MORE THAN 500 PRODUCT DESCRIPTIONS

Apple IIGS

The Buyer's Guide

A Redgate Publication
Winter 1989
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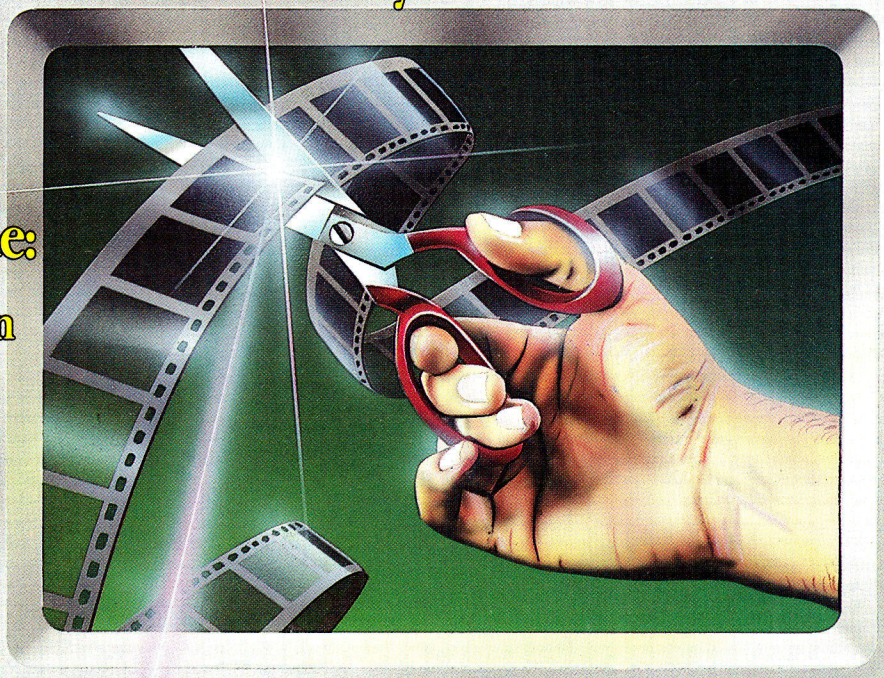

Winter Graphics Issue:

- Making The VCR Connection
- The Best Graphics Games
- Beneath Paintworks Gold
- AppleFest Update

Sneak Preview:
AppleLink Personal Edition

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Remember when this board meant power and speed?

A majestic nine feet ten inches long and a shade under fifty pounds, the 1966 Big Boy surfboard represented the epitome of power and speed. Today, there's AE's new RamKeeper™.

Imagine. Turn on your IIGS and instantly the finder comes to life! All the speed and RAM power your IIGS was meant to have, packed into one, affordable "electronic hard disk."

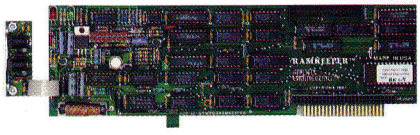
Applied Engineering's RamKeeper. A system that works like a hard disk, only better. It retains stored programs *and* data while your computer is turned off (like a hard disk), but gets up and running five times faster. RamKeeper is solid state, has no moving parts and, unlike a hard disk, has no heads to crash and no parts to wear out. And RamKeeper saves wear and tear on your disk drive, because you don't need it nearly as often.

RamKeeper even powers up to two memory cards *simultaneously* while your computer is off. And the battery backup we include keeps power to the boards, even during power failures.

Your programs and data remain stored in a permanently accessible state, always ready to run. Your computer waits for *you* . . . instead of you waiting for it.

Superior power backup.

RamKeeper comes complete with sealed Gel/Cell batteries for emergency backup in the event of a power outage. Gel/Cell's are by far the most reliable backup power source in this application. Unlike the Ni-Cads others use, Gel/Cell batteries don't lose capacity if not discharged periodically.



RamKeeper lets you keep programs and data in permanent, "electronic hard disk" memory. Turn your Apple IIGS on and you're ready to work.

Our Gel/Cell pack gives you up to six hours of total power failure backup. And the sealed battery pack stays *outside* your computer case, where an unlikely leak won't ruin your computer circuitry.

RamKeeper uses a Switching Power Supply — the same technology used by Apple for the IIGS power supply. This design uses energy much more efficiency to keep your Apple running cooler.

Powers two memory cards in the same slot.

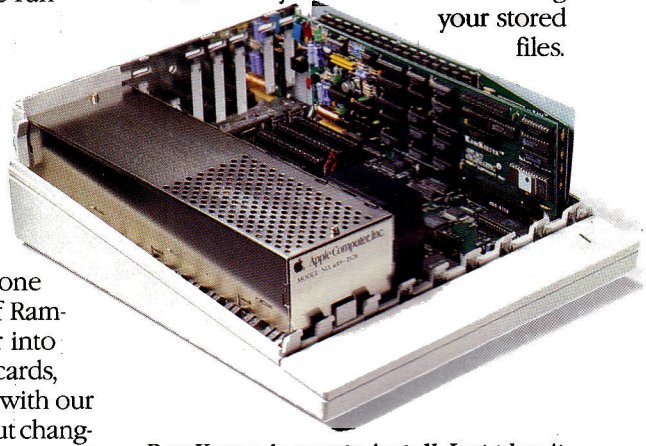
Have Apple's memory card, but now want the features of Applied's GS-RAM card? With RamKeeper, both cards act as one larger card. In one slot. Just attach one memory card to each side of RamKeeper and plug RamKeeper into the slot. And even with two cards, you can still keep slot 7 open with our optional Slot-Mover. All without changing the way either your memory card or your software now operate.

RamKeeper also works fine with only one memory card.

Makes all your memory usable memory.

RamKeeper powers up to 16 Meg. of memory. You can also mix and match different types of memory cards. For example, an Apple card that uses 256K RAM chips and an Applied Engineering card using 1 Meg. RAM chips. RamKeeper firmware automatically configures for two cards when the second card is installed. No need to manually move jumpers.

RamKeeper configures memory linearly to avoid memory gaps that can cause crashes. And *you* decide how much memory to devote to ROM and to RAM from the IIGS Desk Accessories menu. You can configure Kilobytes or Megabytes of instant ROM storage for your favorite programs. And you can change ROM and RAM sizes at any time without affecting your stored files.



RamKeeper is easy to install. Just plug it in. Even when you use two memory boards, you don't have jumpers. You can have two memory boards but use only one slot.

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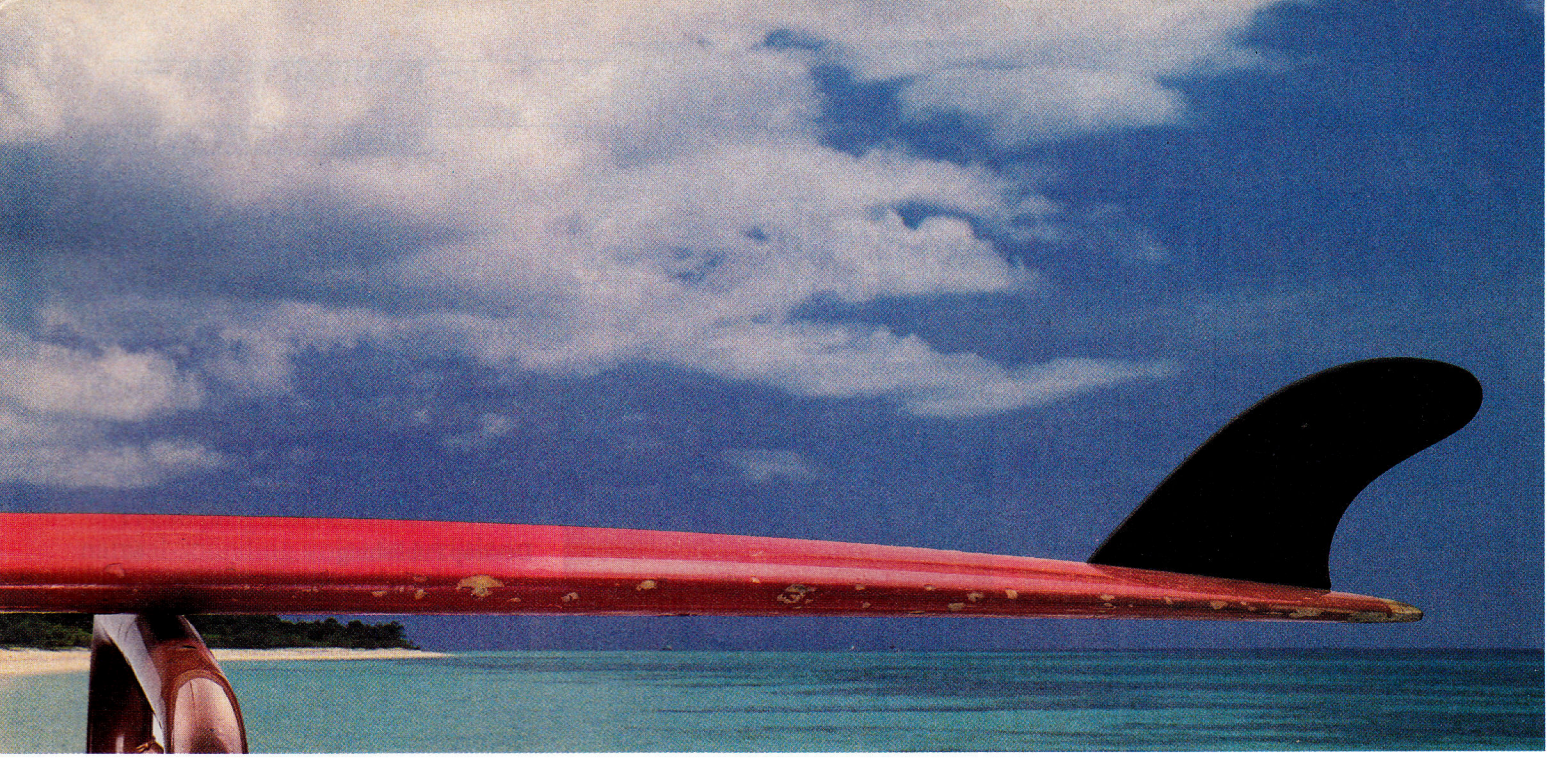


Protect from program crashes.

Reinstalling operating software is not fun. With RamKeeper you'll never have to. Since RamKeeper controlling firmware is in an EPROM, a program crash can't take out the operating software.

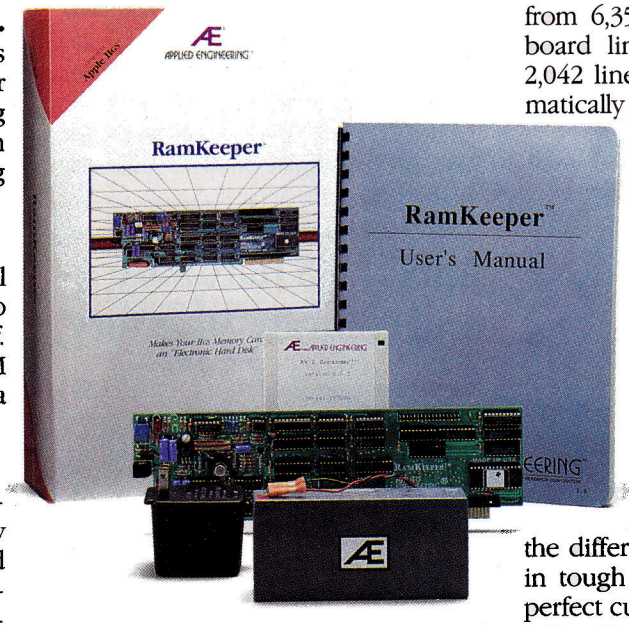
Verifies data security.

RamKeeper firmware uses optional startup checksums to verify that no data was lost while the power was off. The firmware also runs ROM and RAM memory tests without disturbing data on the card.

Significant differences.

Applied Engineering's longer experience with battery-backed memory boards shows in the way we designed and built RamKeeper. There are significant differences between RamKeeper and other systems:

- RamKeeper includes a Gel/Cell battery for 6 hours of total power failure backup, other use the shorter-life Ni-Cads and charge extra for them
- RamKeeper powers up to 16 Meg., others power only up to 8 Meg. maximum
- RamKeeper permits mixing and matching different memory cards and chip sizes, others have more limited combinations
- RamKeeper automatically configures for two cards, others have manually-moved jumpers
- RamKeeper configures linearly to eliminate memory gaps, others don't
- RamKeeper includes EPROM-protected operating software, others use floppy installation



It all comes with RamKeeper ... board, Gel/Cell battery pack, easy-to-understand instructions, and Applied's powerful AppleWorks Expander software.

- RamKeeper's software expands AppleWorks internal limits, others don't
- RamKeeper includes disk-caching software, others don't

Free AppleWorks Enhancement software.

Applied Engineering's powerful AppleWorks Enhancement software comes free with RamKeeper. It's well worth the purchase price alone. Our software makes AppleWorks faster and far more powerful by eliminating internal memory limits. Word processor limits increase from 7,250 to 22,600 lines. Database limits increase from 6,350 to 22,600 records. Clipboard limits increase from 255 to 2,042 lines. Our software even automatically segments large files so you can save them on multiple floppies

In addition, RamKeeper comes with the most powerful disk-caching program available anywhere. The cache tremendously accelerates access time to the Apple 3.5 Drive. Creating, in effect, a speed booster on top of a speed booster . . . a potent combination that runs most applications up to *seven times faster.* That's the difference between paddling out in tough chop and surfing in on a perfect curl.

RamKeeper is proudly made in the U.S.A. and is backed with a five year parts and labor warranty. And a 15-day money-back guarantee.

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To order or for more information, see your dealer or call (214) 241-6060, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA, C.O.D. welcome. Texas residents add 7% sales tax. Add $10 outside U.S.A.

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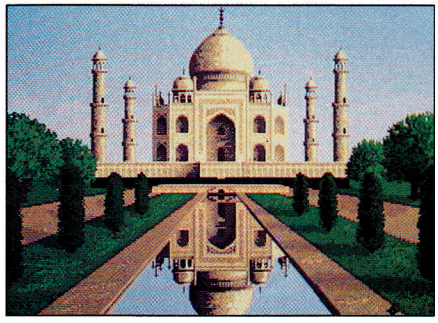

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About Davidson

Dr. Jan Davidson—president of Davidson & Associates, Inc., parent, and former teacher—founded the award-winning educational software company because she saw the need for educationally sound, quality software for her students.

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- **Math Blaster™**
- **Word Attack Plus™**
- **Word Attack™**
- **Speed Reader II™**
- **Reading and Me™**
- **Math and Me™**
- **Homeworker™**
- **Spell It™**
- **Read 'N Roll™**
- **Grammar Gremlins™**
- **Classmate™**
- **Alge-Blaster™**

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Talking IIGS Version Available!

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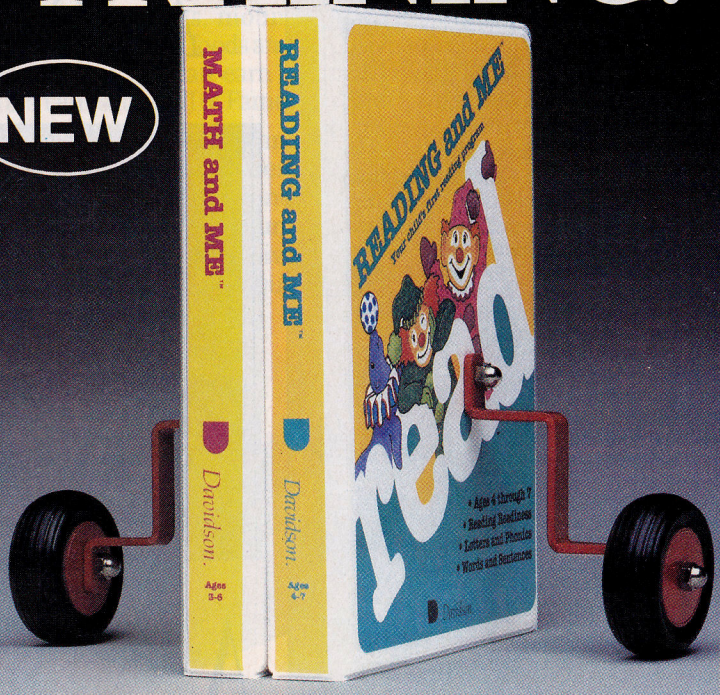

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Apple II GS
The Buyer's Guide

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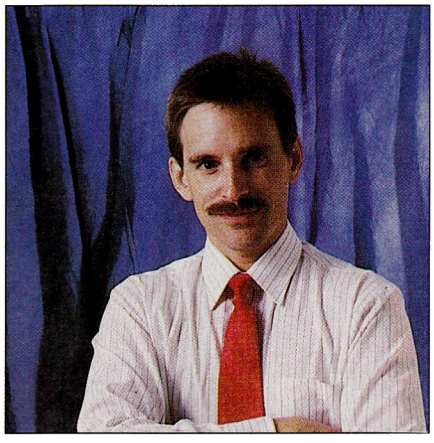
Text-Based Software: An Endangered Species?



Anybody with a IIGS who doesn't take advantage of graphics is either a glutton for monochrome punishment or can't afford a decent color monitor. True? Not necessarily.

While I'm a big fan of great computer graphics on the IIGS, I also realize that not every project needs to paint every pixel on the screen in each of 4,096 colors. Sometimes, when I just have a job that needs to be done quickly, "no frill" software that displays 80-column text on a plain monochrome monitor gets me to a solution as fast or faster than any program on the market.

Yet there's a perception these days that text-based software (a.k.a., "character-generated software") is somehow inferior to the more colorful, bit-mapped and Macintosh-like programs that have been launched since the Apple IIGS. In some ways, this position is justified. Anyone who lays down $2,000 or more for a complete IIGS system wants software that maximizes the machine's capabilities.

Plenty of older text-based programs simply don't deserve to be run on a computer as nice as the Apple IIGS. Many of these programs follow no particular standards — other than what may have been going on inside the programmer's head — are difficult to use and take little or no advantage of IIGS hardware.

On the other hand, there's a substantial body of Apple II software that *is* easy to use, *is* text-based and *does* run well on an Apple IIGS. Take AppleWorks and AppleWorks add-ons, for example, in addition to good text-based programs, such as BusinessWorks, which employ the wonderful AppleWorks file-folder interface.

Not good enough, you say, because you can't use your mouse? Then look deeper and discover other text-based gems that use the Apple II's unique MouseText character set. Examples include MouseWriter, MouseTalk, MouseFiler 2.0, MagnaCharta and even Apple's new AppleLink Personal Edition. All of these programs run fine on the Apple IIGS and use the mouse, but none of them need color or sound to crunch numbers and deliver effective results.

The point of all this is rather simple. The Apple IIGS, which represents the latest in a long line of Apple II models, has access to a rich and diverse software heritage. Much of that heritage, especially in the area of productivity programs, is text based. Moreover, many of these programs run faster and may in fact be easier on the eyes than their more flashy and bit-mapped brethren.

With these advantages clearly in the text-based camp, one might expect to find a fair share of development resources aimed at text-mode software. One might even hope to see the development of text-based programs that run exclusively on the Apple IIGS and exploit its superior 16-bit operation.

All of this is in the realm of possibility, but not probability. The reason: Apple Computer, Inc. has chosen to put its considerable resources behind developers who embrace the Human Interface Guidelines, bit-mapped graphics, the Finder and the new GS/OS operating system. Those who don't do likewise may find themselves out in the cold.

Apple is correct to promote standards, but it may be taking a short-sided approach in the IIGS market. After all, the AppleWorks file-folder "standard" and MouseText "standard" predate the IIGS. Both have proven themselves extremely robust, from a marketing and productivity standpoint. To abandon them now by endorsing bit-mapped programs exclusively is doing everyone a disservice.

After all, isn't the Apple II supposed to be anything you want it to be? ■

— Paul Pinella,
Editor-In-Chief

WINNER!

Best Educational Program

With your Apple //GS and Designasaurus GS, your child will see dinosaurs come alive with sights and sounds that will astound you. Designasaurus recently won BEST EDUCATIONAL PROGRAM and BEST PRESCHOOL or PRIMARY PROGRAM categories of the SPA's Excellence in Software Awards.

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Survive as a Brontosaurus, Stegosaurus or T-Rex did millions of years ago. Thunder through forests, mountains and swamps. Eat the right foods and avoid predators. See if you can earn a certificate to the Dinosaur Hall of Fame.

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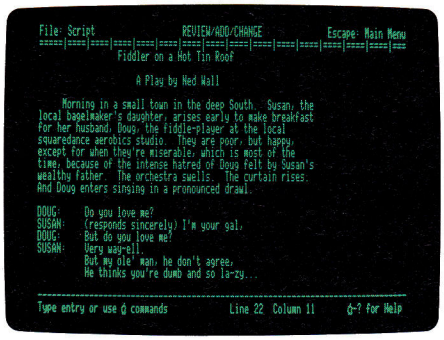
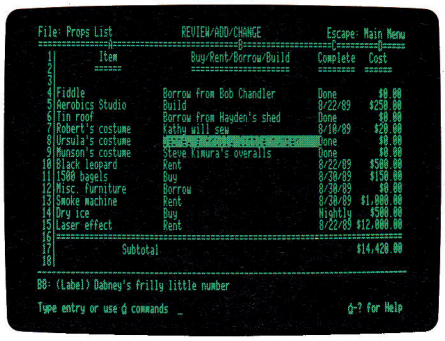
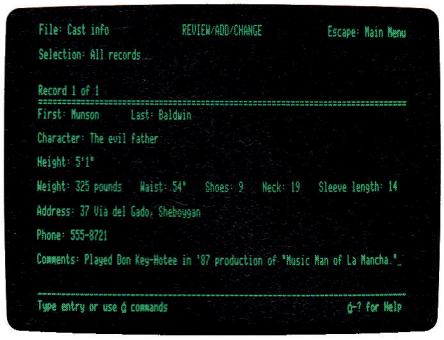
Everything isn't what it used to be.



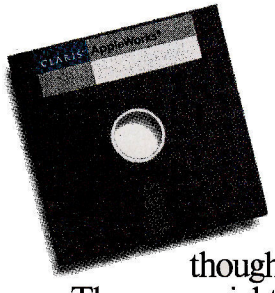
With a word processor, spreadsheet and database in one package, AppleWorks has just about everything an Apple II owner could want.



You can jump from one program to another in the blink of an eye. Which makes AppleWorks an exceptional choice for fast-paced businesses.



AppleWorks is the best-selling Apple software of all time. And if you own an Apple IIe or IIc, you still can't buy a more powerful program.



When AppleWorks® rocketed to the top of the best-seller lists a few years back, Apple II owners thought they had seen everything.

They were right. AppleWorks contained every program you could possibly want in just one program. And exercised the power of the Apple II like it had never been exercised before.

But then came the Apple IIGS. With more power and new capabilities. Everything had changed. And Apple IIGS owners wanted more.

A program with everything AppleWorks has. And everything else, too.

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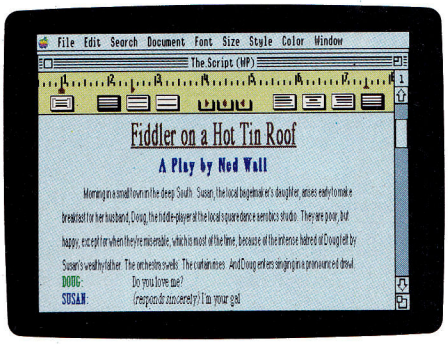
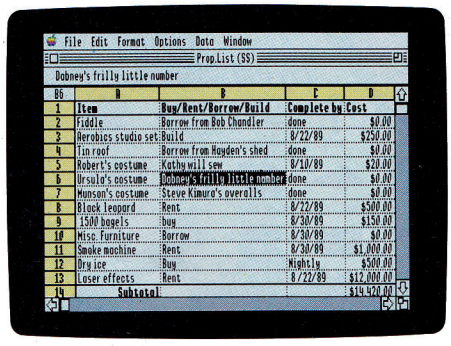
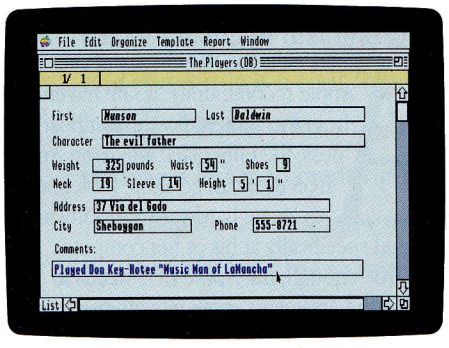
Now it's more.



Like AppleWorks, AppleWorks GS offers a powerful word processor. And you can enhance your work with type styles, sizes and fonts.

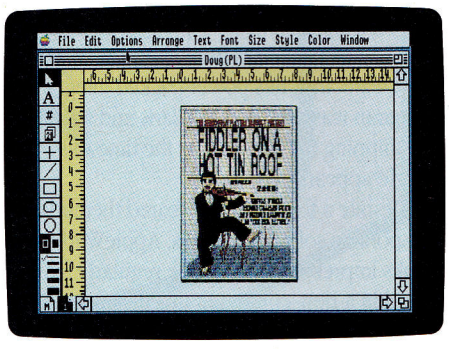


AppleWorks GS can read all your AppleWorks files. And when you transfer your spreadsheets to AppleWorks GS, you can add boldface.

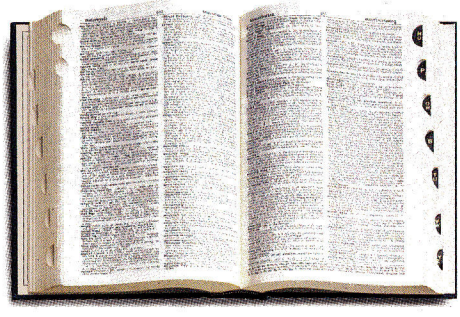


The database lets you store and sort thousands of business, school or home records. And now you can use a mouse and pull-down menus.

A graphics program that seamlessly combines bit-mapped painting and object-oriented drawing capabilities will leave Macintosh users jealous.

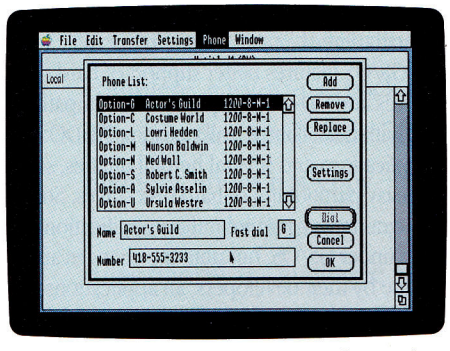


AppleWorks GS includes the most powerful Apple II page-layout program you can buy. Put all the pieces together. Then publish them.



A spell checker with an 80,000-word dictionary is built in. Ditto for a thesaurus that can make you more articulate, eloquent or perspicuous.

What you see is what you get. Because any Apple ImageWriter or LaserWriter printer prints what you see on the screen exactly how you see it. Automatically.



AppleWorks GS supports most popular modems to let you send and receive files via telephone.

Introducing AppleWorks GS.
Six powerful programs in one easy-to-use package. Six programs working together to exploit the full resources of the Apple IIGS. There's even a deal in the works for owners of AppleWorks, MultiScribe and MultiScribe GS.

A special upgrade offer that, as they say on late-night TV, will not be repeated.

Upgrade to AppleWorks GS and save.
We'll even pay for the phone call. Dial 800-544-8554 to get your upgrade kit now. And soon you'll have everything going for you again.

CLARIS™

licensed to Claris Corporation. Apple, IIGS, ImageWriter and LaserWriter are registered trademarks of Apple Computer Inc. For the location of a Claris dealer near you, call ***800-3CLARIS, ext. 160.***
much, AppleWorks GS provides an excuse accepted by most parents, spouses, partners and bosses to justify a RAM upgrade.

Circle Reader Service Number 4

AppleFest Update: The San Francisco Story

The most recent AppleFest showcased a brand new IIGS operating system and a whole lot more.

AppleFest is the Woodstock of the Apple II community, a safe haven from the cluttered computer business, the only place where an Apple IIGS user can go shop, look and evaluate hardware and software aimed specifically at his or her computer.

True enough, the Apple IIGS needs to share the AppleFest spotlight with the other Apple II models in the family. At the Fall AppleFest in San Francisco, for example, Apple Computer, Inc. unveiled the Apple IIc+, a faster version of the original 8-bit Apple that sports a built-in power supply and an 800K, 3.5-inch disk drive.

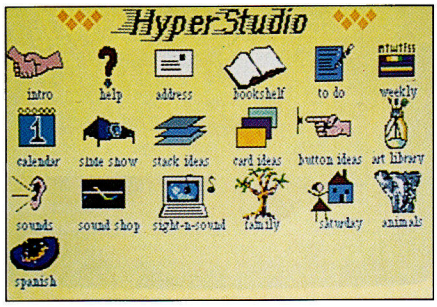
Still, the Fall AppleFest (September 16 to 18) generated plenty of interesting news for the IIGS user. What follows is a wrap-up of some of the more intriguing IIGS highlights.

New System Software. The one announcement that all IIGS users should cheer about is the release of a true 16-bit operating system for the Apple IIGS. Apple's new System Software Version 4.0 package includes GS/OS, a new operating system that finally taps the real power of the 65C816 microprocessor. In so doing, it speeds up boot time, disk access time and program launch time.

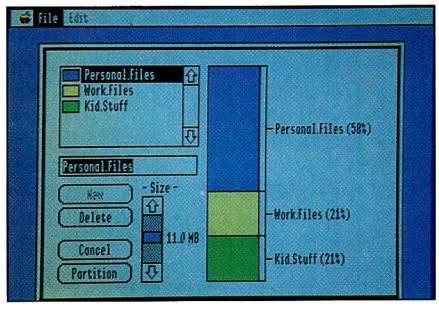
GS/OS features better support of hard disk drives and CD-ROM applications, compatibility with most (but not all) existing ProDOS 16 applications and several helpful utilities, such as easy partitioning of hard disk drives. Some programs may require minor modifications to run under GS/OS, but until the changes are made by their developers, all applications will run as usual with earlier versions of the system software.

The entire package with documentation sells for $39, although Apple is encouraging efforts to make the software available free of charge from Apple dealers and other sources. A comprehensive look at GS/OS and the new Finder will appear in the next issue of *The Apple IIGS Buyer's Guide.*

Show Stoppers. Given the runaway success of AppleWorks, IIGS users took special interest in the announcement of AppleWorks GS from Claris Corp. First previewed earlier this year as GS Works from Houston-based StyleWare, Inc., this power-packed integrated program was acquired by Claris and should be shipping ($299 retail) by the time this article appears in print.



"Stacks" of sound, text and graphics continue and connect for creativity.



The updated operating system from Apple supports CD-ROM.

Despite a few bugs that reared themselves in sporadic software crashes, AppleWorks GS looks impressive and will be regularly featured in a new column in this magazine called "Inside AppleWorks GS." The first installment appears in this issue.

The recent interest in HyperCard on the Macintosh began to infect the IIGS community at AppleFest, thanks to the preview of HyperStudio from Roger Wagner Publishing, Inc. Although it won't ship until later this year, HyperStudio has the same "look and feel" as HyperCard, allowing users to create hypermedia applications using super-high-resolution graphics and digitized sound files from most existing sound boards. A bonus: Digitizing sound hardware and a microphone will be included as part of this $129.95 package, allowing users to add their own voices or sound effects to stacks as they're created.

Also new from Roger Wagner: The Graphic Exchange, which is a $49.95 utility for converting virtually any Macintosh or Apple II graphics file to a super-high-resolution IIGS image.

Desktop Publishing. Second-generation desktop publishing software was in full flower at AppleFest. Packages designed specifically for the IIGS included Medley from Milliken Publishing Co. ($199 retail) and GraphicWriter 3.0, a new version from distributor Seven Hills Software. The latter was available for previewing, but not quite ready for shipping.

As IIGS-specific software continues to evolve, new versions of leading 8-bit packages are becoming increasingly impressive and run well on the Apple IIGS. Both Publish It! 2.0 from Timeworks, Inc. ($129.95) and Springboard Publisher 2.0 from Springboard Software, Inc. ($139.95) seem faster and better equipped than their predecessors.

Education. Graphics and sound, the twin hallmarks of the Apple IIGS, seem better exploited in the latest educational packages. The IIGS versions of Reading And Me and Math And Me (both $49.95 from Davidson & Associates, Inc.) use digitized speech for a clear and friendly instructional "voice."

Meanwhile, Weekly Reader Software from Optimum Resource, Inc. announced The New Talking Stickybear Alphabet, a new version of this best-seller that teaches uppercase and lowercase letters.

Cartooners and Puppeteers (both $59.95) from Electronic Arts were announced and should be shipping by December. Designed for children ages 4 to 12, both products use sound effects, music and IIGS super-high-resolution graphics.

Another strong graphics-based program called Jigsaw! was demonstrated by Britannica Software. Available now under GS/OS, Jigsaw! ($39.95) presents users with scrambled super-high-resolution jigsaw puzzles. The program should provide loads of entertainment and educational fun for entire families.

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

New Improved Version 3.0! Call for Details

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.

IIGS Owners!

Circle our reader service number to receive a FREE Comparison Chart of Desktop Publishing Programs for the Apple IIGS.

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.
© 1988 Seven Hills Software Corp.

Available from your local computer dealer.

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Circle Reader Service Number 5

Software doesn't have to be IIGS-specific to be good. A case in point is the new "lapware" line from Tom Snyder Productions. The line is prereading software for toddlers that encourages teamwork between parent and child. Jack And The Beanstalk and Flodd, The Bad Guy ($34.95 each) run across the Apple II family, which means they don't support super-high-resolution graphics. Judging by videotaped reactions from preschoolers, toddlers care more about interacting with parents than fancy graphics and space-age sound.

Productivity. Several new Apple II productivity packages proved that they don't have to be IIGS specific to be worth using on a IIGS. Leading AppleWorks add-on vendor Beagle Bros. demonstrated a handful of new AppleWorks additions, including TimeOut SpreadTools ($59.95 retail) for "linking" spreadsheet cell values and GS Font Editor ($49.95 retail) for making changes to any GS-type font.

MagnaCharta 3.0, another program compatible across the Apple II family, was also demonstrated at AppleFest. A data graphing package, MagnaCharta features one of the nicest mouse-driven interfaces around and retails for $59.95. Its vendor, Third Wave Technology, Inc., also showed off its VeriClean II disk drive cleaning kit and software designed specifically for safely swabbing both 5.25- and 3.5-inch disk drives. The kit retails for $19.95.

Hardware. Few big hardware breakthroughs graced this AppleFest, but several products still managed to stand out from the crowd. Among them was SoundAce, a little audio digitizer from Parallax, Inc. that comes with some pretty impressive IIGS cut-and-paste software, all for $44.95.

At the higher end of the scale, Applied Engineering demonstrated two sound products that should be shipping by Christmas: Sonic Blaster ($129 retail), which allows recording from external sources, and Audio Animator ($239 retail), which does everything that Sonic Blaster does and has a MIDI (musical instrument digital interface). Both products employ advanced super-high-resolution software.

In the modem department, Epic Technology, Inc. uncovered the latest 2,400-baud modem in its line: the 2400 MINI. A little larger than a pack of cigarettes, the 2400 MINI uses the IIGS serial port and fits easily into a briefcase for on-the-go computing.

Several new and larger hard disk drive systems were on display, and each system should work nicely with the enhanced partitioning offered by GS/OS. Among the fastest: First Class Peripherals' D9 Turbo, which is a giant 87 MB drive with an average access time of a mere 18 milliseconds. It's pricey — $1,695 retail — but its vendor also offers smaller, less expensive units.

Animation. Although it wasn't shipping at the time of the show, Art & Film Director from Epyx seems to have all the makings of a hit product. The program ($79.95 retail) combines both paint and animation features, two canvases and cel animation — a technique for animating drawings without having to redraw each image from scratch.

Art & Film Director will record on a VCR, save images to disk and print them out.

Programming. It doesn't take long for IIGS programmers to discover the limits of Applesoft, the built-in Basic that has remained virtually unchanged since the Apple II+ days. Fortunately, several vendors are championing new Basics that truly tap the IIGS' 16-bit memory and power.

One of the most visible vendors at AppleFest — thanks to its rocket-shaped balloon — was Micol Systems, a Canadian firm that launched Micol Advanced Basic for the Apple IIGS. The language uses Pascal-like functions, is Applesoft compatible and promises easy use of the IIGS Toolbox.

Users who prefer "real" Applesoft — and yet want more access to IIGS features — may want to investigate Iconix ($39.95 retail) and Sonix ($49.95 retail) from So What Software. Both programs add many new commands to Applesoft that allow access to the computer's super-high-resolution graphics and Ensoniq sound chip.

Games. The Apple IIGS is evolving into a premiere game computer, as this issue's feature on graphics games can attest. At AppleFest, game players flocked around booths provided by PBI Software, Inc., Activision, Accolade, Sierra On-Line and others.

Among the most popular new offerings: Spectrum Holobyte's Tetris and King Of Chicago, a gangster game from Cinemaware, Inc. where "Capone is up the river and Chicago is up for grabs." Both games offer great graphics and lots of action, which is a good omen for future IIGS game software.

