Information Service

Online telecommunications with MAUG, an Apple II forum
Apple IIGS; modem; communications software.
$39.95 retail; Subscription Kit
Compuserve Information Service; PO Box 20212;
5000 Arlington Blvd.; Columbus, OH 43220;
800-848-8199 or 614-457-0802 (in Ohio and outside U.S.)

Genie

Online database with an Apple II special interest group
Apple IIGS; modem.
$5 per hour retail (after hours)
General Electric Information Services Co.;
401 N. Washington St.; Rockville, MD 20850;
800-638-9636

The Source/Applesig

Telecomputing network; includes Apple II forum (Applesig)
Apple IIGS; modem; communications software.
$29.95 retail; one-time membership dues
$7.80 per hour retail; 1,200-baud on evenings and weekends
$6.00 per hour retail; 300-baud on evenings and weekends
The Source; 1616 Anderson Rd.;
McLean, VA 22102; 703-821-6666 (membership)
or 703-734-7500 (business office)

Programming And Utilities

AC/BASIC Compiler

BASIC compiler
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$125 retail
Absoft Corp.; 2781 Bond St.;
Auburn Hills, MI 48057; 313-853-0050

Apple IIGS BASIC

An interpreted BASIC for the IIGS compatible with Applesoft BASIC
Apple IIGS; 512K.
$50 retail; $20 per year membership required
Apple Programmer's and Developer's Association;
290 SW 43rd. St.; Renton, WA 98055; 206-251-6548

APW C:
Apple IIGS Programmer's Workshop C

Compiler for APW
Apple IIGS; APW; two 3.5-inch disk drives; hard disk recommended; 1.25 MB RAM.
$75 retail; $20 per year membership required
Apple Programmer's and Developer's Association;
290 SW 43rd. St.; Renton, WA 98055; 206-251-6548

APW:
Apple IIGS Programmer's Workshop

Software development system
Apple IIGS; two 3.5-inch disk drives; hard disk recommended; 1.25 MB.
$100 retail; $20 per year membership required
Apple Programmer's and Developer's Association;
290 SW 43rd. St.; Renton, WA 98055; 206-251-6548

Copy II Plus 8.3

Backs up copy-protected disks
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.
$39.95 retail
Central Point Software, Inc.; 9700 SW Capitol Hwy.,
Ste. 100; Portland, OR 97219; 503-244-5782

■ Disc Commander

Disk editor
Apple IIGS; two drives; RGM monitor; 512K; ProDOS 8; not copy-protected.

Disc Commander is a ProDOS disk editor. With it users can edit up to 1,600 blocks on a disk aided by super-high-resolution displays and mouse control. Features include the ability to trace and locate files showing directories; key pointer; index and data blocks color coded on screen; locate and recover deleted files; and scan and display disk blocks to facilitate patching and reconstruction of damaged disks.
$39.95 retail
So What Software; 10221 Slater Ave., Ste. 103;
Fountain Valley, CA 92708;
714-964-4298 or 714-963-3392

Disk Util II

Backs up copy-protected software
Apple IIGS; 3.5 inch disk drive.
$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; 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 48331-3236; 313-553-9460

Graphic Environment Operating System (GEOS)

Operating system that brings a Macintosh-like graphic interface to all Apple II computers
Apple IIGS; other Apple II models; 128K; copy-protected.
$129.95 retail
Berkeley Softworks; 2150 Shattuck Ave.;
Berkeley, CA 94704; 415-644-0883

Graphics Supermarket

Converts images into assembly or C source code
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$49.95 retail; program only
$149.95 retail; program and source code
Abracadata; PO Box 2440; Eugene, OR 97402;
503-342-3030

GS Memory Test

Performs diagnostic tests on extended memory boards
Apple IIGS; extended memory card.
$19.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
North Ridge, CA 91324; 800-443-8877

HyperLaunch
High-speed program launcher and switcher
Apple IIGS; hard disk recommended; 256K; ProDOS 16; not copy-protected.
$34.95 retail
GoldenWest Technology; 1271 Carl St.; Anaheim, CA 92806; 714-635-2226

■ Iconix IIGS
Super-high-resolution graphics and animation interface
Apple IIGS; two drives; RGB monitor; 512K; ProDOS 8; not copy-protected.

Iconix IIGS is a super-high-resolution graphics and animation interface for Applesoft BASIC and the Apple IIGS. It provides 16 commands for Applesoft that link BASIC programs to the screen. Users may plot 4,096 colors in 320 mode. They may also edit, plot, float or animate icons, and plot fonts in any color.
$39.95 retail
So What Software; 10221 Slater Ave., Ste. 103; Fountain Valley, CA 92708; 714-964-4298 or 714-963-3392

■ II/6502 System
65(C)02 in-circuit cross development system
Apple IIGS; IIe.

The II/6502 System is a hardware-based cross development system that allows the user to develop 65(C)02 code for any existing or custom 65(C)02 system by utilizing an Apple IIGS or IIe as a host computer. The II/6502 System software patches into the Merlin 8/16 macro assembler to provide automated downloading during assembly. Also included is a machine language monitor that functions similarly to the Apple's built-in monitor, with the exception of several new commands, text capabilities and recognition of Merlin source code labels.

