Apple IIGS

The Buyer's Guide

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

AppleFest

A Coming Out Party For The Apple IIGS

Educational Software That Talks

MS-DOS On The Apple IIGS

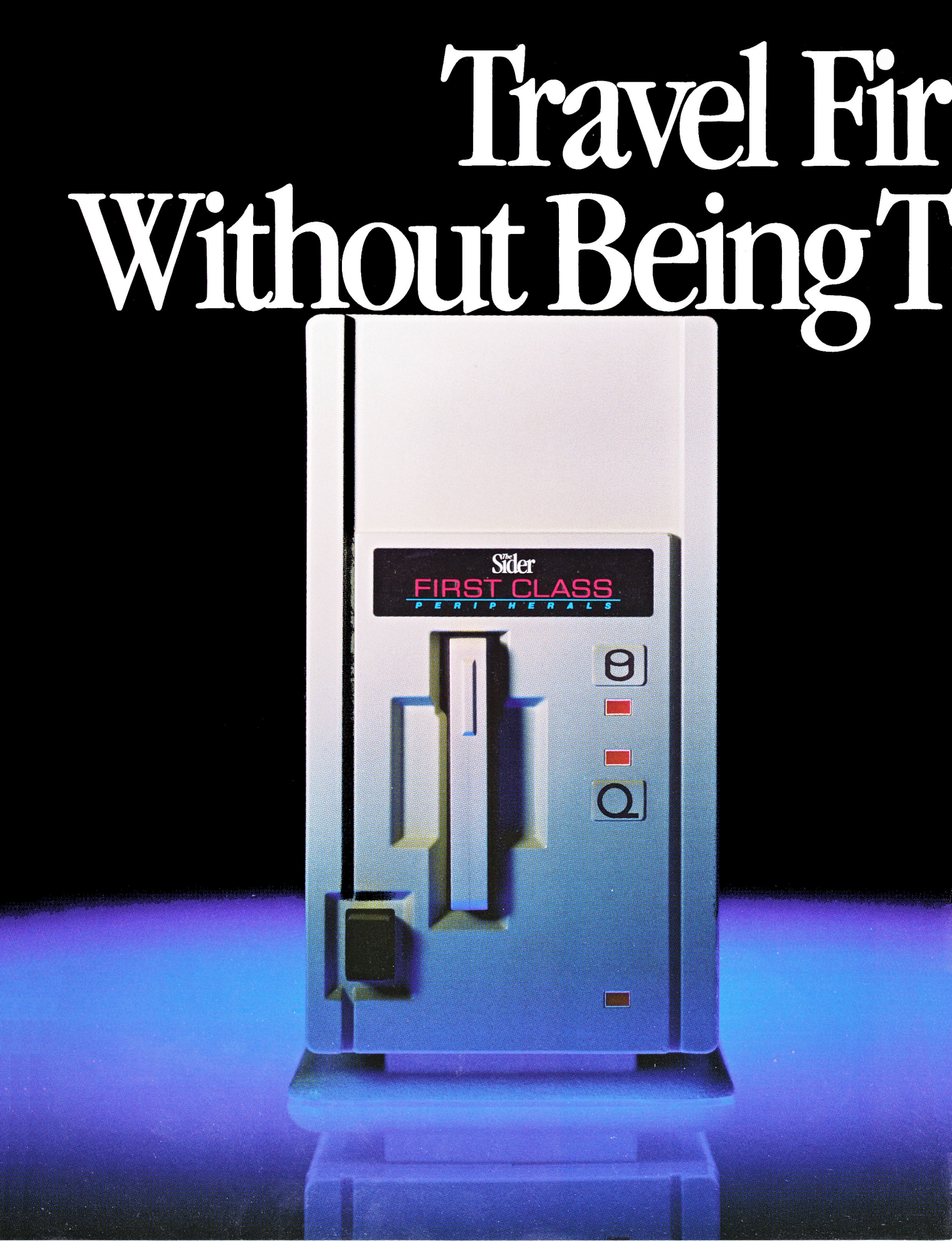
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CONTENTS

Apple IIGS
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Editor's Window 4

Features

Stars Of The Show 7
The Apple IIGS and the industry it spawned were evident everywhere at AppleFest.

Mastering Numbers And Words 14
Not every Apple II educational software offering takes full advantage of the Apple IIGS, but here are four that do.

A Parental Primer 22
With so much going on in and out of classrooms, it's hard for parents to keep track of their children's computer use. If you're falling behind, read this insider's report of how computers and kids are working together.

The Apple IIGS As A File Cabinet 27
The Apple IIGS loves to organize numbers and words. Here are four database management programs to keep you and your computer as organized as you care to be.

Product Reviews

PC Transporter 32
FutureSound 33
Turbo Mouse ADB 34
MemorySaver 35
VIP Professional 37
Instant Music 40
ORCA/M and TML Pascal 40
The Sensible Series 42



Cover Photography by Greg Leary, Melbourne, FL. Design by P.N. Walker

Comprehensive Product Directory

Accessories 44
Switch boxes, cleaning kits, dust covers, mouse containers and more

AppleWorks 46
Compatible programs for AppleWorks

Books and Publications 47
Literature of interest to Apple IIGS users

Business and Productivity 49
Integrated software, accounting packages, vertical-market software, personal finance packages, word processors and more

Creative 52
Paint, draw, animation software and more

Desk Accessories 54
Pop-up accessory software for home and business

Desktop Publishing 55
Combined graphics and text software for personal publishing projects

Education 56
Reading, writing, arithmetic and more

Entertainment 59
Basketball, simulations, adventures and more

Hardware and Peripherals 62
Extended memory boards, hard disk drives, graphics products, synthetic speech accessories, modems and more

Music 67
Training, writing and MIDI software for music

On-Line Databases 68
Information utilities available on-line

Programming and Utilities 69
File recovery software, programming languages and programmer utilities

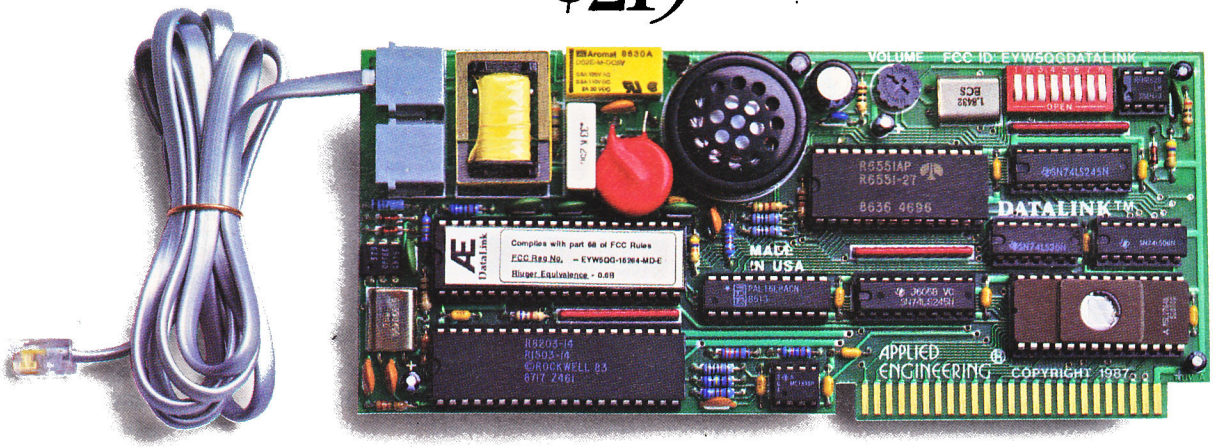
Indexes

Product Index 72

Advertiser's Index 71

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Square Dealers

The first few months as a new computer user can either be a wonderful learning experience or an exercise in digital hell. Somewhere between these two extremes you'll find computer dealers. In my book, their job (besides collecting sales commissions) is to help smooth the transition from computer novices to at least "white-belt" Apple hackers.

Many computer dealers have personnel who can provide real support to beginners and long-time Apple II users alike. These staff people understand the Apple IIGS, actually use the machine and enjoy helping others get the most from their computer investments.

Unfortunately, not all dealers fit the description above. The following is a story of what can happen when things go wrong at the dealer level, submitted by reader Charles E. Hackwith, Jr., of Orange County, California.

Scene I — A postcard from Apple Computer, Inc. arrives stating that the company is pleased to extend a free read-only memory (ROM) upgrade chip to Apple IIGS users. "I call my dealer and attempt to explain the situation to a salesperson who sounds like a high school student and a recent graduate of an introduction-to-computers course," writes Hackwith. "The kid doesn't know anything. He can't locate the service technician and he says the parent company of the store was recently acquired by another firm. I feel a premonition of darker things to come."

Scene II — "I phone the corporate office of the computer retail chain store. A pleasant, drowsy-sounding lady answers, and I have to reiterate my explanation of what the chip is, its name and so forth. She says she'll have to ask her supervisor, but doesn't know when she can call me back. I hang up after thanking her, but now my blood begins to simmer."

Scene III — "I dial Apple Computer's toll-free telephone number. A lady answers, and I explain the problem, asking if she can give me the name of another dealer. She asks for my zip code. I give it to her, and she proceeds to give me the name of the company where I bought my IIGS, the one that can't provide the service. She then says she can't give me the name of another dealer unless I can provide her with another zip code. I hang up."

Epilogue — "After thumbing through the yellow pages for five minutes, I call another dealer on my own. A nice kid answers the phone, so I explain my problem. He says Apple hasn't begun shipping the chips to its dealers yet and a lot of people are waiting. I thank him and ask additional questions about memory boards and software. He gives me the straight dope on how to save money. He also says his store can install the chips when they get them from Apple!"

This much-abridged version of Mr. Hackwith's drama may have a familiar ring. Fortunately, it also has a happy ending and a moral. Take the time to shop around for a competent dealer. A little hand-holding in the early stages of computer use may be worth whatever extra money such support demands, if any.