See you at next year's AppleFest.■

— Paul Pinella,
Editor-In-Chief

Products Mentioned

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

2400 MINI
Epic Technology, Inc.
Circle Reader Service Number 42

AppleWorks GS
Claris Corp.
Circle Reader Service Number 43

Art & Film Director
Epyx, Inc.
Circle Reader Service Number 44

Cartooners
Puppeteers
Electronic Arts
Circle Reader Service Number 45

D9 Turbo
First Class Peripherals
Circle Reader Service Number 46

GraphicWriter 3.0
Seven Hills Software
Circle Reader Service Number 47

HyperStudio
The Graphic Exchange
Roger Wagner Publishing, Inc.
Circle Reader Service Number 48

Iconix
Sonix
So What Software
Circle Reader Service Number 49

Jack And The Beanstalk
Flodd, The Bad Guy
Tom Snyder Productions
Circle Reader Service Number 50

Jigsaw!
Britannica Software
Circle Reader Service Number 51

King Of Chicago
Cinemaware, Inc.
Circle Reader Service Number 52

MagnaCharta 3.0
VeriClean II
Third Wave Technology, Inc.
Circle Reader Service Number 53

Medley
Milliken Publishing Co.
Circle Reader Service Number 54

Micol Advanced BASIC
Micol Systems
Circle Reader Service Number 55

Publish It! 2.0
Timeworks, Inc.
Circle Reader Service Number 56

Reading And Me
Math And Me
Davidson & Associates, Inc.
Circle Reader Service Number 57

Sonic Blaster
Audio Animator
Applied Engineering
Circle Reader Service Number 58

SoundAce
Parallax, Inc.
Circle Reader Service Number 59

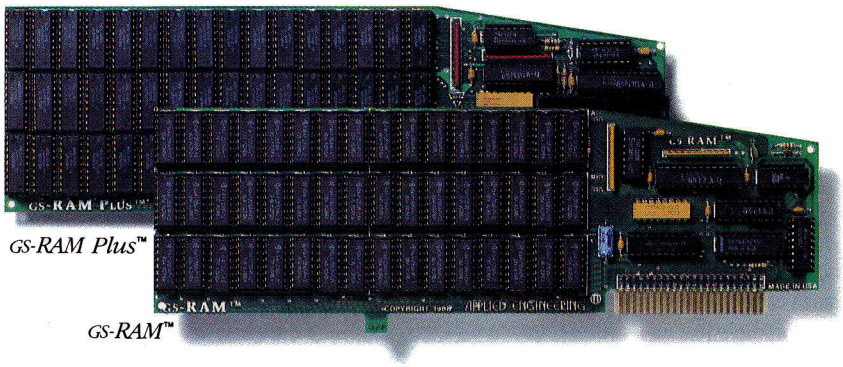
Springboard Publisher 2.0
Springboard Software, Inc.
Circle Reader Service Number 60

Tetris
Spectrum Holobyte
Circle Reader Service Number 61

The New Talking Stickybear Alphabet
Weekly Reader Software from Optimum Resource, Inc.
Circle Reader Service Number 62

TimeOut SpreadTools
GS Font Editor
Beagle Bros
Circle Reader Service Number 63

Applied Engineering made an extra effort to make GS-RAM™ and GS-RAM Plus™ DMA compatible.



It was worth it.

Applied Engineering's IIGS memory cards, the GS-RAM™ and GS-RAM Plus™ are the ONLY large capacity[1] IIGS memory cards that are fully DMA compatible. Others are either totally non-compatible or compatible only in certain specific configurations.

That difference in memory cards is critical. Here's why: DMA (Direct Memory Access) tremendously speeds up computer operations by bypassing the microprocessor. All addressing and control logic is contained on our cards, enabling a DMA device to bypass the microprocessor and go straight to the heart of things...the computer's memory.

AE's full DMA compatibility means GS-RAM and GS-RAM Plus run all GS software, support all *current and future* DMA peripherals, and don't require you to adjust the size of your RAM disk everytime you use a DMA device...something every other large capacity memory card requires you to do.

Software

Both GS-RAM and GS-RAM Plus come complete with Applied Engineering's own powerful enhancement software.

Disk caching software is included, tremendously speeding up the computer's access to the 3.5 drive and running most applications up to *seven times faster.*

Diagnostic utility software is also included free. It graphically shows the location of bad or improperly installed chips and even tests for CAS before RAS chips.

Your free software also includes AE's exclusive AppleWorks Expander program that dramatically enhances the capabilities and speed of AppleWorks. This powerful software also:

- Allows AppleWorks to recognize up to 8 MEG on the desktop
- Increases word processor lines from 7,250 to 22,600
- Increases database records from 6,350 to 22,600
- Increases clipboard capacity from 255 lines to 2,042
- Automatically loads AppleWorks (including print functions) into RAM
- Automatically segments files for saving on multiple floppies
- Provides a built-in print buffer

RamKeeper™ Option

Coupled with Applied Engineering's RamKeeper, your GS-RAM or GS-RAM Plus actually give you an internal "electronic hard disk" with an instant-on finder and emergency power backup. RamKeeper even supports an Apple IIGS memory card (and most others) alone or in combination with one of our cards. See our RamKeeper ad for more details on how this $189 wonder gives your IIGS all the speed and power it was meant to have.

Compare Our Features

- GS-RAM expands from 256K to 1.5 MEG
- GS-RAM Plus expands from 1 MEG to 6 MEG
- GS Expander™ adds up to 2 MEG to either card
- Full DMA compatibility in *any* configuration
- 5-year warranty - parts and labor
- 6 RAM banks (most cards have only 4)
- Piggyback memory expansion port
- No configuration blocks to set
- RamKeeper option available for permanent storage
- 15-day money-back guarantee[2]
- Proudly made in the U.S.A.

GS-RAM w/ZeroK	**$139**
GS-RAM 256K	**$239**
GS-RAM w/512K	**$369**
GS-RAM w/1 MEG	**$629**
GS-RAM w/1.5 to 3.5 MEG	**CALL**
GS-RAM Plus w/ZeroMEG	**$169**
GS-RAM Plus w/1 MEG	**$649**
GS-RAM Plus w/2 MEG	**$1149**
GS-RAM Plus w/3-8 MEG	**CALL**
RamKeeper Option	**$189**

Order Today!

To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add $10 outside U.S.A.

"In quality, performance, compatibility, expandability and support, Applied Engineering's GS-RAM and GS-RAM Plus are number one."

Steve Wozniak, the creator of Apple Computer.

APPLIED ENGINEERING™

The Apple enhancement experts.

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P.O. Box 5100, Carrollton, TX 75011

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1 Cards with more than 4 banks of RAM 2 When purchased from Applied Engineering or thru a participating dealer

Circle Reader Service Number 6

The Next Generation Arrives

You know the story by now. In late 1983 AppleWorks exploded on the scene, and the result was an Apple II revolution reminiscent of the one that followed the release of VisiCalc. But this activity was much larger. AppleWorks itself prompted the sale of Apple IIs, and our little corner of the world changed.

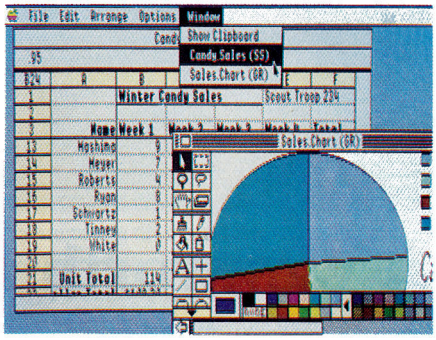
Many Apple II magazines now carry regular AppleWorks features. "Fourth-party" publishers began marketing patches and modifications to the program. Hardware appeared that turned the AppleWorks star into a supernova. Beagle Bros., Inc. took a look at the suddenly dwindling number of programmers and the rapidly expanding base of feature-hungry AppleWorks users and it now only produces AppleWorks add-ons.

The Question. In 1986 the Apple IIGS was unleashed, and right away the question began to appear: Where's the IIGS version of AppleWorks? Sure, AppleWorks as it was already functioned well on the IIGS, but we all knew what was inevitable. Apple, of course, would not comment on "unannounced products." It seemed to prefer to talk about the new Mac software that kept appearing.

During the next two years, that question remained unanswered. When Claris Corp. was formed and took over ownership of most of Apple's software, some hope sprang up in the marketplace. The expectations diminished quickly when Claris announced that it would be selling new versions of all Apple's old Macintosh software titles, a whole slew of completely new Macintosh packages and, oh yes, that AppleWorks thing. . . .

GS Works. Then, it happened. At the Boston AppleFest in May 1988, StyleWare demonstrated an early version of an AppleWorks work-alike designed for the IIGS, using the full 16-bit power of the Apple IIGS and its Toolbox. Just in case the public might fail to immediately recognize what this was, StyleWare called it GS Works.

Claris didn't miss the point. Right away rumors began circulating that Claris might be about to buy this program from StyleWare. A couple months later the story broke that Claris had not just bought GS Works, it had bought StyleWare itself. GS Works was instantly rendered legitimate with a rechristening: it would now be known as AppleWorks GS.



Making great-looking graphics is just one of several new features found in AppleWorks GS.

At the San Francisco AppleFest in September, people began to refer to the "old" program as "AppleWorks Classic." So what is this new package? What's different? Is it a worthy successor to the AppleWorks name?

First of all, realize that this is *not* a modification or even a rewrite of the existing AppleWorks — it's a completely new program that happens to share the AppleWorks name. The myriad AppleWorks enhancement packages will no more function with AppleWorks GS than they will with Choplifter.

But don't despair — you'll find that most of the features you can add on to AppleWorks are already present in AppleWorks GS. A dictionary and thesaurus are built in. Things like graphics fonts and use of all available memory are automatically there by virtue of the GS Toolbox and graphics interface. Several of the smaller accessories we've seen exist already as GS desk accessories or are already included in the AppleWorks GS program.

StyleWare paid attention to what was happening in the market. As for the features that are not yet available, you can rest assured that if there is a desire perceived for AppleWorks GS add-ons, they will appear.

What's Inside. AppleWorks consists of three modules: The Word Processor, the Spreadsheet and the Database Manager. AppleWorks GS includes these modules, plus it adds three more: a Telecommunications module, a Paint module and a Page Layout module.

All these modules work together, as do the AppleWorks modules. You can use the Telecommunications module to call your favorite online service, download text into the Word Processor module, download a graphic, log off, load the graphic into the Paint module, modify or crop the graphic, merge it into the downloaded word processor document, and print the whole thing out in one shot. Whew!

The program automatically imports existing AppleWorks files (all three types), but be aware that it does not do the reverse: You cannot save your AppleWorks IIGS document as a file for use in AppleWorks Classic. You can, of course, save to ASCII text files, which can in turn be loaded into the older program.

Memory Hungry. This program is a memory hog that requires a minimum of 1.25 MB of available system memory. The fact that it comes on three disks should serve as a warning: The program was intended to be run from a hard disk.

If you are running from a single 3.5-inch disk, you will find yourself frequently playing the disk-swap game. Two drives will make life a bit easier, but with the program trying to reference the program disk, the system disk and your data disk, you're still going to do some swapping. If you've been waiting for a reason to buy a hard disk, this may be it.

Will AppleWorks GS have the same effect on the Apple II world that the original AppleWorks did? Unlikely. AppleWorks was the first of its kind; nothing like it had ever been seen in the Apple II world before, and it changed the way we did things.

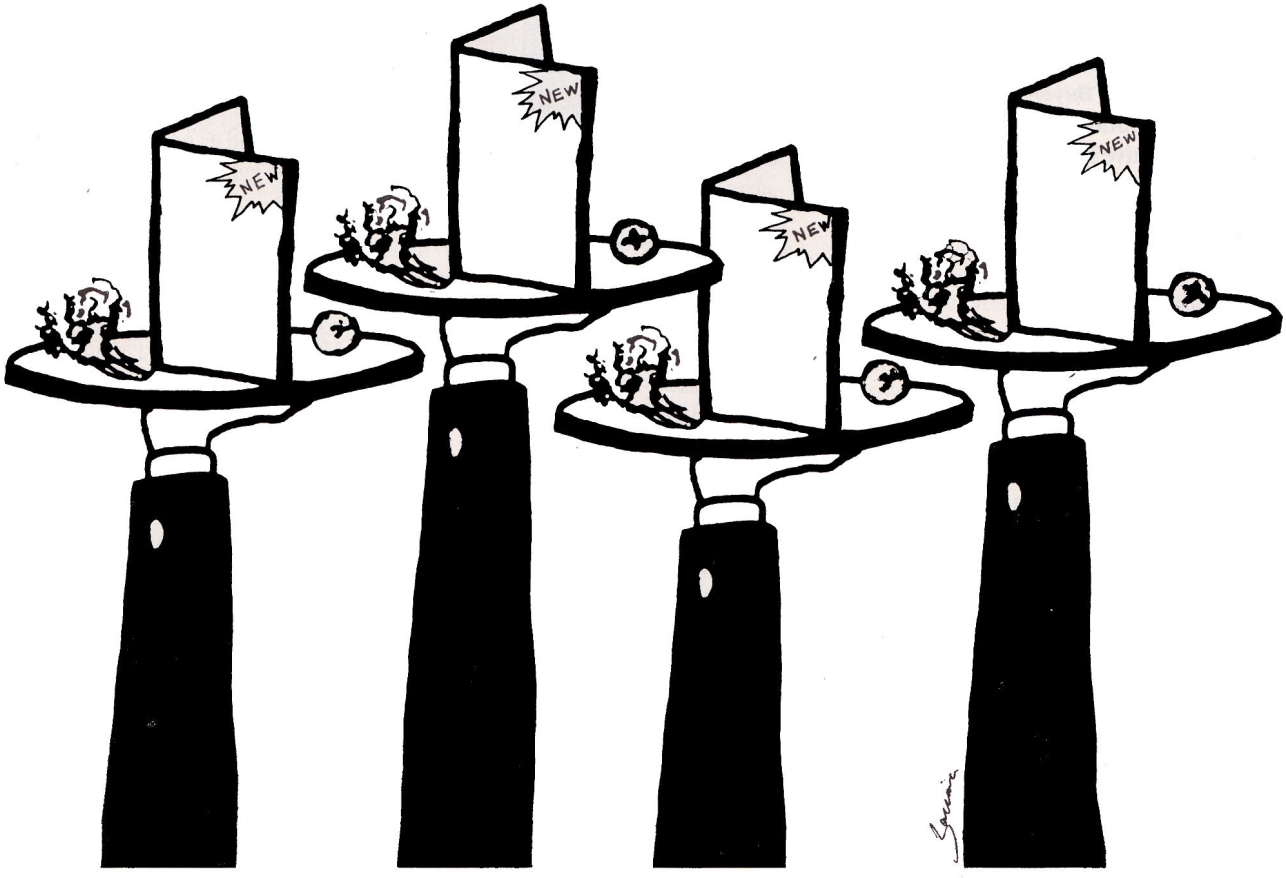
AppleWorks GS is not a new concept, but a logical follow-on to the original. It shares the AppleWorks name and will enjoy some advantages because of that, but it's not going to revolutionize anything.

If Claris continues to support AppleWorks GS well and if it proves to be as smoothly integrated, well crafted and functionally attractive as its predecessor, it should enjoy a long life indeed. ■

— Joseph T. Walters

The Apple IIGS Buyer's Guide welcomes Joseph T. Walters as a new columnist. He can be reached via electronic mail on Compuserve (72406,742).

No More Brochure Du Jour.



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Circle Reader Service Number 7

IIGS Address

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

Address all inquiries to IIGS Address, c/o *The Apple IIGS Buyer's Guide*, Redgate Communications Corp., 24 New England Executive Park, Burlington, MA 01803. Questions may also be sent via electronic mail on The Source (SIG049), Compuserve (71625,567) or MCI Mail (352-9601). Individual responses cannot be guaranteed.

The Waiting Game

I purchased StyleWare's MultiScribe more than a year ago and almost immediately began to experience problems, the most annoying being that the cursor keeps disappearing. The only way I've been able to make the cursor reappear is to reboot my disk, resulting in the loss of all data that had not been saved — and, on one occasion, data that had been saved.

I went to the people from whom I got MultiScribe, who, having tried it on their IIGS with the same results, called StyleWare's non-800 number.

A StyleWare representative instructed them to tell me to return the disk along with a letter explaining the problem, which I immediately did. Several weeks later, having received no reply, I wrote to the company again. A year later, still having received no reply, I wrote a third time. That was more than a month ago, and I'm still waiting.

Frank Starbuck
Jacksonville Beach, FL

StyleWare does — or, more accurately, did — have a toll-free 800 telephone number. We used it on many occasions to talk to personnel within the company's technical support department who were always cooperative.

When we called and explained your situation, a representative in the department promised to send you an updated version of the latest MultiScribe GS 3.0, which you should have received by now.

Unfortunately, your previous requests for help apparently "fell through the cracks," because the company has no record of them.

The StyleWare rep we spoke to explained that the company had fallen behind and had experienced several months of backlog before hiring additional customer service help. Even though the backlog has been resolved, your letters never surfaced.

Did you remember to put your return address and daytime phone number on the letter accompanying the disk? Putting your address on the outside envelope isn't enough; quite often the mail room disposes of the envelopes when they open the mail, and the company has no way of locating you or returning your disk.

Also, be sure to double-check a company's address before returning products or sending correspondence. A good way to do this is to verify addresses in the "Apple IIGS Hardware And Software Directory" of *The Apple IIGS Buyer's Guide* or in current advertisements. Most companies are very good about notifying magazines and advertising agencies when they move.

When problems arise, the best thing to do is call the company in question's customer service department. Many companies have toll-free 800 numbers. But even if you have to pay for a call, your phone is usually the quickest way to solve a problem, such as your missing disk.

We speak of StyleWare and its toll-free phone number in the past tense because the company has been purchased by Claris, the distributors of AppleWorks. All of StyleWare's programs, and its programming and technical staff, have joined the Claris organization in California.

Claris now provides technical support for all of StyleWare's former products, including MultiScribe GS, Top Draw and the rest. GS Works, StyleWare's integrated IIGS program, has been renamed AppleWorks GS and should now be available. We'll review the product in our next issue.

Any calls or mail directed to StyleWare's former address in Houston will be forwarded to Claris. You can save some time, however, by contacting Claris directly.

Compatibility Questioned

I purchased one of the first Apple IIGS computers in November 1986 and have generally been satisfied with its performance. The computer was oversold though, because of its original promise of running all of the software in the Apple II series.

For example, I purchased the Dollars and Sense financial accounting software title by Monogram, which the dealer said would run on my IIGS. Alas, it doesn't.

I called Monogram, and a source at the company explained that the program was never intended for use on any other computer than the Apple II.

Because I purchased the software quite awhile ago, recourse through the retailer is not realistic. I've learned another lesson in the jungle of software promises: "caveat emptor."

If the packaging doesn't indicate it one way or another, how can you tell if software for the Apple II series will run on the IIGS?

Also, I urge your readers to be very careful in buying older software and to get promises in writing.

William H. Pickens
Davis, CA

We're sorry you were misled, but Apple Computer, Inc. never claimed that the IIGS would be 100 percent compatible with earlier Apples. Your dealer and others may have misled you in this regard.

By definition, there is no way any computer can be 100 percent Apple IIe compatible without actually being an Apple IIe. Even minor modifications, such as improving the processor, character set or internal programs (the three improvements in the enhanced IIe), caused minor incompatibility problems when they were first introduced.

Theoretically, it's possible for a program to fail if you put in a new interface card — even a card that has nothing to do with your program.

Because the Apple IIGS includes many improvements over the Apple IIe, it isn't surprising that there are several small incompatibilities. For example, some programs won't work with the older Apple II UniDisk drive, which was originally designed for the Apple IIe. The programs that don't work "expect" to find the newer Apple 3.5 Drive.

Even a simple enhancement to the IIGS, including the new system ROM upgrade, can cause problems. A handful of early IIGS programs refuse to work with the new system ROM. Fortunately, free or low-cost (e.g., postage and handling costs) updates are available for most of these programs.

Apple typically states that the IIGS is about 95 percent software compatible with programs written for the IIe and IIc. Considering the computer industry at large, we find this fact impressive.

To make life easier for users and dealers alike, Apple has distributed an Apple IIGS compatibility guide to its dealers that shows which major programs are and are not compatible.

So what precautions can you take to avoid compatibility problems in the future? Your best bet is to check out a program on your own computer and determine for yourself what special hardware/software requirements are needed.

We realize that taking your computer with you when you want to purchase software is not practical. However, you may want to ask your dealer if you can return a program that doesn't work with your hardware.

Most dealers are somewhat reluctant to allow returns, because unscrupulous buyers purchase programs, make illegal copies and return the originals, claiming the software is defective or incompatible. Consequently, many dealers have no software return policies or will replace defective software only with identical replacements.

Still, any dealer who is willing to understand your point of view — and willing to make sure that the program(s) you're interested in will work on your system — is valuable to you.

The next best thing is to check out the program you want to purchase on a dealer's demo computer. This process has limitations, too.

The dealer's hardware may have a newer version of the system software or hardware, or a different set of peripherals, than on your machine. Of course, if a package states on the box that it's IIGS compatible or incompatible, that makes your job even easier.

Incompatibility with hardware is a serious issue; something few software developers take lightly. While some vendors may ignore an unusual hardware configuration, no publisher can ignore an incompatibility with every Apple IIGS user for long.

After all, Apple is now selling more IIGS computers than all the other Apple II models combined.

Software Books

I recently purchased an Apple IIGS. Being a professional programmer, I am interested in writing my own programs. I've seen versions of Basic, Pascal and Assembler languages for the IIGS, and you've mentioned a version of C in earlier issues. Do you know where I can get those languages?

Also, I've seen tons of books from Apple and other publishers on programming the IIGS. I would probably have to sell my system to buy all of these books and spend the next five years reading them. I would appreciate any recommendations you could make as to what to read first.

Mike Cunningham
Williamsport, PA

We've reviewed quite a few of those languages in past issues of *The Apple IIGS Buyer's Guide*. There are at least four versions of Basic available (AC/Basic, ZBasic, Apple IIGS Basic and Micol Basic) and four versions of Pascal (Apple UCSD Pascal 1.3, Instant Pascal, TML Pascal and ORCA/M Pascal — all reviewed in the Winter 1987 issue).

APW (Apple Programmer's Workshop) and a version of the C compiler are available from the Apple Programmers and Developers Association (APDA). These versions were reviewed in the Summer '88 issue.

All of these products are listed in our "Apple IIGS Hardware And Software Directory," along with their system requirements and retail prices.

You're correct about the books. There are literally hundreds available from a variety of companies. Many of these books are also listed in the product directory in the back of this magazine.

A good set of books produced by Apple is sold through Addison-Wesley's computer-book division. You may want to investigate the following titles: *Programmer's Introduction To The Apple IIGS* (to start learning how to program); the *Apple IIGS Toolbox Reference, Volumes 1* and *2* (to use the Toolbox); the *Apple IIGS ProDOS 16 Reference* and *ProDOS 8 Technical Reference Manual* (to work with files); the *Apple IIGS Programmer's Workshop C Reference* (to use C); and the *Apple IIGS Programmer's Workshop Assembler Reference* and *Apple Programmer's Workshop Assembler Toolbox Quick Reference* (to use Assembly language).

Other general books in the series — for example, those dealing with the ImageWriter or LaserWriter — can also be useful. The books range from introductory guides to very technical programming manuals.

Consistent Ratings

I like your new ratings thermometer where you rate products based on several parameters, but I question how the ratings are decided. It appears that each review uses a different set of standards. While one review might have gotten a very high mark, another much better product could have gotten a lower mark.

A ratings system is good, but only if it's consistent.

Matthew MacGregor
Dallas, TX

Each product reviewer now has a scale to use that shows how products should relate to one another. Notice that another parameter — Innovation — has been added, which answers the following questions: How far does a product advance the field? Is the product a rehash of an old idea or does it provide something new?

Each reviewer still has personal feelings and opinions, but the rating scale should add more consistency to the ratings system.

Hidden Accessories

As a programmer, I was happy to upgrade my IIGS' system ROM when I heard that the new ROM had extra desk accessories just for programmers. When I access the desk accessories, however, all I see is the Control Panel and Alternate Display mode — the same two desk accessories as before.

How can I access the new desk accessories?

John Cheshire
Cambridge, MA

First, and most importantly, these accessories are only in the new IIGS system ROM, not the original ROM. (You can tell the new ROM, because it says "System ROM version 01" on the bottom of the screen when you turn on your computer).

Enter Applesoft Basic by booting the ProDOS 8 system disk or any other program that lets you enter Applesoft. Enter the Apple monitor (the machine language user-input program) by typing "CALL-151" and hitting Return. This tells Applesoft Basic to run the machine language program that starts at address —151 ($FF59 hex), which is the monitor. The screen prompt will change from Applesoft's "]" to the machine language's "*" prompt.

At this point type "#" and hit Return. This tells the system ROM to install the extra routines. The two routines are labeled "Visit Monitor" and "Memory Peeker." They're accessed through the same Control-Esc-Open Apple command as the Control Panel.

The Visit Monitor command lets you enter the machine language monitor program (the same program from which you set up the new desk accessories). Big deal you say — you can enter the monitor from Basic. True, but the desk accessory Visit Monitor routine lets you go into the monitor from within another program. It's especially useful if you want to save a high-resolution or super-high-resolution screen.

Try using the Visit Monitor command and boot another program disk to save the screen. The Memory Peeker utility lets you examine which banks of memory are in use, available or purged from the IIGS' Memory Manager. It's especially useful for a development programmer who is using a large memory board.

Both routines are extremely valuable to programmers. But because most people would be confused by their use, the routines are designed to remain dormant until you activate them with the "#" command.

Protection Explained

What's the difference between "copy protect" and "write protect?"

Lora Newman
Houston, TX

A write protected disk is a disk that the disk drive mechanism "knows" not to write on. Such a diskette can only be read from. The situation is similar to popping out a protect tab on an audio cassette. If you have extremely important data, or a new program disk, you should always write protect it before copying it or using it.

On 3.5-inch disks, the write protect feature is activated by a small moving shutter. When the shutter is open, the disk is write protected. When the shutter is closed, the disk can be written to.

On 5.25-inch diskettes, the write protect mechanism is a notch in the disk. When the notch is covered with a piece of opaque tape, it's protected.

The write protect mechanism only protects the disk head's write circuitry from writing to the diskette. A malfunctioning disk mechanism can destroy data, whether or not diskettes are write protected.

Even write protected diskettes can be erased by magnetic fields, fed to the dog by accident or lost. Write protecting a disk doesn't mean you shouldn't also make a backup copy.

A copy protected disk is a commercial diskette where the manufacturer has put in a software modification to prevent you from making extra copies of that disk. Some copy protected disks refuse to copy at all; others may appear to copy, but the copies won't work. In other cases, a program will ask you to insert your original disk before it will proceed.

Copy protection exists because many people make illegal copies of programs for their friends — or for sale — causing software manufacturers to lose sales to the illegal copies.

What happens when something goes wrong with a copy protected diskette? Depending on the company, you can usually get a replacement copy by mail. Because of the inconvenience involved, though, many companies have decided to stop copy protecting their products.

We'll continue to cover this ongoing issue in this magazine.

Mac And IIGS Drives

A friend of mine sold me an 800K disk drive that, even though it works fine on his Macintosh, won't work properly on my IIGS. What does it take to attach it properly?

I know that the Apple 3.5 Drive, which I got with my IIGS, works fine on his Macintosh, but I'd really like to use his drive as a second drive with my IIGS.

Dianna Harris
Key West, FL

Early Macintosh external disk drives will work only with a Macintosh computer. The Apple 3.5 Drive, which Apple now sells as an external drive for a Macintosh, is the same external drive (either first drive or second drive) for the Apple IIGS.

You would think that the early Macintosh drives would be compatible with the newer ones, but this isn't the case.

The IIGS disk interface only works with the Apple UniDisk 3.5 (an older 3.5-inch drive originally designed for the Apple IIe and IIc, but it also works fine on the IIGS) or the Apple 3.5 Drive (the platinum drive that is now sold by Apple as the Macintosh external drive, as well as the IIGS drive).

The only solution to your problem would be to find a Macintosh user who has an Apple 3.5 Drive and to swap your Macintosh drive with that user. The Macintosh external drive will work fine with the Macintosh (naturally), and you'll have the Apple 3.5 Drive as the second drive on your IIGS. ■

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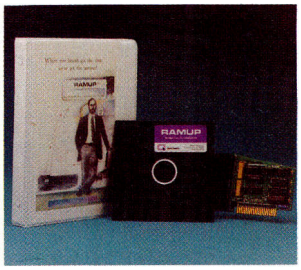

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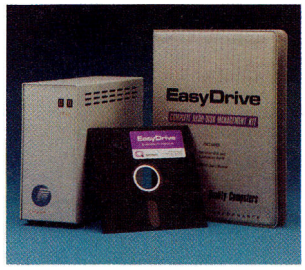

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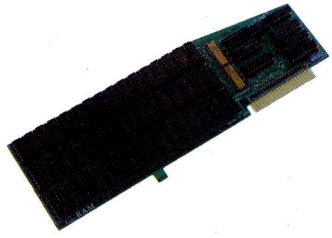

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How To Make And Enhance Home Videos On Your Apple IIGS And VCR

Don't look for results from this dynamic duo on MTV. Do prepare for a lot of creative fun as you and your two favorite appliances join forces for an all-out attack on ordinary home movies.

One of the big selling points of the Apple IIGS has always been its sparkling color graphics — bold, sharp and static. Even those fabulous IIGS paintings and pictures, splashed across ads and computer articles, just sit there in their splendor, frozen on the screen or page. But, with the help of some creative software, you can make pictures move — and even record them on videotape to complement family videos.

The four packages reviewed here permit you to make movies on your IIGS, including animations and video titles that can challenge the creativity of the whole family. The results won't threaten Disney, but they can both enlighten and entertain, and anybody with a graphic bent would do well to give them a whirl.

Two of the packages are brand new and form an entirely new software genre, computerized video effects. We'll review them first.

The VCR As Computer Peripheral

VCR Companion by Broderbund Software, Inc., and Home Video Producer by Epyx, Inc., are a new type of Apple software: programs that permit users to create titles and other graphics on their computers and then record them directly from the computer onto videotape.

With these two packages, you can add credits, titles, endings and identifying text to existing home videos. By inserting appropriate on-screen labels, you can identify whole tapes or snippets of unrelated scenes, which have been combined — sometimes over months or years — on a single videocassette. Better yet, you can set out to create videos that are intended from the start to combine real-life pictures and sound with the colorful illustrations and text, cartoons and animation that the programs can create.

The Right Connections

Apple IIGS owners anxious to try out the concept may first be stumped by the question of just how one links a IIGS to a VCR. It *sounds* complicated and costly. However, it is neither. With just a single cable — one of the least expensive and most commonly available types of cable — most VCRs can be hooked to a IIGS and made, in effect, into computer peripherals.

Here's an example of how easy it is.

We assume you have a fairly standard VCR, already attached to a TV, and a fairly standard IIGS — one that uses the standard Apple IIGS RGB monitor. Remote control for the VCR isn't necessary, but is helpful if the VCR isn't within reach. (Details of the hookup will vary a bit with unusual VCRs, or those that aren't hooked to a TV, or with other Apple II models or IIGSs that use composite monitors instead of the standard RGB.)

We also assume that the two machines are, or can be made to be, reasonably close together — say, in the same room — or in adjoining rooms where the angles are such that you can work the VCRs remote and see the TV to which the VCR is attached, while sitting at the IIGS.

Once this routine equipment is properly situated, all you need to do is obtain a cable called an "RCA" cable — one that has a male RCA plug on both ends. This is the type of cable you'd use to attach a composite or monochrome monitor to your IIGS, if you weren't already using the much superior RGB monitor.

Because this cable is also used to link many other video, audio and computer components, it is widely available in video, stereo and electronics stores in many lengths and is relatively inexpensive. Be sure to get a cable long enough to comfortably cover the distance between the IIGS and the VCR, though extreme lengths may result in a weakened signal.

With many standard setups, you won't have to disconnect anything on the IIGS or VCR, because the jacks into which you will be plugging the cable aren't normally used.

On the IIGS, face the back and locate the round jack toward the right with the little picture of an empty TV screen underneath (it's right under the power cord and between the wide RGB monitor jack and the socket for the keyboard). That's the composite video port. Plug one end of the cable into it.

Now look over the VCR and find the jack labeled "video in." It is sometimes used to attach cameras or other VCRs during dubbing. On some older models, it may be located on the front instead of the rear. Plug the remaining end of the RCA cable into this video-in jack.

With the cable connected, you are ready to record the images prepared on the IIGS onto videotape. On some VCRs, in some modes, you may also be able to see on the TV the same thing that appears while you work on your IIGS screen. Certain VCRs require you to flip a switch to Camera or Line or L mode to see on the TV the signal coming from the video-in port, rather than what's coming in from a regular broadcast signal.

Fire Up The Software

Home Video Producer and VCR Companion are distinct packages with different capabilities and features. But both work generally the same.

First, you use the software and your IIGS monitor to create a computerized "film," which can have one or many frames or scenes in it — words and graphics, still or moving. Then, using manual or remote control, you turn your VCR onto Record and immediately press Pause on the VCR or remote to suspend the recording process before it can really get going. You then command the software to play back your computerized sequence for video recording, press Pause again on the VCR or remote, and the VCR will record onto videotape the images the computer is playing back. When the computer film has played, turn the VCR to Pause again, or to Stop, and you're done.

Several cautions apply to both programs.

First, any computer-created sequence you record onto an existing tape *will override and wipe out* any scenes already existing on that portion of the tape. On some meandering home videos, this won't matter much. The first minute of the tape may be expendable anyway — out-of-focus, over-zoomed or just no different than what comes later. But be careful.

Second, neither program has audio. You can add music or commentary to your computer titles later, if your VCR permits you to dub sound onto a tape with a stereo linkup or microphone. But the software discussed here won't do it for you.

Third, these programs aren't IIGS-specific and don't use the super-high-resolution graphics of the IIGS. That means that, even on the IIGS monitor, the graphics and text you create for recording won't be as sharp and bold as the best IIGS images. And your VCR and TV have lower resolution than the IIGS RGB monitor, so the images will look worse when played back than they do on your monitor.

It will take some experimenting to find colors, fonts and pictures that won't blur or look faded on the TV, but it can be done (especially if you can view the results through the TV while you work). It will take practice to properly synchronize the VCR and computer so the taped segment starts and ends smoothly. The results are acceptable for home videos, and both programs do a decent job. But don't expect professional-quality video.

Home Video Producer

Epyx's entry in the new video software field, Home Video Producer, employs a photographic film metaphor. Using on-screen icons that look like individual frames of movie film, you enter text and graphics to produce "frames." These frames can then be combined into a film "strip," and multiple strips can be linked to form a computer-generated "movie." Frames, strips and movies can all be previewed on the IIGS monitor, cut and pasted, and — in the case of strips and movies — saved to and retrieved from disk.

For instance, your first frame might just be a backdrop — a background color and border pattern. In the next frame, you might introduce some text (Steven's Birthday Party), gradually revealing itself at the top. The third frame might feature a picture of a birthday present materializing beneath the text. In the fourth, another text line might slide into sight at the bottom (September 5, 1988). The whole thing could then be combined into a strip, saved to a data disk and recorded by your VCR onto the start of a tape containing birthday footage.

Home Video Producer is generally well designed, using on-screen icons and pull-down menus. Unfortunately, however, it treats the IIGS as if it didn't exist, making the whole thing operate as clumsily as on an Apple II+. The mouse isn't supported at all (isn't this 1988?), and using the joystick to select from menus and small icons is so cumbersome that only keyboard control is practical. The package comes with two 5.25-inch disks and no 3.5-inch disk, necessitating much disk swapping. Fortunately, however, it isn't copy protected and thus can be speeded up a bit by copying it onto a 3.5-inch disk or hard disk.

The manual is slim (46 small pages) and just barely adequate. It covers IBM and Commodore installation, as well as Apple, and doesn't picture any of the fonts, graphics, borders or strip templates included. As previously noted, Home Video Producer uses pre-IIGS graphics. An addendum to the manual says it runs on the IIGS in IIe mode. At some stages in its execution, Home Video Producer

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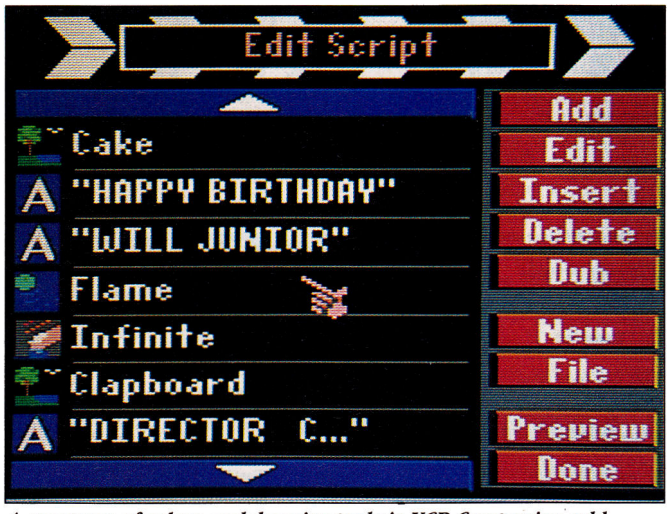
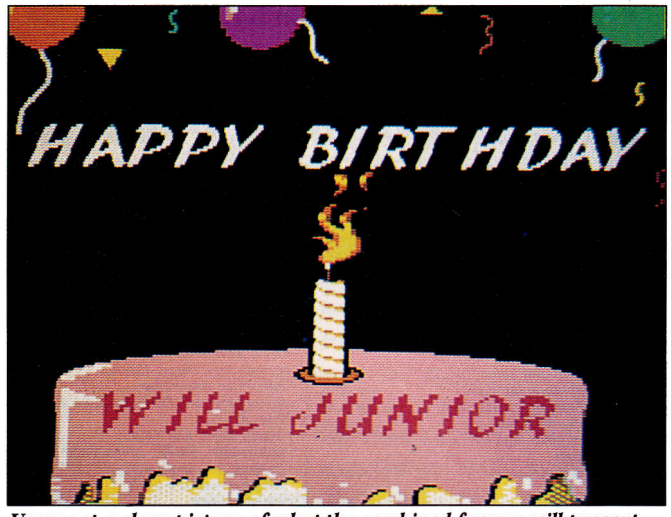


A spectrum of colors and drawing tools in VCR Companion add illustrative effects to the edit sequence.