Also available is the Baby II/6502 System, which, rather than plugging into the target's 65(C)02 socket, plugs into the target's ROM socket.
$427 retail; II/6502 System
$219 retail; Baby II/6502 System
Parallax, Inc.; 5249 Locust Ave.; Carmichael, CA 95608; 916-721-5451 or 916-481-6331

KeyLISP
LISP programming language
Apple IIGS; other Apple II models; ProDOS 8; not copy-protected.
$149 retail
XPrime Corp.; 10835 Santa Monica Blvd., Ste. 204A; Los Angeles, CA 90025-4656; 213-470-4663

LifeGuard
File recovery software for files deleted under ProDOS 8 and ProDOS 16
Apple IIGS; 256K.
$49.95 retail
MicroSparc, Inc.; 52 Domino Dr.; Concord, MA 01742; 617-371-1660

■ Lisa 816 v5.0
Lisa interactive assembly language development system
Apple IIGS; 512K; 1 MB recommended; ProDOS 16; not copy-protected.

Lisa 816 v5.0 is the full Apple IIGS native mode release of the Lisa interactive assembly language development system for the Apple. Lisa 816 features: an advanced, fast, mouse-based editor; full toolbox and ProDOS 16 support and assembly speed of up to 100,000 lines per minute. The user can assemble, link and run the program in memory without exiting the editor.
$70 retail
H.A.L. Labs; 18942 Dallas Ave.; Perris, CA 92370; 714-359-8480

Logo Writer 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
$299 retail; primary lab pack
$299 retail; intermediate lab pack
$169 retail; primary set
$169 retail; intermediate set
$549 retail; site license LCSI Logo II
$399 retail; LCSI Logo II lab pack
$99 retail; LCSI Logo II single-user
LCSI; 1000 Roche Blvd., 9th Floor; Vaudreuil, Quebec, Canada J7V 6B3; 514-455-5636 or 800-321-5646

MACtoGS Assembler/Linker
Allows a user to develop Apple IIGS assembly language programs on the Macintosh
Apple IIGS; Macintosh.
$195 retail
Consulair Corp.; 140 Campo Dr.; Portola Valley, CA 94025; 415-851-3272

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 and 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 Macro
Integrated text editor, monitor/shell and self-relocating macro-assembler
Apple IIGS; 512K; ProDOS 16; not copy-protected.

Micol Macro is designed for programmers working in assembly language. The program includes a text editor, monitor/shell and self-relocating macro assembler package.
$49.95 retail
Micol Systems; 9 Lynch Rd.; Willowdale, Ontario, Canada M2J 2V6; 416-495-6864

MouseFiler 2.0
Replaces the Finder in the Apple IIGS
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; 617-263-8918

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Programming environment for APW
Apple IIGS; memory depends on language used; ProDOS 16; not copy-protected.
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The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/M Assembler For The Apple IIGS
Complete development environment for assembly language programming
Apple IIGS; 512K; ProDOS 16; not copy-protected.
$69.95 retail
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/M Support Programs
Adds 12 new commands to the ORCA/M, ORCA/Pascal or Apple Programmer's Workshop shell
Apple IIGS; ORCA/M For The Apple IIGS; 512K each; ProDOS 16; not copy-protected.
$39.95 retail; Utility Package #1
$39.95 retail; Subroutine Library Source
$29.95 retail; Merlin to ORCA
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

ORCA/Pascal For The IIGS
Pascal programming language
Apple IIGS; 768K for text environment; 1,024K for desktop environment; ProDOS 16; not copy-protected.
$150 retail; ORCA/Pascal with desktop and debugger
$125 retail; ORCA/Pascal with text environment
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183

The Power System
Programming systems: UCSD Pascal; Modula-2 and Fortran 77
Apple IIGS; other Apple II models.
$129.95 retail
Pecan Software Systems, Inc.; 1410 39th St.; Brooklyn, NY 11218; 718-851-3100 or 800-637-3226

TML BASIC
Full-featured 16-bit BASIC compiler
Apple IIGS; 512K; 768K recommended; ProDOS 16; not copy-protected.
$125 retail; TML BASIC
$69 retail; TML Speech Toolkit
TML Systems, Inc.; 8837-B Goodbys Executive Dr.; Jacksonville, FL 32217; 904-636-8592

TML Pascal Family
Complete Pascal programming environment
Apple IIGS; extended memory board recommended; 512K; 768K recommended; ProDOS 16; not copy-protected.
$125 retail; TML Pascal
$125 retail; TML Pascal APW
$49 retail; The Source Code Library
$69 retail; TML Speech Toolkit
TML Systems, Inc.; 8837-B Goodbys Executive Dr.; Jacksonville, FL 32217; 904-636-8592

ZBasic 4.2
ProDOS compiled BASIC
Apple IIGS; other Apple II models; 64K.
$69.95 retail
Zedcor, Inc.; 4500 E. Speedway, Ste. 22; Tucson, AZ 85712; 800-482-4567 or 602-881-8101

Word Processing

//Write
Full-featured word processor
Apple IIGS; 128K.
$79.95 retail
Random House, Inc.; 400 Hahn Rd.; Westminster, MD 21157; 800-638-6460

■ Bank Street Writer III
Word processing for primary and high school students
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy-protected.