Also, if I may suggest, familiarize yourself with this and future issues of *The Apple IIGS Buyer's Guide.* After all, where else can you get such complete and current information on more than 200 Apple IIGS products?

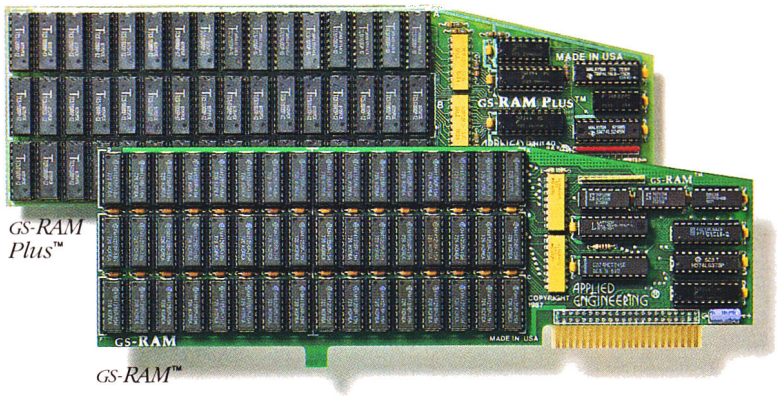
As for the ROM situation depicted above: Any Apple IIGS manufactured after late September, 1987 should have the latest ROM chip already installed. If your machine does not — the chip's copyright notice appears on the bottom of the screen when your computer is booted — don't despair. Authorized dealers should now have the latest chips and system software available free of charge to registered Apple IIGS users.

Unless, of course, the dealer's parent company has just been acquired by another firm . . . .

— Paul Pinella, Editor-In-Chief

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Stars Of The Show

The Apple IIGS and the industry it spawned were evident everywhere at AppleFest.

AppleFest had been a long time coming. Before last fall's event in San Francisco, no one was willing to gamble that the Apple II market could support an exhibition of its own. Plenty of regional shows had been held for the 4 million Apple II users over the years, but not since 1983 had anything been done at the national level.

Then came the Apple IIGS, a whole new sense of market excitement and a decision from Cambridge Marketing, Inc., Lexington, Massachusetts, to revive AppleFest. Smart move. Although AppleFest was billed as a show for the entire Apple II family, practically the entire IIGS universe turned out to celebrate the machine's growing success.

Of the 150 hardware and software vendors in attendance, many showcased their products on Apple IIGS computers. In fact, many chose AppleFest as the launching pad for new IIGS-specific hardware and software offerings, which the crowds loved. During the show's four-day span, it was obvious that many of the 22,000 attendees either owned IIGS personal computers or were considering one.

The Word From Apple

Apple Computer, Inc. chose AppleFest as a forum to discuss the past and future of the Apple II family. Plenty of Apple computer



More than 22,000 visitors crowded the aisles and expositions at AppleFest, the premiere Apple II computer show held in San Francisco.

pioneers delivered their messages to standing-room-only crowds, including Steve Wozniak, company co-founder and inventor of the original Apple II; Alan Kay, a special breed of research scientist known as an Apple Fellow; and Del Yocam, chief operating officer of Apple.

During his keynote address, Yocam predicted that Apple will continue supporting the Apple II for years to come. As evidence, he cited evolutionary improvements of the Apple II family over the last 10 years, including the move to higher-resolution graphics (the Apple IIe and Apple IIGS), the addition of built-in connections (the Apple IIc and Apple IIGS) and faster processors (the Apple IIGS).

Yocam also squelched rumors that the Macintosh now commands most development resources at Apple. His proof: Apple Computer's current revenues for the Apple II alone could qualify as a Fortune 500 company — hardly a business for Apple to ignore.

Tom Virden, consumer marketing manager at Apple and one of the prime movers behind the IIGS' introduction, backed Yocam's remarks. "We're building a whole community behind the GS," says Virden. "We've seen a lot of continuity. In fact, all of the same engineers who launched the GS project are still on the job. That's important, because the IIGS is a very complex machine."

Virden admits that software for the IIGS has been slow in coming, but he says developers now have the tools they need to introduce more applications, including print and sound managers.

Version 3.1 of the IIGS Finder was announced at AppleFest. This, together with the new IIGS ROM (read-only memory) introduced earlier, gives developers a stable software environment and enhances IIGS performance by reducing software loading time about 20 percent.

What does Virden see happening in 1988? He predicts vendors will produce more educational software that takes advantage of graphics and sound, more desk accessories and the first integrated software packages specifically for the IIGS. "I expect to see a lot more features and a lot more speed in programs next year," he says.

Hardware Happenings

The first stereo sound digitizer, stereo output board and editing package was announced at AppleFest by Applied Visions, Inc., Cambridge, Massachusetts. Called FutureSound, the product includes separate amplifiers for microphone and direct line input and digitally controlled sampling. A microphone and instructions are included to help users develop sound-editing skills on their Apple IIGS computers.

MDIdeas, Inc., Foster City, California, launched a similar product called Digitizer Plus, essentially a more powerful version of its SuperSonic digitizer. Digitizer Plus will retail for $149.95, but the product was not shipping at the time of AppleFest.

On the graphics side, a full-color version of ComputerEyes was unveiled by Digital Vision, Inc., Dedham, Massachusetts. Although earlier black-and-white versions of ComputerEyes worked on the Apple IIGS, the latest hardware and software package supports all of the computer's color graphics capabilities.

ComputerEyes connects between a IIGS and a standard video source, such as a video camera or VCR, and digitizes any video image. Once captured in memory, images can be adjusted for color and brightness and saved to disk in standard graphics formats compatible with paint programs such as *Paintworks Plus, Deluxe Paint* or

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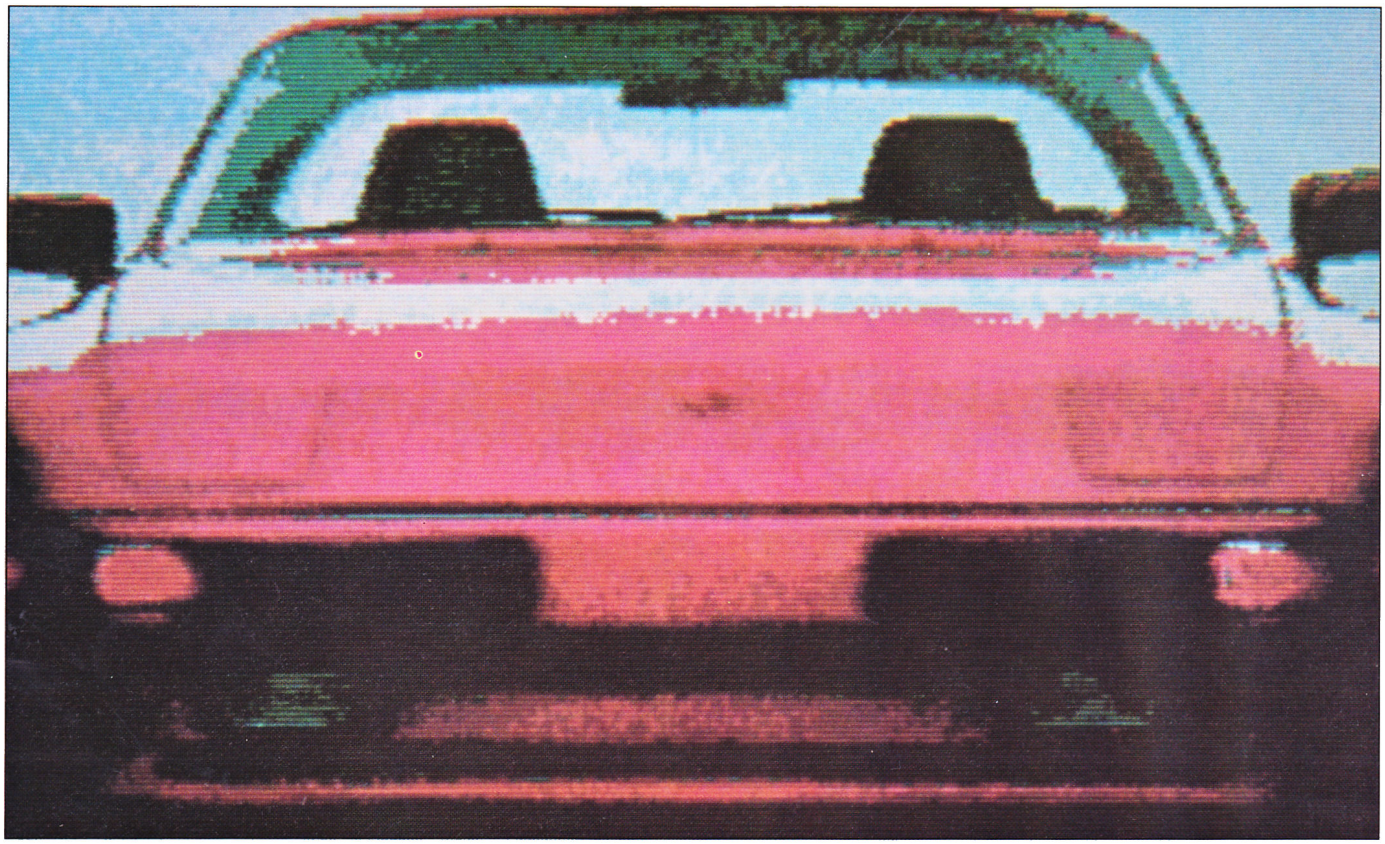
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The latest version of ComputerEyes supports all of the graphics capabilities of the Apple IIGS. The product connects between a IIGS and a standard video source.

816/Paint. The new version of ComputerEyes sells for $249.95.

A few Apple IIGS hardware suppliers departed from the graphics and sound bandwagon. MDIdeas, for example, introduced GSX, an add-on board for the IIGS that increases the clock rate to 5.6 MHz — twice its normal rate.