Users get a clear picture of what the combined frames will present.

is also terribly slow. Loading data can seem to take forever, particularly when it's gearing up to play an entire strip.

Much of the work is done at the individual frame level. These frames can contain text or graphics, based on fonts and images supplied with the program. No provision for importing fonts or graphics is mentioned in the manual. After choosing the contents of a frame, the user then must select from a number of "effects" — how the frame will come up on the screen, how quickly it will appear and how long it will linger before the next frame plays. You can make images gradually materialize from top to bottom or side to side and use other fancy effects.

A nice feature of Home Video Producer is that it provides great control over the sizing and positioning of a frame on the screen. This allows great creativity in having text and graphics overlap in space and time. Unfortunately, real animation — having each separate object move — isn't possible, except in a complex and jerky manner.

The program comes with Template strips, which can be personalized and edited.

As noted above, this program (and its competition) can produce fuzzy and ineffective images on a TV screen unless great care is taken in picking color, graphic and font combinations, which stand out cleanly. Be prepared for considerable trial and error, made easier by Home Video Producer's good previewing ability. And remember: What counts is how a frame looks on TV when played through your VCR, not how it looks on your high-priced IIGS RGB monitor.

Home Video Producer really shines when it comes to managing the process by which a user actually records a strip or movie onto videotape. The principal problem in doing this is that controlling the VCR with its Pause button can be so imprecise that your tape breaks up at the start or end of the segment, records unwanted material from the computer, or cuts off part of the desired material. Epyx has designed a very clever audio signaling system that provides a user with five warning beeps of different tones to give the time necessary to execute the pauses and capture what's coming from the computer smoothly.

VCR Companion

Broderbund, long a mainstay in Apple II graphics, has produced another winner in VCR Companion.

The program is packed with powerful features, including good animation. It uses the familiar Print Shop menu-and-icon technique, supports the mouse and comes with a clear, well-written 55-page manual. There's a quick-reference card that includes color samples of the program's built-in fonts, borders, backgrounds, icons and animations. VCR Companion also allows the use of graphics from three other Broderbund programs: Dazzle Draw, Fantavision for the IIe and Animate.

In addition to producing images to be recorded on videotape, VCR Companion can produce self-booting "filmdisks" that will play your computer movies on a computer monitor.

Despite these strengths, VCR Companion shares some drawbacks with Home Video Producer. It also comes only on two 5.25-inch disks and doesn't recognize the IIGS, though you can send for a 3.5-inch disk for $10, and there's a utility provided for installation on a hard disk. If you rely on just the standard diskettes and have only a single 5.25-inch drive (as many IIGS owners do), you'll do lots of disk swapping.

In addition, VCR Companion, unlike Home Video Producer, is copy protected, and it costs $10 for a backup.

Perhaps the worst flaw in VCR Companion, however, is that it doesn't provide a smooth interface for recording the images it creates on video. Unlike Home Video Producer, it doesn't give a user audio prompts that help coordinate the computer output and the workings of the pause control (though it does play separate audio prompts to signal the need to swap disks).

There aren't any movie-frame icons in VCR Companion. Instead, the user constructs a vertical, scrolling "script" of each step in the computerized video. Each line in the script is an "element" that could be a background picture, border, text, animation, special effect and so forth. Each element line starts with a small icon indicating what types of effects it represents and the name of the particular image. All or part of a script may be previewed.

A typical VCR Companion script might display a picture of a beach with a palm tree, over which the words Our Vacation 1988 might appear, twinkling. Next, a jet might fly

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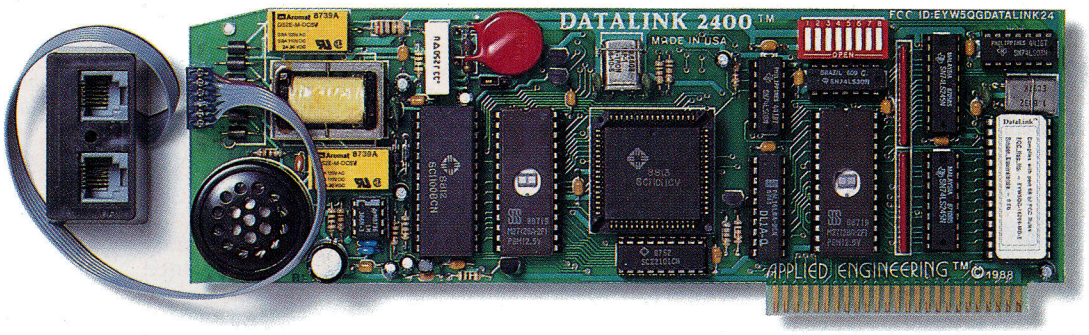

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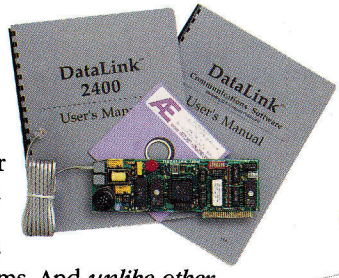

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across the scene from side to side. The package includes ready-made scripts that can be edited and customized.

Special effects are varied. Images can appear on screen in numerous ways, and you can create more of these transitions with a special editor. Text or images can be made to glitter, or twinkle, and more. Scripts can be saved to and retrieved from disk and linked together.

VCR Companion permits a user to do more complicated and varied things on video than does Home Video Producer. But it can take a lot more work to avoid breakup, garbage or truncated images with VCR Companion than with Home Video Producer.

IIGS owners interested in creating mini-movies without a VCR aren't out of luck. Here's a quick look at two older programs from Broderbund that do a very nice job of creating animated computer art.

Fantavision GS

This is the only program of the four covered here that is optimized for the IIGS and uses IIGS graphics. Introduced in 1987, this copy protected program mostly works with stick figures and geometric shapes, but it permits a wide variety of colorful effects — including sounds — to be built into movies. And the supplied 3.5-inch disk cuts way down on disk swapping.

The program includes a rich supply of drawing animation tools and relies on two innovative techniques — tweening, in which the intermediate steps in a sequence are automatically supplied by the computer; and transformation, in which a switch from one form to another is smoothed out to look natural.

The manual is excellent, and a quick-reference card is provided. A matinee demo of various professionally done Fantavision movies is mesmerizing in and of itself, and provides inspiration for a user's own work.

Animate

This copy protected program, which debuted in 1986, has nothing special for the IIGS, but still provides a way to make pleasing animations using more lifelike figures and scenery than Fantavision.

Animate includes two program modules. In the Graphic Designer, drawing tools are provided to permit the creation, frame-by-frame, of the characters to be animated. In the Scene Designer, the characters are placed on backgrounds to create movies, and sound can be added using a built-in simple computer piano program.

As with most Broderbund programs, the manual is unsparing and well done. It even includes a special booklet on the art of animation. The main drawback to Animate is that it uses the old Dazzle Draw menu-bar interface, in which the text can be tough to read on a IIGS screen. But the actual art stands out clearly.

Finally, A Lament

I find it personally disappointing that neither of the two new video-animation programs reviewed here is a IIGS-specific package. Instead, both take the path of least resistance, adopting the lowest common denominator: compatibility with all Apple II models. In doing so, they have passed up the chance to use the features that make the IIGS special, namely, superior graphics and sound.

Both are good programs, as noted above. It may be that super-high-resolution graphics are superfluous for them, because TV sets can't display graphics that well. And it should be noted that their publishers, Broderbund and Epyx, have both published other wonderful IIGS-only software.

Still, graphics programs like these ought to be available in IIGS versions, packaged with 3.5-inch disks, now that the IIGS is a mature machine with a large installed base. What's more, it really helps when these programs recognize the mouse as the principal menu-selection and drawing tool. It's truly mystifying that Epyx could fail to support the mouse in a program published in 1988.

IIGS owners who buy VCR Companion and Home Video Producer will find they work well. But how much better it would be if they were real IIGS programs! ■

— *Walter S. Mossberg*

The author is a reporter in the Washington Bureau of The Wall Street Journal *and a member of Washington Apple Pi.*

How They Compare

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

Home Video Producer

Company: Epyx, Inc.
Performance: 5.0
Innovation: 8.0
Documentation: 6.0
Ease Of Use: 7.0
Value: 6.0
Overall: 6.4

Circle Reader Service Number 64

VCR Companion

Company: Broderbund Software, Inc.
Performance: 7.0
Innovation: 9.0
Documentation: 8.0
Ease Of Use: 8.0
Value: 8.0
Overall: 8.0

Circle Reader Service Number 65

Fantavision GS

Company: Broderbund Software, Inc.
Performance: 7.0
Innovation: 9.0
Documentation: 8.0
Ease Of Use: 7.0
Value: 7.0
Overall: 7.6

Circle Reader Service Number 66

Animate

Company: Broderbund Software, Inc.
Performance: 7.0
Innovation: 9.0
Documentation: 8.0
Ease Of Use: 6.0
Value: 6.0
Overall: 7.2

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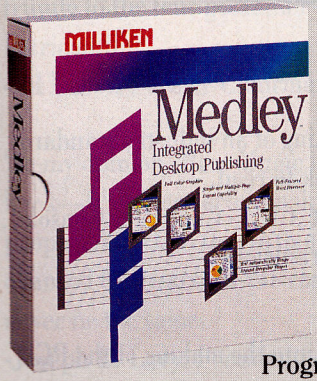

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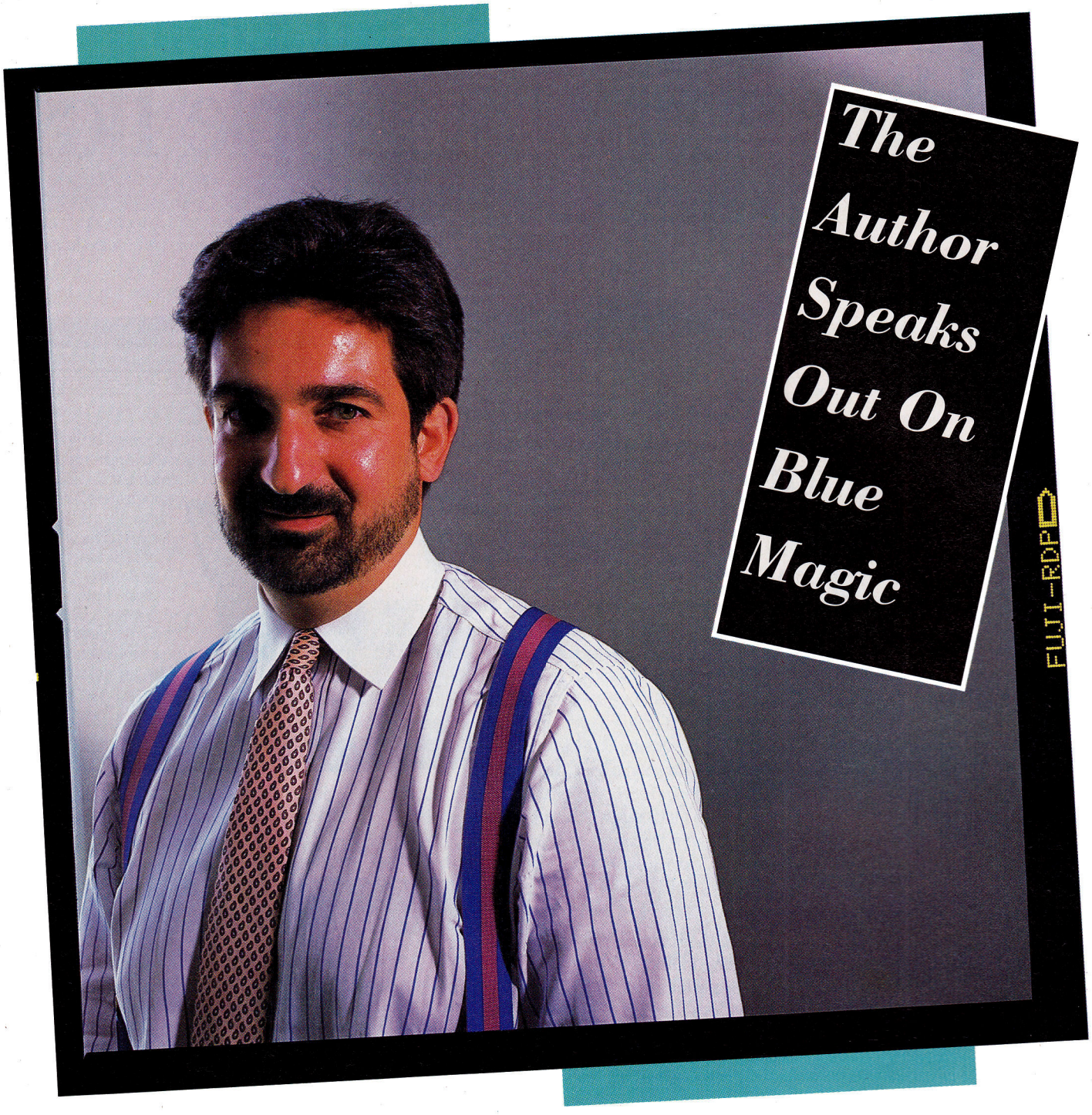

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Apple Gets Personal:

A Sneak Preview Of AppleLink Personal Edition

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Because less than one-third of home computer users have modems, there appears to be little room for another contender, especially one dedicated to a single brand name. Apple, which thinks there is a home-market opportunity, is making a substantial investment to prove its thinking is correct.

Background

AppleLink Personal Edition was officially announced on May 20, 1988 at AppleFest in Boston. The service is a joint venture of Apple Computer and Quantum Computer Services of Vienna, Virginia. Quantum pioneered the idea with Q-Link, a successful online service for the Commodore 64/128 community.

The original AppleLink is Apple's private network and bulletin board for dealers and developers. At this writing, there were no plans to connect that AppleLink service to the user-oriented Personal Edition.

Months of beta testing with a large and diverse population of users have worked the bugs out of the AppleLink software, which should now be available at authorized Apple dealers. A Macintosh version is expected to be ready in late 1988.

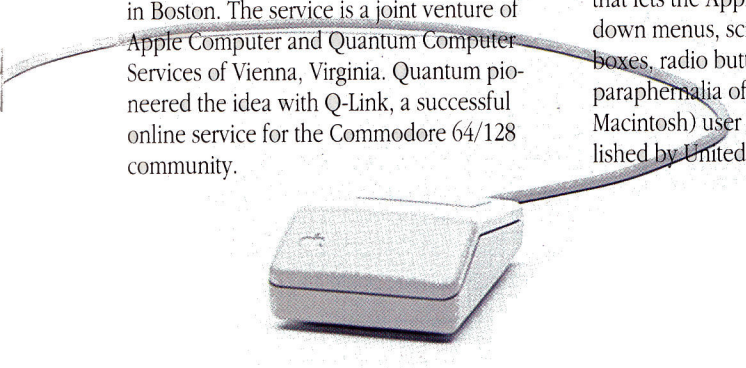
MouseText is the secret of AppleLink. Most means of telecommunications are limited to the regular ASCII character set, which makes for plain, text-only screen displays and command-line or menu-based user interfaces. The standard ASCII character set allows most services to operate equally well with almost any sort of computer or dumb terminal.

MouseText is an extended character set that lets the Apple II family emulate the pull-down menus, scrolling windows, dialog boxes, radio buttons, check boxes and other paraphernalia of the Apple Desktop (i.e., Macintosh) user interface. MouseTalk (published by United Software Industries), a popular communications program for the Apple II family, uses MouseText to create an unusually friendly, flexible terminal environment.

AppleLink carries the idea a step further by supporting the MouseText environment from a host computer, as well as the user's end of a linkup. AppleLink doesn't just send a stream of characters; it sends commands to your computer. The software uses the commands to construct windows, pull-down menus and other desktop features.

Special icons, which demand high-resolution graphics and can be displayed on command, are stored as complete screens on the AppleLink user's disk. The IIGS version of the AppleLink software uses super-high-resolution (320 mode) color graphics to depict the icons. Otherwise, the software is essentially identical to the Apple IIe/IIc version, which uses simpler green and white high-resolution graphics.

AppleLink is hosted on a Stratus 2000XE mainframe system that includes many megabytes of RAM and gigabytes of hard disk storage. Even with thousands of subscribers, the system will be difficult to overload.



Evaluation Of AppleLink

Performance: 8.0 (very good)

The IIGS version of the AppleLink software suffers from the usual ProDOS 16 performance penalties. Fortunately, you can always run the ProDOS 8 version when you aren't showing the system off to friends. The only difference is graphics resolution. Except for this minor point, AppleLink's performance depends on the speed of your modem and the quality of your local phone lines.

Innovation: 9.0 (excellent)

AppleLink for the Apple II series represents a real breakthrough in 8-bit personal computer telecommunications. It takes text-based systems about as far as they can go. The next step — multimedia telecommunications, exploiting the sound and graphics potential of the IIGS — would require much higher baud rates.

Documentation/Support: 8.0 (very good)

This is a provisional rating, based on the beta test experience. The final package is likely to be more polished. Customer Service, both at Apple in Cupertino and at Quantum in Virginia, has been very accessible, prompt and responsive.

The AppleLink Guides found in certain areas are the ultimate online help system — real people who can communicate with you.

Ease Of Use: 9.0 (excellent)

Point and click, what could be simpler? The icons and menus make AppleLink easy to learn and simple to navigate, compared to the complex command-driven interface typical of other online services.

Value: 8.0 (underpriced)

AppleLink is a virtual necessity for people deeply involved in Apple computing. For more casual users, its value will depend on their specific needs and how much time they can afford to spend online. For some users, the value of "free" downloaded software will more than justify the subscription cost.

What It Takes

The Apple II version of AppleLink Personal Edition requires a IIGS, IIc or enhanced IIe, plus a modem and the AppleLink software. Some color graphics screens exist, but a monochrome monitor is perfectly adequate for the MouseText environment.

The AppleLink program recognizes when an ImageWriter printer is connected to a IIGS' printer port, but only for offline printing. Some other telecommunications programs allow you to send text to a printer while your are still online. This is a convenient feature that should be added to AppleLink as soon as possible.

You boot the AppleLink disk like any other ProDOS application. The program automatically checks for the presence of a modem and configures it correctly. The opening screen gives you four choices, which are represented as large icons. The choices are: Sign-On, Set Up, Work Offline and Options.

Set Up is a simple matter of choosing a local access number from a booklet and specifying some of the characteristics of your equipment. Work Offline includes a complete set of ProDOS 8 file management utilities. With this selection, you can format a blank disk, compose a memo or print out files you have previously downloaded. When you click the Sign-On icon, the program displays the progress of your call:

- Dialing. . .
- Connecting. . .
- Checking Password. . .
- and Verifying Disk.

Your password is permanently encoded on the disk, so you never have to enter it again manually. If the disk is damaged or accidentally erased, you have to get a new password. The IIGS version of the AppleLink software comes on a 3.5-inch disk, but the 8-bit version (on 5.25-inch media) works perfectly well on a IIGS — in fact, it loads and starts up faster.

You can record two different Tymnet, Telenet or DataPac access numbers. If one number happens to be busy or down, the program will automatically try another number. In most U.S. and Canadian urban areas, AppleLink is a local call.

A welcoming screen tells you about current activities and features. If you have mail waiting for you, a small flag on a mailbox icon pops up on screen and the program beeps. You then have a choice: click on the Apple logo to go uptown to the Apple Community or click on the globe icon to go downtown to General Services.

It's easy to be overwhelmed by the abundance of available options. Our cautious strategy was to become familiar with a few areas first, then gradually branch out and explore new terrain. After four months of intensive online exploration, there are still "places" we haven't visited, but we are trying to make the rounds.

After checking our mail at the Post Office, we usually stop by the Apple Hardware Forum to read the latest IIGS rumors and gossip, drop into the Software Center to see if there are any new downloads and then head over to The Mall to see if any buyers have responded to our Classified ads. (We've sold enough surplus hardware and books to almost pay our phone bill this month.)

If time permits, we read the latest wire service reports from the Mideast in the Newsroom and check a few stock prices in the Financial District. Finally, we drop by the People Connection to chat for a few minutes with friends across the country whom we've never met.

You sign off by pulling down the File menu and selecting Sign-Off. Reluctant to see you leave so soon, the program asks you to confirm your choice, bids you farewell and offers a report of how long you were connected. With a bit of advance planning, you can keep your total elapsed time down to an affordable 20 minutes or less. If you're curious, you can even drop by Customer Service to check your current billing total.

You have to reboot your computer to run another program — a nice future enhancement would be the option of quitting to a program selector.

Standard keyboard shortcuts are available for mouse haters. Every dialog box is marked with an Open-Apple command that does the same thing as clicking in the box. There is also a Keyword system for quick program navigation. For example, you can go directly to the AppleWorks special interest forum by pressing Open-Apple-K and then typing AAW.

The software is pleasantly intuitive; it works the way you expect it to work. Even in beta testing, it was remarkably bug free, considering it's so complex.

Hardware and software setup is meticulously documented in the included *User Manual*. We still managed to make several dumb mistakes, however, such as forgetting to set the modem port to "Your Card" on the IIGS Control Panel, but the Customer Service people at the other end of a toll-free 800 number were unfailingly patient, polite and competent.

Apple enthusiasts can hone their technical skills and knowledge with a quick survey through various information avenues in AppleLink Personal Edition.

Apple IIGS owners who use external modems must plug their modems into the computer's built-in serial port, rather than a serial card in a slot. If you're using an internal modem, you have to tell the software that you're using a Super Serial Card.

We had good results with both setups at 1,200 and 2,400 baud, despite the noisy phone lines of Southern California.

The Post Office

The Post Office menu is directly accessible from any part of AppleLink. If you have incoming mail waiting, the word MAIL appears prominently in the bottom right corner of your screen. When you open your mail, the display lists all new messages, the senders and appropriate dates. When you click on an item, it appears in a scrollable window, including sufficient space below to send a direct reply.

Users are addressed by their Screen Names, and each handle can be up to 10 characters in length. Some users pick colorful screen names (Mouskowitz, AFL MadMac, Herr Fixit); others accept the assigned defaults (SteveL39, WendyR16 and so on). Users may even elect to have their real names and addresses listed in an online Member Directory.

You can easily save a message to disk or send an entire file by simply typing a pathname into a field of the display. You can even recall old messages, although the system will delete them after a certain time limit.

You can also send Flash Notes to a user who is currently logged on. This activity requires a bit of discretion and courtesy, because an incoming Flash Note interrupts whatever the addressee is doing.

By selecting Find Someone and entering a screen name, you can find out where a user is and if the user is currently logged on.

Free software is one of the great attractions of any online service, and AppleLink is no exception. AppleLink makes the downloading (and uploading) of software relatively painless. You type in a pathname and the system finds the correct drive.

For long files, AppleLink displays a "gauge" that measures the percentage of the file remaining to be transferred. Most program files are sent in a packed, or compressed, format. The program disk includes a file conversion utility to pack or unpack files. The initial "Top Ten Downloads" on AppleLink include the following:

- **Sub Attack** — a IIGS arcade game
- **Talk Is Cheap** — a classic shareware communications program
- **SHR Convert** — a graphics format converter
- **ECP 8bit** — a ProDOS program selector
- **FreeWriter** — a simple word processor

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Public Domain and Shareware

P.D.E.'s Best Disk
☐ **GS63** CheapPaint—a commercial-like color graphics program for only $9

Communication
☐ **GS6** Freeterm telecommunications—rated A+ Mag's 1987 "All Stars," needs 512K $9

Desk Accessories
☐ **GS2** Notepad, Calendar, Diskinfo, RPN calculator $9
☐ **GS3** Save currently displayed picture, Setspeed $9
☐ **GS4** Watch your screen melt! Display time & date, plus 5 DA's $9
☐ **GS29** 20 DA's: Send type to printer after carriage return $9

Fonts
☐ **GS14** 50 fonts from formal to fancy, incl. AMSLAM $9
☐ **GS25, GS26** 100 fonts formal to fancy for all your documents and Christmas cards (2 disk set) $18

Games
☐ **GS15** Towers of Hanoi puzzle, Othello, need 512K mem. $9
☐ **GS27** Bounce It!—GS vers. of Little Brick Out, great sound and graphics (shareware) $9
☐ **GS28** Mean 18™ golf—7 challenging course to play with your Mean 18™ $9
☐ **GS36** Play the open but treacherous fairways of Jax and more games w/your Mean 18™ $9

Graphics
☐ **GS77, GS8, GS9*** Lots of pics: Santa, Enterprise, MaxHeadroom, Moonlighting, etc. (3 disk set) ... $27
☐ **GS22*** Colorful sharp images of dragon, vicious tiger, cartoon, and many more $9
☐ **GS23*** Garfield in color, Harry from "Bigfoot," Hal from "2001," Lighthouse $9
☐ **GS30** Customize your startup screen; color Print Shop™ graphics, to use with your Print Shop™ $9
☐ **GS31** 5 incredible animations to use w/PaintWorks™ + a slide show prog for uncompressed pic files .. $9
☐ **GS45*** Borders to frame Xmas cards, stationery, certificates plus color pictures $9
* Requires a Paint program to print, i.e. PaintWorks Plus, Deluxe Paint II.

Graphic Utilities
☐ **GS5** Convert pictures from any computer to IIGS format, need 512K RAM $9

Music
☐ **GS13*** 40 Songs to play with your Music Studio™ including "Sound of Music" $9
☐ **GS20*** 40 songs to play w/your Music Studio™ incl. "Flash Dance," MASH theme, etc. $9
☐ **GS21*** More Music Studio™ Songs: Rock 'n Roll, TV themes, Broadway, classical, jazz, "Star Wars" ... $9
*512K RAM memory minimum required

Sounds
☐ **GS16, GS17** Digitized sounds for Startups and Sys beeps: Pee Wee Herman, 3 Stooges etc. (2 disk set) ... $18
☐ **GS19** Jet planes taking off, the Evil Wizard from Time Bandits, and much more $9

Utilities
☐ **GS1** DiversiCache/Copy/Key: shareware, plus Diversi-Hack 1.6 (needs 512K memory, 1 meg recommended) .. $9
☐ **GS32** 50 diff. icons to change the size, shape + color of your icons; 2 graphic file viewers $9

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Circle Reader Service Number 13

Many of the special interest forums are slated to have their own software libraries available for downloading. At this writing, many of the libraries were still empty. The AppleLink staff will need to put a lot of effort into ensuring a fresh and varied supply of public-domain software.

Reference Library

The Reference Library in the Apple Community includes extensive files of Apple product and technical information, such as the table of contents from every Apple user's manual. There are also listings of special education solutions, a User Group directory, the catalog of the Apple Programmers and Developers Association, and the vast Menu online software catalog.

The Learning Center in General Services gives you access to an online version of the *Grolier Encyclopedia*. We used this resource several times to look up obscure historical and mythological facts. We were amazed by how quick and easy it was to conduct a search and to save the resulting text file to disk.

The Big Events

AppleLink includes a number of Auditorium events with unlimited capacity. Every month at least one major figure from the world of Apple appears as a guest "speaker" (usually at 10 p.m. Eastern Standard Time). Featured speakers have included Steve Wozniak, Del Yocam (president, Apple Education and Apple Pacific) and Jean-Louis Gassee (president, Apple Products).

A rather strict protocol governs these events, because there would be chaos if 50 people tried to communicate at once. You "raise your hand" to ask a question by sending a single question mark character. Your input is disabled until the moderator calls on you or invites you onto the "stage." If you miss a session, you can download a transcript from the Auditorium archives.

You subscribe to AppleLink Personal Edition by purchasing a kit from your local authorized Apple dealer. The suggested retail price of $35 includes the software, *User Guide*, a year's subscription and two hours of non-prime connect time.

Non-prime time, at $6 per hour, runs from 6 p.m. to 7 a.m. local time on weekdays and all day on weekends. At all other times the rate is a hefty $15 per hour. Rates are the same for 300- , 1,200- or 2,400-baud service. You can arrange to have your costs deducted painlessly from your checking account or billed to a major credit card.

Your subscription includes a stylish monthly magazine, *AppleLink Update*, which includes a schedule of events and activities, informative feature articles and pontifical pronouncements by industry leaders. The August issue ran 48 colorful pages of useful info.

The Future

AppleLink Personal Edition is an essential life-support system for anyone who is deeply involved in the world of Apple computing. This fanatical fringe includes programmers, product developers, free-lance journalists and user group activists. For many special interests, one or two of the many services on AppleLink are worth the cost of membership.

For the average Apple user, the potential benefits of AppleLink need to be weighed against the cost. Unlike many other services, AppleLink is limited to a single brand name; you may find wider horizons on Compuserve, Genie or The Source, once you master their more difficult user interfaces.

For many months to come, AppleLink users are likely to remain a relatively small group, drawn mainly from among educators, long-time user group members and the software developer community.

So far, AppleLink has shown admirable tolerance and freedom of electronic speech. We have seen no attempts by the management to enforce Apple's party line or stifle dissent. Response to user feedback has been quick and courteous.

As the membership increases, the value of AppleLink will grow. Right now, for example, you can only exchange mail with a fairly limited circle of people on AppleLink, but you can reach thousands of people on Compuserve, The Source or Genie. As Macintosh users become an increasing part of the AppleLink community, the style and outlook of the service may change, but it will certainly acquire many new resources. ■

— Mike Markowitz, contributing editor

The author has been writing about Apple II computing since 1984. You can reach him on AppleLink Personal Edition (Mouskowitz) or The Source (SIG060).

Industry Forums On AppleLink

Click on the "meshing gear wheels" icon in the Apple Community and you arrive in the Industry Forums. These are bulletin boards operated by leading third-party software and hardware vendors, where you can read the latest product announcements, post technical questions and sometimes even chat with company representatives.

Participants include: Activision; Applied Engineering; Beagle Bros.; Broderbund; Davidson & Associates, Inc; Electronic Arts; Epyx; Orange Micro; PBI Software; and TML Software.

New forums appear every few weeks, so by the time you read this, the list will have grown. The general standard of support is quite good — most technical questions receive a reply within a few days.

Products And Services Mentioned

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

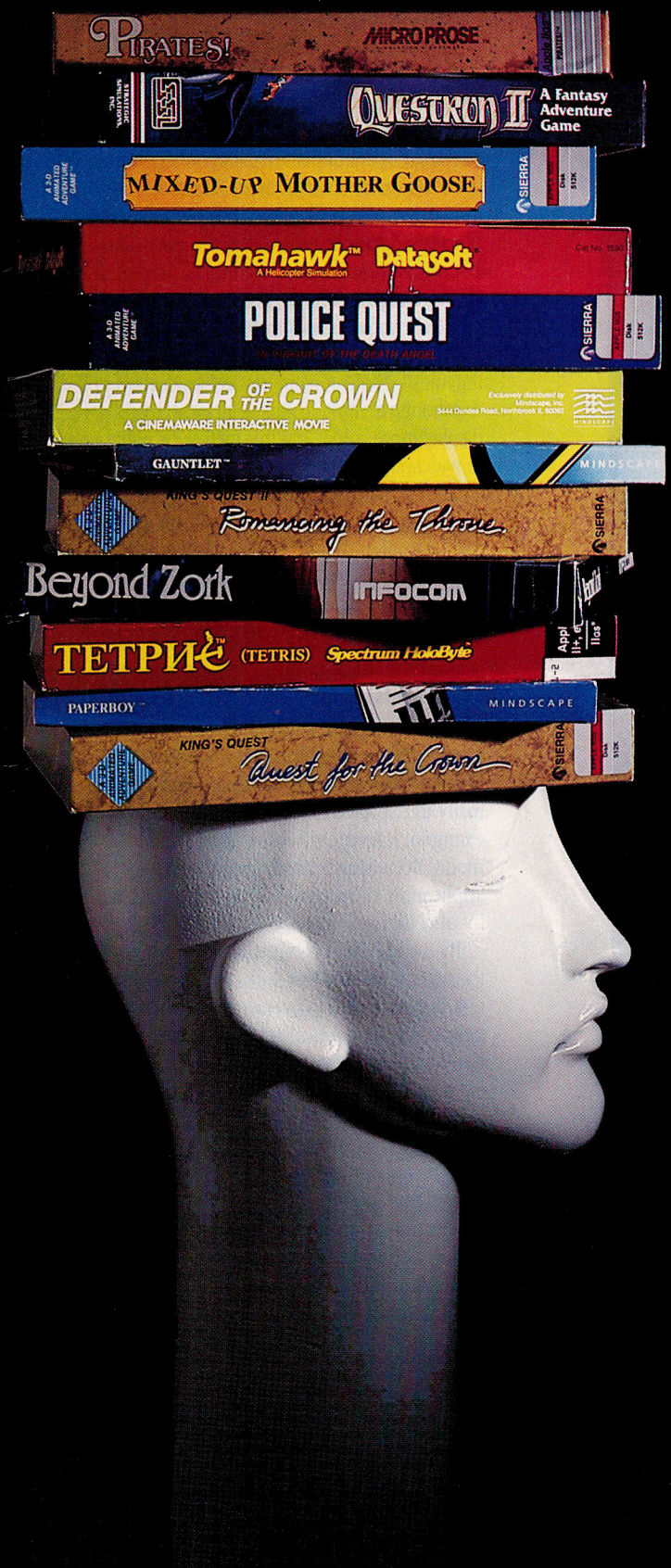
AppleLink
Apple Computer, Inc.
Circle Reader Service Number 68

Compuserve
Compuserve Information Service
Circle Reader Service Number 69

Genie
General Electric Information Services Co.
Circle Reader Service Number 70

MouseTalk
United Software Industries
Circle Reader Service Number 71

The Source
The Source
Circle Reader Service Number 72



Graphic Mind Games

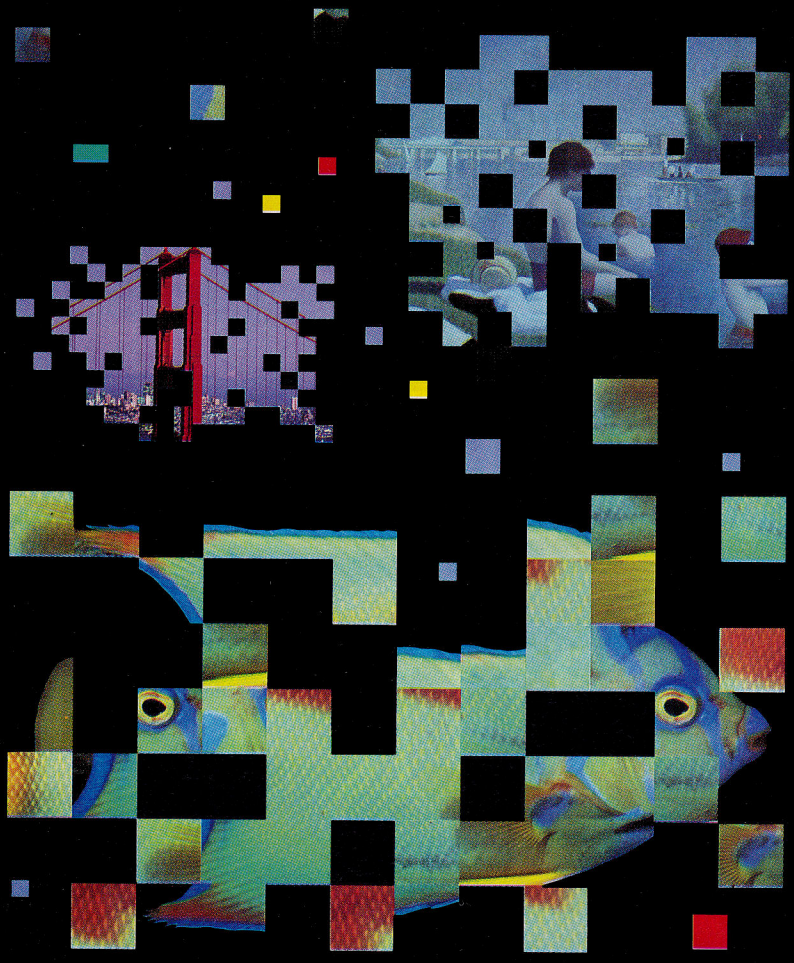
Today's IIGS games serve every need, from sophisticated mind games to shoot-em-ups. How well do they exploit the computer's capabilities?

When the Apple IIGS was introduced in late 1986, it was hailed as a machine with tremendous potential for graphics-based games. Two years later however, we wonder if it has lived up to that promise. In this article, we'll look at a representative sample of IIGS games to see how they handle the IIGS' graphics capabilities.

The Apple IIGS is capable of several different graphics modes, including all the modes available on previous Apple IIs and two new ones. The new modes, both called "super high resolution," are the only IIGS-specific modes. Because super high resolution is where the power lies, that's what we'll look at in this article.

Super-high-resolution graphics in the 320 mode allow a resolution of 320 pixels horizontally by 200 pixels vertically. In this mode, 16 colors can be displayed on each of 200 lines from any of up to 16 palettes. This allows up to 256 colors on screen at a time, even though most applications seem to limit you to only 16 colors on screen at a time.

Now you don't.



With JIGSAW!—*you'll* transform the screen into a dazzling display of incredible graphics.

It's fun,
it's fascinating
and incurably addicting.

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The Ultimate Electronic Puzzle.™
*Third party products are the trademarks of their respective companies.

What's The Limit?

Jason Harper, author of the popular graphics conversion program SHRConvert, has shown that it is possible to display up to 3,200 colors at once on an Apple IIGS screen. To do so requires careful planning and timing, however. As yet, no commercial applications have tried to cross the 256-color barrier. Indeed, as mentioned, only a few can display more than 16 colors on the screen at a time.