Bank Street Writer III is a word processing program designed for use in primary and high schools. Key features of the program are an integrated 60,000 word spelling checker and a 50,000-synonym thesaurus.

New features added to the Apple II version include programmable function keys, print-to-screen, print-to-disk, pull-down menus and more.
$99.95 retail
$79.95 retail; academic
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

DeluxeWrite
Wrod processor that combines text and graphics to create documents for letters, school reports, business reports and more
Apple IIGS; 768K; ProDOS 16; not copy-protected.
$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

MouseWrite Version 2.6
ProDOS moused-based word processor with print spooling, spelling checker, mail merge, AppleWorks conversion and more
Apple IIGS; extended memory card recommended; two disk drives; 128K; Pro DOS 8; not copy-protected.
$149.95 retail
Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Multiscribe GS 3.0
Word processor with graphics, an 80,000-word spell checker and thesaurus
Apple IIGS; 768K; ProDOS 16; copy-protected.
$99.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E; Houston, TX 77081; 713-668-1360

Sensible Grammar
Proofreading program that checks word processing files for common writing errors
Apple IIGS; word processing program.
$99.95 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Speller For ProDOS
Electronic dictionary containing 80,000-word Concise Edition of the Random House Dictionary on disk
Apple IIGS; word processing program.
$125 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Writer
Word processor featuring built-in mail merge, automatic envelope addressing; shares data with AppleWork
Apple IIGS.
$99.95 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

■ Wordbench
Word processing program
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy-protected.

Wordbench is a word processing program that manages the writing process itself. The program is designed for business or personal projects, professional writers, high school, college and graduate students. It is structured into six primary components: the Outliner, the Notetaker, the Writer, the Print Manager, the Folder Manager and the Add-In Manager.
$149 retail
Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

WordPerfect For The Apple IIGS
Word processor with more than 110 features
Apple IIGS; two disk drives or a hard disk drive recommended; additional memory card recommended; 512K; ProDOS 16; not copy-protected.
$179 retail
WordPerfect Corp.; 288 W. Center; Orem, UT 84057; 801-225-5000

Writer's Choice Elite
Graphics/text word processor for use with Paintworks Plus, Draw Plus, Clip Art Gallery and more
Apple IIGS; 512K; 1 MB recommended; ProDOS 16; not copy-protected.
$89.95 retail
Activision, Inc.; 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500

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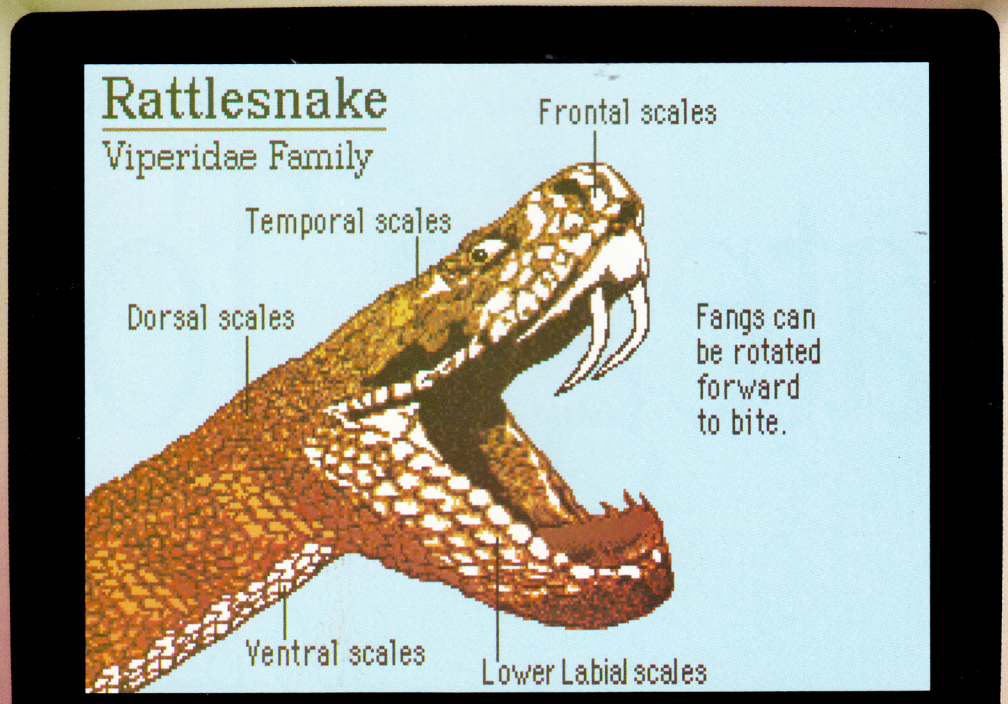

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