"The IIGS has a faster processor than the old Apple IIe, but —in some cases, because of graphic-intensive applications — it has actually become slower and more cumbersome," says Mark Bain, director of engineering at MDIdeas. GSX was not shipping at the time of the show.

The competitive extended memory board market also heated up during AppleFest with some new product entries. MemorySaver from Checkmate Technology, Inc., Tempe, Arizona, retrofits any existing memory board with an external power supply, thereby allowing a IIGS to bypass the normally long software loading time. Meanwhile, Carmichael, California-based Parallax introduced what may be the most inexpensive expansion board yet: TopRAM, a 1 MB board, which sells for $189.95.

Many IIGS users interested in running IBM software on their computers crowded Applied Engineering's booth, maker of the new PC Transporter card. Engineers responsible for the development of the card, which allows an Apple IIGS or IIe to run IBM-compatible software at three times the speed of the original IBM PC, happily demonstrated their technical achievement. Representatives from the Carrollton, Texas-based supplier of Apple II peripherals seemed pleased with the attention.

As For Software

Much of what's been promised since the Apple IIGS first appeared one year ago last September finally surfaced at AppleFest, along with a few surprises. Predictably, software products using the graphics and sound capabilities of the IIGS attracted the most attention. Still, a number of productivity packages equally suited for home or business made an appearance.

Creativity was the one theme that many vendors seemed to follow. StyleWare, Inc., Houston, Texas, demonstrated version 3.0 of its *MultiScribe GS* graphic word processor. New features include an 80,000-word spell checker and thesaurus and enhanced built-in drawing, color editing and *AppleWorks* word processing compatibility. *DeskWorks*, a collection of Macintosh-like desk accessories for the IIGS, was also announced by StyleWare.

Version 2.0 of *GraphicWriter* from DataPak Software, Inc., Sherman Oaks, California, also debuted at AppleFest. The latest version of this color desktop publishing package offers multipage printouts on the LaserWriter and enhanced drawing tools. It also imports files from other IIGS word processors and drawing programs. "As far as I can see, the new *GraphicWriter* rivals the best desktop publishing products available," says Gary Crandall, director of research and development for DataPak.

After 7 years of gripes, complaints and suggestions from more than 50,000 DB Master® users ...

... you bet I know what you want in a data base manager!

Sure DB Master was great back in 1980 when we first introduced it. After all, it was the first serious data base management program for the Apple //. In fact, two years later, Softalk magazine reported that "many Apple dealers are selling a copy of DB Master with every computer they sell." And yes, we fixed it and added to it and improved it over the years, as we watched all of the serious software development move to other computers.

But when the time came to improve the program one more time, we decided it just wasn't worth it. If we were going to the trouble, then the only thing to do was throw it away, and start over. After all, we've learned a lot in the last seven years, and the Apple // has improved a lot, too. This time we'd really do it right.

So we set out to write the ultimate data base manager for the Apple //!

It had to be powerful, with features and capabilities exceeding any other program you could find.

And it had to be easy to use. But not just easy—it had to be *convenient* to use. Fast. Efficient. Forgiving. And compatible.

In a word, it had to be **elegant.**

Specifications

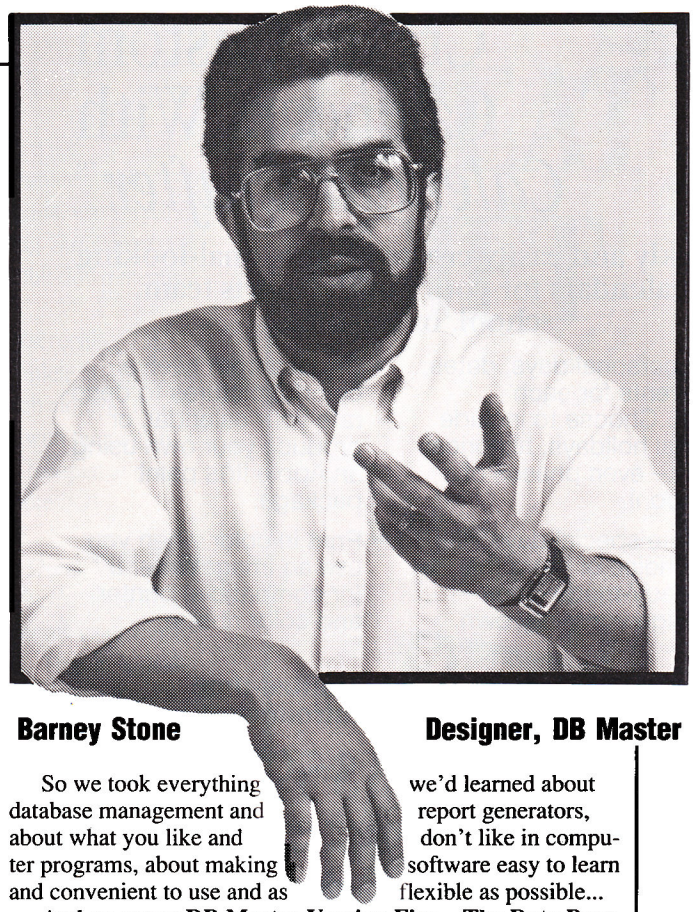
Hardware Requirements:
Apple //e (Enhanced, with extended 80 column card), //gs, //c or Laser 128. At least two 5 1/4" floppy disk drives, or any combination of 5 1/4" and 3 1/2" floppies, ProDOS compatible hard disk, or RAM disk. **NOT COPY PROTECTED.**

Capacities:
- 2000 bytes/record
- 200 fields/record
- 30 screen pages/record
- 250 characters in alphanumeric fields
- Hard disk files—up to 40 Megabytes
- Floppy disk files—up to 50 disks

Field Types:
- Alphanumeric, 1 to 250 characters
- Numeric—3 types
- Dollar/cents, to $99,999,999,999,999.99
- Yes/No—only accepts "Y" or "N"
- Date—11 formats available
- Add Date—date when record was added
- Edit Date—last date when record edited
- Add Time—time when record was added
- Edit Time—time when record last edited
- User Defined—for phone & social security numbers, part #'s, etc., 2-20 characters, control over type of characters allowed in each position
- Label Only—no input area—useful for customizing screens

Computed Fields:
Floating point numeric, dollar & date fields can be computed fields.
Examples: (the F stands for Field)
F10 = F7+F8+F9+.06*F12
F28 = F10*(F50>=F10)+F50*(F50<F10)
F5 = (F10>100 AND F20< 1000) OR (F27 > F26)

Report Generator:
- report width: 20 - 255 characters
- up to 255 lines/record on up to 3 pages
- up to 255 fields per report
- print labels up to 5 across
- header and footer lines: separate lines of text (including normal and computed fields) at beginning/end of report, page, group of records, and/or column
- column subtotals and totals, page #s, record #s, & date or time report is printed can be printed anywhere on the page or in header and/or footer lines
- set justification, printstyles, case conversion, number formatting, statistics, date formats, etc. on field-by-field basis
- statistics: count, total, average, min., max. & standard deviation
- complex computed field formulas, including calculations based on column totals and subtotals
- sort on up to 9 fields at a time; case sensitive/insensitive ascending/descending
- print to printer, disk (text file), or screen



Barney Stone **Designer, DB Master**

So we took everything we'd learned about database management and report generators, about what you like and don't like in computer programs, about making software easy to learn and convenient to use and as flexible as possible...

And we wrote **DB Master Version Five—The Data Base Manager You've Always Wanted for Your Apple // !**

You're going to love it!

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Take advantage of DB Master's higher power, capacity, and superior report generator. DB Master can convert your AppleWorks data base files to DB Master files. It's easy!

Coming Soon—

DB Master Version Five *Professional*

All the features of Version Five, plus multi-file relational capabilities, keystroke macros, and much more! Call or write for information.

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NEW FOR THE APPLE IIGS!

Create Custom Calendars With *Calendar Crafter.*™

Quickly and easily create professional-looking calendars for your family, sports team, school, or business.

- Enter personal days, dates, and events for each month. Choose to include national holidays, historical events—even phases of the moon!
- Illustrate special days with your choice of more than 120 ready-made icons—or design your very own.
- Choose from twelve colorful pictures to decorate your calendar, or produce your own using an Apple IIGS paint package.
- Print in color when you use an ImageWriter II™ (or compatible) printer and color ribbon.

Order now!

Calendar Crafter . . . No. A-194-302-539
3.5" diskette and manual included.

Write: MECC
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St. Paul, Minnesota 55126

Call 800/228-3504
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Limited-time introductory price,

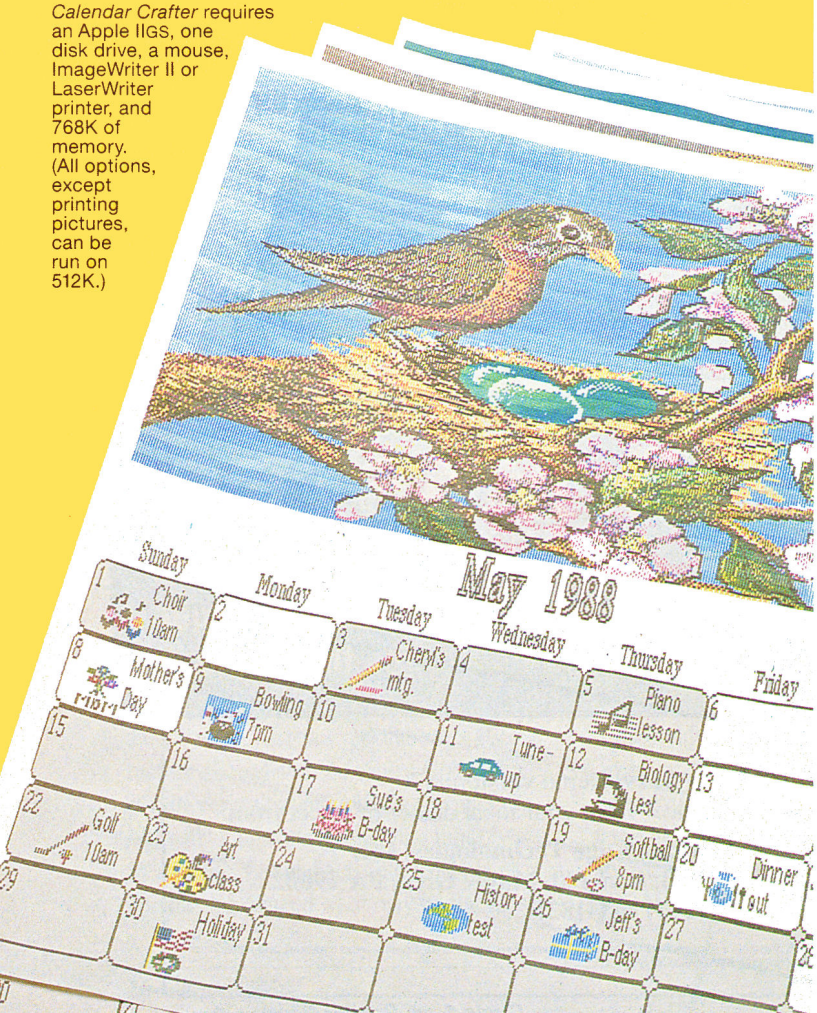
$59.00

Add $3.50 for shipping.
(MN residents add 6% sales tax.)