Super-high-resolution graphics in the 640 mode allow 640 pixels horizontally by 200 vertically, but now the palettes — and therefore the lines — only contain four colors each. A dithering technique makes it possible to display more colors, but this method is not in widespread use as yet.

The 640-mode graphics provide the sharpest resolution, while the 320 mode is the most flexible with colors. It *is* possible to display a mixed-mode picture, with some scan lines in 320 mode and others in 640 mode, but this capability has yet to be exploited.

Exploring 640 Mode

Most of the current application programs use 320 mode, though some program manufacturers are cautiously venturing into the virtually unexplored land of the 640 mode. For example, Infocom's Beyond Zork uses this mode. Because it is primarily a text-based application, the program does not require a lot of color flexibility.

By using super-high-resolution graphics in the 640 mode, Beyond Zork combines a crisp text display with a convenient on-screen graphics mapping facility. A gentle combination of colors is used, and color variation is effectively employed for highlighting and contrasting the computer's text from what was entered by the user.

At the opposite end of the spectrum, two entries from Mindscape purported to be IIGS applications are really nothing more than old IIe-style double-high-resolution graphics games that do not require a IIGS at all. Nor do these games make any attempt to use the IIGS' graphics capabilities.

Both of these games disappointed us; Gauntlet especially let us down. Even if you have not seen the stunning graphics used on the arcade version of Gauntlet, there are screen shots on the package — from other versions of the game running on other personal computers — that show a lot more detail and realism than the version designed supposedly for the IIGS.

A Shareware Surprise

You should understand that good IIGS graphics games don't necessarily have to come from major publishers. One game that effectively exploits both the IIGS' graphics and sound capabilities is Bounce-It! from John Tierney. This program is shareware ($10) and is available for downloading from most of the commercial telecommunications networks, as well as many local bulletin-board systems. The program's also been showing up on disks in users-group libraries.

Bounce-It! is an update of Breakout, the good old brick-bashing game that's done up in such a way as to show off the IIGS' capabilities. The program makes use of different palettes on different lines to display more than the usual 16 colors on-screen. The result is one of the slickest IIGS arcade games you'll find anywhere.

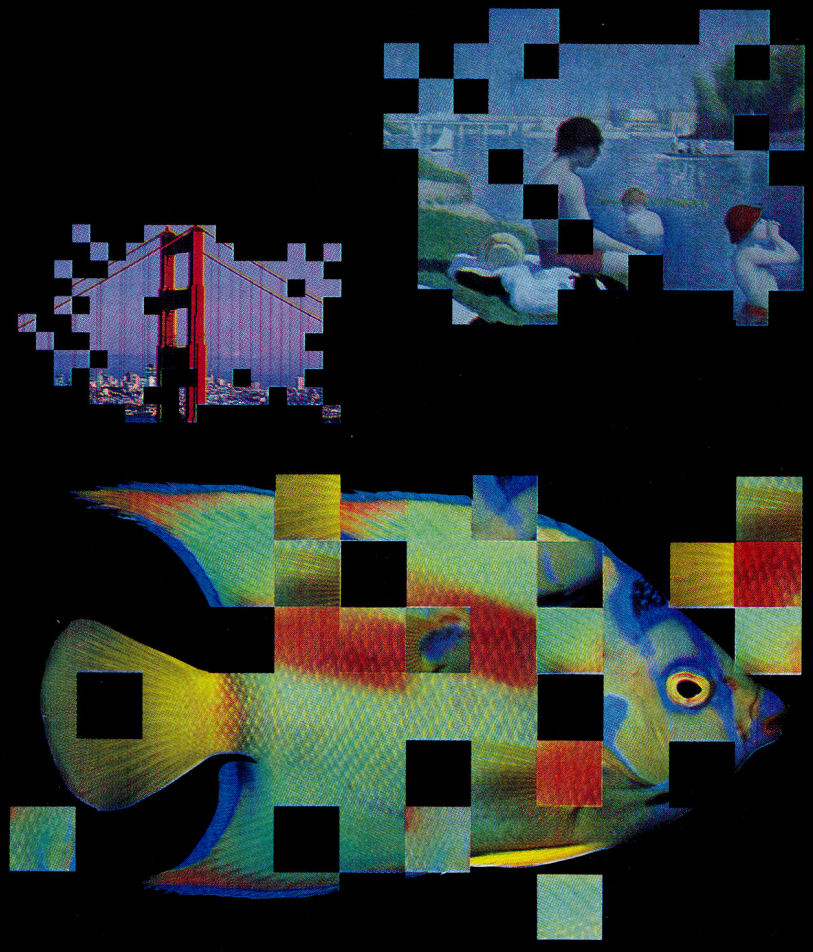
Accolade's Mean 18, a hot product when it first appeared, withstands the test of time. There is still a legion of fanatic players of the game, giving new meaning to the term "computer hacker." Online golf tournaments and an ever-increasing supply of user-designed golf courses help keep the game alive. Realistic sound effects help provide a sense of realism, and the "splash" when your ball hits the water is really disheartening. Sink a long putt, however, and the gallery's applause will definitely feed the ego.

Mean 18's graphics do a fine job of presenting a player with a view of the course that really gives a feel for depth. You can't help but believe how long a shot carried as you watch your ball and shadow travel down a fairway.

Screen motion is fairly rapid, considering there's so much detail. A minor drawback is that objects close to the on-screen player appear coarse; if your ball lands at the base of a tree, you may find yourself (in this case, the player on screen) facing a collection of large colored squares that make up an object not immediately recognizable as a tree.

Despite this very minor setback, Mean 18 does an excellent job with its graphics and, therefore, remains one of the few computer games that is frequently played by more than one player at a time.

Now you see it.



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Circle Reader Service Number 15

Graphics Done Wrong

Just because a game employs super-high-resolution graphics does not guarantee that they are used well. Games such as Sierra On-Line's "Quest" series (which includes Police Quest, King's Quest and King's Quest II) use simple line drawings and large fields of solid colors. Despite extensive use of simple animation, most of the screens in these games have the look of something whipped up in a few minutes with a standard paint program. Some of the Quest series games look almost like old IIe-style double-high-resolution graphics.

These particular games are all rich in play detail, with numerous things to do, places to go, treasures to acquire and so on. But the individual screens leave a lot to be desired when compared with the richness of the graphics images that we see in many other IIGS games.

Sierra's Mixed-Up Mother Goose is a game in the same vein as the Quest titles. It is aimed at children, however, and its simplistic imagery seems more suited for that audience. Experienced players of any of Quest titles will feel right at home playing this game with kids. All players will enjoy helping poor Mother Goose attempt to reassemble her fractured fairy tales. This is done by locating misplaced objects from the various included rhymes.

Like the Quest series, this game does not show off the graphics power of the IIGS. But it does a fine job of entertaining young players, which is exactly why it was created.

Graphics Done Right

In contrast, consider Cinemaware Corp.'s Defender Of The Crown. Set in medieval England, this game overflows with lavishly detailed graphics. Often a player wishes to pause the game just to look at the beautiful artwork for a little longer. Blend and texture are used for great effect here, from the colorful gaiety of the tournament bleachers to Robin Hood's gloomy Sherwood Forest at night to the subtle shading seen close up in people's faces.

The player cannot help but be drawn into the environment of the game by the realistically detailed look of the artwork. It is clear that the programmers and artists did their homework and produced a hauntingly authentic look for this game. The realism is enhanced by the use of period mood music appropriately interspersed with the action on the screen.

Defender Of The Crown is one of the best showcases for the Apple IIGS from a visual standpoint. If you have a moment while sword-fighting in a castle entrance, take notice of the subdued shadows on the wall as you enter.

Datasoft/IntelliCreations' Tomahawk also has a lot happening on screen. As you fly your highly maneuverable combat helicopter, numerous readouts on your copter's control panel are updated, as is the 3-D view out the windshield. To help the program keep up with all of these busy graphics events, many of the objects seen outside the copter are represented as wire-frame-lined shapes. This does not detract from the game's playability, but it is noticeable and serves as a reminder that you are just playing a game.

Aliens, Marbles And Pirates

In a class by itself is PBI Software's Alien Mind. Rich in smoothly scrolling graphics and featuring a continuing sound track, this arcade and strategy adventure — which has its roots

Products Mentioned

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

Title	Publisher	Copy Protected	Memory Required	Mode	Circle Reader Service Number
Alien Mind	PBI Software	Yes	512	SHR 320	73
Beyond Zork	Infocom	No	512	SHR 640	74
Bounce-it!	John Tierney	No	512	SHR 320	75
Defender Of The Crown	Cinemaware Corp.	No	768	SHR 320	76
Gauntlet	Mindscape	Yes	256	DHR	77
King's Quest	Sierra On-Line	Yes	512	SHR 320	78
King's Quest II	Sierra On-Line	Yes	512	SHR 320	79
Marble Madness	Electronic Arts	Yes	512	SHR 320	80
Mean 18	Accolade	Yes	512	SHR 320	81
Mixed-Up Mother Goose	Sierra On-Line	No	512	SHR 320	82
Paperboy	Mindscape	Yes	256	DHR	83
Pirates!	MicroProse	Yes	256	SHR 320	84
Police Quest	Sierra On-Line	Yes	512	SHR 320	85
Questron II	SSI	No	512	SHR 320	86
Shanghai	Activision	Yes	512	SHR 320	87
Tetris	Spectrum Holobyte	Yes	512	SHR 320	88
Tomahawk	Datasoft/IntelliCreations	Yes	512	SHR 320	89

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.

The Comprehensive Product Directory catalogs all Apple IIGS specific products currently marketed and is updated every quarter through direct correspondence with Apple IIGS developers.

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Apple II GS
The Buyer's Guide

Circle Reader Service Number 16

Jousting matches and sword fights await the eager warrior who attends a Defender Of The Crown tournament.

An alien voyage takes on new dimensions in Alien Mind.

in movies such as "Alien" — will amaze you with its imagery. You can run down corridors, dodge laser blasts or fight it out with robots — no wire frameworks here. Every object in Alien Mind is fully portrayed and drawn. A fast-moving game with fast-moving graphics to match, Alien Mind is a winner.

Aficionados of M.C. Escher will enjoy Electronic Arts' Marble Madness. Colorful, painstakingly detailed scrolling landscapes flow past as you attempt to maneuver your marbles through what amounts to a 3-D maze. Each level has its own special eerie background music, and treachery awaits your marbles in the form of vacuum cleaners, ice-covered paths, roving predators, traps and pathways that appear and disappear seemingly at random. Frustrating at times, Marble Madness, with its elegant layouts, appeals to players of all ages.

Pirates! by MicroProse is a mixture of situational gaming. You wander through towns, sail your ship, do battle with other ships at sea and experience swashbuckling sword fights. Considering all the different activities included in Pirates!, the game does well with its visuals.

The best detail in Pirates! is seen in some of the smaller images that appear: your character's face and the faces of others, visuals of other ships passing at a distance, burning hulks slipping slowly beneath the waves en route to Davy Jones' Locker and more.

While sailing, you have an overhead view of your ship as it continues on course. Looking down upon your craft, you notice clouds drifting past. You also notice the shadows of the clouds upon the water. This simple, effective method of imparting a 3-D effect is also used during the battles between ships — as cannonballs fly, their shadows are visible on the water below them.

Simple Backgrounds

In the overhead view, Pirates! uses a common technique for drawing a screen background that must be able to move in any direction. The terrain is represented by several squares filled with standard patterns. This makes screen updating fast and easy, because only the squares that change have to be redrawn.

This technique is also seen throughout Questron II, a swords-and-sorcery game that lets a user explore dungeons, get into hack-and-slash bouts with various weird creatures and seek the inevitable treasures that seem to lay scattered throughout the dungeons. Though somewhat trite in concept, Questron II looks good, moves fast and has lots of detail.

Return Of The Classics

Sometimes you find unexpected (and clearly unplanned) surprises within games. Activision's pattern-matching game of Shanghai was one of the first games for the IIGS. Shanghai, a game with a fairly simple concept and superbly detailed graphics, immediately grabbed and held the attention of most IIGS users who tried it out. While game play is simple enough even for young children, its complex oriental-motif patterns are a bit hard for preschoolers to differentiate.

Fortunately, all of Shanghai's tile patterns are stored on a simple 320-mode super-high-resolution picture file called TILESET. There are two TILESET files on the Shanghai disk, but both are the same. Either TILESET file can

be loaded into any IIGS paint program and modified to create a whole new set of tiles. Saving the new picture over both of the old ones puts the new tiles in place. As a result, several custom Shanghai tile sets are already making the rounds of bulletin boards and public-domain disks.

There's a set based on simple shapes that even a child can master. Another set is based on numbers, and there's even a Hebrew character tile set. Even the most jaded and burned-out Shanghai masters may find themselves captivated again with the addition of a new set of tiles for the game. If you do select other tile sets, be sure to replace the file TILESET in two places: in the root directory and in the /SYSTEM subdirectory. And, of course, *only* modify a backup disk! This is a bit tricky, because the disk is copy protected, but unprotected methods are available from several legitimate sources.

Back From The U.S.S.R.

An amazing and addictive piece of software has found its way into our homes from the Soviet Union. Spectrum Holobyte is marketing Tetris, a game originally developed in the Soviet Union and reprogrammed domestically for several different computer types.

The Apple IIGS version excels with bright colors, clarity and Russian mood music. The playing field of Tetris is simplistic enough to obviate the need for powerful graphics, but that didn't stop the programmers. The playing field turns out to be a fairly small portion of the total screen. The programmers outdid themselves and created splendid background pictures of various scenes from Soviet life. A player is motivated to advance to higher levels just to see what the next picture will look like. A Tetris hint: make good use of the Pause feature.

Tetris is part of an insidious communist conspiracy designed to demoralize our technologically oriented, decadent, capitalistic imperialistic society by forcing us to remain at our computers! And it succeeds — once you get the feel for this game, you may find that days go by, meals are missed and loved ones and pets are scorned.

Toward Tomorrow's Games

What can we make of all this? Well, there were great games from the first day the IIGS appeared. There were also mediocre ones. Both extremes still continue to appear. As time goes on and programmers learn more about the machine, there will be an increasing number of programs that push beyond anything we've seen before. Two years into the life cycle of the IIGS, programs keep advancing the frontier of its performance.

Has the IIGS lived up to its potential in graphics? Of course not. No Apple II ever has; programmers keep finding new and amazing ways to program the machines. However, several of the programs mentioned not only met our expectations, they exceeded them. We've been surprised and hope to be further astounded as the Apple IIGS continues to evolve. ■

— Joseph T. Walters, contributing editor

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Circle Reader Service Number 17

AppleCD SC

The Computerized Compact Disc

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

The big revolution in the audio recording industry was the introduction of the audio CD recorder — the compact disc. The obvious extension to CD players, which already use digital data for sound, is to use compact discs for computer data storage. That's what Apple's new AppleCD drive is all about.

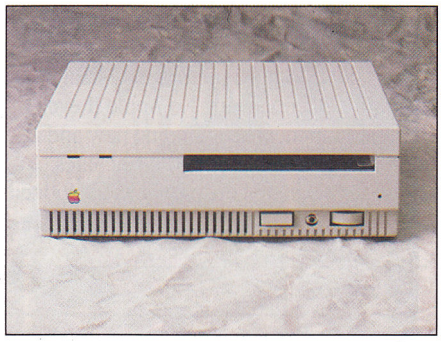
Most CD units are available as read-only devices. Units that can write or erase data are still too expensive for most consumer applications. Consequently, the AppleCD is referred to as a CD ROM drive. Because it attaches to an Apple II or Macintosh through the SCSI (Small Computer Systems Interface) port, its full name is the AppleCD SC ROM drive.

Apple's CD drive is a combination audio CD player and computer data reader. You can use the drive to play standard audio CDs through headphones or speakers or to read CDs that contain computer data. CDs can even be designed with both computer and audio data for interactive applications.

The AppleCD drive attaches to your Apple IIGS through the Apple SCSI card. If you already have an Apple SCSI hard drive, then the CD drive can be attached (daisy chained) to the back of your hard drive. Early Apple SCSI cards required an upgrade to the Rev. C ROM update, available for free from Apple dealers.

The CD ROM "looks" like another SCSI drive to ProDOS. It's possible, however, to eject a compact disc under program command — much like a diskette — which is a function not available with hard drives. Two RCA phono jacks on the back of the drive and a mini stereo headphone jack are used for audio CDs.

The CD drive comes with two versions of the CD Remote program. One version is a desk accessory that operates via the mouse through the IIGS desktop. The other is a stand-alone keyboard-oriented program that works with either an Apple IIe or IIGS.



The dual-purpose CD ROM drive from Apple plays audio CDs and reads computer-data CDs.

The CD Remote program looks like a typical audio CD remote control, complete with a timer and play selectors. You can choose to play selections in order or at random. Playing standard audio CDs is a bonus that you get with the AppleCD drive. After all, you wouldn't want to pay $1,199 for an audio CD player that doesn't include a set of speakers, would you?

A CD ROM can theoretically store up to 656 MB of information — the equivalent of 270,000 pages of text. That's also equal to about 14 40 MB hard drives or 704 3.5-inch 800K diskettes. To put it in other terms, the CD drive can store the equivalent of 4,000 5.25-inch 143K diskettes.

The cost of a compact disc varies, depending on the data included. As with any program, book or other form of information, you aren't paying for the media, you're paying for the data. If enough copies are made — and if a manufacturer decides that the data should be distributed inexpensively — a computer CD can cost as little as an audio CD.

Producing a master for a CD ROM is fairly expensive. Few software companies will want to come out with different versions of CD ROM software for different computers (e.g., Apple II, Macintosh, IBM, etc.).

Fortunately, there is a solution to accessing data on different computers. A generic format called High Sierra is used by many CD ROMs. It provides a generalized system-independent format for storing data. A program designed to read the High Sierra format can be written for each computer, making distribution of data much easier.

There are already several CD ROMs available in the High Sierra format. Right now, however, there's no general-purpose High Sierra CD reader available for the Apple II family.

Most CDs come with a separate program — on a diskette — that is used to access the files stored on the CD. This program is usually optimized for the computer and the data on the CD to access information as quickly as possible. Occasionally, the program is included on the CD itself instead of on a separate disk.

There isn't much software currently available for the AppleCD drive in Apple II ProDOS format, because many vendors are waiting for new system software from Apple.

There's also a perception that few current Apple II applications need to access large amounts of data. This perception will change as more advanced Apple II applications become available, as CD production costs go down and as quantities increase.

Expect many companies to distribute customized CDs with large amounts of data for specific applications (e.g., phone books, reference sources, system catalogs, etc.). One such package, the Facts On File Public Domain Software CD, is already available for the Apple II. (See the review in this issue.)

Is it too early to buy into this technology? Possibly. We can't recommend the AppleCD SC ROM. There isn't enough software available right now. When software is released that is compatible with the Apple II, the AppleCD drive will be a worthwhile way to read large amounts of data, even without the write capability.

Just as audiocassette recorders and play-only units have applications in the audio field, CD ROMs will have applications in the computer industry.

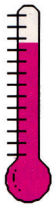
— Philip Chien

Product: AppleCD SC
Price: $1,199 retail
Company: Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010
Requirements: Apple IIGS; other Apple II models; SCSI interface
Warranty: 90 days

Circle Reader Service Number 90

FingerPrint GSi

Screen-Dump Graphics Board



Performance: 8.5
Innovation: 8.0
Documentation/Support: 9.0
Ease Of Use: 9.0
Value: 9.0
Overall: 8.7

FingerPrint GSi (Version 2.) is a screen-capture board and more. It works in conjunction with the IIGS printer, but is not, itself, a printer interface board.

Easy to install and simple to use, the board lets you interrupt any program in progress to capture and print — at the touch of a finger — whatever appears on screen, including text and all forms of IIGS graphics. Once the desired printing is completed, you return to the application your system is running. It's that straightforward.

When you press the red activator button, a bright red button that attaches to the IIGS, a variety of GSi features become available. Pull-down menus and optional mouse control give you access to several desktop accessories (e.g., a calculator, calendar and typewriter), graphics tools (inverse, color, zoom, rotate, flip, billboard and image cropping) and the printer manager (set margins, number of copies, top of form and print style).

Activate the FingerPrint board to convert low-resolution and high-resolution pictures to super-high-resolution for use with paint programs such as Paintworks Gold. Save captured images to disk and create a FingerPrint "slide show" (a computerized presentation of the captured images) with the special Slide Show program included in the package.

You can run the board in either DOS 3.3 or ProDOS, regardless of the operating system currently active in your IIGS. It's also possible to access the Disk Functions to catalog a specified disk; rename, delete or lock/unlock a file; or determine the amount of free space left on your data disk.

Installing the board takes only a few minutes. The user's manual is well written and includes several helpful illustrations.

The manual first directs you to insert the FingerPrint board into any slot. Because the board is transparent to the computer and does not have to be declared on the Control Panel, its vendor — Thirdware Computer Products — recommends placing it in Slot 3. This slot is normally left vacant, so the board does not consume valuable space inside the computer.

Once installed, configure the dip switch settings on the board to match your printer type. FingerPrint is compatible with many printers, including the new ImageWriter LQ (letter quality).

Next, attach the activator button to the board (it may already be connected), drape the blue ribbon cable over the IIGS case so that the red button rests on a flat surface at the front of the computer.

Finally, replace the IIGS' lid and affix the activator button on the computer case to keep it out of harm's way. The GSi board is now installed and ready to use.

As mentioned, interrupting a program to print a text screen is simple. Just press the red button and select Print Screen from the Main menu. The FingerPrint board is capable of capturing two text pages, four low-resolution pages, four high-resolution pages, two double-high-resolution images and one super-high-resolution image.

If a printed image is not an exact replica of the image on screen, choose Scan Screen from the File menu and move the mouse or arrow keys until the appropriate video image appears. Then press Return. This "sets" the screen, and you are now ready to print.

Images may be printed in color if you have a color ribbon. If you do not have a color ribbon, Thirdware Computer Products recommends choosing the color option anyway, because the board will then print a high-contrast image in multiple shades of gray.

We disagree. In our opinion, the color printing option creates an inverse of the original screen image. Moreover, printing in "color" takes longer, because the printer head makes four passes on each line — one pass for every color in a four-color ribbon.

Teachers who use FingerPrint GSi in the classroom will find the board useful for a variety of tasks. Applications with great graphics but no printing capabilities can now be used to create activity sheets.

Reader Rabbit IIGS (The Learning Company) is a case in point, as is Clock Works (MECC). Both programs offer screen shots that would make terrific student work sheets. Dinosaur Dog (Mindscape) contains pictures of more than 30 dinosaurs, but offers no way to make hard copies. With FingerPrint GSi, you can print out a Tyrannosaurus rex the size of a billboard.

FingerPrint GSi works almost flawlessly. As long as you remember that super-high-resolution images are displayed in a screen graphics mode at a resolution higher than most printers are capable of printing, you won't be too disappointed if your hard copy is not a perfect reproduction.

Also, if you change your mind about printing once a screen dump is in progress, there is no way to cancel the print operation and return to your software application without rebooting the computer.

We had some trouble dumping screen shots of the product's own menu bar, as well as graphics created in MagnaCharta from Third Wave Technology. Technical support at Thirdware Computer Products indicated that the problem is the fault of our LQ printer, which does not emulate the ImageWriter II exactly. The LQ lacks the ability to deal with mouse text. The next version of FingerPrint is expected to be fully graphics based. This will take care of the LQ problem.

Another potential cause for concern — especially in a classroom setting — is the red activator button. How do you keep little hands from playing with the button and constantly interrupting an ongoing application? While FingerPrint GSi does come with a five-year guarantee, damage caused by accident or misuse is not covered.

FingerPrint GSi is a versatile board that brings a much needed graphics output function to a computer whose major raison d'etre is quality graphics.

Congratulations Thirdware on a job (for the most part) well done.

— Carol S. Holzberg

Product: FingerPrint GSi (Version 2.0)
Price: $129.95 retail
Company: Thirdware Computer Products; 4747 NW 72nd. Ave.; Miami, FL 33166; 305-592-7522
Requirements: Apple IIGS; printer

Circle Reader Service Number 91

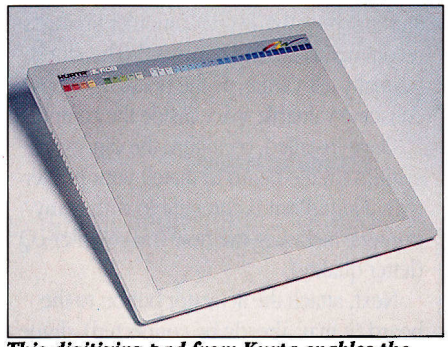
Kurta IS/GS

Pad That Replaces The Mouse

Performance: 8.0
Innovation: 7.0
Documentation/Support: 7.0
Ease Of Use: 9.0
Value: 6.0
Overall: 7.4

Even though a mouse is a great device for selecting menu items, it makes an awkward tool for drawing. A much better tool is a digitizing tablet such as the Kurta IS/GS. A digitizing tablet, which is more precise than a mouse, provides greater control when creating images.

The Kurta IS/GS will work with any 8- or 16-bit program that recognizes a mouse. The tablet comes complete with a manual, software driver and corded stylus. (A stylus is a pen-like device that is used with the tablet to electronically draw on a computer screen. Depressing the point of the stylus produces the same results as clicking the mouse button.)



This digitizing pad from Kurta enables the creator to draw more precisely than is possible with a mouse.

A cordless stylus, or puck, is available separately. The working surface of the tablet is 8.5 inches by 11 inches.

Thanks to the Apple Desktop Bus (ADB), anyone can connect the Kurta tablet with ease. Merely plug it into the ADB interface port, then connect the keyboard and mouse to the tablet. Everything connected to the ADB port will remain active and can be used interchangeably. The actual order in which devices are connected to the ADB port can be determined by a user. This means that the tablet can be used with equal ease by a right- or left-handed user.

The Kurta IS/GS can be set for either Absolute or Relative mode. Absolute mode means that every point on the tablet always corresponds to a point on the screen. Placing the stylus in the upper right corner of the tablet will always position the cursor in the upper right corner of the screen. Relative mode imitates the way a mouse is used to position the cursor on the screen and can, therefore, cause some frustration.

While in Absolute mode, a user can place templates, preliminary drawings or photographs on the tablet or under its clear plastic cover to electronically trace the image or select menu items. This speeds up the drawing process and allows for greater freedom. All images electronically traced to the screen are slightly compressed horizontally. This could cause trouble if you are using a program such as TopDraw and need greater precision.

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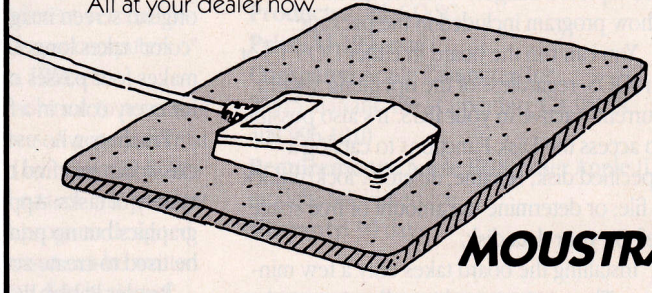

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Circle Reader Service Number 19

A user can determine whether the Kurta tablet will be in the Relative or Absolute mode by installing a software driver as a desktop accessory (DA) on all 16-bit IIGS programs that use the Apple menu. If the DA is added to a disk — Kurta supplies a program that does this easily — then the user only needs to pull down the Apple menu and select the DA named Penworks. The user can then choose whether the tablet will be in the Absolute or Relative mode.

After the DA is added to an application program disk, the tablet will automatically be in Absolute mode when the program is started.

Unfortunately, the Kurta IS/GS is not without bugs. On several occasions the tablet would seemingly deactivate itself or the program would crash without warning. We were assured by a representative at Kurta that it is working on the problem and that the trouble lies not in the tablet, but in the software driver.

The Kurta IS/GS carries a limited lifetime warranty.

Even with its occasional bugs, the Kurta IS/GS is still an excellent tool that will instantly increase the users' productivity with paint, draw and computer-aided design (CAD) software. In short, the Kurta IS/GS makes it easier to create images on your IIGS.

— Gary Ramey

Product: Kurta IS/GS
Price: $395 retail
Company: Kurta Corp.;
3007 E. Chambers St.; Phoenix, AZ 85040;
602-276-5533
Requirements: Apple IIGS

Circle Reader Service Number 92

MultiRam GS

Economical Memory Expansion

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

Another memory expansion board for the IIGS ? We've reviewed a handful of IIGS memory expansion boards in the past. However, the scarce RAM supply situation is front-page business news, and this situation may change the best choice of a RAM board for many users.

Because of the demand for dynamic RAM chips, the memory used in the Apple IIGS, memory prices have increased radically over the last six months. Prices for 256K RAMs have gone from as little as $3 last year to $10 or more recently. The bottom line is that memory expansion for your computer is now much

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By Bill Basham inCider Editors' Choice

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Circle Reader Service Number 20

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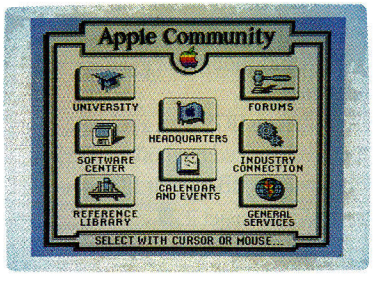

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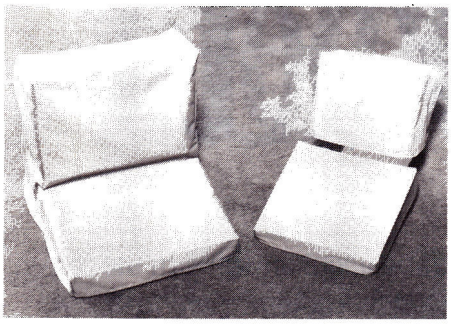

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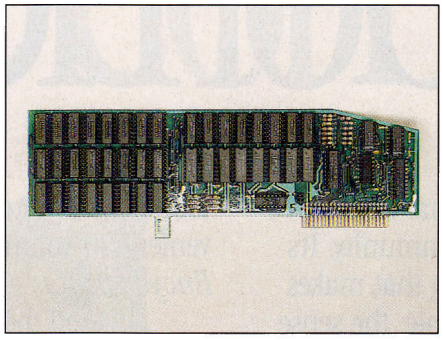

Flexible and affordable expansion options allow the user to upgrade at will

more expensive. Instead of getting a full 1 MB memory board for your IIGS when you purchase it, you might want to get a small memory expansion board at first and expand as you need the extra memory.

There's one more complication for new IIGS owners. Apple Computer now ships a 256K memory expansion board with every new Apple IIGS. So why should you be interested in purchasing a third-party board in addition to your current board? The primary reason is to purchase a board with extra capabilities, usually more memory. MultiRam IIGS can be expanded to 2 MB of memory, twice as much memory as Apple's board.

Another reason to get a third-party board is to use it with a battery backup system. We reviewed Checkmate Technology's own MemorySaver (reviewed in our Winter '88 issue) and Applied Engineering's RamKeeper (reviewed in our Summer '88 issue). MultiRam GS can be plugged into MemorySaver, which then plugs into the IIGS' memory expansion slot. Result: memory that stays intact, even with the power switched off.

At first glance, MultiRam IIGS looks like an Apple Memory expansion card. However, the Checkmate board has room for five rows of memory, where Apple's board only has room for four rows. In addition, the fifth row of Checkmate's board uses special high-density memory chips. The first four rows of MultiRam IIGS use standard 256K RAM chips, like most other IIGS memory boards. The last row uses either special 256K RAMs (available only from Checkmate), for a total of 1.25 MB of memory, or standard 1 MB RAMs, for a total of 2 MB.

If you have a 1 MB MultiRam IIGS board and can't afford to upgrade all the way to 2 MB, then you can purchase the special 256K RAMs that fit into the 1 MB sockets from Checkmate. When you want to upgrade to the 1 MB chips, Checkmate will give you full credit for the special 256K chips.

Overall, the step-by-step expansion is more complicated and may prove to be more expensive in the long run. Yet, it's also a more affordable method to upgrade memory right now. You add memory only as you find programs that require more memory.

Two jumpers on the board are used to tell the board how much memory you have installed, and the manual gives clear directions showing you how to set up the jumpers. A diagnostic program tells you if there's any bad or suspect RAM on the board.

There is a minor technical problem with the board if you expand beyond 1 MB of RAM. Certain boards for the IIGS use a special memory access technique called DMA (direct memory access). If you have more than 1 MB of memory on your MultiRam IIGS and have a DMA board designed for the IIGS, then there may be an interference problem between the two boards. Currently, the only DMA board for the IIGS that has a problem is the AST Vision Plus; however, there may be more DMA boards in the future.

Any IIGS memory board with 1 MB of memory or less is automatically DMA compatible. Most boards with more than 1 MB won't work properly with DMA boards, but there are exceptions, such as Applied Engineering's GS-RAM and GS-RAM Plus boards. For most users, though, the DMA issue is a minor problem and should not interfere with normal operation.

Overall, MultiRam IIGS is an adequate and competitively priced memory expansion board. If you want 2 MB in your IIGS, this is a cost-effective way to get it. ■

— Philip Chien

Product: MultiRam IIGS
Price: $269 retail; 256K
$749 retail; 1 MB
$1,248 retail; 2 MB
$160 retail; installation fee for 256K upgrade
Company: Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 800-325-7347 or 602-966-5802
Requirements: Apple IIGS

Circle Reader Service Number 93

Coming In The Spring '89 Issue...

Focus On Productivity

The Apple IIGS Buyer's Guide explores hardware and software that makes the Apple IIGS easier to use and you more productive. The Spring Issue will include:

- 10 Top IIGS Utilities — And Why
- Networking The Apple IIGS
- Home Money Management
- Word Processor Update
- Productivity Hardware
- Computer-Aided Design

Also, watch for three new columns to debut:

- The Learning Lab — Explores new avenues in education
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- IIGS Press — Helpful tips for getting the most out of desktop publishing

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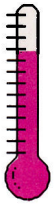
Copy II Plus

Disk Utilities And More



Performance: 8.5
Innovation: 7.0
Documentation/Support: 8.0
Ease Of Use: 9.0
Value: 9.0
Overall: 8.3

When you purchase software and documentation, it is rarely yours to do with as you please. In most cases, the manufacturer grants you restricted rights to operate the software on a single machine. As a result, unauthorized duplication for your friends, family or anyone else is strictly forbidden.

The copyright law, however, gives you the right to make an archival or backup copy of the original disk for your own use, as a safeguard against accidental erasure or software malfunction.

Copy II Plus from Central Point Software will help you accomplish this goal. It is designed to secure your Apple II software investment by enabling you to make personal backups of copy protected programs, as well as unprotected programs.

Copy II Plus is not intended as a way to beat copy protection, nor is it being marketed for unauthorized software distribution.

Version 8.3 of Copy II Plus comes with two disks and a manual. The 3.5-inch disk contains several DOS 3.3/ProDOS utilities and two bit-type copy programs to back up 5.25-inch and 3.5-inch disks. The 5.25-inch disk does not include the 3.5-inch bit copy program because of space limitations.

Copy II Plus is menu driven and does not support a mouse. Users make selections by moving the cursor with the arrow keys and pressing Return. The bit copy programs are easy to operate and flexible enough to overcome several current copy protection schemes. The backup task often is handled automatically. All you have to do is select Auto Copy and type in the name of the program you wish to copy.

If a file for that program exists, Copy II Plus loads the parameters (copying values), and all you have to do is press Return. If the resulting backup disk does not work, you may need to recopy only a few tracks.

When this happens, select Partial Auto Copy, choose the range of tracks you wish to re-copy and the program will fill in the rest of the parameters. If a parameter file for a program does not exist, Copy II Plus offers several "try this" entries.

The Copy II Plus bit copy programs won't let you make backups of all copy protected programs. For example, we could not duplicate IIGS versions of Information Laboratory (Addison-Wesley) or Multiscribe GS, Version 3.0C (Scholastic School Edition). Nor was it possible to back up the 5.25-inch versions of Where In Europe Is Carmen Sandiego (Broderbund), GEOS (Berkeley Softworks) or the Sesame Street Crayon Series (Polarware).

Still, we were able to back up a number of popular programs. These include: ShowOff and The Print Shop IIGS (Broderbund); Reader Rabbit (The Learning Co.); virtually all MECC programs (e.g., Calendar Crafter and Clock Works); Davidson's skill builders with the Early Learner Desktop Interface; Softswitch (Roger Wagner Publishing, Inc); Talking Text Writer (Scholastic); and Math Masters Series (DLM).

Several parameter entries under Auto Copy for the 3.5-inch bit copy program contain the designation "HD," which stands for hard disk. These files modify the backup disk so that the protected program may be transferred to a hard disk. When you are ready to make the transfer, simply call up the Copy Files option from the Utilities menu.

The manual offers helpful tips for those times when the parameters don't seem to work or when there are no parameters listed for the program you wish to copy. First and foremost, keep trying. If you have two disk drives, reverse the direction of the copy so that drive two serves as the source disk and drive one is the destination disk.

If the original 5.25-inch disk is write protected, place a write-protect tab on the duplicate disk prior to booting it up. If none of these tricks work, you may need to enter new parameters to back up the original program.

For the technically minded, the Manual Bit Copy and Manual Sector Copy programs can be used to unprotect many programs that Copy II Plus may not recognize in its parameter file. The ability to take advantage of all the program's features often requires a good knowledge of hexadecimal notation, bytes and ASCII, so don't become too frustrated if you are not able to get beyond simple manual bit and sector copy procedures.

Apple II owners with memory expansion cards in numbered computer slots will be happy to know that Copy II Plus has a built-in Memory Manager to access the added memory. With extra memory, the program can read and write several tracks at a time.