mecc

Circle 7 on Reader Service Card

Calendar Crafter requires an Apple IIGS, one disk drive, a mouse, ImageWriter II or LaserWriter printer, and 768K of memory. (All options, except printing pictures, can be run on 512K.)



APPLEFEST



Many Apple IIGS developers chose AppleFest to announce their latest hardware and software offerings for the Apple IIGS.

The Personal Publisher, a IIGS-specific desktop publishing package from Milliken Publishing Co., St. Louis, Missouri, was also announced at AppleFest. The new package combines word processing with a clip-art library, thesaurus and 80,000-word spell checker.

A surprisingly powerful desktop publishing package from Springboard Software, Inc., Minneapolis, Minnesota, was demonstrated at one of the largest and most crowded exhibits at AppleFest. Called *Springboard Publisher*, this integrated page-layout and word processing system seemingly has much of the power of *PageMaker* for the Macintosh. Yet it runs on the entire Apple II family, including the 8-bit Apple IIc and IIe. The program was not yet shipping during AppleFest.

Electronic Arts, the San Mateo-based California maker of *DeluxePaint II, Music Construction Set* and *The Bard's Tale*, further bolstered its IIGS portfolio at the show. Among its new offerings: *DeluxePrint II*, a creativity program for designing and printing banners, cards, invitations and signs; *Instant Music*, a music program for non-musicians; and *DeluxeWrite*, a graphics-based word processor compatible with *DeluxePaint II*.

The new packages help position Electronic Arts as a IIGS powerhouse. How does the company determine in advance what will sell? "It's simple," says Stewart Bonn, vice president of Electronic Arts' Creativity Division. "I build the stuff I personally want."

Another leading publisher of Apple II programs, Broderbund Software, Inc. of San Rafael, California, also used AppleFest to launch three packages for the IIGS. Two of them, *Fantavision* and *The Print Shop IIGS*, are updated versions of earlier programs that now take advantage of new IIGS video modes. A new release, called *ShowOff*, was billed as an easy-to-use product for creating multimedia presentations, including on-screen slide shows and overhead transparencies.

Doug Carlston, president of Broderbund, predicts that the six or so IIGS developers on Broderbund's payroll will have several additional products to announce during the next six months. As they gain experience programming the IIGS, their resulting software should be more capable and efficient. "GS people have been patiently waiting for good software. I think they will be rewarded next year," says Carlston.

Entertainment Today

One of the more prolific entertainment vendors is Epyx, Inc. of Redwood City, California. The company showed five new IIGS titles at the show: *Sub Battle Simulator, Destroyer, California Games, World Games* and *Winter Games.*

Activision, Inc., an Apple pioneer with one of the largest available IIGS product families, was at the show demonstrating several hit products, including *GBA Championship Basketball.* According to Richard Lehrberg, vice president of product development at Activision, future entertainment products will use more sound and graphics for realistic effects. "Our software will become more film-like and more cinematic," he says.

Sierra On-Line, Inc., a long-time Apple II developer located in Coarsegold, California, broke the silence on its IIGS development efforts during AppleFest. The company announced that *Thexder*, an arcade game from Japan, would be shipping by Christmas. *Space Quest*, a three-dimensional animated adventure, was also announced for the IIGS. "By Christmas, we plan to have our whole line available for the IIGS, including the *King's Quest* series," says Ken Williams, company president.

Personal Productivity

Of course, the Apple IIGS isn't all fun and games. Its 16-bit processor, expanded RAM capabilities and high-capacity disk drives can be put to work as a productive business personal computer. New productivity packages announced or demonstrated at AppleFest made this fact especially clear.

Last year's lack of programming tools for the IIGS seems to have created one of this year's new market opportunities. TML Systems, Jacksonville, Florida, was on hand at AppleFest demonstrating *TML Pascal*, a full-featured Pascal with pull-down menus and fast compile times.

The company was also screening *TML BASIC.* Although not complete at AppleFest, *TML BASIC* was far enough along to demonstrate cutting and pasting with the mouse, how four windows could be open at one time and access to the Apple IIGS Toolbox ROM.

WordPerfect Corp., the Orem, Utah-based purveyor of *WordPerfect for the Apple IIGS*, was at the show demonstrating its powerful word processing software. The latest IIGS version offers a mouse-driven interface, built-in thesaurus and spell checker, on-line help, macros, footnotes and end notes and plenty more. The program seems an office natural, because it easily exchanges files with the popular IBM PC and soon-to-be-shipping Macintosh versions.

Telecommunications products for the IIGS were also out in force — represented by such companies as Pinpoint Publishing, Emeryville, California (*Point-To-Point*), and United Software Industries, Canoga Park, California (*MouseTalk* and *ASCII Express*).

Rob Williamson, president of United Software Industries, hosted one AppleFest session entitled "Having Fun (and Staying Sane): Telecommunicating on the Apple II Computers." His advice: heed the mouse. Even power users are beginning to appreciate the advantages of a mouse-driven interface.

Williamson's company is working on a computer conferencing system that may eventually allow individuals and companies to establish information services that have the sophistication of commercial on-line counterparts such as CompuServe and The Source.

Says Williamson: "We see this as being the next big step in telecommunications — being able to tie together a variety of people communicating throughout the country or world, and then allowing them to propagate information between different systems." ■

— Paul Pinella
Editor-In-Chief

GREAT GIFT



The Echo IIb speech synthesizer is compatible with the Apple®IIe, II+ and the new Apple IIGS. It offers both text-to-speech and natural sounding speech capabilities. Its unique text-to-speech program gives the Apple an unlimited vocabulary. The Echo IIb also features distinctive natural sounding speech in a female voice. The fixed vocabulary of 720 words is supplied on disk and can easily be added to BASIC programs.

The Echo IIb, like the Echo II, Echo+, and Cricket,™ is compatible with numerous educational and special needs programs from over 90 software manufacturers. Contact Street for a list of companies offering these talking programs.

Street Electronics Corporation
P.O. Box 50220 Santa Barbara
California 93150 (805) 565-1612
Circle 8 on Reader Service Card

Mastering Numbers & Words

Not every Apple II educational software offering takes full advantage of the Apple IIGS, but here are four that do.

The collection of available educational software for the Apple IIGS keeps growing. This article reviews four of the latest releases that take advantage of the sound, graphics and mouse capabilities of the IIGS. Three are math products; the other is for reading and spelling. Each one reinforces the skills children learn in school.

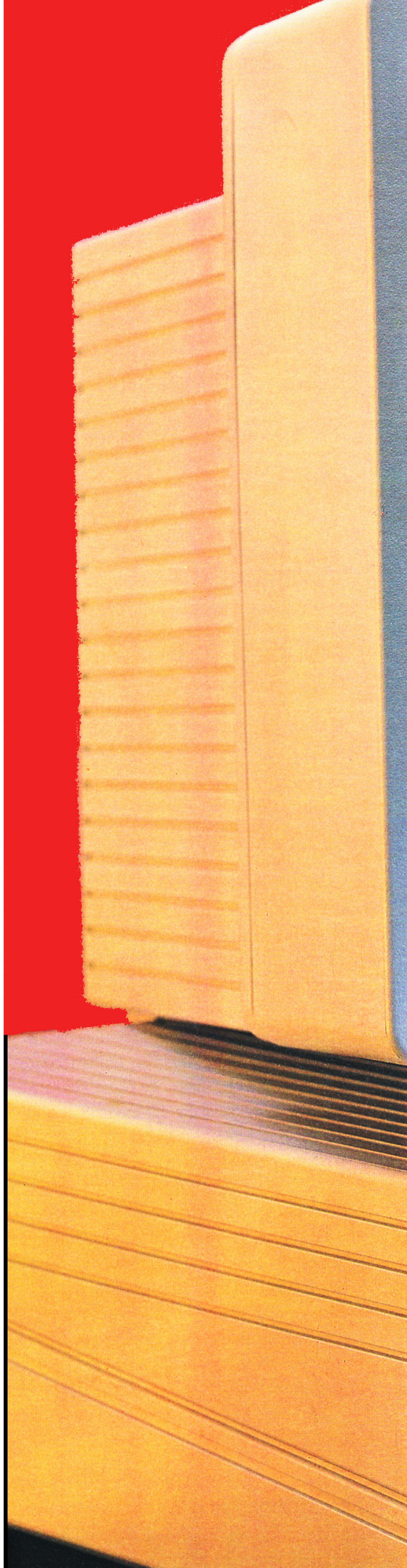
If you're thinking about making a IIGS investment, these programs are four good reasons to take the plunge.