If your computer has only one disk drive, you will really appreciate this feature, because fewer disk swaps are needed to copy unprotected disks or bit copy 3.5-inch disks. If your memory card is installed in the auxiliary slot of your computer, you must configure the card as a RAM disk before Copy II Plus can take advantage of it.

In addition to the bit copy programs, Copy II Plus contains several utilities. The selection includes utilities to format a disk; rename, delete or undelete a file; catalog a disk with or without file lengths; alphabetize the catalog or its directory; convert files between DOS and ProDOS; check drive speed; verify that the disk and its files are readable; lock or unlock a file; view and print files; and more.

Copy II Plus may not be the most powerful bit copy program on the market. Nevertheless, it's sophisticated enough to handle some heavily protected DOS 3.3 and ProDOS software. Considering that you also get several good utilities at no extra charge, it's not surprising that more than 250,000 copies of Copy II Plus have been sold to date.

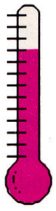
— Carol S. Holzberg

Product: Copy II Plus (Version 8.3)
Price: $39.95 retail
Company: Central Point Software, Inc.; 15220 NW Greenbrier Pkwy., Ste. 200; Beaverton, OR 97006; 503-690-8090
Requirements: Apple IIGS; other Apple II models; two drives recommended. Does not support the UniDisk 3.5

Circle Reader Service Number 94

Design Your Own Home, Architecture

Be The Next Frank Lloyd Wright



Performance: 8.0
Innovation: 8.0
Documentation/Support: 8.0
Ease Of Use: 9.0
Value: 9.0
Overall: 8.4

Design Your Own Home, Architecture has the potential to bring computer-aided design (CAD) software out of architects' and engineers' offices and onto the desktops of Apple IIGS users.

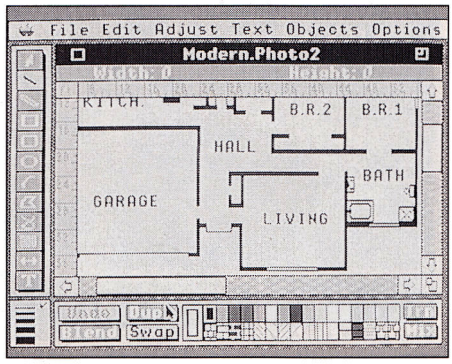
Although Abracadata has been selling an 8-bit Apple II version of this software for several years, the new IIGS version has been completely re-written to take full advantage of the IIGS' user interface and superior graphics. This new version, which requires an Apple IIGS with 768K of RAM, is supplied on one 3.5-inch disk.

If used with an ImageWriter II, the IIGS version has color printing capabilities. The program is not copy protected, and users are encouraged by its well-written manual to make a backup copy or to transfer the program to a hard disk.

Users of Design Your Own Home, Architecture can draw floor plans, create side views of buildings and add structural details to their creations. Like the title says, the hobbyist home designer can use this program to create a dream home and print out the plans, using standard architectural design symbols that a building contractor can use as a first step toward building the home.

Be aware, however, that the program does *not* create blueprints. Nevertheless, it can be used to create drawings of such detail that it should be easy for an architect to use the plans as a model for creating the needed blueprints.

On the surface, Design Your Own Home, Architecture is a powerful and specialized object-oriented drawing program. What distinguishes it from other object-oriented software is its close relationship to real-world measurements. You can, for example, employ rulers and grids to help line up objects correctly. You can also show measurements in feet and inches or use the metric scale.



Designing the dream home is possible for the novice using Design Your Own Home.

In addition, there's a convenient pull-down measurement information feature that allows you to easily determine the length, width and area of any drawn object. You can create an object or floor plan, and the program will determine the area in square feet. This information can be used to approximate the amount of lumber needed to build a particular project.

Several dozen predrawn sample floor plans of popular home styles are included. Also on the disk are many predrawn objects that are found in all homes, such as doors, windows and bathroom fixtures. By using the pull-down menus, it's easy to alter these objects, so even if a drawing is not exactly right, a few mouse clicks can change the objects to suit a user's needs.

In addition, Design Your Own Home comes with many predrawn patterns that can be used to fill the area of objects. Besides standard choices, some of the more exotic patterns look like brick, wood panels and aluminum siding. You can also easily blend colors to produce plans from a selection of 4,096 colors.

It's easy to create floor plans from scratch or to create entire libraries of objects. As an example, you can draw furniture, appliances or decks and use the program to lay out the design of a garden or a living room.

An hour after first running this program, we designed a fence that we'd been dreaming about for a year. We knew how much wood would be required to build the fence and were able to easily determine all of the measurements.

Running the program from the Finder, a user will see a familiar looking desktop with the now-standard layout of tools shown in a menu bar on the left. Using the mouse, the user can click on a number of Tool functions and start designing a project from scratch.

Default measurement values can be changed anytime, with any object or floor plan being re-scaled automatically to the new measurement. When first running the program and loading in a floor plan, the plan is drawn to a scale of 1/8 inch = 1 foot. Using that scale, a user can have a plan up to 64 feet in length. By re-sizing the measurements to 1/32 of an inch = 1 foot, it's possible to draw objects that are up to 256 feet in length. The maximum width is 10,000 feet.

In ensuing months, the vendor plans to release several additional modules to be used in conjunction with Design Your Own Home, Architecture, including an interior-design module and a landscaping module. Also planned are additional architectural library disks.

— Joe Kohn

Product: Design Your Own Home, Architecture
Price: $89.95 retail
$29.95 retail; Library Disks
Upgrades from 8-bit version available
Company: Abracadata, Ltd.; PO Box 2440; Eugene, OR 97402; 503-342-3030
Requirements: Apple IIGS; 768K

Circle Reader Service Number 95

Designasaurus

Back To The Bogs

Performance: 8.0
Innovation: 8.0
Documentation/Support: 7.0
Ease Of Use: 8.0
Value: 8.0
Overall: 7.8

Begin with an irresistible topic — dinosaurs. Add vivid super-high-resolution graphics, colorful animation, true-to-life sound effects and a toe-tapping musical overture. Designasaurus for the IIGS is the result. The IBM PC edition won the 1987 "Best Educational Program" and the "Best Pre-School or Primary Program" categories of the Software Publisher's Association's Excellence in Software Awards. The new, improved IIGS version was released at AppleFest Boston in May 1988.

Designasaurus comes on three 800K disks — a boot disk and two application disks. The disks are configured at 792K, 798K and 784K respectively. It's no wonder the program takes more than three minutes to load into memory. Individuals with a one-drive system should be prepared for some disk swapping.

You will need 1 MB of extended memory — rather than the 768K stipulated in the program manual — to run Designasaurus and print out successfully. Your IIGS must be equipped with 1 MB of RAM over and above the 256K that came with the machine. This requirement is unfortunate in an age when added RAM is both expensive and in short supply, but it's not uncommon for ProDOS 16 software designed to take full advantage of the graphics and sound capabilities of the IIGS.

Designasaurus is filled with dinosaur pictures and information designed to make natural history come alive for kids ages 4 and up. The program offers three entertaining activities: Print-a-Dino; Build-a-Dino; and the Walk-a-Dino adventure game. Preschoolers probably will enjoy the first activity the most, because the other activities require reading skills and well-developed hand-eye coordination.

In Print-a-Dino, children select a dinosaur from a list of 12 and then print out a picture of their chosen "terrible lizard" on an ImageWriter II or LQ (letter quality) printer.

Contrary to what the program's printer dialog box may claim, Designasaurus has no driver for the LaserWriter. In addition, none of its applications support color printing. However, the black and white pictures are so well done that kids will enjoy brightening them up with crayons, markers or colored pencils.

All of the popular dinosaurs are represented, including triceratops, brontosaurus, diplodocus, Tyrannosaurus rex, stegosaurus, pterodactyl and ankylosaurus. Even a few of the not-so-well-known giant reptiles have made the program's list — megalosaurus, parasaurolophus, archaeopteryx, iguanodon and camptosaurus.

To select a dinosaur for viewing or printing, point and double-click the mouse on the animal of your choice. Designasaurus does not support a joystick.

While printing options are many, each option must be carried out in Draft mode. Select Regular for an 8.5- by 11-inch printout. With this option, you also get a description of the chosen dinosaur. Unfortunately, you cannot view the accompanying text prior to printing it or choose to print either the picture or the text.

Dinosaur enthusiasts can travel to prehistoric eras for a lifelike adventure.

Select Poster for a hard copy that's four times the regular size. The poster prints on four separate sheets. You'll have to do some cutting and pasting to get the papers to align properly, however.

The T-shirt option lets you print a mirror image of a dinosaur, which is perfect for ironing onto material of your choice. The package includes a single sheet of T-shirt transfer paper to help you get started. An order form for additional "Print 'n Wear" paper is included.

To build a dinosaur, kids visit the program's Museum of Natural History. There they find a bearded paleontologist who's eager to dispense fossils from a three-drawer file cabinet labeled Head, Body and Tail. Click on one of the drawers, and the scientist gives the cabinet a kick. You hear the distinct sounds of broken glass and a cuckoo clock. A new screen appears with the correct fossil portion for a specific dinosaur.

Listen to the sounds of a typewriter as a fact sheet comes into view with information describing the period in which the dinosaur lived, its Order and Family classification and other important general facts about the animal.

If you wish to view another fossil in the same Head, Body or Tail category, or stop the typing in midstream, click on Next. If you like the fossil you see, click on Add. You will then be returned to the museum to select another body part.

There are body parts for each of the program's 12 dinosaurs, although not all parts of all dinosaurs are represented. The fact sheet for each dinosaur is the same no matter what fossil part you select. You may mix and match fossils from different dinosaurs.

When the reconstruction is completed, give the dinosaur a name and print it out Regular, Poster or T-shirt size.

Prior to printing, you will see a Museum of Natural History Field Report describing your dinosaur. The report can be viewed, but not printed out.

When our 8-year-old assistant designed a "Triceralloptery x," the report informed him that his animal contained the massive head of the triceratops (herbivore), the large, bat-like wings of the pterodactyl (carnivore) and the delicate tail of the archaeopteryx (insectivore). The report concluded that this animal might have some trouble deciding on a diet.

We printed a copy of the dinosaur in any case.

— Carol S. Holzberg

Product: Designasaurus
Price: $49.95 retail
Company: Britannica Software; 345 4th St.; San Francisco, CA 94107; 515-546-1866
Requirements: Apple IIGS; 1 MB of RAM

Circle Reader Service Number 96

Fractal Explorer

Math-Based Graphics

Performance: 6.0
Innovation: 7.0
Documentation/Support: 8.0
Ease Of Use: 9.0
Value: 7.0
Overall: 7.4

Remember the kaleidoscope you had when you were a kid and how you wished you could save the designs to look at again? Fractal Explorer is a graphics program that allows you to create beautiful, lacy kaleidoscopic designs on a IIGS screen and save them to use in automatic slide shows.

Fractal Explorer is based on a relatively new mathematical principle discovered only in the last 20 years or so. The program uses calculations of complex — or imaginary — numbers to determine the color of each pixel in a drawing.

From an initial drawing, a user can zoom in virtually any number of times to create blowups of certain portions of that drawing. Zoomed drawings can also be increased in size, up to a practical limit of about 10 times. This limit has nothing to do with the program's ability to manage the calculations. Rather, it's based on the length of time it can take to create the drawing.

Because calculations must be made pixel by pixel — and the number of calculations increases at each zoom level — drawings can take a long time to create. The fastest drawing we did took a couple of hours. The program user's guide says that drawings zoomed 10 times can take more than 12 hours to complete. It took us more than 24 hours to complete a drawing zoomed at level seven.

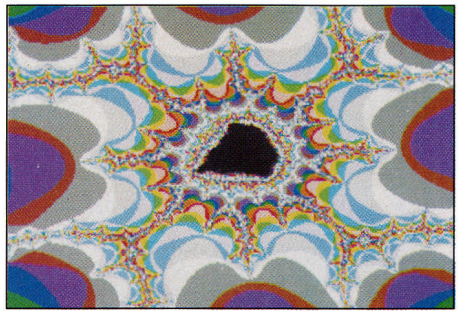
While we occasionally found ourselves in front of the screen watching the pixels bloom into color, most often we selected the area we wanted to draw and let the computer work by itself. Our frustration, of course, was that we couldn't use the computer for other tasks while it was calculating. Usually, we let the machine make its calculations overnight.

Fractal Explorer is easy to operate. The program is entirely menu driven, though it doesn't support the Apple IIGS' pull-down menus. All selections may be made with either the keyboard or the mouse. To zoom a new picture, for example, you select the starting picture and move the selector box over the area you want by using either the arrow keys or the mouse.

Although it can take a long time to create pictures, you can stop the process at anytime, save a picture as it is and resume creating it later. We found it annoying that the program accesses the disk after each operation. For example, when we stopped to save a part of a drawing, the program had to retrieve the drawing from the disk before continuing to draw.

The real fun with Fractal Explorer is watching the special effects of the drawings as they cycle through in the slide show. The Main menu offers two basic options: make a drawing or run a slide show. Either selection brings up another menu.

The Fractal Explorer disk comes with the program itself and 17 pictures that can be shown in a slide show. The Slide Show menu offers a number of options that allow a user to program a number of repetitions. A slide show can run once, run continuously or be repeated as many as nine times.



A myriad of color streams create striking illusions in Fractal Explorer.

From this menu, a user can also program color effects for the drawings. The program uses the IIGS' super-high-resolution capabilities to display drawings with a variety of color selections. Single-color palettes are available, as are several multicolored palettes. It's even possible to cycle waves of colors through a drawing toward or away from the center to create some spectacular special effects.

The Create Fractal Image menu provides an option that allows a user to create a working disk that holds only the program and the first drawing. An 800K disk can hold about 18 drawings. This capability saves having to make a backup disk and delete all the unwanted drawings.

Fractal Explorer allows a user to open pictures from a IIGS paint program and make changes. But don't do what we did and save a drawing from the paint program with the same file name. You'll discover that the necessary mathematical information is lost and that you can no longer zoom drawings from the picture in Fractal Explorer. If you want to save changes, be sure to use the Save As command and give the file another name. Even though the mathematical information was lost, we were still able to use the drawing in our slide shows.

Though Fractal Explorer does not provide a printing function, we were able to print our drawings in color on an ImageWriter II with a color ribbon and Paintworks Plus. Of course, the ImageWriter doesn't come close to matching the resolution of a IIGS screen. According to the user's guide, any paint program that uses a $C1 file can load and alter Fractal Explorer pictures.

The vendor says Fractal Explorer is an entertainment/educational program and has included the equations upon which the program is based in the user's guide. High school advanced math analysis students should be able to comprehend these equations. Unfortunately, we think the educational value of the program is diminished by the fact that the mathematical calculations take place entirely in the background. A student who wants to manipulate the math has no access to the program's calculations.

While Fractal Explorer may motivate a particularly interested individual to further explore the mathematical principles involved, we doubt that most users will be interested in the math behind the program. Nevertheless, all users will appreciate the spectacular images Fractal Explorer produces.

— *Sandra Irish*

Product: Fractal Explorer
Price: $29.95 retail
Company: Eclat MicroProducts;
PO Box 570-756; Miami, FL 33257-0756;
305-233-4666
Requirements: Apple IIGS;
other Apple II versions available;
color monitor recommended

Circle Reader Service Number 97

The Graphics Supermarket

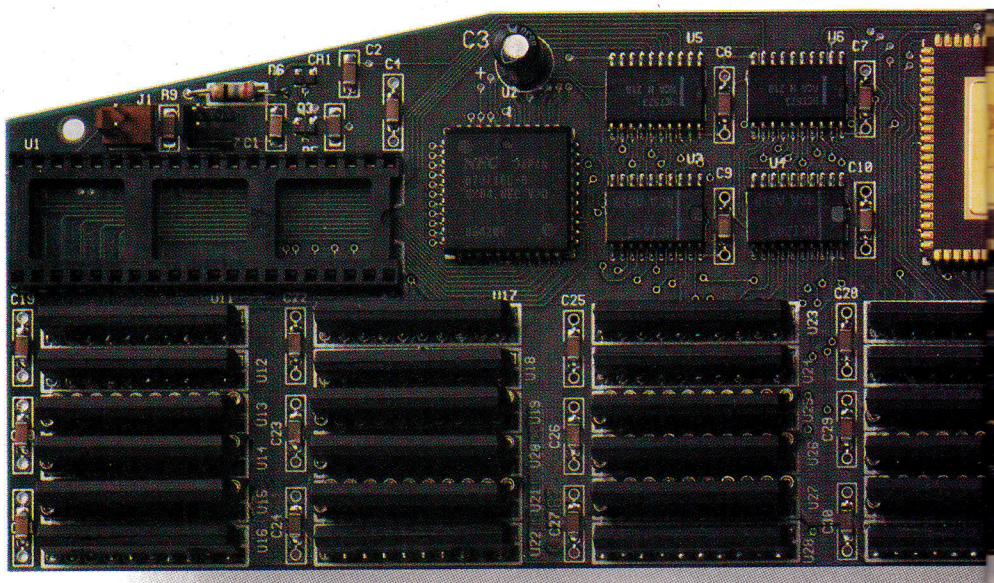
For Programmers Only

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

The Graphics Supermarket is a graphics package that's well suited to intermediate or advanced programmers who need to add images to their programs. The package supports both the 320-by-200 and 640-by-200 super-high-resolution IIGS modes. Unfortunately, its painting capabilities leave a lot to be desired.

The Graphics Supermarket comes with a user's manual and one unprotected 3.5-inch disk. Interestingly enough, it's possible to purchase the source code for the program separately.

It's not what we think of PC



Actual Size

it's what every

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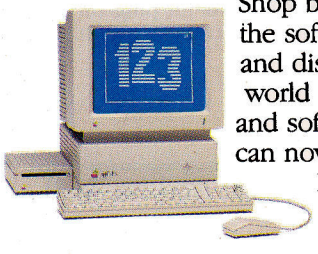

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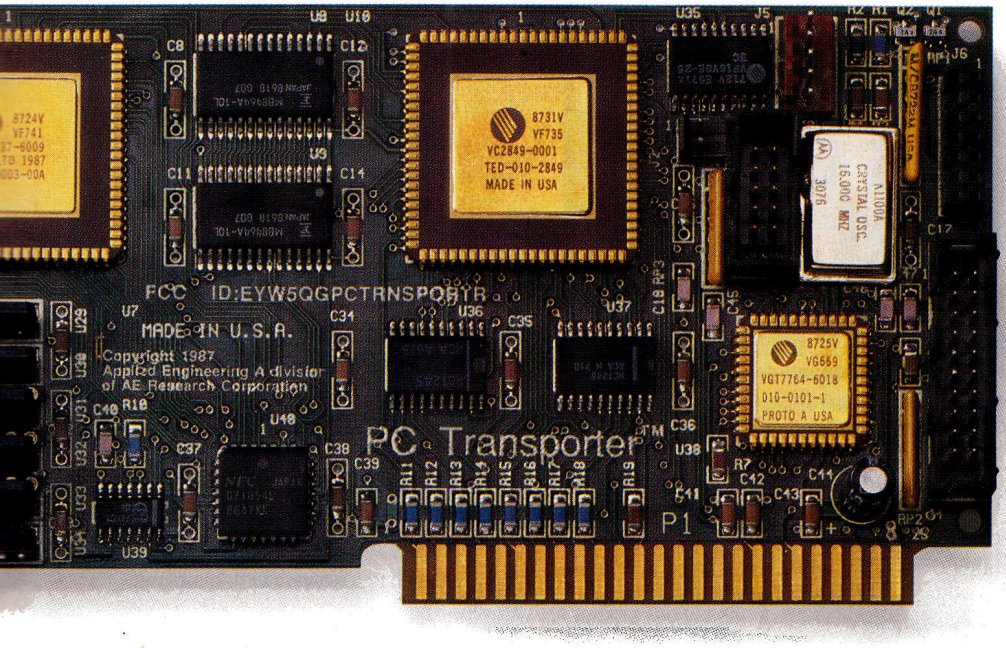

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PC Transporter memory choices

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Circle Reader Service Number 25

The minimum required memory configuration needed to run the program is 512K, but more is recommended. Both the ImageWriter II and LaserWriter printers are supported.

A major portion of the user's manual describes the program's painting functions. Sample programs are given for Applesoft, assembly and C. Because The Graphics Supermarket is best used as a programming aid, we would have preferred seeing more suggestions and examples included.

The program's painting tools include Undo, Erase, Sketch, Spray, Fill, Line, Rectangles, Ovals and Arcs. Horizontal and vertical semicircles can also be drawn. There are seven different rectangular pen sizes available in The Graphics Supermarket, but the pen shapes cannot be modified. The Magnify mode allows for seven levels of magnification.

The Graphics Supermarket uses Frames to create active windows for editing and painting. The ability to create various-size windows is especially helpful for programmers who need to add small images to their programs.

Frame size can be determined by dragging a corner of a Frame or by inputting the size numerically. The size of a Frame can range from 1 byte by 1 byte to 160 by 200 bytes (a full screen). Frames can be scrolled and flipped horizontally or vertically.

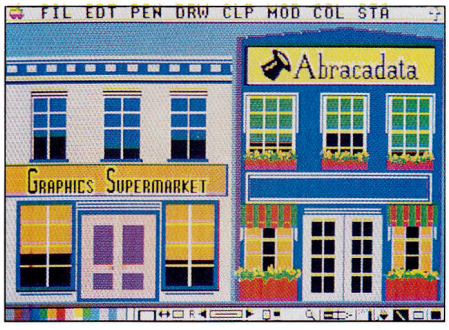
Up to 15 different Frames can be held on the Clipboard. This feature is one of Graphic Supermarket's strong points, but it requires extra memory to fully use. We used a 1 MB RAM board and found that the feature worked extremely well.

The 16 colors in the program's palette can be changed by determining the amount of red, green and blue (RGB) in a selected color. However, we missed the alternative method of defining color by adjusting the hue, saturation and intensity (HSI) found in other programs.

Colors can be copied and switched between positions on the palette. Color gradations can be produced, too, but your color choices are not entirely up to you. The gradations must be between a color on the palette and limited variations of RGB.

An Animation Test is included so that programmers can try out animations, but the program doesn't support any other animation tools.

The Graphics Supermarket has an extensive Status menu that gives the width and height of the Edit window in bytes and pixels. Also displayed is the byte size of the Clipboard, the total amount of system memory, and the amount of RAM available and used.



Programmers shopping for powerful, unique graphics can create their own with The Graphics Supermarket.

Pictures created in The Graphics Supermarket can be saved as either binary images or paint ($C1) images. Pictures created with other paint programs can be loaded into The Graphics Supermarket, but they must be in binary format.

A powerful program feature allows you to save the Clipboard as either binary or source code in assembly or C. Source-code files created with The Graphics Supermarket are compatible with the Apple Programmer's Workshop (APW).

Clipboard images can also be saved with or without color tables or masked. When a masked image is produced, the background color is interpreted as transparent.

To provide a learning tool and more examples for IIGS programming, a source-code disk, available separately, contains the C source-code files used to create The Graphics Supermarket. To compile these files, you will need at least 1 MB of RAM, the APW and two 3.5-inch disk drives. The files on the source-code disk are copyrighted.

If you are looking for a IIGS painting program, you will probably want something with more power than The Graphics Supermarket. But if you need something to elevate the tedium of creating images for use in your own Applesoft, assembly or C language programs, then The Graphics Supermarket would be an excellent buy.

— Gary Ramey

Product: The Graphics Supermarket
Price: $49.95 retail; program only
$149.95 retail; program and source code
Company: Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030
Requirements: Apple IIGS with 512K; 768K recommended

Circle Reader Service Number 98

Paintworks Gold

More Power For Paint

Performance: 9.0
Innovation: 8.0
Documentation/Support: 8.5
Ease Of Use: 8.0
Value: 7.0 at list price; 10 with upgrade offer
Overall: 8.1

Don't expect great works of art from a new artistic medium. The invention of oil-based paint in the 15th century, for example, gave artists greater control over brighter colors. But for generations artists continued painting by the rules they had followed with fresco and tempera. The development of motion picture technology early in the 20th century offered tremendous new possibilities for artistic creativity, but for years film directors simply pointed stationary cameras at stage plays.

By now, we should be seeing masterpieces of computer art — digital Rembrandts, Van Goghs and Picassos. We haven't, largely because the best work in computer graphics is in advertising illustration (a very different context from the palaces, churches, cafes and lunatic asylums where artistic creativity flourished in the past).

Paintworks Plus from Activision, Inc. (a.k.a., Mediagenic) was the first graphics package written specifically for the Apple IIGS. It closely followed the MacPaint model and included super-high-resolution colors. The product suffered from some bugs in the first release (which were later corrected) and non-standard file formats. When Electronic Arts released DeluxePaint II, ported over from the Amiga with an impressive array of features, Paintworks Plus began to look pale in comparison. Paintworks Gold, with some 80 new features, is the next salvo in this escalating feature war.

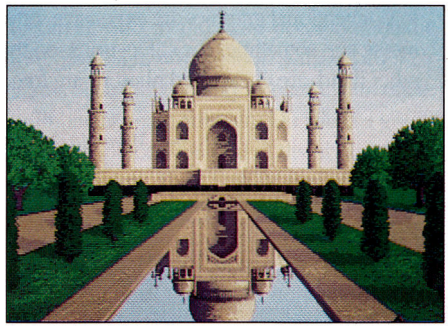
All this graphics power comes at a price. Paintworks Gold requires memory — a whopping 1.25 MB. This means you need the basic 256K that comes with the IIGS, plus a fully populated 1 MB RAM expansion board.

Another part of the price is loading time. All ProDOS 16 applications take the same tedious amount of time from a cold boot to reach the Program Launcher, so we started the timer when we clicked Open. The time from click to draw (when the mouse cursor

appears) took exactly two minutes. Not quite enough for a coffee break, but still a long time to stare at a screen.

You need at least one 3.5-inch drive, but a second drive is a great convenience. It is possible to save a drawing to a ProDOS 5.25-inch disk, which is something the instruction manuals never mention. Because most IIGS owners only have one drive of each kind (3.5 and 5.25), they learn to get by with what they have.

The program's list price, $99.95, is not excessive for an application of this quality. Many users will get an even better deal by upgrading to Paintworks Gold from *any* other IIGS paint program for only $40 (plus $3.50 shipping and handling — and 6.5 percent sales tax in California). To get the upgrade, you need only tear out the original first page of the manual from your present IIGS paint program and send it, along with a check, to Paintworks Upgrade, PO Box T, Gilroy, CA 95021-2249.



Perhaps just inspiration for the novice artist, the Taj Mahal work was created with Paintworks Gold.

The Paintworks Gold package includes the program disk, a disk of clip art and a spiral-bound 146-page manual. The pull-down menus in the program practically groan under the weight of their excessive number of options. Some of the menus nearly drop to the bottom of the screen!

The keyboard shortcuts are a great time saver. We kept wishing for a quick reference card, because the program is so complex. Well, we found one, cleverly disguised as a desk accessory labeled Help.

Of all the riches the program offers, the nicest is a complete second page for drawing (it's Page 2 that requires so much extra memory). You can use Page 2 as a scratch pad to try out ideas. You can copy between pages or even use Page 2 as a background for whatever you draw on Page 1. The trick is done with simple commands under the Goodies menu.

Paintworks Gold has wonderful gradient fill tools that let you smoothly blend and shade colors across an area. There is a new Cotton tool icon that modifies the action of the paintbrush to smear or smooth out everything in its path. FatBits, the zoom magnifier, now has its own range of options, including four levels of magnification.

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(GIFTS FOR THE FAMILY, FRIENDS, AND "MY GS")

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GS-BLACKJACK ACADEMY(512K)	25.50	GS-MULTISCRIBE (512K)	62.95	GS-TML BASIC (512K 3.5) ..	78.00	TIMEOUT-DESKTOOLS II-AW2.0	30.95
GS-CALENDAR CRAFTER (512K)	41.00	GS-MUSIC CONSTRUCTION-256K	32.00	GS-TML PASCAL (768K)	78.00	TIMEOUT-FILEMASTER(AW 2.0)	30.95
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GS-DLX PAINT ART-SEASONS .	20.50	GS-PINBALL WIZARD(NOV88??)	22.50	IMAGEBUFFER(REQ. IWRT II)	47.00	TIMEOUT-SUPERFONTS(AW 2.0)	42.50
GS-DLX PAINT II(768K)	65.00	GS-PIRATES (256K)	25.50	JOYSTICK-MACH 2 (PLATINUM)	26.95	TIMEOUT-THESAURUS(AW 2.0).	30.95
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GS-FONT LIBRARY(STYLEWARE)	24.95	GS-PRINT SHOP (512K)	37.95	LABELS,LABELS!.....	30.95	ULTIMA V (CEGS 64K 5.25).	37.50
GS-GAMES: WINTER ED(DEC??)	31.50	GS-PRINT SHOP LIB-PARTY ..	22.50	MANAGING YOUR MONEY 3.0 ..	97.00	ULTRA-INVENTORY (256K MIN)	50.00
GS-GAUNTLET (256K)	28.50	GS-PRINT SHOP LIB-SAMPLER.	22.50	MATH BLASTER PLUS-3.5/128K	29.95	ULTRA-INVOICE (256K MIN) .	60.00
GS-GERTRUDE'S SECRETS-256K	25.50	GS-PRINT SHOP W/BACKUP ...	44.95	PC TRANSDRIVE-DUAL 5.25 ..	309.00	BOTH REQ. T.O.ULTRAMACROS	N/A
GS-GRAPHICS STUDIO (768K).	40.95	GS-QUESTRON II (512K)	32.50	PC TRANSPORTER-768K/640K..	538.00	VCR COMPANION(CEGS-128K) .	31.50
GS-HARDBALL (512K)	26.50	GS-RAM 256K	185.00	PHARAOH'S REVENGE(+CEGS) .	22.95	WASTELAND (+CEGS 64K)	32.00
GS-INSTANT MUSIC(512K-MOU)	32.00	GS-RAM 512K	300.00	PRINT SHOP LOVER'S UTILITY	30.95	WHERE IN..EUROPE IS CARMEN	27.95
GS-INSTANT MUSIC-JAZZ.....	20.50	GS-RAM 1MEG	525.00	PROSEL (GLEN BREDON)	33.00	WHERE IN..USA IS CARMEN ..	28.50
GS-KIDS TIME II (512K) ...	25.50	GS-RAM PLUS 1MEG	526.00	PROTERM	86.95	WHERE IN..WORLD IS CARMEN.	25.50
GS-KING OF CHICAGO (DEC??)	31.50	GS-RAMKEEPER	145.00	PUBLISH-IT! (C/E-128K/GS).	62.95	WINGS OF FURY (CEGS-128K).	22.50
GS-KING'S QUEST (512K) ...	31.50	GS-READER RABBIT (256K) ..	37.95	PUBLISH-IT/DESIGN IDEAS ..	25.50	WORD ATTACK PLUS(128K 3.5)	31.50
GS-KING'S QUEST II (512K).	31.50	GS-SEA STRIKE (512K)	25.50	PUBLISH-IT/EDUCATION	25.50	WORD BENCH (CEGS-128K) ...	94.00
GS-LEISURE SUIT LARRY(512K)	25.50	GS-SHANGHAI(512K 3.5)	28.50	PUBLISH-IT/FONTS #1/2 (EA)	25.50	WORKS OF ART-ASSORTED.3.5.	24.95
GS-MAGIC SPELLS (256K) ...	25.50	GS-SHOWOFF (512K)	37.95	PUBLISH-IT/PEOPLE/PLACES/.	25.50	WORKS OF ART-HOLIDAY 3.5.	24.95

TERMS

PAYMENT: Checks/VISA/MC/Money Order/PO-Schools Only.
Credit Card (No Charge)—Include Card#. Exp. Date, and Tel.#
School Terms—NET 35 Days, Our Shipping Date. No Previews.
Personal Checks—Allow 10-14 Days for Processing Unless Guaranteed
Minnesota Residents—Add 6% State Sales Tax.
Nebraska Residents—Add City Tax (If Applicable).
IA / KS / NE / SD Residents—Add 4% Sales Tax.
WARRANTY: Defect-free for 30 Days, Our Shipping Date.
(Continental U.S. Only. Unless You Pay All Shipping Costs.)
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125 No. Washington St.
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M-F: 9:00 a.m.—5:30 p.m. / Saturday: 9:00 a.m.—4:00 p.m. CST
Credit Card Ordering Only: 1-800-323-5757
Price Quotes/Inquires/Returns/Other: 1-402-331-7312

SHIPPING: UPS GND (48)—$3+$.50/item. Airmail (48)—$5+$1/item.
UPS BLUE (48)—$5 + $1/item. UPS RED (48)—$14 + $1.50/item.
School Purchase Order (48 States Only)—Add 4% (Minimum $4.50).
Alaska/APO/Canada/FPO/Guam/Hawaii/P.R.—$6.00+$1.50/item.
Foreign Countries—Actual Shpg. Plus Insur. Plus $4 Handling.
2700 ITEM 'CATWORKS' CATALOG: Requires 128K and Appleworks.
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PREPARED SEP. 1988 PRICES SUBJECT TO CHANGE (#88-12)

Your artwork may look great on screen, but until you put it on paper, few people will ever get to enjoy it. So hard copy is an important part of any graphics package. Along with Apple's standard ImageWriter and LaserWriter drivers, Paintworks Gold adds an Epson printer driver, which supports the Grappler Plus graphics card or Parallel Pro interface. The color-ribbon option for certain Epson models is not supported, however, so the ImageWriter II is still the only way to get color output — unless you want to point a camera at the monitor and take snapshots.

Incompatible graphics file formats are an endless source of frustration for Apple II artists. The only consolation is that the situation is even worse in the IBM PC world. The original Paintworks Plus program saved screens or pages in a non-standard format that most other programs could not recognize. The screen format is 320 pixels wide by 200 pixels high. Paint format is 320 pixels wide by 396 pixels high. Paintworks Gold still supports these formats. It also lets you save drawings in the Apple Preferred format, which, even though it takes more disk space, lets you import an image easily into other IIGS programs.

A spiral-bound 150-page user manual is divided into Tutorial and Reference sections. (This is increasingly accepted by technical writers as the best way to organize software documentation.) The manual is well-illustrated and indexed.

There is a tear-out proof-of-ownership page thoughtfully provided for future upgrades. Someday, when the IIGS gets the higher-resolution video modes it so desperately needs, all graphics programs will need to be upgraded.

Paintworks Gold is the current high-end graphics champ in the IIGS arena. It has much the same power and flexibility as DeluxePaint II, but is easier to use and follows the Apple Human Interface Guidelines more closely. It is also a true bargain, if you can take advantage of the upgrade offer. It is still a complex package, and most users will need plenty of practice to unlock its power.

Nobody is going to do serious art on an Apple IIGS. Professional graphics require workstations in the $10,000 to $100,000 range. A good monitor or film recorder could easily cost more than a complete IIGS system. But just as you can learn to paint or draw without a fully equipped studio, you can learn a lot about computer graphics with inexpensive hardware and software. You can make beautiful images to share with your friends.

Conventional graphics are expensive, often messy and sometimes toxic. Electrons, on the other hand, are cheap, and photons are free.

— Mike Markowitz

Product: Paintworks Gold
Price: $99.95 retail
Company: Activision, Inc. (Mediagenic); 3885 Bohannon Dr.; Menlo Park, CA 94025; 415-329-0500
Requirements: Apple IIGS; 1.25 MB of RAM

Circle Reader Service Number 99

Public Domain Software On File

First Software On CD ROM

Performance: 4.0
Innovation: 1.0
Documentation/Support: 4.0
Ease Of Use: 5.0
Value: 2.0
Overall: 3.2

Facts On File's Public Domain Software is the first Apple II software to be marketed on a CD ROM, and the company proudly proclaims that anyone who buys it will be paying an average of less than $2 per program for the 100-program collection. Unfortunately, while there are good programs on this CD, very few of them are worth more than $2 and several are worth much less.

Public-domain programs are programs the authors decide to distribute to the public at large, without expecting payments. Why do program authors do this? A programmer may be trying out new ideas that aren't polished enough for a commercial product; a program may have been written as part of a school project; or the author may have decided that the program isn't sophisticated enough to justify its marketing costs.

Although there are some diamonds in the rough, many public-domain programs are crude and simple. They may have been written as freebies for user groups or computer stores or as simple examples for beginning programming courses. To paraphrase Sturgeon's law, first proposed by science-fiction writer Theodore Sturgeon, 90 percent of everything is junk.

There is one major advantage to public-domain software: a user can legally give out program copies to other computer users. Unlike normal copyrighted programs, public-domain programs can be distributed among many users. This makes the Facts On File CD ROM format especially nice for a school. One Apple II can be set up in the school library with a CD drive. Each student can download programs, as needed, to normal diskettes.

The Facts On File CD comes with a program-selector application on a diskette; both 5.25- and 3.5-inch disks are supplied. We wonder why the company decided to put the program selector on a separate diskette, instead of putting it onto the CD ROM along with the other programs.

Most of the programs will operate directly off of the CD ROM. Programs that have to write data to the disk or use a special operating system, however, must be downloaded to a diskette before they can be used properly.

All of the programs operate on any Apple II computer, and none of them take advantage of the IIGS' enhanced capabilities. In fact, at least one program on the compact disc only works with earlier Apple IIs and won't operate properly on an enhanced IIe, IIc or IIGS.

Several of the programs cause unusual problems on the IIGS. Among them are programs that use counting loops for timers where the IIGS operates too fast (e.g., clock simulators, stop watch, etc.). While none of the online documentation mentions it, you can set your IIGS Control Panel speed to Slow to operate these programs properly.