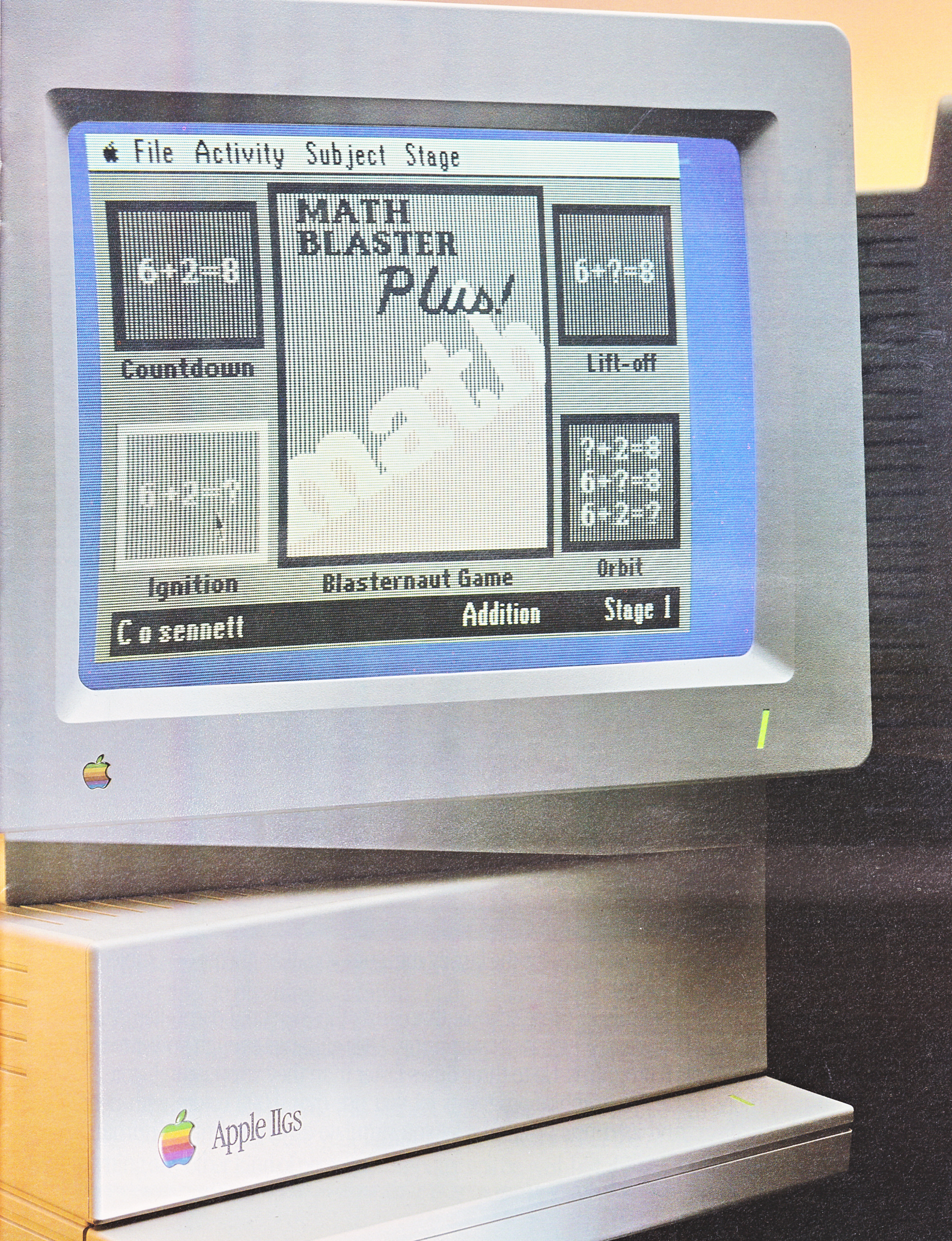
Math Blaster Plus
By Davidson And Associates

Math Blaster Plus, a comprehensive math package for students in grades 1 through 6, offers five activities designed to make studying math a positive experience: Countdown, Ignition, Lift Off, Orbit and Blasternaut.

The program includes an editor for entering math problems, a test maker to create and print out math tests (from a program file or one of your own), a record-keeping feature to track students' progress, a certificate-of-excellence printout option for students with perfect scores and lesson reviews.

Students may practice a variety of math problems, including addition, subtraction, multiplication, division, fractions, decimals and percents. Each subject area is divided into six levels of difficulty.




File Activity Subject Stage
MATH BLASTER Plus!
6-2=8
Countdown
6-2=8
Lift-off
6-2=8
6-2=8
6-2=8
Orbit
Ignition
Blasternaut Game
Addition
Stage 1
Apple IIGS

The most powerful Apple II in history.



If the idea of getting a computer for the family intrigues you, then there's one subject you'd do well to study. The Apple IIGS.™

There are more Apple® IIs in more schools than any other personal computer. And the IIGS is at the head of the class. Which is not surprising. After all, it has enough power to run virtually all 10,000 Apple II programs. Up to three times faster than they've ever run before.

What's more, Apple IIGS graphics programs let you use over 4,000 colors with near photographic realism. And its music programs let you simulate anything from a human voice to a symphony orchestra.

*Anyone, that is, who's an artistic genius. But take heart, all the colors and all the notes are there. ©1987 Apple Computer, Inc. Apple and the Apple logo are registered trademarks

And every other subject.



In short, the IIGS runs programs that cover every area of human endeavor, from writing a school paper to planning a company budget. Kids can study anything from ABCs to SATs. And anyone can learn to paint like Monet or compose like Mozart.*

All this on one of the easiest subjects in the world to master–the Apple IIGS.

Interested?

Then why not pursue this subject with your nearest authorized Apple dealer.

You'll find that once your family sees and hears what the Apple IIGS can do, the idea of owning any other kind of personal computer will be, well, history. . The power to be your best.™

*of Apple Computer, Inc. Apple IIGS and "The power to be your best" are trademarks of Apple Computer, Inc. For an authorized Apple dealer near you, call **800-538-9696**, ext. 600.*

Versions of *Math Blaster Plus* are available for the Apple IIe, IIc and IIGS. The IIGS version, however, offers features not available to users of the other machines.

First, the IIGS version is in color. On a IIe or a IIc with an RGB monitor, the program is displayed in various shades of gray. Second, the IIGS version comes on a single-sided 3.5-inch disk. On the two-sided 5.25-inch disk for the IIe and IIc, you have to physically flip the disk over to access information on the other side. Third, because the IIGS has an internal clock, the program automatically date-stamps a file.

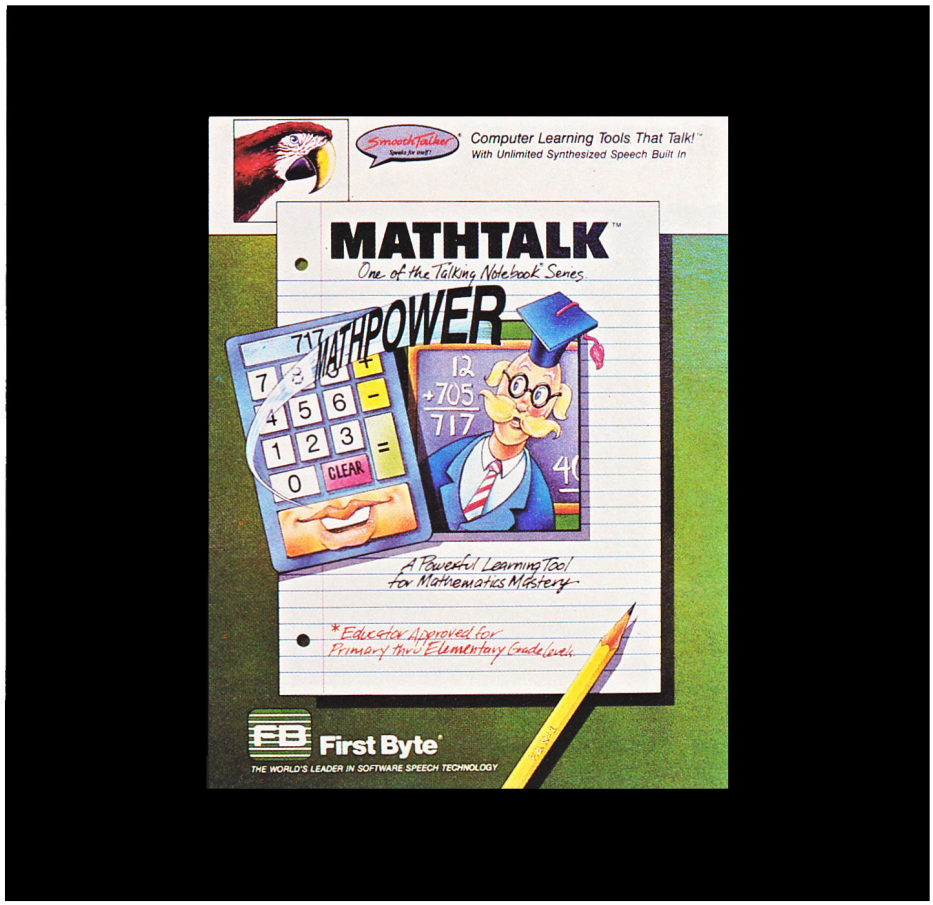
This step can be accomplished on a IIe or IIc equipped with a clock/calendar card. If you have a "No Slot Clock" — as we do in our IIe — you're out of luck. You'll have to enter the date manually.

Finally, the IIGS version of *Math Blaster Plus* runs well at the higher IIGS clock rate, meaning that the program executes more rapidly than it would on a IIe or IIc.

Math Blaster Plus uses pull-down menus and icons for activity selection. A user can click the mouse or press the Escape key and an arrow key for menu access. Double-clicking the mouse or pressing the arrow and Return keys selects one of the five activity icons on the main screen. The activities, designed to be played in sequence but playable in any order, build upon previously learned facts.

The Countdown activity offers practice memorizing math facts. A solved equation is presented for study. Pressing the space bar makes the answer disappear. After that, a student must type in the correct answer. If correct, the student proceeds to the next solved equation. If incorrect, the student is given more opportunities to answer the equation. Scores are not kept in this activity.

Ignition presents a problem and a missing answer. Once more, a student proceeds to the next problem if a correct answer is given. Incorrect answers result in a "try again" message. After a second incorrect response, the correct answer is shown on screen. Examples answered incorrectly can be repeated, but only after 25 problems have been attempted.



MathTalk *uses synthetic speech to reinforce the teachings of the program's resident mathematics tutor, Professor Matt A. Matics. A number of activities are included on disk.*

Lift Off is similar to Ignition, except problems are presented with missing parts rather than missing answers. Students must determine the correct values of the missing parts. In Orbit, students are presented with three rounds of randomly selected problems. The goal is to discover errors in certain equations and determine the correct values.

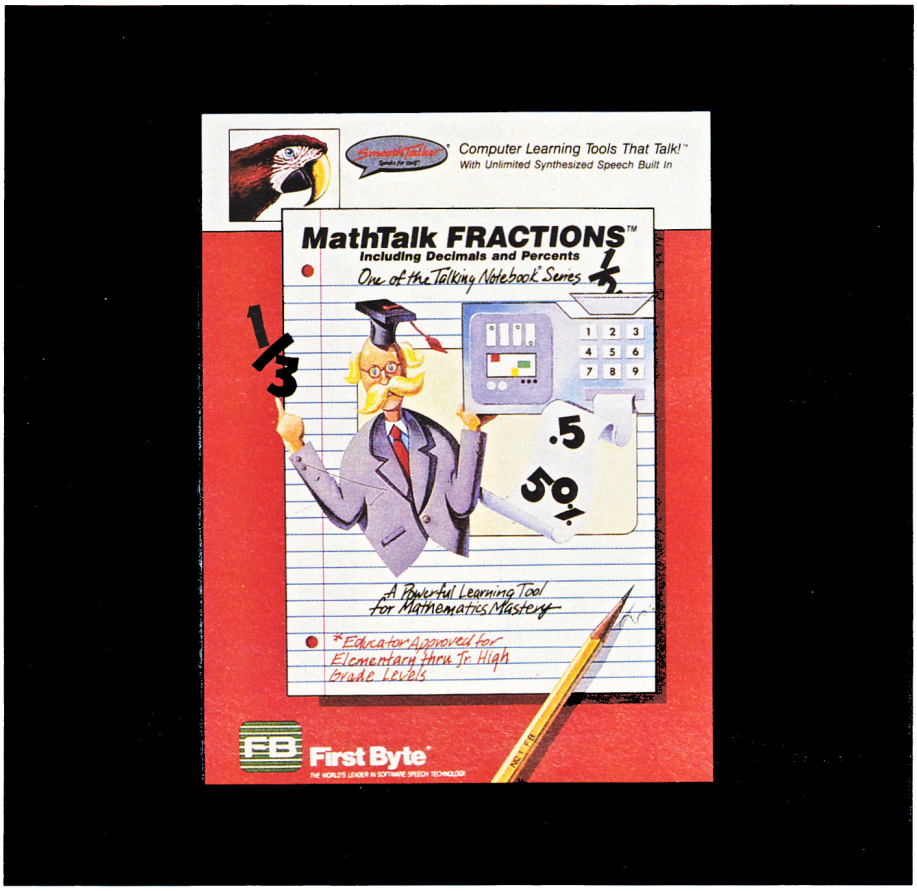
After completing a round of questions in Ignition, Lift Off and Orbit, a scoreboard appears that shows a student's name, the date, subject, stage and activity just tested, number of correct responses and final score. This information can be printed out and — with an appropriately formatted ProDOS data disk — you can also save the student's performance to disk.

Blasternaut, the most entertaining activity in *Math Blaster Plus,* is designed to help students build speed and accuracy by solving math problems that cover three difficulty levels. Using joysticks or mouse devices, students launch rockets at the corresponding correct answers to equations displayed on screen. Bonus points are awarded for assisting an occasional distressed astronaut.

Math Blaster Plus is a good program. Its graphics are colorful, its animation is well done and its sound provides positive student reinforcement. On-screen instructions make all the included activities easy to play. The accompanying manual is clearly written and includes a printout of all equations used in the program.

We ran into problems with our version of the Blasternaut activity, however. On a number of occasions, the program froze and it was necessary to reboot to continue.

The vendor's technical representatives suggested that the problem might lie with our particular IIGS hardware configuration. By the time this article appears in print, the problem — whatever it was — will likely be fixed. Still, the vendor has a toll-free



Helping students understand fractions, decimals and percents is the goal of MathTalk Fractions. *Flashy graphics and sound help enhance the presentation of math facts.*

number. It may pay to call and confirm that the program works properly with your setup.

MathTalk
By First Byte, Inc.

MathTalk introduces Professor Matt A. Matics, a "private" math tutor on hand to assist students ages 5 to 13 with the math assignments in this talking IIGS program.

The professor is a kindly sort. He never tires, has endless patience and doesn't lose his temper. He won't do decimals or fractions, but he'll talk attentive users through the steps necessary to answer a variety of addition, subtraction, multiplication and division problems. When done, the users can also print out their answers.

MathTalk requires 512K or more of memory, so you'll need a memory card to run it on your IIGS. It uses the IIGS Program Launcher and relies on the mouse as the input device of choice.

The program's synthesized voice has a robot-like quality, but the words and instructions are easy to understand. To hear the professor, the speech volume must be increased to maximum. You also have to enter the IIGS Control Panel to increase the computer's sound volume.

Remember to access the Panel before you boot *MathTalk*. Once it's in memory, accessing the Panel causes the program to hang; the only way out is to reboot the computer and start over. Turn the speech function off completely if you want no sound at all.

A number of activities are included on the disk: Math Book, Whiz, Game Room and Scores. Each activity is represented on the main menu by pictures in a menu bar. Pointing the mouse at one of the pictures and clicking calls up the corresponding activity. The program also contains pull-down menus, icons and a dialogue box.

In Math Book, you can access the problem-maker function and type in (using a simulated calculator) as many as 24 user-created math problems on a single page. After typing in the problems, you can save them on disk. If you have a printer, you can make a printout of your math page.

Whiz offers a choice of two activities: Solve It and Scoreboard. In Solve It, you can call up any of the math pages made in Math Book and solve the equations. If your answers are incorrect, the professor will help you figure out the solutions.

Hopefully, students will try to do the work themselves. Some individuals, however, may figure out quickly that they can enter any incorrect value and let the professor do the work.

Scoreboard lets you take practice tests using the problems entered on any of your math pages. You can save your final scores to disk to keep track of your progress.

Game Room offers two activities: Table Talk and Mystery Number. In Table Talk, you have a choice of solving the equations in a table of addition, subtraction, multiplication or division problems. Correct answers are chosen by clicking on simulated on-screen calculator numbers and pressing Enter.

If you make a mistake before entering an answer, click the mouse on Clear and your incorrect response will be erased. If you make a mistake in a final calculation, an X will appear where the correct answer should have been.

In Mystery Number, you can solve addition, subtraction, multiplication, division or mixed problems. This game offers math problems with parts of the equations missing. Your task is to enter the missing values. You can play against a clock or at your own speed. When the game is over, a scoreboard shows your score.

The final activity on the disk is Scores, a utility in which you can save your scores from Scoreboard, Table Talk and Mystery Number.

MathTalk comes on an unprotected 3.5-inch disk. Included in the package is a handbook of instructions, suggestions for helping students get started and ideas for mathematics activity reinforcement.

MathTalk Fractions
By First Byte, Inc.

MathTalk Fractions is aimed at slightly older children (ages 8 to 15) than its predecessor, *MathTalk*. In this next-generation program, Professor Matt A. Matics returns to introduce fractions, decimals and percents. He not only helps students solve their math homework assignments, he challenges their math skills with a number of fun-filled, terrific games.

Similar to *MathTalk*, the program uses the IIGS Program Launcher, synthesized speech and a picture-menu interface. Its six menu activities include: Problem Factor, Fraction Shuffle, Fun House, Team Challenge, Control Panel and Quit. Each activity is accessible via the mouse.

If you want to hear the professor's introductory remarks, it may still be necessary to access your IIGS Control Panel and increase the computer's speech volume prior to booting *MathTalk Fractions*. Incidentally, you will not cause this program to crash if you access the Control Panel while *MathTalk Fractions* is in memory.

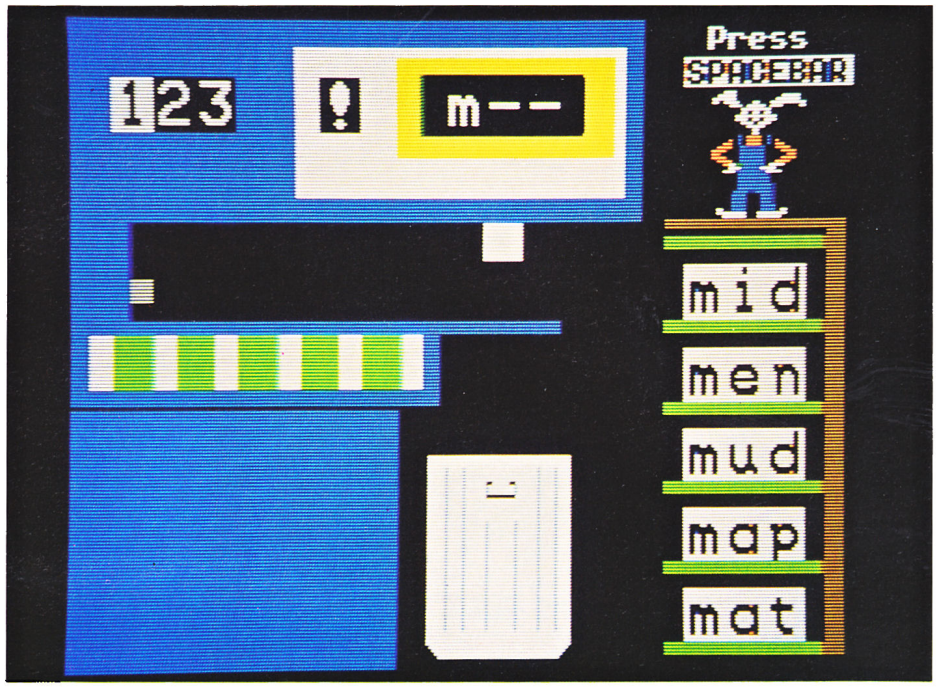
Players can use *MathTalk Fractions*' built-in control panel to increase or decrease speech volume, turn off speech entirely and reset game scores.