Many of the supplied programs were written before Apple IIs accepted lowercase (1983) text. Consequently, these programs haven't the faintest idea of what you're typing when you enter a lowercase word. As a general rule, leave your Caps Lock key on when running any of these programs, unless you specifically need to enter lowercase text.

When you boot the program-selector disk, it gives you a set of choices by categories and a description of each program. If a program requires a special operating system or needs to be transferred to a diskette, that's noted in the description. Each program includes its own online documentation where necessary.

In the case of many programs, the documentation assumes that you already know how to use your computer. Some beginning

users will find the programs difficult to use because of the lack of adequate documentation or support.

Facts On File claims that there are no bugs in the programs. Nevertheless, we found at least two, including one in the menu program. Other programs have more serious bugs, which may result in unexpected crashes.

The biggest irony about this Public-Domain library is that it isn't that large and doesn't justify being placed on a CD ROM disc. The entire CD, with 200 programs, could have been distributed on three 800K 3.5-inch diskettes. Less than 1 percent of the CD's full capacity is used; the rest is unused space.

Here are some examples of programs that are on the CD ROM:

There are several good programs that we found interesting and useful. FreeWriter is a simple word processing program written by the author of the popular AppleWriter program. While FreeWriter isn't as powerful, it's adequate for producing simple letters and memos. If this is all the capability you need, then FreeWriter is much less expensive than a commercial word processing program.

The William Tell Overture plays music through your Apple's speaker (set your IIGS to slow speed; otherwise, you'll be playing it *much* too fast). While the theme is being played, dots on the screen provide an animated display.

The other programs we liked were all in the educational category. Africa is a tutorial/quiz program that teaches you background information about the dark continent. Motion Simulator is an excellent real-time physics simulator program that shows a user how motion and acceleration are related. And Longevity lets a user calculate life expectancy.

Another program we really liked was Ecology. The user is given a variety of species for which an environment must be chosen. The object is to keep the population steady without letting predators, overpopulation or starvation take over. Ecology, is a serious issue shown in a form that makes the subject interesting.

On the other hand, there are many programs in the collection that aren't worth storing on the CD ROM or a diskette. For example, the art collection programs just create simple patterns on the graphics screen. Most of the graphics packages aren't worth looking at; and a Christmas-card program just draws a tree, adds decorative ornaments and has an elf walk in and toss a decoration on the tree. You might want to look at these programs once, but certainly not more than once.

Public Domain Software On File is a good first attempt for a method of distributing CD ROM software. The CD ROM format is excellent for distributing large amounts of data to a large number of users. However, this particular CD needs several improvements before it can become practical, including programs — lots of programs, considering the storage capacity — that use the more sophisticated capabilities of the Apple IIGS.

We think the CD ROM should include at least 32 MB of useful data, which is six times more than the current release.

— *Philip Chien*

Product: Public Domain Software On File
Price: $195 retail
Company: Facts On File;
460 Park Ave.; New York, NY 10016;
800-322-8755; 212-683-2244
Requirements: AppleCD SC; SCSI port; some programs require paddles or joystick

Circle Reader Service Number 100

WordPerfect For The Apple IIGS

High-Powered Word Processing

Performance: 7.0
Innovation: 7.0
Documentation/Support: 7.0
Ease Of Use: 6.0
Value: 7.0
Overall: 6.8

WordPerfect, the powerful word processor that has become a clear favorite in the MS-DOS world and is also popular on the Mac, is now available for the Apple IIGS. Because WordPerfect is a text-based program, it does not support graphics or many special effects. Instead, it provides an impressive array of features that makes it an excellent choice for serious word processing applications.

The WordPerfect screen is, for the most part, a familiar window that displays a menu bar and other Macintosh-like features IIGS

HERE'S A LIST OF OUR COMPETITORS WHO CAN BEAT OUR PRICES

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Circle Reader Service Number 27

users have come to expect. The only significant addition is the status line at the bottom of the screen. This line gives the number of the document, the page number, line number and the horizontal position of the cursor at any given moment.

Some of WordPerfect's features are clearly rooted in MS-DOS. While typical Apple programs refer to type styles by point sizes and font names, WordPerfect refers to fonts by number and pitch. Its documentation indicates that the program supports up to eight font styles, but we had to create and print a style sheet to see what the fonts looked like. We found that the differences between the fonts are relatively minor; specialized styles such as italics and script are not available.

Because many of the familiar Apple features don't work in WordPerfect exactly as they do in other IIGS programs, making the transition to the WordPerfect method can be frustrating. Take the process of selecting text with the mouse, which is called "blocking" in WordPerfect. In most IIGS programs, a word may be selected by double-clicking on it. Not so in WordPerfect. Once selected, text may usually be deleted by typing over it. That doesn't work in WordPerfect either; you have to delete blocked text before typing over it.

One difference between WordPerfect and the usual Apple functions turns out to be a convenience. In most Apple programs, the scroll bar changes what is displayed on screen, but not the position of the cursor. In WordPerfect, moving the scroll box moves the cursor, too. If you want to move the cursor to the beginning of a document, all you have to do is move the scroll box to the top of the scroll bar.

Given these discrepancies, it is fortunate that WordPerfect comes with excellent documentation. The program's extensive user's guide includes a 22-lesson tutorial. The lessons, which cover most program aspects, are well designed and very helpful. Additionally, a reference section covers all of the program's remaining commands and functions. WordPerfect also offers an online help capability that makes learning the program even easier.

While pull-down menus and mouse-based commands are easy to use, they do slow you down. WordPerfect provides both ease of use and speed by allowing three methods of entering commands: the mouse, the menu bar and keyboard equivalents, which are the fastest way to execute a command.

Because of the special features available to automate time-consuming tasks, WordPerfect is a good choice for serious word processing jobs. Footnotes and end notes, for example — which can be real headaches to place correctly in text — are automatically handled by the program.

Defining and using macros can automate just about any repetitive program task. WordPerfect's macro function is powerful enough to allow chaining and conditional macros. Chaining lets you place a macro within another macro to carry out several consecutive tasks. Conditional macros allow you to set a condition and have the macro perform one task if the condition is met and another task if the condition is not met.

WordPerfect also offers an extensive merging function that can be used to take data from a secondary file and place it at a specified point in a letter or memo. Merging is the process used to automatically put addresses and salutations on form letters. WordPerfect's Merge function includes the ability to enter personalized text from the keyboard at specified points.

As all word processors, WordPerfect uses codes to communicate with a printer. Such codes include tabs, carriage returns, font specifications and other formatting information. While these codes don't normally appear on screen, it is possible to display them by selecting the Show/Hide Codes command. This is useful if you want to make sure that you entered a particular code.

Along with the standard Search and Replace functions provided by most word processors, WordPerfect allows you to search for formatting codes as well as words. You can search for particular words and, for example, all words entered in boldface.

WordPerfect provides three dictionary-based functions: a speller, a thesaurus and automatic hyphenation.

The WordPerfect spell checker, based on a 115,000-word dictionary, looks for spelling errors and such errors as double words (and and). It also has the ability to find a word list that fits a particular pattern. Suppose you aren't sure how to spell ability. Is there one "l" or two? Is it "ity" or "aty?" You can select the speller, click on Look Up and enter the word pattern you want to find, perhaps "abi=ty." The screen will — in seconds — display all the words in the program's dictionary that fit that pattern.

The WordPerfect thesaurus can help you locate both synonyms and antonyms. The thesaurus uses a three-column display that allows you to have three related references on screen at a time.

WordPerfect's greatest strength is that it provides a myriad of shortcuts to make typing and managing documents efficient. The program offers a large number of specific commands. Among these are Move Page, Move Paragraph, Move Sentence, Delete Word, Delete End Of Line and Delete End Of Page. That's just a sample; the entire list is too long to print here.

Another timesaving feature is the ability to perform certain operations directly from a disk without having to load a document. If you need to find documents in which you referred to a specific event, you can use the name of the event as the search pattern. WordPerfect finds all of the files that contain the name, saving you the time it would take to load and examine each file. WordPerfect will also print a file directly from a disk without having to load the file into memory.

There are some features that WordPerfect does not have, however. It does not support the Apple Extended Keyboard. And though an Undo function is included in the Edit menu, it was included to accommodate New Desk Accessories and has no current function in WordPerfect. The program also does not provide columnar formatting with text flow between columns.

All in all, we consider WordPerfect an excellent product. It is a particularly good choice for high school or college students who must produce papers with footnotes and end notes. In fact, WordPerfect is worthy of consideration by anyone who does serious word processing. Users who take the time to learn its extensive set of commands will be well rewarded. ■

— Sandra Irish

Product: WordPerfect For The Apple IIGS
Price: $179 retail
Company: WordPerfect Corp.; 288 W. Center; Orem, UT 84057; 801-225-5000
Requirements: Apple IIGS; 512K; extra RAM recommended

Circle Reader Service Number 101

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, 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* assume 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

■ Analog Edge; Analog Plus
Joysticks using Injected Resistor Technology
Apple IIGS; other Apple II models.

Analog Edge and Analog Plus are joysticks that specialize in Injected Resistor Technology (IRT) — developed initially for the space program. The circuit board uses resin-impregnated linear resistors. According to the vendor, the internal circuitry outlasted conventional joystick designs by ten times the life span.

Analog Edge features triple two-way switchable fire buttons and aircraft-style control grip. Release date is scheduled for September 1988.

Analog Plus features triple three-way switchable fire buttons, variable auto-fire and aircraft style control grip. Release date is scheduled for the middle of October 1988.
$29.99 retail; Analog Edge
$39.99 retail; Analog Plus
Suncom, Inc.; 290 Palatine Rd.; Wheeling, IL 60090;
312-459-8000

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 featuring a fine cross-hatch weave
Apple IIGS.
$23.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

■ Apple IconTroller
Keyboard mounted joystick
Apple IIGS; other Apple II models.

The Apple IconTroller mounts semi-permanently on the computer console, which eliminates hanging cords and saves desk space. This allows users to leave their hands on the keyboard while executing icon commands with their fingertips.

Its vendor says it accurately performs pinpoint movements and is great when used with icon driven software. Release date is scheduled for January 1989.
$49.99 retail
Suncom, Inc.; 290 Palatine Rd.; Wheeling, IL 60090;
312-459-8000

Apple IIGS Armor
Security system
Apple IIGS.
$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

■ AppleCenter Plus
Physical security system
Apple IIGS.

The AppleCenter Plus is a physical security system designed to protect the Apple IIGS from theft. It also prevents unauthorized access to the inside of the Apple IIGS. The system is constructed of steel and can be secured to the work surface with bolts, adhesive or cable.
$69.95 retail
Doss Industries; 1224 Mariposa St.;
San Francisco, CA 94107; 415-861-2223

AppleTalk Clips
Secures AppleTalk network connections
Apple IIGS; AppleTalk network.
$25 retail; 25 clips for plain cables
$13.75 retail; three clips for connection boxes, four clips for plain cables
$25 retail; 25 clips for connection boxes
Kensington Microware Ltd.; 251 Park Ave. S;
New York, NY 10010; 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.
$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 school/company logos
Apple IIGS; mouse.
$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 and data entry
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, adjustable desktop printer stands available in beige (PRT-1B) or grey (PRT-1G)
$13.95 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 DSK156
3.5-inch disk drive cleaner
Apple IIGS; disk drive.
$8.99 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

■ DisKeeper
Organization product

DisKeeper lets users store 3.5-inch disks in a three-ring binder. Each plastic page has an edged-tab, and holds four disks securely locked in place. Pages are light and durable, leaving labels and the write protect switch accessible. Users can write on the labels without taking them out of the page.
$6.95 retail; three pages
$19.95 retail; black binder with 5 pages
DisKeeper Systems, A Cobar Company;
301 Highland Rd.; Cheltenham, PA 19012; 215-379-2440

DSM802 And DSM804
Two- and four-way compact data switches with 8-pin mini-DIN connectors
Apple IIGS; peripherals.
$49.95 retail; DSM802
$59.95 retail; DSM804
Data Spec; 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.
$29.95 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 MV5
Portable vacuum featuring a high power motor and includes brush/nozzle attachments
Apple IIGS.
$18.95 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 joysticks with "center-lok" mode selector
Apple IIGS.
$32.95 retail; Model 008-10
$39.95 retail; Model 308
Kraft Systems, Inc.; 450 W. California Ave.;
Vista, CA 92083; 619-724-7146

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

Lynx Turbo Trackball
Input device; an alternative to the mouse
Apple IIGS; other computers.
$99 retail
Asher Engineering Corp.; 15115 Ramona Blvd.;
Baldwin Park, CA 91706; 818-960-4839 or 800-824-3522

■ Mac-Kit 3
Physical security kit
Apple IIGS or Macintosh II.

Mac-Kit 3 provides a security retention socket for Apple IIGS computers and some of the keyboards. The vendor supplies other security kits for the entire line of Macintosh computers.
$49.95 to $59.95 retail
Qualtec Data Products, Inc.; 47767 Warm Springs Blvd.;
Fremont, CA 94536; 415-490-8911

■ Mach I And Mach I Plus
Analog joysticks
Apple IIGS.

The new Mach I series of joysticks are engineered with the new patented open gimble design found in the FlightStick. Features include: self-centering and free-floating modes of movement to put users in full control of all their software; linear trim controls for precision cursor centering on all microcomputers and software; dual extra-large pushbuttons for higher scores and user comfort; high quality plastic connectors; and a 90 day warranty.
$28.95 retail; Mach I
$34.95 retail; Mach I Plus
CH Products; 1225 Stone Dr.; San Marcos, CA 92069;
619-744-8546

Mach II And Mach III 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 that includes an absolute mode that tracks and acts like a mouse
Apple IIGS.
$89.95 retail
CH Products; 1225 Stone Dr.; San Marcos, CA 92069;
619-744-8546

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

■ MicroClene And FloppiClene
Anti-static cleaning products

The MicroClene CRT/Workstation Kit consists of anti-static CRT Screen cleaning wipes, an anti-static housing cleaner and two different types of static-free, lint-free wipes.

The MicroClene Printer/Keyboard Kit consists of lint-free, static-free wipes, MicroSol cleaning solvent, presaturated cleaning pads and implements to clean in hard to reach areas.

The FloppiClene Kit consists of 20 disposable cleaning disks, plenty of cleaning solvent and more.
$24.95 retail; MicroClene CRT/Workstation Cleaning Kit
$24.95 retail; MicroClene Mouse, Printer And Keyboard Cleaning Kit
$34.95 retail; FloppiClene
Tech-Sa-Port; PO Box 5295; Pittsburgh, PA 15206-5295;
412-661-2629

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

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

Mouse Accessories
Accessories for mouse devices
Apple IIGS; mouse.
$24.95 retail; Mouse Cleaning Kit with Mouse Pocket
$9.95 retail; Mouse Pocket ADB
$9.95 retail; 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
Copy stand; storage space
Apple IIGS; mouse.
$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 1.5-inches at the front and 4.5-inches at the back
Apple IIGS; printer.
$69.95 retail; Printer Muffler 80
$29.95 retail; Printer Muffler 80 Stand
$89.95 retail; Printer Muffler 132
$29.95 retail; Printer Muffler 132 Stand
$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

■ Self-Serve Displays
Six floor-standing, store displays for accessories

The Self-Serve Displays feature a range of printer, modem, peripheral cables, data switch boxes, surge suppressors, disk drive cleaning kits and other popular computer accessories. The displays are designed specifically for placement in computer stores, office-product supply stores, stationery stores and mass merchandiser outlets.
Call for pricing
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1202

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

■ Sta-Blk Ribbon Cartridge For ImageWriter I And II
Ribbon cartridge for ImageWriter I and II printers
ImageWriter I or II.

The Sta-Blk Ribbon Cartridge for the ImageWriter I and II printers contain an ink reservoir and a re-inking mechanism that prevents the ribbon from fading. A demand valve controls the amount of ink flow and prevents blotches or excessive ribbon inking. Ink should be added to the cartridge reservoir after printing 400 pages. If done, then users may expect 8,000 pages of consistently crisp, dark print.
$39.95 retail
Chronos Computers; 4186 Sorrento Valley Blvd., Ste. H;
San Diego, CA 92121; 619-455-8200

■ StarFighter For Apple
Analog joystick
Apple IIGS; other Apple II models.

StarFighter For Apple is an original proprietary design for computer controllers. According to the vendor, its internal circuitry has many features and adjustments for greater flexibility, utility and enjoyment during game play.

Features include a right-hand fire button, which is a standard actuator or fire control found on all joysticks; a left-hand fire button, which allows left-handed players to fire with their right hand and control the joystick with their left; and an alternate fire button.
$26.99 retail
Suncom, Inc.; 290 Palatine Rd.; Wheeling, IL 60090;
312-459-8000

■ Static Controlling Cleaning Agents
Anti-static products

Tech-Sa-Port provides numerous products utilizing Static Controlling Cleaning Agents, a preventive maintenance program for computers.

Examples include: Safeclens, an anti-static CRT screen and terminal cleaner; Foamclene, which is specially formulated for cleaning computer housings; Astapol, designed for use on wooden workstation surfaces; and Ascat, an anti-static treatment spray for use on carpets, fabrics and other non-conductive surfaces.
Call for pricing
Tech-Sa-Port; PO Box 5295; Pittsburgh, PA 15206-5295;
412-661-2629

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

■ Tac1+
Joystick used with games and graphics
Apple IIGS; other Apple II models.

The Tac1+ is a versatile analog cursor controller with a sleek, modern design and a rapid centering mechanism.

Tac1+ has a top fire button on the handle and two case mounted buttons. Dual cursor centering trimmers allow precise "X" and "Y" axis cursor adjustment to tailor the product for optimum performance with individual software packages.
$29.99 retail
Suncom, Inc.; 290 Palatine Rd.; Wheeling, IL 60090;
312-459-8000

Tilt Swivel Base Model W30
Twelve-inch tilt swivel base
$29.95 retail
Computer Accessories Corp.; 6610 Nancy Ridge Dr.;
San Diego, CA 92121; 619-457-5500

Turbo Mouse And Turbo Mouse ADB
Mouses featuring optical levering that increases precision to 200 counts per inch; automatic acceleration; and two mouse buttons.
(Special "chording" feature of Turbo Mouse ADB allows performance of seven functions by pressing both buttons.)
Apple IIGS; mouse attachments.
$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 Cir.; Brea, CA 92621;
714-671-3931

■ Whimsical Computer Stationery
Computer stationery featuring boats, bears, butterflies, dinosaurs, holidays, seagulls and more

Now Apple IIGS owners are able to choose from a special line of laser-cut, continuous-feed computer paper in shrink-wrapped packages of one hundred sheets, bordered with deep-colored, whimsical designs.
$12.95 retail
Computer Sensations, Inc.; PO Box 3744;
Long Beach, CA 90803; 213-434-2655 or 800-848-9001

Animation

■ Animation Station For Apple
Computer design pad and graphics program; useful as an educational tool or for creating business and school presentations
Apple IIGS; other Apple II models.

The Animation Station For Apple allows users to paint, create, design, illustrate and arrange animations. Automatic generation of geometric shapes gives users the tools of an electronic art or drafting studio. Predrawn pictures are included that provide a head start on creations.

Features of the Animation Station include left- and right-hand function buttons, retractable easel with rubber feet, stylus storage holder and joystick emulator mode.

Additional features include computer-aided design capabilities, which permit sketches in full color and perspective; the ability to position and reposition music elements; a library of fonts, which allows users to label drawings; storage of useful symbols; and printing capabilities.
$99.95 retail
Suncom, Inc.; 290 Palatine Rd.; Wheeling, IL 60090;
312-459-8000

■ Art And Film Director

Full-featured paint and animation package
Apple IIGS; 768K; ProDOS 16; not copy protected.

Art And Film Director is a two in one software package that offers a comprehensive solution to the art needs of computer owners.

Using Art Director, artists choose from a variety of shapes, lines and colors from the palette. Canvasses are created using such special features as stretch, bend, bulge, spin and rescale. An additional feature is sprite, which sets a drawn object in motion against a background.

Film Director uses true cell animation to transform artwork into stunning graphic presentations. Many of the repetitious steps required by traditional types of animation are eliminated. A library of music and sound effects is included in the program to create the right ambiance.
$79.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

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, Inc.; 550 S. Winchester Blvd., Ste. 200;
San Jose, CA 95128; 408-296-8400

■ Home Video Producer

Allows users to create special titles and graphic sequences to add to home videos made with a camcorder
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.

The Video Home Producer allows users to create special titles and graphics sequences to add to home videos made with a camcorder. Ten fonts are included in different sizes and colors and more than 75 individual graphics. With ready-made sequences, a user simply fills in the blanks.

For example, the wedding sequence already includes a picture of a bride and groom and a picture of the wedding cake. A user just fills in the names of the bride and groom, the wedding date and other details.

Special effects include nine-way wipes including a spiral wipe, four-way scrolls and variable speeds.
$49.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020;
Redwood City, CA 94063; 415-366-0606

■ VCR Companion

Creates colorful titles, credits, introductions, intermissions and endings for videotapes
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.

VCR Companion includes ready-made sequences that users personalize to create titles, credits and other information for videotapes. Or they may choose from more than 120 professionally-designed elements, including fonts, full-screen graphics, animation, icons, borders, special effects and transitions.

The program can be used to make on-screen video labels to identify occasions, locations, dates, participants and other details of videotape recordings. In schools and offices, it can be used to add titles, credits, and more to student/employee videos and reports. In addition, users can create complete productions on their computers — without using a video recorder at all — and then make self-booting FilmDisks.

Users can import their own creations from Dazzle Draw, Fantavision and Animate, or from other high-resolution graphics programs.
$49.95 retail
$59.95 retail; school edition
$119.95 retail; lab pack
Broderbund Software, Inc.; 17 Paul Dr.;
San Rafael, CA 94903-2101; 800-527-6263

Video Link

Provides access to video laser players while inside another software program
Apple IIGS; laser disc player; 512K; ProDOS 16; not copy protected.
$79 retail
Knowledgeware; PO Box 2292; Paso Robles, CA 93447;
805-238-5233

■ Video Shop

Allows text additions to videotape productions; for use in the home, schools and cable companies
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.

Video Shop is a character generator that allows users to add easy-to-read text to their videotape productions.

Features include: 12 screens can be entered using a text editor and then displayed either manually using the keyboard, or automatically by specifying the amount of time to display each screen; each screen can be displayed in one of the seven character sets available and can be centered; automatic displays can be repeated allowing cable companies to broadcast messages for hours unattended; and screens can be saved and loaded from disk.
$19.99 retail
Jagware; PO Box 41; Orange City, IA 51051;
Written inquiries only

Viva Presents!

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

AppleWorks

1040Works-X

Integrated templates for preparing individual tax returns
Apple IIGS; other Apple II models; AppleWorks; 256K; ProDOS 8; not copy protected.
$27.95 retail; $3 for 3.5-inch disk
Personal Financial Services; PO Box 1401;
Melville, NY 11747; 516-261-8652

1985 To 1988 Collectors Guide — Topps Baseball Cards

Hobby software
Apple IIGS; other Apple II computers; AppleWorks; 128K; ProDOS 8; not copy protected.
$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

■ Agent Organizer Program

Insurance templates
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.

The Agent Organizer Program is a series of insurance templates on disk intended for use with AppleWorks' processor, spreadsheet and database. Functions include 22 detailed reference checklists on various lines of insurance, 22 proposal forms and 32 utility worksheets. The new, simplified insurance formats are supported.
$69.95 retail
Info-Med; PO Box 24412; Jacksonville, FL 32241-4412;
904-723-2771

AppleWorks Version 2.0; AppleWorks/Network

Provides word processing, database management and spreadsheet analysis; extends to the AppleTalk Network System
Apple IIGS.
$249 retail; AppleWorks Version 2.0
$1,414 retail; AppleWorks Version 2.0 10-pack
$75 retail; AppleWorks upgrade
$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

■ Federal Tax Forms, 1988 Edition

AppleWorks spreadsheet templates used for preparing tax forms

Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; copy protected.

The Federal Tax Forms, 1988 Edition are AppleWorks spreadsheet templates that automatically calculate and reproduce 12 commonly used tax forms: Forms 1040, 2106, 2441, 3903 and 4562; and Schedules A, B, C, D, E, F and SE.

Also included in the basic package is a comprehensive manual and two calculator templates that calculate depreciation, amortization and taxes.

$39.95 retail

Sky Computer Resources; PO Box 204;
Portland, OR 97207; 503-234-7291

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

■ Sports Scheduler

Creates league schedules for any sport

Apple IIGS; other Apple II models; 80-column card; 128K; ProDOS 8; copy protected.

Sports Scheduler gives managers the ability to create league schedules for any sport. The program accommodates an unlimited number of teams or categories in a league. It creates separate schedules for each age group or category within a league. Each age group or category holds from four to 22 teams.

When an age group or category has more than 22 teams, then separate divisions are created, each having its own schedule. The program works in conjunction with AppleWorks spreadsheet programs, as well as with other word processing and spreadsheet programs.

$89.99 retail; introductory price

$119.95 retail; list price

Sports Software Associates; 75 Recreation Park Dr.;
Hingham, MA 02043; 617-749-7880

■ The TimeOut Series

AppleWorks enhancements

Apple IIGS; other Apple II models; AppleWorks; each program requires 128K; ProDOS 8; not copy protected.

The TimeOut Series is a family of AppleWorks enhancements that works from inside AppleWorks. There have been four recent additions to the series since the Fall '88 issue of this magazine. These additions include: GS Font Editor, which allows users to be creative by making changes to SuperFonts' fonts, or any other GS-type fonts; Program Writer, which allows users to edit Applesoft Basic programs just like editing AppleWorks files; TimeOut MacroTools II, which allows users to save multiple variable sets on the desktop and tie two database files together to expand the number of categories. It also includes enhancements that helps users write macros; and TimeOut SpreadTools, which allows importing spreadsheet cell values from other files on the desktop or disk and more.

$49.95 retail; GS Font Editor
$49.95 retail; Program Writer
$49.95 retail; TimeOut DeskTools
$49.95 retail; TimeOut DeskTools II
$49.95 retail; TimeOut FileMaster
$89.95 retail; TimeOut Graph
$25.00 retail; TimeOut MacroTools
$25.00 retail; TimeOut MacroTools II
$49.95 retail; TimeOut PowerPack
$69.95 retail; TimeOut QuickSpell
$49.95 retail; TimeOut SideSpread
$59.95 retail; TimeOut SpreadTools
$69.95 retail; TimeOut SuperFonts
$49.95 retail; TimeOut Thesaurus
$59.95 retail; TimeOut UltraMacros

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 featuring hotel and resort listings, area attractions and shopping and dining guides for Orlando and Disney World

Apple IIGS; other Apple II models; AppleWorks; 128K; ProDOS 8; not copy protected.

$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 (book number 2886)

Tab Books, Inc.; PO Box 40;
Blue Ridge Summit, PA 17294-0850; 800-233-1128

Advanced AppleWorks — 2nd Edition

Insight into AppleWorks

$17.95 retail (book number 3048)

Tab Books, Inc.; PO Box 40;
Blue Ridge Summit, PA 17294-0850; 800-233-1128

Apple IIGS Assembly Language Programming

Assembly language tutorial

$24.95 retail

Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103;
212-765-6500

The Apple IIGS Book

Chronicles the Apple IIGS computer from conception to development

$19.95 retail

Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103;
212-765-6500

Apple IIGS Firmware Reference

Technical guide for programmers and hardware designers

$24.95 retail

Addison-Wesley Publishing Co., Inc.; 1 Jacob Way;
Reading, MA 01867; 617-944-3700

Apple IIGS Hardware Reference

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

$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 each 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

■ Discovering Science On Your Apple II, II+, IIc And IIGS

Guidebook designed for individual student use or as a supplemental text for use in middle or junior high school science classes

Discovering Science On Your Apple II, II+, IIc and IIGS is an easy-to-follow guide that covers a broad spectrum of scientific topics ranging from astronomy, life science, earth science, geology and weather to mathematics, physics and computer science.

$14.95 retail; paperback

Tab Books, Inc.; PO Box 40;
Blue Ridge Summit, PA 17294-0850; 800-233-112

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

■ Inside ProDOS 16
Examines the latest version of ProDOS 16

Written by John Campbell, this book examines the latest version of the Professional Disk Operating System (ProDOS 16) produced for the Apple IIGS.

The book employs an easy-to-follow format, covering files, file types, machine language and command syntax, as well as all of the most used ProDOS and general housekeeping commands.
$17.95 retail; paperback
Tab Books, Inc.; PO Box 40;
Blue Ridge Summit, PA 17294-0850; 800-233-1128

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

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

Programming The 65816
Teaching manual and reference guide for the 65816
$24.95 retail
Brady Books/Prentice Hall; One Gulf + Western Plaza,
14th Floor; 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 integrate assembly language routines into their programs
$18.95 retail
Howard W. Sams & Co.; 4300 W. 62nd St.;
Indianapolis, IN 46268; 800-928-7267 or 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.
$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 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 (includes all except Payroll)
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; Apple IIc and IIe; 128K; Pascal 1.3; not copy protected.
$395 retail
Versacad Corp.; 2124 Main St.;
Huntington Beach, CA 92648; 714-960-7720

Calendar Crafter
Creates customized calendars
Apple IIGS; printer; 512K; ProDOS 16; copy protected.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097;
612-481-3500

Darad IIe
Database and report generator that features search mode, edit mode and print mode
Apple IIGS; 128K; ProDOS 8; not copy protected.
$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
$500 retail; DB Master Version 5/Multiuser
$500 retail; DB Master Version 5/Classroom
Stone Edge Technologies, Inc.; PO Box 3200;
Maple Glen, PA 19002; 215-641-1825

Dental Office Management IIP
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; 128K; ProDOS 8; not copy protected.
$39.95 retail
Softsync, Inc.; 162 Madison Ave.; New York, NY 10016;
212-685-2080

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

Lionheart Press Software
Statistical and management software for business, technology and science
Apple IIGS; 512K; ProDOS 16; not copy protected.
$85 retail; Exploratory Data Analysis
$95 each retail; Anova, Arima Techniques, Decision Trees And Tables, Inference, Inventory, Linear And Non-Linear Programming, Matrix Operations and Regression
$125 each retail; Cluster Analysis and Multivariate Analysis
$145 each retail; Biometrics, Decision Analysis Techniques, Econometrics, Forecasting And Time-Series, Optimization, Project Planner (PERT & CPM), Quality Control And Industrial Experiments, Sales And Market Forecasting, Experimental Statistics, Business Statistics and Marketing Statistics
$190 retail; package of Experimental And Business Statistics
$200 retail; Sales And Market Forecasting with Forecasting And Time-Series
Lionheart Press; PO 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

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.
$95 retail
DataPak Software, Inc.; 14011 Ventura Blvd., Ste. 507;
Sherman Oaks, CA 91423; 800-327-6703 or 818-905-6419

Profiler 4.0
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
Total of 43 disks of public domain shareware and software; write for catalog
Apple IIGS; 256K for some and 512K for others; ProDOS 8 or ProDOS 16; not copy protected.
$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

■ Public Domain Software On File CD-ROM
First CD-ROM public domain software
Apple IIGS; other Apple II models; color or monochrome monitor; Apple II SCSI Card Rev C; CD-ROM drive with compatible SCSI interface; printer optional; 64K; not copy protected.

Public Domain Software On File CD-ROM contains programs that cover many areas. The areas include business, education, graphics, music, home management, programming utilities and more. Each package includes: users' manual with complete operating and program copying instructions; quick-load software installation program on a 5.25-inch and 3.5-inch diskette; and a single compact disc containing nearly 200 software programs. Telephone customer service support is provided to purchasers.
$195 retail
Facts On File, Inc.; 460 Park Ave. S.;
New York, NY 10016; 212-683-2244

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
Full-automated tax preparation software designed for professional tax preparers and individuals with involved returns
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
Low-cost program for creating personalized slide shows; designed for users of painting software and scanners
Apple IIGS; other Apple II models; RGB monitor recommended; 64K; ProDOS 8; not copy protected.
$39.95 retail
Thunderware, Inc.; 21 Orinda Way; Orinda, CA 94563;
415-254-6581

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

VIP Professional
Lotus 1-2-3-compatible spreadsheet with database and graphics features
Apple IIGS; extended memory card recommended; 512K; ProDOS 8; not copy protected.
$199.95 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; more than 600 professionally designed award styles, 10 new borders and four new text styles in the Sports Award Library
Apple IIGS; printer; 64K; ProDOS 8; not copy protected.
$39.95 retail; Award Maker Plus
$24.95 retail; Sports Award Library
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; ages 8 to adult
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

Professional, fast and flexible charting for your Apple IIGS, IIc Plus, IIc or IIe.

MagnaCharta Means Serious Graphing Power!
No other business graphics product offers the speed, flexibility and pictorial quality of MagnaCharta!

Only MagnaCharta gives you **full** control over the appearance of your charts. Bar, column, line, bar & line combos, scatter, area, pie charts, and full 3-dimensional graphs are instantly available from the pull-down graph menu. **You** select the size and spacing of the graphing bars as well as location of the legend and chart title. **You** select borders around the legend, chart, or screen.

MagnaCharta is Very Easy to Use!
Use the Apple Mouse or keyboard to easily select graph options from convenient MacIntosh™ style pull-down menus. Manual data entry is as easy as "pointing and clicking". Data may be loaded directly from AppleWorks™, DB Master™, and other programs via standard Apple text files. Charts are completely compatible with many popular drawing programs like DazzleDraw™ and desktop publishing programs like Publish It!™.

MagnaCharta is a trademark of Third Wave Technology, Inc.
AppleWorks® Apple Computer Inc. DB Master® Stone Edge Technology, Inc.
Dazzle Draw® Broderbund, Inc. Publish It!® TimeWorks, Inc.

MagnaCharta Produces Great Printouts!
Third Wave Technology is a recognized leader in graphic printing. The quality of your printouts reflect this leadership with Double High, Double Wide, Double Strike, Rotate and Color print options. Only MagnaCharta lets you create wall-sized charts up to 7" by 15". Like all Third Wave Technology products, MagnaCharta supports over 60 printers and 40 interface cards.

According to the February 1988 nibble® Magazine review of the leading data charting programs:

"Of the four packages reviewed here, only MagnaCharta can use a mouse as an input device... menus drop down & windows are drawn much faster... even faster than the Mac!"

"MagnaCharta has three graph types not found in any of the other packages."

"One of MagnaCharta's best selling points is that it costs $30 less than its competitors."

Ask your local dealer for MagnaCharta or
ORDER NOW by calling **1-800-233-WAVE**
Only **$59.95** (add $3.00 S&H U.S.A.; all others prevailing rate). MC, VISA accepted.

THIRD WAVE TECHNOLOGY INC.™
11934 Lorain Ave • Cleveland OH 44111 • (216) 671-8991

Important Note: MagnaCharta is supplied on a 5.25" floppy disk. Instructions are provided for installation on 3.5" disks and other ProDOS storage devices.

Circle Reader Service Number 28

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

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; optional 30 minute videotape of tips and techniques for using DeluxePaint II
Apple IIGS; color monitor; 768K; ProDOS 16; not copy protected.
$99.95 retail; DeluxePaint II
$19.95 retail; Video Guide To DeluxePaint II
$129.95 retail; DeluxeWrite/DeluxePaint II
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Design Your Own Home, Architecture
Allows users to draw floor plans, elevations and structural details
Apple IIGS; 768K; ProDOS 16; not copy protected.
$89.95 retail
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home, Interiors
Allows users to design room interiors with color, patterns, shapes and furnishings; available November '88
Apple IIGS; 768K; ProDOS 16; not copy protected.
$89.95 retail
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home, Landscape
Allows users to plan the grounds around home or office
Apple IIGS; 768K; ProDOS 16; not copy protected.
$89.95 retail
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Design Your Own Home, Libraries
Seven disk libraries containing four dozen house plans, interior or landscape designs
Apple IIGS; one of the Design Your Own Home programs; 768K or more; ProDOS 16; not copy protected.
$29.95 retail; each
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Draw Plus
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.
$129.95 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 for making postcards, invitations and more
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

Desk Accessories

CDA Power: Volume I Desk Accessories
Scratchpad Editor, ASCII Table, 65816 Reference, KeyCaps, Scientific Calculator, DeskShell and DeskLink
Apple IIGS; 150K RAM in addition to the memory requirements of the primary application.
$59.95 retail; Volume I
360 Microsystems; 12272 Fox Hound Ln.; Orlando, FL 32826; 407-275-6418

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; appointment calendar; disk manager; communications manager and macro manager
Apple IIGS; 512K; ProDOS 16; not copy protected.
$39.95 retail
On Three, Inc.; 8920 Yolanda Ave.; Northridge, 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; The Desktop Manager; 512K; ProDOS 16; not copy protected.
$39.95 retail
On Three, Inc.; 8920 Yolanda Ave.; Northridge, 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; The Desktop Manager; APW assembler; 512K; ProDOS 16; not copy protected .
$39.95 retail
On Three, Inc.; 8920 Yolanda Ave.; Northridge, 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

■ Let's Talk
Electronic mail and simultaneous bulletin-board system
Apple IIGS; other Apple II models; Hayes AT compatible modem; 512K; ProDOS 8; not copy protected.

Let's Talk is a comprehensive electronic mail and bulletin-board system. It can be used in schools, libraries, clubs and businesses.

The electronic mail and conference system supports up to 65,000 members and provides immediate access to more than 4 million files with just four keystrokes. The program offers local AppleTalk workstations the ability to display graphics and directly view application screens on other computers.
$179 retail
$795 retail; File server license
Pinpoint Publishing; 5865 Doyle St., Ste. 112; Emeryville, CA 94608; 415-654-3050

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; mouse optional
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; has powerful scripting capability
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$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
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

■ FingerPrint Slide-Show
Desktop presentation and computer slide-show software
Apple IIGS; FingerPrint GSi Version II; 27K; ProDOS; not copy protected.