MathTalk Fractions requires 768K of RAM or more to run, so you will need to have a memory card installed in your machine and plenty of patience while the program is loading.

In the Problem Factory activity, students work on their own fraction and decimal assignments. Answers must be entered in the lowest common denominator form or to the nearest decimal thousandth. If students make mistakes entering their problems, there is no erase option.

Correct answers receive five points on the first attempt. Each incorrect answer loses a point.

The professor gives a clue after a second incorrect answer and solves the equation after the third attempt. Unfortunately, students who do not understand how to do the calculations can turn to this module and have the professor complete their assignments for them.



The new* Reader Rabbit *offers 16-color graphics and digitized speech.

Fraction Shuffle is a learning game designed to give practice in adding, subtracting, multiplying and dividing fractions. The professor shuffles 12 fraction cards and lays them down, hiding their numbers. Players wager points that they will be able to choose a card and use its fraction to complete a problem at the bottom of the screen.

If players wager all their points and answer incorrectly, the game is over. If players get the correct answers, they win the points wagered and get more challenging problems next time. With the goal of becoming the highest Fraction Shuffle scorer, this game is a real motivator!

Fun House offers three activities: Coin Drop, Popper and Laser. Students try to score as many points as possible in each game to beat the current Fun House high scorer.

In Coin Drop, players choose to have the professor toss from 10 to 99 coins. Next, they decide whether they want heads or tails and must also estimate how many times their choice will turn up.

The computer also gives its estimate. Students win if their answers are closer than the computer's to the actual outcome or if they guess correctly. Players can obtain bonus points by determining, in fractions and percents, the number of times the coins come out heads and tails.

Popper can be played at three different levels of difficulty. The higher the level, the more points it's possible to score. To play the game you must enter from two to 20 problems concerning fractions, decimals or percents. If you answer a problem correctly, you pop a balloon and score points. Bonus points are awarded for converting your score into fractions, decimals and percents.

Laser uses flashy graphics and high-tech sounds to give problem-solving practice at three levels of difficulty. Students must answer a true/false question about the equivalence of two fractions or decimals. Next they must enter a fraction that best describes a picture on screen. Bonus points are awarded for coloring in the portion of an object that best describes a given fraction.

When all three games are completed, a scoreboard tallies the score from each activity and indicates the Fun House high scorer.

The final learning module in *MathTalk Fractions* is Team Challenge. This game lets you test your wits against three computer opponents, each of which has certain math skills. It is to the program's credit that the three computer "players" with the best math skills (Mattie Facto, Poppy Fraction and Amelia Brainer) are girls. Frequently, adolescent girls are taught that math is a subject for boys.

Once a team of opponents is selected, you choose one of three difficulty levels. The professor then asks 12 questions. The object is to answer each question before your opponents do. If they answer incorrectly, you get a chance to answer. If both you and the opposition miss the question, the professor will give the correct answer.

Each of the games in *MathTalk Fractions* is designed to increase students' understanding of fractions, decimals and percents. The activities succeed in their objective and are as much fun as they are educational. Flashy graphics, sound and animation are used to enhance the presentation of math facts.

The program comes on an unprotected 3.5-inch disk. It includes an instruction handbook; definitions of important words; hints on working with fractions, decimals and percents; plus problem-solving tips and challenging word-problem teasers.

Be careful when you do the problem teasers, however. The answer to problem number 2 should be 1/2, .50 or 50%, not 1/3, .33 or 33%.

Reader Rabbit
By The Learning Co.

If you liked the earlier edition of *Reader Rabbit*, just wait until you try the new talking IIGS version. It has added pizzazz and glamor and offers an enhanced color presentation with 16-color graphics and digitized speech.

The digitized speech gives the program a natural sound quality that makes its spoken 214-word vocabulary easy to recognize. The instructions are also easy to understand.

Many of the talking IIGS programs on the market (including the ones reviewed here) have synthesized speech capabilities with robot-like sound. Digitized speech is an improvement, because the voices are crisp, clear and true to life. They help make the computer seem more like a friend than a machine.

IIGS owners with 1 MB expansion cards have an added advantage over users with 256K machines. The new *Reader Rabbit* loads its entire 256K program into memory, bypassing the need to access the game disk during play. This results in faster program execution.

This *Reader Rabbit*, like the earlier version, is aimed at beginning readers in kindergarten through the second grade. It offers four games with more than 200 three-letter CVC (consonant-vowel-consonant) words for youngsters to recognize, remember and spell. Seventy-two of the words are accompanied by high-resolution graphics.

Animation is used to reward correct answers. One nice thing about the talking version is that the words appearing on screen are also spoken.

The four games are sequential. Each builds upon and reinforces the skills from the previous ones. In Sorter, students match words on a target pattern. Words that do not match are left to fall into a trash can.

After five correct matches, a rabbit appears and does a tumbling act. Adults can modify program activity to meet the needs of individual players by changing the speed at which a word moves across the screen and choosing the target letter the player must match.

Labeler is the second activity. Players must make word labels for each of the three pictures that appear on screen. Possible pictures fall into nine familiar categories, including animals, travel, house, outdoors, etc. Adults can choose the category for a student.

In Word Train, a three-letter word "engine" pulls three empty train cars. Meanwhile, three trucks from the word factory wait to unload their words onto one of the train cars.

A player must select the truck with the word that differs by only one letter from the word in front of it. When all three words are selected correctly, the train toots its way out of the station with the three full cars in tow. Mistakes cause the train to pull away leaving the empty cars behind.

The final activity on the disk, Matchup, offers six "Concentration-like" memory games that students can play either alone or with friends. The object of the games is to match pictures to pictures, pictures to words, pictures to letters in the words, or words to words. Adults can choose from nine word categories to provide words for the games.

Reader Rabbit offers many options, such as playing the games with voice and sound, with sound only, with voice only or in silence — using the keyboard or a joystick.

The home edition comes with an instruction manual, ideas for off-line activities, and a complete list of the words and pictures used in the games. The school edition comes with a backup program disk and a *Teacher's Guide* that includes lesson plans, activity sheets and suggestions for non-computer activities.

Without a doubt, this program is a model for computer-assisted instruction.

As you can see from the products mentioned, the pool of IIGS software continues to grow. With the addition of programs that have better graphics, more memory and voice capabilities, it's easy to understand why the Apple IIGS is fast becoming the teaching computer of choice. ■

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



Thanks, in part, to pressure from parents, many schools now provide classroom computers. Parents who bring computers into the home can help children extend the learning process.

A Parental Primer

With so much going on in and out of classrooms, it's hard for parents to keep track of their children's computer use. If you're falling behind, read this insider's report of how computers and kids are working together.

As every parent knows, from the media or from dinner table conversations, computers have arrived in classrooms. Recent figures indicate the number of computers used in American schools has risen dramatically during the last two years. The vast majority of those computers are Apple IIs.

Parents have played an important role in bringing computers into schools. Convinced their children need to know everything possible about computers to succeed in the "Information Age," they have pressed school boards to provide classroom computers and software. When school boards have been unwilling or unable to respond, some parent organizations have raised funds and purchased systems themselves.

What are teachers and students doing with all those computers? A great many things.

Computers As Teachers

Computers are often used to help students learn or practice specific subject matter. Using tutorial software, a student might learn the procedure for borrowing from the next column in subtraction. Tutorial programs break an explanation into small steps, which are presented on screen one at a time.

Such programs check student understanding by asking frequent questions. Depending on the responses, the programs either proceed with the subjects being studied or present other ways of looking at misunderstood topics.

Tutorial software has not exactly replaced teachers' explanations. Rather, it provides additional flexibility. Slow students benefit by going over material again at their keyboards. Students who have been absent can make up missed work. Gifted students can use tutorials to work ahead at their own pace.

Students who need practice memorizing facts can work with drill and study-aid programs. This kind of software does not teach subject matter, but it does give students the opportunity to apply what they have learned. Drill and practice programs are useful for memorizing math facts, English or foreign language vocabularies and chemical symbols. An advantage of this software is that students are instantly made aware of their mistakes.

Students sometimes use drill and practice programs to take quizzes or tests. The programs record student names and scores for teachers to look at later. Some software even tracks the kinds of errors made and prescribes remedial work.

As useful as tutorial and drill programs are, they don't represent any changes in education. Some students may find it more interesting to get explanations from computers than listen to their teachers. They may also like working with keyboards more than flash cards. Even so, the learning experience remains much the same.

The Limits Of Sharing

The excitement computers bring to education is only beginning to be explored. Educational computing is still in its infancy. Despite a huge increase in the number of computers in schools, most schools cannot provide a computer for each student.

Few schools boast networked computer labs with frequent computer access in all subject areas. Often, five or six computers on movable carts must be shared by an entire school. Even with these limitations, many teachers are creating valuable computing experiences for their students.

Classroom teachers can use computers in a number of creative ways. Seating each student at a computer is one way, but many teachers find that students do well in groups of two or three. Studies suggest that students who work together at computers learn more because they communicate among themselves.

If a large-screen or projection monitor is available, a teacher may choose to demonstrate using a computer to a whole class. Sometimes a lesson can be illustrated more clearly with a computer than any other tool.