The FingerPrint Slide-Show program allows users to create fully self-contained computer image presentations from images captured using the FingerPrint GSi Version II screen capture card.

Teachers are able to create custom-tailored instructional presentation diskettes and business users are able to create presentations of text and graphic images captured from database systems, AppleWorks, graphic paint programs and more.
$25 retail
Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

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

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

GraphicWriter Version 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; 800-627-3836

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

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

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

Medley
IIGS-specific integrated desktop publishing program combining word processing, artwork and page layout capabilities
Apple IIGS; color monitor recommended; 1.25 MB; ProDOS 16; not copy protected.
$195 retail
Milliken Publishing Co.; 1100 Research Blvd.; PO Box 21579; St. Louis, MO 63132-0579; 314-991-4220 or 800-643-0008

Personal Newsletter
Graphics and page composition program
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$59.95 retail
$69.95 retail; academic
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.
$54.95 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 by combining The Print Shop graphics, borders and fonts
Apple IIGS; other Apple II models; one disk drive; dot matrix printer; 256K; ProDOS 8; not copy protected.
$39.95 retail
Big Red Computer Club; 423 Norfolk Ave.; Norfolk, NE 68701; 402-379-4680

Publish-It!
Desktop publishing program that allows users to edit, design, layout and print documents
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$99.95 retail
Timeworks, Inc.; 444 Lake Cook Rd.; Deerfield, IL 60015; 312-948-9200

Springboard Publisher
Desktop publishing program with full-featured page-layout, word processor and graphics tools
Apple IIGS; other Apple II models; 128K minimum and 768K optimum; ProDOS 8; not copy protected.
$139.95 retail
Springboard Software, Inc.; 7808 Creekridge Cir.; Minneapolis, MN 55435; 612-944-3915

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

Education

"And If Re-elected..."
Presidential campaign decision-making simulation for grades 7 through 12
Apple IIGS; other Apple II models; 48K; ProDOS 8; copy protected.
$89 retail
Focus Media, Inc.; PO Box 865; 839 Stewart Ave.; 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.
$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.
$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.
$49 retail
Focus Media, Inc.; PO Box 865; 839 Stewart Ave.; 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.
$59.95 retail; home edition
$79.95 retail; school edition
$139.95 retail; lab pack
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

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 or distributed by Electronic Arts

■ Conquering Decimals (+,-)
Mathematics; grades 4 through 6
Apple IIGS, other Apple II models; 128K; ProDOS 8; copy protected.
Conquering Decimals (+,-) provides students with two practice activities and two problem-solving games. Drills focus on multiplication and division of decimal numbers with up to three decimal places. The program offers graphic and written remediation to students needing assistance.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

■ Conquering Fractions (+,-)
Mathematics; grades 5 through 8
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
Conquering Fractions (+,-) provides students with two practice activities and two problem-solving games. Drills focus on addition and subtraction of fractions with denominators 2 through 9 and whole numbers 1 through 9. The program offers graphic and written remediation to students needing assistance.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

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; 128K; ProDOS 8; not copy protected.
$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

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

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

■ Decimal Concepts
Mathematics
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
Decimal Concepts introduces students to the meaning of decimal numbers providing practice with naming, comparing and rounding decimal numbers.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Designasaurus
Primary education program; composed of Walk-a-Dinosaur, Build-A-Dinosaur and Print-A-Dinosaur
Apple IIGS; 768K; ProDOS 8; not copy protected.
$49.95 retail
Britannica Software; 345 4th St.; San Francisco, CA 94107; 415-546-1866

■ Dueling Questions
Educational game where students compete to answer questions from selected categories
Apple IIGS; 512K; ProDOS 16; not copy protected.

Dueling Questions is an educational game where students compete to answer questions from selected categories. These categories are created by the teacher so the questions support their curriculum. The point and click interface makes it easy to use while sound and stunning colors give it pizazz. According to the vendor, it is the perfect classroom study aid.
$39.95 each retail
$200 retail; lab pack (includes 10 disks, one manual)
Coyote Computing; PO Box 265; Dewitt, NY 13214; 315-446-1035

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

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

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

ESC System
Integrated learning system that features a comprehensive K through 8 reading, language arts and mathematics software curriculum; works in a networked environment
Apple IIGS; 1.25 MB per workstation; ProDOS 16; copy protected.
Call for pricing
Education Systems Corp.; 6170 Cornerstone Ct. E.; San Diego, CA 92121; 619-587-0087

Explore-A-Science
Offers elementary and middle school students exciting and realistic reading/writing based scientific investigations
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$75 retail; academic
$39.95 retail; home version (available from William K. Bradford, Inc.; 800-421-2009 or 617-862-2570 (MA)
D.C. Heath and Co.; 2700 N. Richardt Ave.; Indianapolis, IN 46219; 800-334-3284

Explore-A-Story
Reading and writing skills environment for elementary and middle school students; includes 12 titles based on an original storybook
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$75 retail; academic
$39.95 retail; home version (available from William K. Bradford, Inc.; 800-421-2009 or 617-862-2570 in MA)
D.C. Heath and Co.; 2700 N. Richardt Ave.; Indianapolis, IN 46219; 800-334-3284

■ File-Talk And Word-Talk
Talking database and word processor
Apple IIGS; other Apple II models; synthesizer; 128K each program; ProDOS 8; not copy protected.

File-Talk is a memory resident talking database. It takes advantage of memory expansion cards for large files. Features include: up to 250 fields, 999 characters per fields, multicriteria searches; on screen arithmetic computations; find and replace; rename field capabilities; insert and delete fields; automatic sorting and resorting; compatible with Word-Talk or any ProDOS text file for mailing labels, reports, lists, custom letters, etc.; and supports most popular voice synthesizers. The program is useful for educational, business or home needs.

Word-Talk is a screen-oriented word processor. Features include: up to 40 pages of double-spaced text can be held in memory; 80-column display; speech output with most popular voice synthesizers; and more.
$195 retail; File-Talk
$195 retail; Word-Talk
Access Unlimited-Speech Enterprises; 9039 Katy Freeway, Ste. 414; Houston, TX 77024; 713-461-0006

First Letters And Words
Alphabet learning program with talking narrator for children 3 through 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 or distributed by Electronic Arts

First Shapes
Basic geometric shapes recognition program; ages 3 through 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 or distributed by Electronic Arts

■ Fractal Explorer
High-resolution color graphic fractal generation program
Apple IIGS; 256K; ProDOS 8; not copy protected.

Fractal Explorer is an entertaining and educational high-resolution color graphic fractal generation program.

It features a flexible slide-show program that displays fractal pictures with dazzling color effects. Newly generated pictures are automatically added to the slide show. The pictures are compatible with most paint programs for text additions or further enhancement.

The program features menu selections, prompts and an informative Help Menu. No math knowledge is required.
$29.95 retail
Eclat Microproducts; PO Box 570-756; Miami, FL 33257-0756; 305-233-4666

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

■ The Geometric Supposers
Includes triangles, quadrilaterals and circles
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

The Geometric Supposers are tools for exploring the properties of geometric figures. The Triangles program enables students to construct any type of triangle, including one of their own dimensions.

In the Quadrilaterals program, students construct and explore four-sided figures. Measurement data is listed on screen. Circles allows students to investigate properties of tangents and intersecting or separate circles.
$99 each retail
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

Geometry
Interactive educational program designed to serve as an extension of classroom work, a refresher or a private tutor
Apple IIGS; 512K; ProDOS 16; copy protected.
$99.95 retail; consumer version
$109.95 retail; School Edition (includes backup disk and Teacher's Guide)
$219.95 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.

$39.95 retail; home version
$59.95 retail; academic (includes backup disk, teacher's guide, online and offline student activities)
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

■ Gradebook Plus Pro

Teachers' student management program
Apple IIGS; other Apple II models; 128K; ProDOS 8.
Gradebook Plus Pro provides teachers with an organized method of record keeping. Features include: eight classes per disk; 45 students per class; 60 entries per student; fast and easy entry of scores; full statistical package for analyzing assignments; and more.
$60 retail
$120 retail; academic
E.M.A., Inc.; PO Box 339; Los Altos, CA 94023; 415-969-4679

Heath Reading Program's Read, Write And Publish

Writing skills environment for grades K through 8; includes eight levels in each grade level package
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$75 retail; academic
D.C. Heath and Co.; 2700 N. Richardt Ave.; Indianapolis, IN 46219; 800-334-3284

Hide And Find

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

Homework Helper-Math Word Problems

Solving math word problems by building equations; grades 7 through 12
Apple IIGS; 64K; ProDOS 8; 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; copy protected.
$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.
$59.95 retail; Home Edition
$179.95 retail; Classroom Edition with 10 disks
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

■ Information Laboratory Software: Chemistry IIGS

Research database
Apple IIGS; 512K; ProDOS 16; not copy protected.
Information Laboratory Software: Chemistry IIGS is a dedicated database of chemistry concepts and applications linked graphically through the periodic table. Students can move from the periodic table or a map of the world to explore the nature of elements, bonding and molecular models.
$96 retail; consumer
$72 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: Earth Science

Research database of comprehensive earth science information and interesting facts; includes interactive graphics
Apple IIGS; 512K; ProDOS 16; not 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

Research database of comprehensive life science information and interesting facts; features interactive graphics; includes tutorial and problem-solving situations
Apple IIGS; color monitor; 512K; ProDOS 16; not 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

■ Information Laboratory Software: Physical Science

Research database
Apple IIGS; 512K; ProDOS 16; not copy protected.
Information Laboratory Software: Physical Science IIGS is a dedicated database of physical science principles and applications. Graphics encourage exploration of conceptual links between force, motion and energy. The program is accompanied by a tutorial and student problem-solving situations.
$72 retail; consumer
$96 retail; academic
Addison-Wesley Publishing Co., Inc.-Electronic Publishing; 2725 Sand Hill Rd.; Menlo Park, CA 94025; 800-227-1936 or 415-854-0300

■ Joshua's Reading Machine

Reading program for ages 4 to 7
Apple IIGS; other Apple II models; color monitor; 128K; ProDOS 8; not copy protected.
Joshua the giraffe introduces his new reading machine with 37 Mother Goose Rhymes, Children's Songs and Aesop's Fables. Each section of Joshua's Reading Machine has nine separate levels for years of learning fun. Younger children use colorful graphics, music and easy-to-read text to develop word recognition skills by matching words and pictures. Older children develop vocabulary and sentence context skills while improving their reading comprehension.
$39.95 retail
$79.95 retail; academic (contains five sets of disks, scope and sequence chart and instruction manual
Compu-Teach Corp.; 78 Olive St.; New Haven, CT 06511; 800-448-3224 or 203-777-7738 in CT

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

■ Logo Plus

Allows students to create maps, animated stories, improved adventure games, detailed charts and graphs and more complex and realistic pictures
Apple IIGS; other Apple II models; 128K; ProDOS 8; single unit and lab packs copy protected; site license not copy protected.
Logo Plus has been designed to run under the ProDOS operating system. This new version contains more than 40 additional commands, designed to provide the following features: text addition to the graphics screen in various colors, fonts and styles; an easy-to-use shape editor used to create a variety of shapes for the Logo "turtle" and stamp them on the screen; FILL command that allows the screen to be painted with color; and printing capabilities to the ImageWriter.
$119.95 retail; single unit
$299.95 retail; lab pack (includes 10)
$399.95 retail; lab pack (includes 20)
$399 retail; site license
Terrapin, Inc.; 376 Washington St.; Malden, MA 02148; 617-322-4800

Magic Spells

Sharpen spelling skills for children ages 6 to 12
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$39.95 retail; home edition
$59.95 retail; school edition (includes backup disk, teacher's guide and online and offline activities)
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

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
$129.95 retail; school lab pack (contains five disks)
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; for grades 1 through 6
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$49.95 retail
$149.95 retail; school lab pack (contains five disks)
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

Math Masters

Consists of two programs that cover basic mathematical operations for numbers from 0 through 25
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.
$46 retail
DLM Teaching Resources; One DLM Park; Allen, TX 75002; 214-727-3346

Math Rabbit

Introduces key math concepts in a series of four image games; ages 4 to 7
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$39.95 retail; home edition
$59.95 retail; academic edition
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

■ Math Word Problems

Provides practice at analyzing and solving math word problems for children ages 8 and up
Apple IIGS; 64K; ProDOS 8; copy protected.

Math Word Problems contains hundreds of addition, subtraction, multiplication and division problems in sentence form at three levels of difficulty. The built-in calculator, printing feature and add-your-own problem section provide a significant open-ended opportunity for practicing mathematical skills.

Additional features include: automatic adjustment of the difficulty level; levels; displays a comic fact or math trivia after every three correct answers; and a report card option.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

MathTalk

Talking notebook featuring math tutorials, simulations and games
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

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-system typing teacher
Apple IIGS; 512K; ProDOS 16; copy protected.
$49.95 retail
The Software Toolworks; One Toolworks Plaza; 13557 Ventura Blvd.; Sherman Oaks, CA 91423; 818-907-6789

■ Miner's Cave

Physical Science; grades 4 through 7
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Miner's Cave is a discovery-learning product that challenges students to design experiments with simple machines, to make predictions and to draw conclusions. Students manipulate levers, pulleys, ramps, wheels and axles to efficiently move objects.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

■ Modular Management System

Complete educational management system
Apple IIGS; monitor and printer; 256K; ProDOS 16; not copy protected.

The Student Master File System is the centerpiece of the MMS educational management system. It must be present to use any of the other modules. The Master File System allows users to save biographical information for each student. It also sorts and displays this information in an unlimited number of ways. The module can be used to print homeroom lists, bus lists, name and telephone lists and more.

Features include up to 90 data fields per student; student record access by name or ID number; advanced editing capabilities; mass edit/delete capability; sorts by one or several data fields; and more.

The MMS: Attendance System module allows users to record and prepare an extensive set of attendance reports for daily and/or period-by-period attendance and entry/withdrawal status for the entire school year.

The MMS: Discipline Reporting System module allows users to maintain and print a record of each student's behavior for the entire school year.

The MMS: Grade Reporting module allows users to record and print grades, comments and credits.

The MMS: Student Scheduling System enables users to efficiently schedule students for an entire school year using a three-phase process.

The MMS: Tuition/Fee Accounting system allows credit/debit processing via a full-screen editor.
$399 retail; Student Master File System
$449 retail; Attendance Reporting System
$349 retail; Discipline Reporting System
$949 retail; Grade Reporting System
$1,099 retail; Student Scheduling System
$449 retail; Tuition/Fee Accounting System
Computer Resources, Inc.; Barrington Office Mall; PO Box D; Barrington, NH 03825; 603-664-5811

Money Works

Teaches money recognition, counting and more; grades 1 through 4
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

■ More Teasers From Tobbs

Decimal and fractions practice for grades 5 through 12
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

In More Teasers From Tobbs, the lovable, spectacled Tobbs moves around boxes on a grid posing interesting problems for students to solve. In using the program, students can do computations themselves or call upon the program's calculator, scratch pad or estimation options.
$65 retail
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

■ The Muppet Series

Develops skills in sorting and classifying, determining similarities and differences and more; grades K through 1
Apple IIGS; other Apple II models; works with regular keyboard, Muppet Learning Keys, or Touch Windou; 64K; ProDOS 8; copy protected.

Muppet Word Book is the latest addition to The Muppet Series. It features Kermit the Frog, Miss Piggy and friends giving assistance to children as they learn about letters and words. The Muppets provide a word processor where youngsters can type letters, words, numbers and mathematical signs. Emphasis is placed on distinguishing letters from non-letters and upper and lower case letters; recognizing lower case partners of upper case letters, recognizing the beginning consonants or words and combining word endings and beginning consonants to form words.
$65 retail; Muppets On Stage (includes backup)
$65 retail; Muppetville (includes backup)
$65 retail; Muppet Word Book (includes backup)
$195 retail; Muppet Word Book lab pack (contains 10 programs)
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

■ Mystery Matter

Physical Science; grades 4 through 6
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Mystery Matter is a discovery-learning product that involves the processes of observing, communicating, comparing and organizing. The tests performed in the package help to define the physical attributes and properties of substances, such as size, weight, density, hardness, melting point, boiling point, solubility and magnetism.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

■ Mystery Objects

Physical Science; grades 2 through 4
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Mystery Objects is a discovery-learning product that challenges students to determine the identity of everyday objects without actually looking at them. Students tests to define an object's physical attributes and properties, such as size, smell, texture, shape, color and weight.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

■ The New Talking Stickybear Alphabet

Talking alphabet learning program; ages 3 to 6
Apple IIGS; 512K; ProDOS 16; copy protected.

The Apple IIGS version of The New Talking Stickybear Alphabet features animation, upper and lower case letters and two exciting pictures for each letter. Children can play any of three activities. Stickybear speaks letters a child selects, or children may be asked to locate letters on the keyboard.
$49.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

■ Newbery Adventures

Adventure series
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

In Mrs. Frisby And The Rats Of NIMH, students journey with a group of very personable rodents. Students help Mrs. Frisby, the head of a family of field mice, by making decisions based on their knowledge and understanding of the plot. The program includes a vocabulary practice section. The program is designed for grade level 4 through 6.

In the next series, Karana is trapped on the Island Of The Blue Dolphins and must survive wild dogs, hunters and a tidal wave.
$65 retail; Mrs. Frisby And The Rats Of NIMH
$65 retail; Island Of The Blue Dolphins
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

Numeric Concept And Memory Skills

Used with individuals (ages 6 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
Intuit Computing; 1915 Huguenot Rd.; Richmond, VA 23235; 804-379-2253

■ Once Upon A Time...

Desktop publishing program for ages 6 to 12
Apple IIGS; color monitor; 256K; ProDOS 16; not copy protected.

Once Upon A Time... is a desktop publishing program that allows children to design and publish their own illustrated books. Many colorful graphic images designed specifically for the Apple IIGS offer limitless possibilities for original stories. Children choose from Main Street, Farm and Safari settings as they design 3-D illustrations to accompany their own words. Children learn the important concepts of story creation, perspective and spatial analysis while building vocabulary, reading and spelling skills.
$39.95 retail
$79.95 retail; academic
Compu-Teach Corp.; 78 Olive St.; New Haven, CT 06511; 800-448-3224 or 203-777-7738 in CT

■ 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.
$149 retail
Focus Media, Inc.; PO Box 865; 839 Stewart Ave.; Garden City, NY 11530; 800-645-8989 or 516-794-8900

■ Patterns

Language Arts; Preschool
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Patterns introduces the concepts of patterns by focusing on the development of the basic skills of recognizing, completing and extending patterns. The program features three different styles of presentation: static patterns, animated patterns and sound patterns.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

■ Pfs: Write And Pfs: File/Report

Programs designed to help students in grades 7 through 12 master word processing, filing and reporting skills
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Pfs: Write helps students master word processing techniques. Students can print and format through simple option screens and see on screen exactly how their work will look. Features include search and replace, block editing and a 60,000 word integrated spelling checker.

Pfs: File/Report helps students master database management skills and to reinforce analytical and communications skills. With File, students can organize, sort, update and retrieve data from their own files, as well as from Scholastic's content-based Activity Files.
$124.95 each retail; consumer
$99.95 each retail; academic
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

■ ProWords And ProBraille

Word processor and translator for the blind
Apple IIGS; other Apple II models; synthesizer (Echo or Slotbuster II); 128K per program; ProDOS 8; not copy protected.

ProWords is a word processor for use by the blind or anyone requiring the assistance of speech output. It is compatible with the Street Electronics Echo II, II+, the Cricket and the Slot-Buster II boards. Although it was designed for use with speech output, it can also be used without a synthesizer. Features include: word wrap-around text entry; manual on disk and print; export function to modem or braille device; editing commands; search and replace; and more.

In addition, ProWords files can be translated in braille using the ProBraille Translator.
$150 retail; ProBraille
$195 retail; ProWords
Access Unlimited-Speech Enterprises; 9039 Katy Freeway, Ste. 414; Houston, TX 77024; 713-461-0006

Read 'N Roll

Reading comprehension program for grades 3 through 6
Apple IIGS; other Apple II models; 128K ProDOS 8; copy protected.
$49.95 retail
$149.95 retail; school lab pack (contains five disks)
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

Reader Rabbit

Talking early education program that reinforces reading, spelling and vocabulary skills; ages 4 to 7
Apple IIGS; color monitor recommended; 256K; ProDOS 16; copy protected.
$59.95 retail; home edition
$79.95 retail; school edition
$139.95 retail; lab pack
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

Reading And Me

Prepares children ages 3 through 6 for reading
Apple IIGS; other Apple II models; extended 80-column card; 128K; ProDOS 8; copy protected.
$39.95 retail
$129.95 retail; school lab pack (contains five disks)
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

Reading Comprehension

Includes 29 high-interest story and question sets designed to help children learn important reading skills; ages 9 and up
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.
$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

Teaches basic principles of logic
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.
$65 retail; include backup
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

■ The Right Turn

Student learn mathematical concepts of rotation and transformation
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

The Right Turn allows students to predict, experiment and learn about mathematical concepts of rotation and transformation. Students can create a pattern, and then specify the type of transformation — 90 degree rotation, right diagonal flip, etc.
$65 retail
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

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.
$49.95 retail; home edition
$69.95 retail; school edition
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

■ Scorekeeper

A gradebook manager
Apple IIGS; other Apple II models; 128K; ProDOS 8.

The Scorekeeper is a gradebook management program that provides the following features: creates an unlimited number of class lists; adds and deletes students

1-800-826-9553

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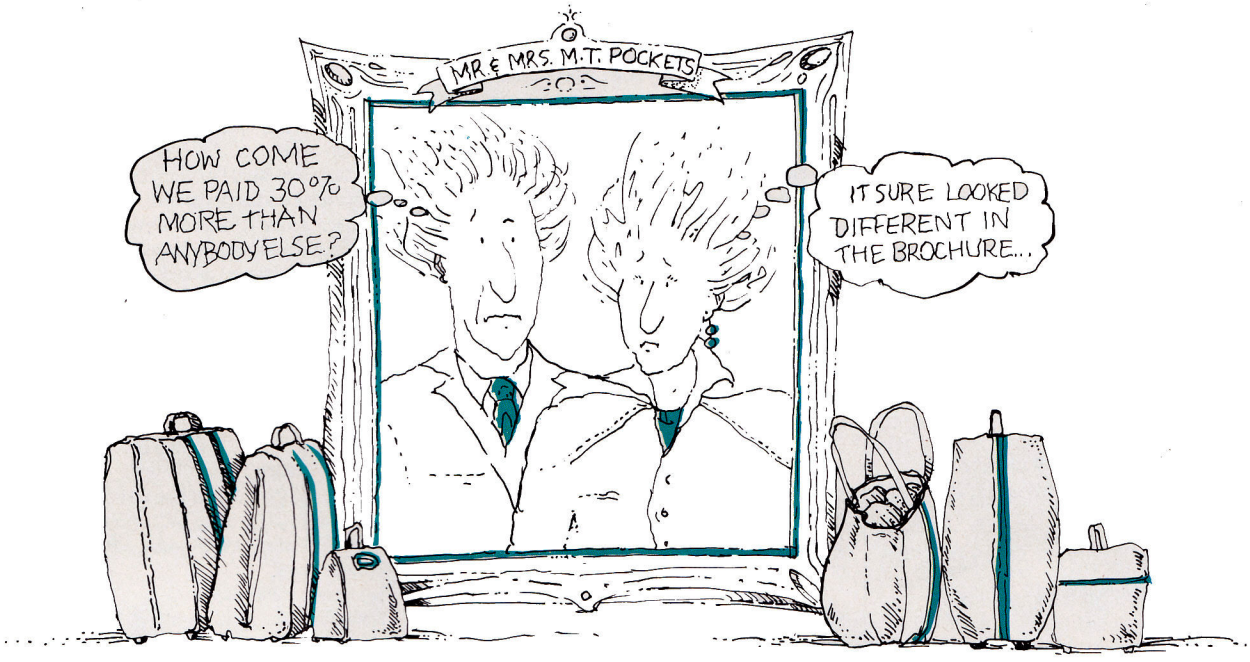

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from a class list at any time; records an unlimited number of scores in four categories, either sequentially or randomly using the keyboard or the Scantron Test Scoring Data Terminal; and more.
$79.95 retail
Stokes Publishing Company; 1125 Robin Way, Ste. C; Sunnyvale, CA 94087; 408-736-4637

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

■ Space Waste Race
An animated storybook with learning games; preschool through grade 2
Apple IIGS; other Apple II models; 48K; ProDOS 8; copy protected.

This program for beginning readers includes music and animation. Students practice counting, number and letter order and identification. In addition, they confront concepts of direction, such as up/down, left/right, over/under and above/below.
$65 retail
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

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 through 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

■ Spellevator
Spelling; grades 1 through 6
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Spellevator allows teachers to create practice lists of spelling words. Students review spelling words as they play an imaginative arcade-style game. The reverse side of the disk contains the Spelling List Editor, which allows teachers to create and edit word lists that directly correlate to classroom spelling programs and students' individual needs.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Stickybear Math
Basic addition and subtraction; 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; 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; helps build reasoning skills; ages 3 to 6
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

Stickybear Opposites feature 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.
$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; ages 5 to 8
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 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 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

■ Stickybear Word Problems
Provides beginning practice at analyzing and solving math word problems for children ages 7 and up; rewards correct answers with animation
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

Stickybear Word Problems contains hundreds of addition, subtraction and simple multiplication problems in sentence form at six graded levels of difficulty. Features include: automatic adjustment of problem difficulty; displays the correct procedure when children answer incorrectly; tracks and stores individual assignments and progress reports for up to 40 students.
$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 learned from observing a 3-D cube
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.
$65 retail; includes backup
Sunburst Communications, Inc.; 39 Washington Ave.; Pleasantville, NY 10570; 800-431-1934 or 914-769-5030

■ Super Story Tree
Interactive story maker that allows students in grades 4 through 12 to illustrate their stories with exciting graphics, music and sound effects
Apple IIGS; other Apple II models; joystick, mouse or Koala Pad; Epson or Scribe printer; 128K; ProDOS 8; copy protected.

With Super Story Tree, students write stories that start at one point and can branch out to many different plot lines. This reinforces problem-solving, critical-thinking and story-mapping skills. And students can collaborate with their classmates for an exchange of writing ideas.
$87.45 retail; consumer
$69.95 retail; academic
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

Talking Text Writer
Combines word processing with the Echo board from Street Electronics
Apple IIGS; Echo, Cricket, or PC2 speech synthesizer board; 512K; ProDOS; copy protected.
$149.95 retail; to educators
$249.95 retail; home version (includes Echo board)
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

■ Test It! Deluxe
Allows teachers to create customized tests
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.

Test It! Deluxe is a program designed to create customized tests. Teachers enter questions into a bank and the program produces a test with the following features: editing; word wrap; insert and delete; sub- and superscripts; and bold and underlining. Teachers may choose five test formats: multiple choice, true-false, fill-in-the-blank, matching and essay.
$59.95 retail
EduSoft; PO Box 2560; Berkeley, CA 94702;
800-338-7638 or 415-548-2304 in CA

Think Quick!
Fast-paced adventure game that helps develop thinking skills for ages 7 to 14
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$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 featuring a toolbox of writing and drawing tools, text fonts, various buttons similar to HyperCard and more
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$195 retail; (basic)
$295 retail; (complete with grade-book manager)
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; for ages 8 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

■ Wood Car Rally
Physical Science; grades 4 through 7
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.

Wood Car Rally is a discovery-learning product that provides students with an opportunity to easily explore and learn about the physical laws of motion involved when a small car travels down an inclined plane. Students control the ultimate distance by altering variables such as ramp angle, friction, ramp length, car weight and wind resistance.
$59 retail
MECC; 3490 Lexington Ave. N.; St. Paul, MN 55126-8097;
612-481-3500

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.
$49.95 retail
$149.95 retail; school lab pack (contains five disks)
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.
$49.95 retail; home edition
$69.95 retail; school edition
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; keyboard, joystick or mouse; 512K; ProDOS 16; copy protected.
$44.95 retail
Accolade, Inc.; 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; copy protected.
$54.95 retail
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404;
415-349-8765

Bad Street Brawler
Excursion into the streets of the big city to save the grannies from gangsters, muggers and madmen
Apple IIGS; 256K; ProDOS 16; not copy protected.
$34.95 retail
Mindscape, Inc.; 3444 Dundee Rd.;
Northbrook, IL 60062; 312-480-7667

The Bard's Tale
Medieval adventure; goal is to halt the evil magic spell spread by the wizard Mangar the Lionhearted
Apple IIGS; 512K; ProDOS 8; copy protected.
$49.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404;
415-571-7171

■ The Bard's Tale II: The Destiny Knight
Features new story line
Apple IIGS; 512K; ProDOS 8; copy protected.

In Bard's Tale II: The Destiny Knight, the tradition continues with a whole new story line. Featured are more dungeons, magic combat strategies characters, clues, monsters and territory. Also introduced is a new kind of master magician — The Archmage.
$49.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404;
415-571-7171

■ BattleTech
Computer role-playing game full of animation
Apple IIGS; 512K; ProDOS 16; not copy protected.

BattleTech: The Crescent Hawk's Inception puts a player in the role of Jason Youngblood, an 18-year-old BattleMech warrior cadet. Jason's challenge is to defend the planet against invasion and destruction. The time is the 31st century. The location is Chara IV, a hunk of rock with the area's only water-processing plant. The program is scheduled to be released in February 1989.
$49.95 retail
Infocom, Inc.; 125 Cambridge Park Dr.;
Cambridge, MA 02140; 617-492-6000

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; 512K; ProDOS 16; copy protected.
$34.95 retail
Accolade, Inc.; 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; copy protected.
$44.95 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; battle against the Normans to save England
Apple IIGS; 768K; ProDOS 16; not copy protected.
$49.95 retail
Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

■ Deja Vu: A Nightmare Comes True
Murder mystery
Apple IIGS; 768K; ProDOS 16; copy protected.
Deja Vu: A Nightmare Comes True is a graphic-based adventure game. This murder mystery has its roots in the hard boiled detective novel, complete with seedy locations, unpleasant characters and the occasional dead body.
$49.95 retail
Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 312-480-7667

Destroyer
Action and simulation game involving a Navy destroyer
Apple IIGS; 512K; ProDOS 16; copy protected.
$44.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Dondra: A New Beginning...
An animated graphics quest for the Apple IIGS
Apple IIGS; 512K; ProDOS 16; not copy protected.
$49.95 retail
SBB Software Associates; 1850 Arch St., Ste. 1; Berkeley, CA 94709; 415-843-8924

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, Inc.; 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, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

■ Final Assault
A mountain climbing adventure
Apple IIGS; 512K; ProDOS 16; copy protected.
Final Assault challenges players to gear up and take on the icy unknown in this mountain climbing thriller. Step by step they will inch their way across rockfaces, glaciers and crevasses.
Players may practice their knowledge and skills over the training course before tackling "the big one." They must choose from 50 items available to carry in their rucksacks. One wrong choice could spell the difference between life and death. Scheduled for release in November 1988.
$44.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Fire Power
Arcade tank battle game
Apple IIGS; 512K; ProDOS 16; copy protected.
$24.95 retail
MicroIllusions; 17408 Chatsworth St.; Grenada Hills, CA 91344; 818-360-3715

Gauntlet
Arcade game featuring attacks by ghosts, grunts, demons and sorcerers
Apple IIGS; 256K; ProDOS 16; copy protected.
$44.95 retail
Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 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, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Hunt For Red October
Submarine combat simulation based on Tom Clancy's best-selling novel
Apple IIGS; 512K; ProDOS 16; not copy protected.
$39.95 retail
Datasoft/IntelliCreations, Inc.; 19808 Nordhoff Pl.; Chatsworth, CA 91311; 818-886-5922

■ Jigsaw! The Ultimate Electronic Puzzle
Puzzle game
Apple IIGS; color monitor; 512K; ProDOS.
Jigsaw! takes the intellectual challenge and complexity of solving puzzles and turns it into a fun and fascinating activity in which the whole family can enjoy and participate.
The program features eye-catching graphics. Included are more than 20 diverse full-color puzzle images. Topics are famous sites, art masterpieces, the alphabet, animals and landscapes.
$39.95 retail; includes 20 image disks
$24.95 retail; additional image disks
Britannica Software; 345 4th St.; San Francisco, CA 94107; 415-546-1866

■ Journey
Game featuring new genre of interactive storytelling: Role-Play Chronicle
Apple IIGS; 512K; ProDOS 16; not copy protected.
Journey brings players to the graphically-illustrated world of dwarves, elves, nymphs and wizards. There players participate in computer storytelling where they become a part of a mesmerizing fantasy epic. Encounter characters such as Tag, Praxix, Bergon and others, as they overcome obstacles and explore unknown lands.
Players must take part in their strategies and problem-solving. The goal is to defeat the evil that has infested the land. The program is scheduled to be released in the Winter of 1989 (subject to change).
$49.95 retail
Infocom, Inc.; 125 Cambridge Park Dr.; Cambridge, MA 02140; 617-492-6000

■ King Of Chicago
Struggle for power
Apple IIGS; 768K; ProDOS 16; copy protected.
The setting is Chicago during the 1930s — prohibition, power struggles, gangland rulers and rampant crime. Capone used to call the shots but he's up the river and Chicago is up for grabs. Violence, intimidation, bribery, treachery and clout — that's what it will take to make it to the top. Knowing how and when to use each one is the trick. Scheduled to be released in October 1988.
$49.95 retail
Cinemaware Corp.; 4165 Thousand Oaks Blvd.; Westlake Village, CA 91362; 805-495-6515

King's Quest I
3-D medieval adventure that takes Sir Graham on a journey to find the magical items that will save the kingdom of Daventry
Apple IIGS; 512K; ProDOS 16; copy protected.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

■ King's Quest II: Romancing The Throne
3-D animated adventure
Apple IIGS; 512K; ProDOS 16; copy protected.
Players of King's Quest II: Romancing The Throne will search with King Graham (now ruler of Daventry) for three magic keys that unlock three doors to an enchanted land. Included are 14 musical tunes in various sections of the game.
$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.
$39.95 retail
Activision, Inc.; 3885 Bohannon Dr.;
Menlo Park, CA 94025; 415-329-0500

Leisure Suit Larry
3-D animated adventure game featuring Larry, the nerd, in Lost Wages
Apple IIGS; 512K; ProDOS 16; copy protected.
$39.95 retail
Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

Marble Madness
Six levels of 3-D runway mazes
Apple IIGS; 512K; ProDOS 8; $14.95 retail; copy protected.
$14.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Mean 18
Realistic golf simulation
Apple IIGS; 512K; ProDOS 16; copy protected.
$44.95 retail
Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Mini-Putt
Miniature golf simulation
Apple IIGS; 512K; ProDOS 16; copy protected.
$39.95 retail
Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Mixed-Up Mother Goose
Transports children to an "adventure in Mother Gooseland"; for the home, nursery school and kindergarten class
Apple IIGS; 512K; ProDOS 16; not copy protected.
$29.95 retail
Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

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.
$39.95 retail
Mindscape, Inc.; 3444 Dundee Rd.;
Northbrook, IL 60062; 312-480-7667

Pinball Wizard
Arcade pinball simulation
Apple IIGS; 512K; ProDOS 16; copy protected.
$34.95 retail
Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

Pirates! IIGS
17th century Spanish adventure on and around the Caribbean Sea
Apple IIGS; 256K; ProDOS 8; copy protected.
$39.95 retail
MicroProse Software, Inc.; 180 Lakefront Dr.;
Hunt Valley, MD 21030; 301-771-1151

Police Quest
3-D animated adventure featuring Sonny Bonds in an attempt to stop the flood of illegal drugs into his community
Apple IIGS; color monitor (SuperSonic stereo card optional); 512K; ProDOS 16; not copy protected.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

Questron II
Sequel to Questron
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

Realm Of Altair Series
Trilogy of all-text adventures
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, vile Nazis, mind control machines and a jet propelled rocket suit
Apple IIGS; 768K; ProDOS 16; not copy protected.
$49.95 retail
Cinemaware Corp.; 4165 Thousand Oaks Blvd.;
Westlake Village, CA 91362; 805-495-6515

S.D.I.
Strategic Defense Initiative; heroic mission of a young American General to rescue a Russian lover
Apple IIGS; 768K; ProDOS 16; not copy protected.
$49.95 retail
Cinemaware Corp.; 4165 Thousand Oaks Blvd.;
Westlake Village, CA 91362; 805-495-6515

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

■ Serve & Volley
Action/strategy tennis simulation
Apple IIGS; 512K; ProDOS 16; copy protected.
Serve & Volley is an action/strategy tennis simulation that emphasizes correct ball placement, timing and stroke selection. The game features a full tennis court 3-D view with action windows displaying unique strobe-like graphics. Users may play on three different court surfaces and play at three different levels of difficulty. The game is scheduled to be released in October 1988.
$44.95 retail
Accolade, Inc.; 550 S. Winchester Blvd., Ste. 200; San Jose, CA 95128; 408-296-8400

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

■ Shogun
An interactive tale of intrigue
Apple IIGS; 512K; ProDOS 16; not copy protected.
Shogun allows a player to experience the popular novel and TV miniseries. It takes place during the 16th century, and a player pretends to be Jack Blackthorne, an English sea pilot on an unchartered route to the Japans. Upon reaching land, the crew finds a power struggle erupting between two Japanese regents who aspire to be Shogun. The program is scheduled to be released in late October 1988.
$59.95 retail
Infocom, Inc.; 125 Cambridge Park Dr.; Cambridge, MA 02140; 617-492-6000

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

■ Sinbad And The Throne Of The Falcon
Epic seafaring quest in a search for the Caliph
Apple IIGS; 768K; ProDOS 16; copy protected.
In the dark, winding streets of Damaron, the news travels in shuddering whispers: the beloved Caliph has disappeared under baffling and impossible circumstances. All that remains is a brooding, mysterious falcon, perched on the Caliph's throne. Sinbad undertakes an epic seafaring quest in a search for the Caliph, facing challenges no mere mortal could hope to overcome. Scheduled to be released in October 1988.
$49.95 retail
Cinemaware Corp.; 4165 Thousand Oaks Blvd.;
Westlake Village, CA 91362; 805-495-6515

■ Skate Or Die
Skating simulation
Apple IIGS; 512K; ProDOS 16; copy protected.
Skate Or Die is a skating simulation game featuring many tricks and races. It allows players to set records on the ramp high jump and show off fakies, ollies, hand plants, 720s, aerials and rail slides on the freestyle ramp. For speed and points you can race the downhill course, going over, under and through drainpipes, gravel and grates.
$39.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Space Quest I - The Sarien Encounter

Animated 3-D adventure game that features Roger Wilco, sanitation engineer turned space-age swashbuckler
Apple IIGS; 512K; ProDOS 16; copy protected.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

■ Space Quest II - Vohaul's Revenge

3-D animated space adventure game with quality graphics
Apple IIGS; 512K; ProDOS 16; copy protected.

Space Quest II - Vohaul's Revenge is the follow-up to The Sarien Encounter. Sludge Vohaul, the demented evil scientist, is back after his sinister plan to rule the universe, which failed in the first episode. More determined than ever, he has a new plan.
$49.95 retail
Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

■ Star Saga: One

An interstellar, interactive, role-playing space opera set 800 years in the future
Apple IIGS; monitor; 512K; ProDOS 16; not copy protected.

Star Saga: One combines the challenges of a multimedia game with the satisfaction of a stimulating novel. The tools are a computer, a game board and text. The secret ingredient is the player, who brings to the game his own abilities to strategize, interpret and improvise — to "playticipate."

The "playticipator" becomes one of six fictional characters: the fearless pilot, the renegade priest, the daring smuggler, the mystic questor, the erudite professor or the brilliant engineer.
$79.95 retail
Masterplay Publishing Corp.; 8417 Sun State St.; Tampa, FL 33614; 813-888-7773

■ Stickybear Basketbounce

A multilevel game with bright graphics and animation for the entire family
Apple IIGS; other Apple II models; 64K; ProDOS 8; copy protected.

The goal of Stickybear Basketbounce is to win points by catching colorful bouncing, twirling, falling objects — including bricks, doughnuts and stars — before running out of baskets. As players try to accumulate points, they must duck falling objects and dodge moving ground obstacles that try to trip them.
$39.95 retail
Weekly Reader Software From Optimum Resource, Inc.; 10 Station Pl.; Norfolk, CT 06058; 800-327-1473 or 203-542-5553

Strategic Conquest II

Strategy war game with two billion different world maps and 15 levels of play
Apple IIGS; 128K; ProDOS 8; copy protected.
$49.95 retail
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

■ Street Sports Soccer

Playing soccer with the old neighborhood gang
Apple IIGS; 512K; ProDOS 8; copy protected.

Street Sports Soccer is tough, fast street-style soccer. Players begin by choosing their playing field, either a grassy but slippery park or an obstacle-filled city street. Then they pick a three player team from a neighborhood cast of characters. As usual, the team with the most goals wins.
$44.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Sub Battle Simulator

Command a Navy sub or German Kreigsmarine U-Boat between 1939 and 1945
Apple IIGS; 512K; ProDOS 16; copy protected.
$49.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Superstar Ice Hockey

Multilevel ice hockey simulation
Apple IIGS; 512K; ProDOS 16; copy protected.
$44.95 retail
Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, IL 60062; 312-480-7667

Tetris IIGS

Game for developing quick reflexes
Apple IIGS; 512K; ProDOS 16; copy protected.
$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

Simulates the cockpit of the U.S. Army's AH-64A Apache helicopter
Apple IIGS; joystick; 512K; recommend 768K; ProDOS 16; not copy protected.
$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

■ Trilogy

Sophisticated adventure game involving many intricate plot twists
Apple IIGS; 256K; ProDOS 8; not copy protected.

Trilogy is an all-text adventure game involving many intricate plot twists. The game contains the complete contents of all three games in the Realm of Altair series. The difference between the two is that, in Trilogy, the three games have been combined into one cohesive game using an "integrator module."
$79.95 retail
Dar Systems International; PO Box 16-4933; Miami, FL 33116-4933; 305-529-3572

Winter Games

Bobsledding, downhill skiing, ice skating, ski jump and more
Apple IIGS; 512K; ProDOS 8; copy protected.
$19.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

World Games

International games
Apple IIGS; 512K; ProDOS 8; copy protected.
$19.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

World Tour Golf

Features the world's great courses, complete with hills, tree, sand traps and weather
Apple IIGS; 512K; ProDOS 16; not copy protected.
$14.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

■ Zany Golf

A wacky fantasy into miniature golf
Apple IIGS; other Apple II models; 512K; ProDOS 8; copy protected.

Zany Golf has unique miniature golf holes. Playing each is like playing a separate arcade game. Example obstacles are: jumping hamburgers, holes that move, lasers and energy orbs.
$39.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

■ Zork Zero

Interactive fiction game
Apple IIGS; 512K; ProDOS 16; not copy protected.

Zork Zero takes a player back to the time before the beginning of Zork Trilogy. Epic in both size and scope, it covers a century of time and explores the collapse of the Great Underground Empire. It has more than 200 locations and features the first graphical puzzles ever offered by the vendor. The program is scheduled to be released in October 1988.
$59.95 retail
Infocom, Inc.; 125 Cambridge Park Dr.; Cambridge, MA 02140; 617-492-6000

Hardware And Peripherals

■ Apollo PC Presenter PC GS

Allows users to display large screen presentations
Model 9600GS requires PC-9685 input box.

The Apollo PC Presenter offers users the ability to create large screen presentations while providing direct plug-in compatibility with the Apple IIGS. Employing any of the LCD panels, users can project overhead transparencies or LCD presentations of computer-generated images. Each LCD panel is equipped with a "super-twisted" liquid crystal display that has a pixel resolution of 640 by 200.

$249 retail; PC-9685 input box
$1,340 retail; PC-9100GS (add-on)
$1,585 retail; PC-9250GS (built-in)
$2,498 retail; PC-9350GS (built-in and portable)
$1,995-$3,082 retail; PC-9600GS (includes three models)
Apollo Audio Visual; 60 Trade Zone Ct.;
Ronkonkoma, NY 11779; 516-467-8033

Apple 3.5 Drive

The IIGS standard drive; provides 800K of program and file storage
Apple IIGS.
$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
Apple IIGS; Apple SCSI Card.
$1,099 retail; includes SCSI system cable and SCSI cable terminator
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

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; includes software and external connector box
Apple IIGS; 1 MB; ProDOS 16; software not copy-protected.
$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.;
15220 NW Greenbrier Pkwy., Ste. 200;
Beaverton, OR 97006; 503-690-8090

■ CommLink 2400

Full featured 2,400/1,200/300-baud Hayes compatible external modem
Apple IIGS; RS-232 serial cable.

CommLink 2400 is a full featured 2,400/1,200/300-baud Hayes compatible external modem. It supports Hayes "AT" commands, all dialing commands, 20 Hayes 'S' Registers and works with CommWorks IIGS and other Hayes-compatible communications software.

CommLink 2400 also features autodial, auto answer and tone detection to save valuable time and effort. The modem is designed to work not only with Apple computer systems, but with any computer having an RS-232 interface.

$249.95 retail
MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404;
415-573-0580

ComputerEyes IIGS

Color video digitizer that captures images for use in popular desktop publishing and 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 that captures images for use in popular desktop publishing and paint programs
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 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

■ The CrystalPrinter Publisher

PostScript-compatible page printer
Apple IIGS.

The CrystalPrinter Publisher, a PostScript-compatible page printer, features a printer-resident reduced instruction set computing (RISC) architecture printer controller utilizing Weitek Corp.'s ultra-high performance HyperScript-Processor XL-8200 chip set. According to the company, this gives the printer a price/performance advantage over other PostScript printers.

The Publisher has a resolution of 300 dots per inch. It can be used with an Apple IIGS computer through the printer's standard AppleTalk interface and can also be linked to other systems.

$4,499 retail
Qume Corp.; 500 Yosemite Dr.; Milpitas, CA 95035;
408-942-4000

■ CT20; CT30

20 and 30 MB external hard disk drives
Apple IIGS.

The CT30 is the latest edition to the company's SCSI product line. It is a 30 MB external hard disk drive and is provided with the Chinook SCSI controller card, cables and operating and utility software. Average access time for both drives is 68 milliseconds. Both drives are compatible with ProDOS 8 and ProDOS 16 non copy protected programs.

$650 retail; CT20
$750 retail; CT30
Chinook Technology, Inc.; 601 Main St., #635;
Longmont, CO 80501; 800-727-5544

Data Display A200
LCD display panel that projects computer images via an overhead projector
Apple IIGS; not copy protected.
$1,199 retail
Computer Accessories Corp.; 6610 Nancy Ridge Dr.; San Diego, CA 92121; 619-457-5500

DataLink 1200 And DataLink 2400
Internal 1,200 bps and 2,400 bps modem boards complete with communications software
Apple IIGS; other Apple II models.
$179 retail; DataLink 1200
$239 retail; DataLink 2400
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

DCA1000
Six outlet strip with surge suppressors and phone/modem protection
Apple IIGS.
$59.95 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.
$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; plugs directly into the Supersonic stereo card expansion connector
Apple IIGS; 512K; ProDOS 16; not copy protected.
$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 that combines the speed and power of a fixed drive with the portability of a floppy
Apple IIGS, other Apple II models; copy protected.
$799 retail; central unit
$899 retail; 21 MB hard disk
$1,299 retail; 42 MB hard disk
$1,699 retail; 84 MB hard disk
N/A; 125 MB hard disk
Mega Drive Systems; 1801 Avenue of the Stars, Ste. 507; Los Angeles, CA 90067; 800-322-4744

Echo IIb Speech Synthesizer
Text-to-speech board compatible with software written for the Echo II and Echo+ boards
Apple IIGS; 256K; ProDOS 8 and DOS 3.3; not copy protected.
$129.95 retail
Street Electronics Corp.; 6420 Via Real; Carpinteria, CA 93013; 805-684-4593

Epic 2400Mini And Classic II Modems
External and internal modems that operate at 300/1,200/2,400-baud rates
Apple IIGS.
$219 retail; Classic II (includes software)
$219 retail; Epic 2400Mini
Epic Technology, Inc.; 5680 Stewart Ave.; Fremont, CA 94538; 800-634-9992 or 415-683-0932 (CA)

FingerPrint G+
Parallel graphic interface for parallel printers
Apple IIGS; printer.
$79 retail
Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

FingerPrint GSi Version II
Screen dump graphic utility card
Apple IIGS; printer.
$129 retail
Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

■ FingerPrint SuperSerial
Enhanced serial graphic printer interface card
Apple IIGS; printer.

The FingerPrint SuperSerial is an enhanced serial graphic printer interface card that allows users to connect a serial printer or modem to an Apple IIGS. This card will print text and graphics from almost every program and can be set up as an Apple Super Serial card. The card can also dump text and graphic screens using keyboard commands. It supports most serial printers and modems and includes a cable. It is a low-priced alternative to the Apple Super Serial Card.

$79 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 that provide 0K to 4 MB of memory expansion
Apple IIGS.
$59 retail; 0K
$399 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
$399 retail; 512K GS-RAM
$699 retail; 1 MB GS-RAM
$999 retail; 1.5 MB GS-RAM
$169 retail; 0 MB GS-RAM Plus
$699 retail; 1 MB GS-RAM Plus
$1,249 retail; 2 MB GS-RAM Plus
Call for pricing; GS-RAM 3-8 MB
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

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
GCC Technologies, Inc.; 580 Winter St.; Waltham, MA 02154; 617-890-0880

ImageBuffer
ImageWriter II printer buffer providing 64K (expandable to 128K) of buffer storage
Apple IIGS; other Apple models; ImageWriter II.
$59 retail
Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

■ ImageWorks II Board
Gives the Apple IIGS advanced imaging and graphics capabilities
Apple IIGS; other Apple II models; 64K; not copy protected.

The ImageWorks II Board produces a digital picture capable of 256 levels of gray for each dot and provides a smooth transition from black to white. A video source, such as a video camera, VCR or tuner provides the input. The output can be photographed off of the monitor screen or fed to a laser printer. A standard feature is the "frame grabber" that captures a video image in 1/60 of a second. Included is a manual, cables, brackets, wrench and a demo disk. Adding the ImageWorks II Color Adapter allows the display of 256 colors in place of the gray scale.

$350 retail; ImageWorks Board
$150 retail; ImageWorks II Color Adapter
Redshift Limited; PO Box 4335; Mountain View, CA 94040; 415-322-7373

ImageWriter II
Apple standard printer
Apple IIGS; other Apple models.
$595 retail; ImageWriter II
$99 retail; ImageWriter II 32K Memory Option
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 for the Apple II family of computers
Apple IIGS; 48K; DOS 3.3.
$139.50 retail
Koala Technologies/A Pentron Company;
269 Mt. Hermon Rd; Scotts Valley, CA 95066;
408-438-0946

■ Line-Saver Uninterruptible Power Systems (UPS)

Provide emergency power when the utility power fails or is unstable
Apple IIGS; other Apple II models.

Kalglo's Line-Saver UPS series has recently been improved to offer more benefits to the Apple II family. All members of the Line-Saver family feature: 2 millisecond transfer time; Outlet Wiring Integrity Checker, which ensures safe wiring and grounding; both low and high voltage trip points; and more.
$549 retail; starting price
Kalglo Electronics Co., Inc.; 6584 Ruck Rd.;
E. Allen Township; Bethlehem, PA 18017-9359;
215-837-0700 or 800-524-0400

■ Meirick Stand-By UPS Systems

Stand-by uninterruptible power system (UPS)
Apple IIGS.

The Meirick Stand-by UPS System for the Apple IIGS provides an uninterruptible power supply and is available in 350, 700, 1,000 and 1,400 watts. Features include: slimline packaging that allows the unit to fit conveniently under the computer monitor; a Power Director that provides centralized switch control of the computer and up to three peripherals; modular design that allows field-installed upgrades as computer systems grow; and more.
$549 retail; Meirick 350
$749 retail; Meirick 700
$995 retail; Meirick 1000
$1,195 retail; Meirick 1400
Meirick, Inc.; Box 298; Frisco, CA 80443; 303-668-3251

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.
$254 retail; 256K
$399 retail; 512K
$689 retail; 1 MB
$1,238 retail; 2 MB
$7.95 retail; MemorySaver Adapter
$39.95 retail; MemorySaver Extender
Checkmate Technology, Inc.; 509 S. Rockford Dr.;
Tempe, AZ 85281; 800-325-7347 or 602-966-5802

OctoRam And OctoRam ESP

Extended memory boards; available with an optional Extended Static Ram Pack (ESP board)
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.;
Northridge, 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
$109 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 (Plug-In Card)

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 (Plug-In Card)

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.
$489 retail; PC Transporter with 384K
$559 retail; PC Transporter with 512K
$629 retail; PC Transporter with 640K
$699 retail; PC Transporter with 768K
$269 retail; 5.25-inch 360K Drive
$399 retail; Dual-Drive 5.25-inch System
$139 retail; optional IBM-style keyboard
Applied Engineering; PO Box 5100;
Carrollton, TX 75011; 214-241-6060

Phasor

Speech and 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

Power Director Model 25

Power protection and surge suppression with four-outlet power control center
Apple IIGS.
$99.95 retail
Computer Accessories Corp.; 6610 Nancy Ridge Dr.;
San Diego, CA 92121; 619-457-5500

Power Saver Plus

Standby power supply
Apple IIGS.
$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

■ Power Tree

Three surge suppressors: good, better and best

The Power Tree 10 is an economical strip that offers six surge protected outlets, a lighted master switch and a six-foot power cord.

The Power Tree 20 includes the features of Power Tree 10 plus an additional circuitry that filters out disruptive EMI and RFI line noise. It also offers the extra security of a buzzer alarm to the LED surge indicator light.

The Power Tree 50 is the top-of-the line surge suppressor. Features not found in the others include a nine-foot power cord and a handy mounting bracket. It also offers additional modem/telephone line surge suppression circuitry to protect against electrical disturbances on the telephone line.
$29.95 retail; Power Tree 10
$49.95 retail; Power Tree 20
$99.95 retail; Power Tree 50
Kensington Microware Ltd.; 251 Park Ave. S.;
New York, NY 10010; 800-535-4242
or 212-475-5200 in NY

PowerLine
Three surge suppressors
Apple IIGS.
$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; software not copy protected.
$169 retail
Prometheus Products, Inc.; 7225 SW Bonita; Tigard, OR 97223; 503-624-0571

■ ProModem 2400A
Internal modem
Apple IIGS; other Apple II models; communications software; 64K; software not copy protected.

The ProModem 2400A is a Hayes-compatible 300/1,200/2,400-baud internal modem that includes ProCom-A communications and word processing software. Features include auto answer/auto dial; on-board speaker for call progress monitoring; and a second telephone jack for voice handset.
$239 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
A SmoothTalking speech card
Apple IIGS; Apple IIe; 64K; ProDOS 8; software not copy protected.
$159.95 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; IIe; 64K; ProDOS 8; not copy protected.
$299.95 retail
Electronic Learning Systems, Inc.; 2630 NW 39th Ave.; Gainesville, FL 32605; 800-443-7971

Serial Pro
Multifunction board combining a serial port with a functioning clock/calendar board
Apple IIGS; other Apple II computers.
$139 retail
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

Sider
External hard disk drive and tape backup subsystem
Apple IIGS; IIe; 256K.
$595 retail; Sider Model D2
$795 retail; Sider Model D4A
$999 retail; Sider Model D4F
$895 retail; Sider Model T6
$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 retail; Smartcom software
Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

Sonic Blaster
Stereo digitizer that records, amplifies, allows editing and plays back in full stereo; includes software
Apple IIGS; 512K; ProDOS 16; not copy protected.
$129 retail
Applied Engineering; PO Box 5100; Carrollton, TX 75011; 214-241-6060

SoundAce
Inexpensive audio digitizer, incorporating high-resolution graphics and digital effects
Apple IIGS; 512K; ProDOS 16; not copy protected.
$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; 512K; ProDOS 16; not copy protected.
$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.; 15220 NW Greenbrier Pkwy., Ste. 200; Beaverton, OR 97006; 503-690-8090

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
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Master Tracks Jr. For IIGS
Personal MIDI recording studio that provides tools for composing, recording and editing music with a graphical interface
Apple IIGS; 256K; MIDI interface; MIDI equipped instrument.
$149.95 retail; Master Tracks Jr.
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

■ Music, Midi And Your Apple II

Information newsletter

Music, Midi And Your Apple II is a monthly newsletter that shows readers how to get the musical most out of their Apple IIGS and other Apple II computers. Written for all levels of Apple and musical expertise, each issue contains helpful hints, product reviews, do-it-yourself projects and educational notes. Topics range from programming with the IIGS Toolbox for musical applications to how to use the Apple computer to learn music theory and more.
$14.95 retail; one-year subscription
$26 retail; two-year subscription
MMP Systems; 635 Lytton Ave.; Palo Alto, CA 94301

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 Instrument Designer

Sound wave designer
Apple IIGS; synthesizer and printer optional; 512K; ProDOS 16; not copy protected.

Pyware Instrument Designer is a sound wave designer used to create instrument sounds or original sounds using the built-in Ensoniq chip.
$129 retail
Pygraphics Corp.; PO Box 639; Grapevine, TX 76051;
800-222-7536 or 817-481-7536

■ Pyware MIDI Translator

Converts sequencer files into notation files
Apple IIGS; synthesizer and sequencer program; 768K; ProDOS 16; not copy protected.

The Pyware MIDI Translator converts sequencer files into notation files that can then be used in conjunction with Pyware Music Writer.
$79 retail
Pygraphics Corp.; PO Box 639; Grapevine, TX 76051;
800-222-7536 or 817-481-7536

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.
$59.95 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 IIGS Workstation Software
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.
$129 retail
Apple Computer, Inc.; 20525 Mariani Ave.;
Cupertino, CA 95014; 408-996-1010

MouseFiler Network Utilities

Enables the Apple II user to work with an AppleShare server over the AppleTalk network; Macintosh-style desktop using windows, pull-down menus and the mouse.
Apple IIGS; AppleShare Server, AppleTalk Network and Apple II Workstation board; 128K; ProDOS 8; not copy protected.
$199.95 retail
Harbor Software, Inc.; 403 Great Rd., Ste. 8;
Acton, MA 01720; 508-263-1870

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.
$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

■ Boston CitiNet

Free online information service
ASCII terminal with modem.

Boston CitiNet is an interactive information network for users in the Boston area. Advertisers use CitiNet to promote their products and services, stay in touch with customers and develop new markets.

Features on Boston CitiNet include: electronic mail; real estate information; arts and entertainment listings; sports and ski reports; online chat conferences; online shopping mall; business news and products; special interest groups; education; jobs/help wanted; medical networking; electronic dating; travel information; computer services and government/politics.
Free to access
Boston CitiNet; Ste. 717, World Trade Center;
Boston, MA 02210; 617-439-5678
or 617-439-5699 (modem)

Compuserve Information Service

Online telecommunications with MAUG, an Apple II forum
Apple IIGS; modem; communications software.
$39.95 retail; Subscription Kit
Compuserve Information Service; PO Box 20212;
Columbus, OH 43220; 800-848-8199
or 614-457-0802 (in Ohio and outside the United States)

Genie

Online database with an Apple II special interest group
Apple IIGS; modem.
$5 per hour retail; after hours
$35 per hour retail; prime time
General Electric Information Services Co.; 401 N.
Washington St.; Rockville, MD 20850; 800-638-9636

The Source/Applesig

Telecomputing network; includes Apple II forum (Applesig). It is also the only place one can electronically access *The Apple IIGS Buyer's Guide* database. This database version is more extensive than the magazine version
Apple IIGS; other Apple IIGS models; 64K system, and a ProDOS terminal program is necessary to download software from Applesig's library; modem; communications software.
$29.95 retail; one-time membership dues
$6.00 per hour; 300-baud on evenings and weekends
$7.80 per hour; 1,200-baud on evenings and weekends
$9.00 per hour; 2,400-baud on evenings and weekends
The Source; 1616 Anderson Rd.; McLean, VA 22102;
800-336-3366, 703-821-6666 (membership)
or 703-734-7500 (business office)

Personal Productivity

The Food Processor II

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

■ Genealogical Data Base System (GDBS)

Genealogical software
Apple IIGS; other Apple II models; 48K; ProDOS 8 and DOS 3.3; not copy protected.

The Genealogical Data Base System (GDBS) consists of genealogical software that contains programs simple enough to be used by a novice, yet powerful enough to be a valuable tool for the professional genealogist. The data entry program of GDBS enables a user to develop a database of genealogical data that can be used to produce displays and, preformatted printed products useful in showing relationships. A database can contain 10,000 persons and the number of databases is unlimited.
$99.95 retail
Data Base Systems; PO Box 7263; Huntsville, AL 35807; 205-881-6957

■ L.I.F.E. Diary

Stands for "Learn/Improve from Experience"
Apple IIGS; other Apple II models; 64K; ProDOS 8; not copy protected.

The L.I.F.E. Diary is a set of programs that can be used as a journal with entries accessed by date or other characteristics. It is also designed to be used as a problem solver, offering optional ratings of causal factors and problem-solving steps. Progress in areas such as weight control, exercise and assertiveness can be recorded, date-specific reminders filed and ideas and lessons learned from experience entered by file and within-file category.

By applying the L.I.F.E. Diary, users will be better able to understand and control stress.
$24.95 retail
Maretech; 325 Newell St., Dept. A3; Walla Walla, WA 99362; 509-529-1894

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

Personal Accountant 2.0

Personal accounting system for personal and small business use
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$49.95 retail
Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

Quicken

Single-entry bookkeeping software for small business and personal use
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$49.95 retail
Intuit, Inc.; 540 University Ave.; Palo Alto, CA 94301; 415-322-0573

Programming And Utilities

■ 360 Text Toolkit

System libraries for APW/ORCA programming environment
Apple IIGS; ORCA/M or APW development system; ProDOS 16; not copy protected.

The 360 Text Toolkit brings text screen I/O to the APW/ORCA programmer. It contains an extensive set of library routines designed to remove the burden of developing a sophisticated user interface. Features include: high speed; direct video access; multiple textport definition; frame and fill capabilities; formatted output; custom made input routines; menu management including menu bars, menu boxes and lists; document data structure for managing text in memory; and multiplane window definition.
$49.95 retail
360 Microsystems; 12272 Fox Hound Ln.; Orlando, FL 32826; 407-275-6418

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 V. 1.0.1

Final release of the APW C compiler, plus revised Apple IIGS tool interfaces
Apple IIGS; APW V.1.0 or later; two 3.5-inch disk drives; hard disk recommended; 1.25 MB RAM.
$75 retail; $20 per year membership required
$17.75 retail; update
$10 retail; interface-only update for members
Apple Programmer's and Developer's Association; 290 SW 43rd. St.; Renton, WA 98055; 206-251-6548

APW: Apple IIGS Programmer's Workshop V. 1.0.1

Software development system
Apple IIGS; two 3.5-inch disk drives; hard disk recommended; 1.25 MB.
$100 retail; $20 per year membership required
$10 retail; interface-only update for members
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; 64K; ProDOS 8; not copy protected.
$39.95 retail
Central Point Software, Inc.; 15220 NW Greenbrier Pkwy., Ste. 200; Beaverton, OR 97006; 503-690-8090

Disc Commander

ProDOS disk editor
Apple IIGS; two drives; RGM monitor; 512K; ProDOS 8; not copy protected.
$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; 512K; ProDOS 16; not copy protected.
$59.95 retail
FWB, Inc.; 2040 Polk St., Ste. 215; San Francisco, CA 94109; 415-474-8055

The Diversi Series

Family of utility software designed to enhance performance of the Apple IIGS and disk drives
Apple IIGS; 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

■ Fasthouse

Software program for controlling the X-10 Powerhouse
Apple IIGS; other Apple II models; disk drive; X-10 Home Control interface; RC Systems' Slotbuster with speech synthesis module and SCAT software for speech; 64K; ProDOS 8; not copy protected.

Fasthouse is a software program that is used to program and control the X-10 Powerhouse, a low-cost home-control system. Fasthouse is text based, boots quickly, allows unlimited schedules, which can be saved and reloaded easily and allows the X-10 interface to be in any slot. The program also prints schedules for easy reference.

Fasthouse has a IIGS port two option. Also available is a special cable allowing the X-10 Powerhouse to be connected directly to the IIGS.
$34.95 retail
Kado Systems; PO Box 1115; Pflugerville, TX 78660; 512-990-2390

■ File Utilities I

System utilities for APW/ORCA programming environments
Apple IIGS; ORCA/M or APW development system; ProDOS 16; not copy protected.

File Utilities I is a set of 14 new commands for the APW/ORCA shell environments. These 14 commands focus on improving file manipulation capabilities of the APW/ORCA programmer. Commands are Erase, Find, Flist, Head, More, Print, SetDate, Strip, Tail, Perm, Reboot, Split, Sum and Touch.

All the commands in File Utilities I support APW/ORCA conventions for parameter flags, wildcard specifications and directory walking.
$34.95 retail
360 Microsystems; 12272 Fox Hound Ln.; Orlando, FL 32826; 407-275-6418

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
Paint/animation program that also 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; 512K; ProDOS 8; not copy protected.
$19.95 retail
On Three, Inc.; 8920 Yolanda Ave.;
Northridge, 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 for Applesoft BASIC and the Apple IIGS
Apple IIGS; two drives; RGB monitor; 512K; ProDOS 8; not copy protected.
$49.95 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; ProDOS 8 and DOS 3.3; 128K; not copy protected.
$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; 64K; 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; ProDOS 16; not copy protected.
$49.95 retail
MicroSparc, Inc.; 52 Domino Dr.; Concord, MA 01742;
508-371-1660

Lisa 816 V5.0
Apple IIGS native mode release of the Lisa interactive assembly language development system
Apple IIGS; 512K; 1 MB recommended; ProDOS 16; not copy protected.
$70 retail
H.A.L. Labs; 9472 Magnolia Ave.; Riverside, CA 92503;
714-359-8480

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.; PO Box 2192; Ketchum, ID 83340;
208-726-5846

Merlin 8/16
Includes two versions of Merlin 8 for assembling 8 bit ProDOS and DOS 3.3 programs and Merlin 16 for assembling 8 and 16 bit ProDOS programs
Apple IIGS; other Apple II models; 128K; ProDOS 8, ProDOS 16 or DOS 3.3; not copy protected.
$124.95 retail
Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P;
El Cajon, CA 92020; 619-442-0522

■ Micol Advanced BASIC
Allows programmers to write BASIC programs that operate specifically for the IIGS
Apple IIGS; not copy protected.

Micol Advanced BASIC was developed under the company's own Apple IIGS development system. Features include: 65816 native code generated; Pascal-like functions, procedures and parameters; 80-column full-screen text editor; ultra-fast screen displays; CASE statements; and more.
$145 retail
Micol Systems; 9 Lynch Rd.;
Willowdale, Ontario, Canada M2J 2V6; 416-495-6864

Micol Macro
Integrated text editor, monitor/shell and self-relocating macro-assembler; designed for programmers working in assembly language
Apple IIGS; 512K; ProDOS 16; not copy protected.
$89.95 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; 508-263-1870

■ MPW IIGS
Assembler
MPW IIGS Assembler requires MPW 2.0.2 and MPW IIGS Tools; MPW IIGS C requires MPW IIGS Tools and MPW 2.0.2; MPW IIGS Tools requires MPW 2.0.2 and either MPW IIGS Assembler or MPW IIGS C.

The MPW IIGS Assembler V. 1.0B1 is the first beta release of a cross-development system for the Apple IIGS and other Apple processors, which runs in the MPW environment on the Macintosh. The MPW IIGS family of products allows programmers who work on Macintosh computers to write code for the IIGS. The assembler generates code for the 65816, 6502 and 65C02.

MPW IIGS C V. 1.0 is the final release of the C compiler for the MPW IIGS cross-development system.
$150 retail; MPW IIGS Assembler V. 1.0B1
$150 retail; MPW IIGS C V. 1.0
$50 retail; MPW IIGS Tools V. 1.0
$15 each retail; updates for MPW IIGS C and MPW IIGS Tools
$20 annual membership dues required
Apple Programmer's and Developer's Association;
290 SW 43rd. St.; Renton, WA 98055; 206-251-6548

ORCA/Desktop For The IIGS
Programming environment for APW compatible languages
Apple IIGS; memory depends on language used; ProDOS 16; not copy protected.
$60 retail
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207;
Albuquerque, NM 87114; 505-898-8183

ORCA/M Assembler For The Apple IIGS
Complete development environment for assembly language programming
Apple IIGS; 512K; ProDOS 16; not copy protected.
$69.95 retail
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207;
Albuquerque, NM 87114; 505-898-8183

ORCA/M Support Programs
Adds 12 new commands to the ORCA/M, ORCA/Pascal or Apple Programmer's Workshop shell; library contains the source code to the ORCA/M and ORCA/Pascal; takes Merlin source code and translates it to ORCA/M source code
Apple IIGS; ORCA/M For The Apple IIGS; 512K each; ProDOS 16; not copy protected.
$39.95 retail; Utility Package #1
$39.95 retail; Subroutine Library Source
$29.95 retail; Merlin to ORCA Source Code Translator
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207;
Albuquerque, NM 87114; 505-898-8183

ORCA/Pascal For The IIGS
Pascal programming language with desktop programming environment and source level debugger
Apple IIGS; 768K for text environment; 1,024K for desktop environment; ProDOS 16; not copy protected.
$150 retail; ORCA/Pascal with desktop and debugger
The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207;
Albuquerque, NM 87114; 505-898-8183

The Power System
Programming systems: UCSD Pascal; Modula-2; Fortran 77; BASIC and C
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 V. 2.0
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 V. 2.0
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; ProDOS 8; not copy protected.
$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 with Macintosh simplicity
Apple IIGS; 128K; ProDOS 8; copy protected.
$59.95 retail
Random House, Inc.; 400 Hahn Rd.; Westminster, MD 21157; 800-638-6460

■ AppleWorks GS
Integrated software package
Apple IIGS; 1 MB; ProDOS 16; not copy protected.

AppleWorks GS includes six applications in one program — word processing, database management, spreadsheet, page layout, graphics and communications.

The word processor features different character styles, sizes and fonts, as well as an 80,000 word spell-checker and thesaurus. The database includes various numeric and string-handling functions, search and sort options and report and mailing label generation. It supports text, numeric, date, time and picture data types. The graphics application uses object-based graphics such as those used in Top Draw, but its objects can be edited as if they were bit-mapped images.

AppleWorks GS' spreadsheet is mouse-based. It employs intelligent recalculation — updating only those cells affected by changes made to a cell. It also provides color chart and graph generation. The page-layout application features multiple column capability, compatibility with all IIGS graphics formats, complete text editing and tools for creating object graphics, rules and lines. The communications system works with both internal and external modems and supports most popular modems.
$249.95 retail
Claris Corp.; 440 Clyde Ave.; Mountain View, CA 94043; 415-960-2790

Bank Street Writer III
Word featuring integrated 60,000 word spelling checker and a 50,000-synonym thesaurus; processing for primary and high school students
Apple IIGS; other Apple II models; 128K; ProDOS 8; copy protected.
$99.95 retail
$79.95 retail; academic
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

DeluxeWrite
Word processor that combines text and graphics to create documents for letters, school reports, business reports and more
Apple IIGS; 768K; ProDOS 16; not copy protected.
$79.95 retail
$129.95 retail; DeluxeWrite/DeluxePaint II
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; other Apple II models; extended memory card recommended for expanded desktop (384K); two disk drives; 128K; ProDOS 8; not copy protected.
$149.95 retail
Roger Wagner Publishing, Inc.; 1050 Pioneer Way, Ste. P; El Cajon, CA 92020; 619-442-0522

Sensible Grammar
Proofreading program that checks word processing files for common writing errors
Apple IIGS; word processing program; 128K; ProDOS 8; copy protected
$99.95 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Speller For ProDOS
Electronic dictionary containing 80,000-word Concise Edition of the Random House Dictionary on disk
Apple IIGS; word processing program; 64K; ProDOS 8; copy protected.
$125 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Writer
Word processor featuring built-in mail merge and automatic envelope addressing; shares data with AppleWorks
Apple IIGS; 128K; ProDOS 8; not copy protected.
$99.95 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Wordbench
Word processing program
Apple IIGS; other Apple II models; 128K; ProDOS 8; not copy protected.
$149 retail
Addison-Wesley Publishing Co., Inc.; 1 Jacob Way; Reading, MA 01867; 617-944-3700

WordPerfect For The Apple IIGS
Full-featured word processor with more than 110 features
Apple IIGS; two disk drives or a hard disk drive recommended; additional memory card recommended; 512K; ProDOS 16; not copy protected.
$179 retail
WordPerfect Corp.; 1555 N. Technology Way; 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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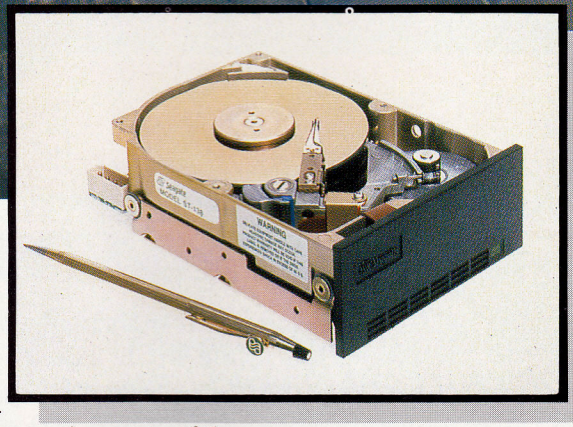

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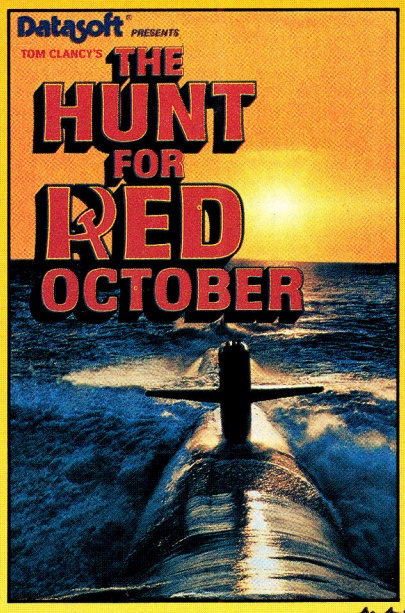

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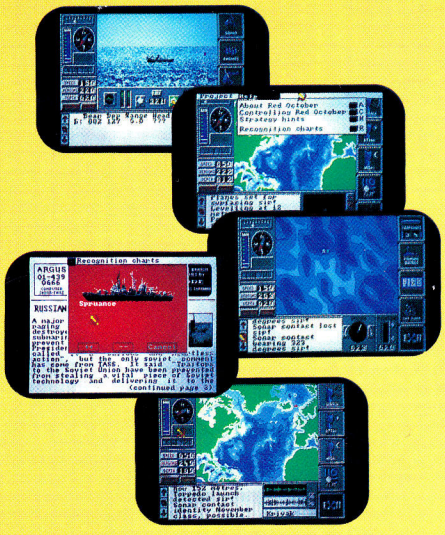

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