In a classroom with one or two computers, four to six students can work with the

11 Tips To Help Parents With Home Computing

Whether your children work with computers at school every day or once in a while, there are things you can do at home to complement the computer experiences they have.

1) Set aside a time for each child to use a computer. Often, one child monopolizes the equipment. A child who hasn't shown any interest may never have enough experience with a computer to become interested.

2) Encourage your children to use a computer for more than playing games.

3) Make a word processor, database and spreadsheet available to your children and help them learn to use the programs. Encourage your children to use a word processor for school assignments, thank-you notes and other letters, lists and creative writing.

Suggest they keep track of collections with a database. Other appropriate uses for a database include keeping track of books they have read and places they have visited.

Children can use spreadsheets to keep a record of their allowances, expenditures, birthday money and the like. Paper routes and Girl Scout cookie sales can also be tracked with a spreadsheet.

4) Invest in a good typing program to help your children learn good keyboarding habits. Use it to sharpen your own skills, too.

5) Don't just buy software and hand it to your child. Boot it yourself and work with the program a bit to discover what your child will learn. Be available and offer help using the program.

6) Without looking over their shoulders, stay involved in your children's computer use. Ask them what they are doing. Listen as they tell you what they are learning and what they like and don't like about software.

7) Teach your children to respect copyright laws. Don't allow them to exchange pirated software with other children. Set a good example yourself.

8) If your children show interest in your computer use, explain what you're doing in terms they can understand.

9) Ask your children's teachers to recommend software to help remedy trouble spots or capitalize on strengths. If the teachers can't suggest specific programs, ask what kind of extra work your child would benefit from and look for appropriate software.

10) Many public and school libraries are beginning to lend computer software. Take advantage of this service.

11) Don't make your children associate using a computer with drudgery by restricting them to educational programs. Allow them to experience the full range of computer usefulness with games, puzzles and creative graphics programs.

machines while a teacher helps individuals or small groups. With the right software, the teacher can be assured the students are spending their time productively.

New Kinds Of Learning

As the number of computers in schools grows steadily, innovative applications will continue to appear. As this happens, computers will be able to create learning situations never before possible. Some of those situations are already taking place.

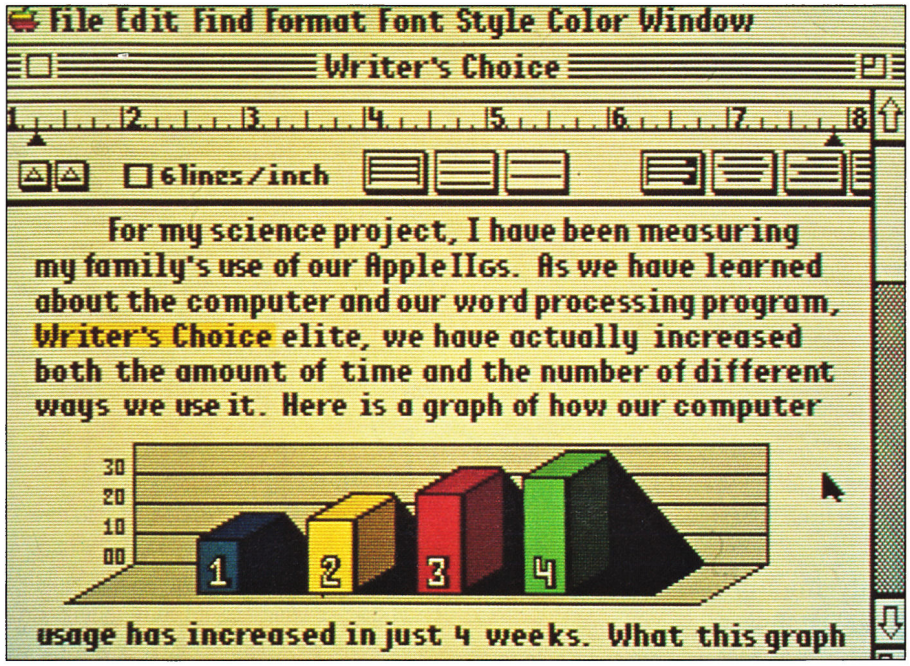
Computer simulation programs provide experiences no other medium can match. Simulations, sometimes called "microworlds," provide approximations of real-life situations. These programs telescope time, allowing results — which may actually take years — to take place in a few minutes.

An ecology simulation can, for example, allow students to make decisions about controlling air or water pollution. In the simulation, students see the results of their decisions immediately, not over a period of years or decades. Sophisticated simulations use animated color graphics and allow students to change variables.

Simulations may be used in science classes to expand laboratory experiences and save valuable class time. Using laboratory simulation software, an experiment can be carried out step by step on screen and the results graphically demonstrated. Students can try different versions of an experiment by changing the temperature — degree by degree, if desired — or any other variable.

Even the best computer simulations cannot replace science laboratories or hands-on experience. They can, however, demonstrate a wider range of experimental outcomes than would otherwise be possible, enhancing the learning experience.

Computer simulations are not new. Most adventure games are simulations. As computers continue to increase in memory and graphics capabilities, the sophistication and usefulness of educational simulations will also increase. The excellent sound and color graphics capabilities of the Apple IIGS are already having an impact on the quality of forthcoming simulation programs.



There's a world of educational opportunities available in programs not designed specifically for teaching. A word processing program, such as Writer's Choice elite, *pictured above, can have dramatic results on a student's writing abilities.*

A major educational trend focuses less on using computers to convey knowledge and more on using them as tools for accomplishing learning tasks. This has two purposes: to facilitate a student's academic progress, and to teach the student how to use important computer applications. Students learning writing skills with word processing, for example, are also learning important computer skills.

Better Writing Through Word Processing

The use of word processing to teach students to write well is having dramatic results. With a projection monitor, a teacher can demonstrate the process of copy editing and revising to a class. Using standard word processing functions, such as adding, deleting and moving text, the teacher can show how changing the organization or wording of a paragraph affects its meaning.

When students use word processing to produce their own compositions, their writing often improves. Essays composed on a word processor no longer have to be laboriously recopied. Mistakes can be fixed or wording changed with little fuss.

Students can experiment without having to write out each possibility in longhand. Relieved of the drudgery, many students begin to enjoy writing. Used with word processing programs, spelling and grammar checkers can alert students to errors in time to correct them before their teachers grade their papers. Some spelling checkers operate on-line and inform students of misspelled words as they occur in typing.

Software of this type also helps students recognize computer limitations. While spelling and grammar checkers are marvelous tools, they can't judge meaning and, therefore, miss certain errors. Spelling checkers don't pick up mistakes such as "there" being used instead of "their." An incorrectly used word that's spelled correctly won't be caught, either. If a student means "cold" and types "fold," the computer won't notice.

Other kinds of software also improve writing. Outline and idea processors help students gather and organize their thoughts prior to writing. Such programs can also be used to teach note-taking and listening skills.

Applications that analyze student manuscripts are beginning to emerge. These programs point out flaws in writing, such as sexist or ethnically offensive terms, and make suggestions to improve wording. Better programs of this type help students learn to vary their writing styles and sentence structure.

Analytical programs cannot be used when composing. They provide editing assistance similar to that given by teachers. Such programs allow students to concentrate more on the quality of their reasoning and ideas during the compositional stage and less on the mechanics of expression.

Analyzing Information With Databases

Database management programs help students examine and analyze information rather than merely memorize facts. A science class might, for example, create a database of living organisms. In the process of making up field names and filling in data, the students learn more than organism characteristics. Under the guidance of a skilled teacher, they learn the process of scientific classification.

The same kinds of analyses are appropriate in other disciplines, too. As an example, social studies students can use a database to organize information about world cultures or geographical regions. The potential for using databases is virtually limitless.

Some school libraries provide access to another type of database. By accessing online information services such as CompuServe, BRS and The Source, students can learn up-to-date research skills and tap immense sources of information.

Learning Math With Spreadsheets

Spreadsheet software is also a useful learning tool. With the right program, a math teacher can demonstrate relationships between numbers and allow students to experiment with columns of numbers. Spreadsheets with graphics capabilities can produce pictorial representations of fractions and demonstrate relationships between decimals and fractions.

Science students can use spreadsheet programs to record and graph data from laboratory experiments.

Computer Science

Computer literacy classes teach students about computers. Students in these classes learn the history and capabilities of computers and some ethical issues surrounding their use. Some computer literacy classes include simple programming in Logo or BASIC and minimal word processing, database management and spreadsheet skills.

High school students enrolled in computer science courses learn more sophisticated programming skills. In addition to BASIC, they may learn Pascal or other programming languages.

Career Preparation

Students in vocationally oriented classes prepare for using computers in their career fields. Drafting students learn computer-aided design. Secretarial students learn word processing and typing skills. Accounting students learn spreadsheet applications and traditional accounting practices.

Will computers revolutionize education? It's too early to tell. Surely, great potential exists for technology to improve schooling. For now, however, there are many immediate concerns.

Most schools need to make computers available to all their students. While computer science labs may have adequate equipment, other departments have little or none. That's because many school districts cannot afford to buy more computers.

Many teachers need help adjusting to the technology. While much is done to help them learn the value and limitations of using computers in class, more remains to be done. When more teachers use computers as instructional tools, more educational applications will evolve.

How will using computers in school affect children? As with everything else, not all children will react the same way. While computers will motivate some children, others will be intimidated. While certain students perform better when their mistakes are corrected on screen, others respond more to human encouragement. Further research is needed to discover what the effects of computerized instruction are.

Intellectual development is only one aspect. School also provides children with vital social experiences that must not be overlooked. It may be that collaborating with other students at a computer keyboard can promote social development. Clearly, time spent alone at a computer does little to promote social growth.

While computers place amazing capabilities in the hands of teachers and students, schools must proceed thoughtfully. Computer use should be balanced with other educational tools and functions. Students should use computers to accomplish specific learning goals, not just play with the technology. ■

— Gail Hodgkiss, contributing editor

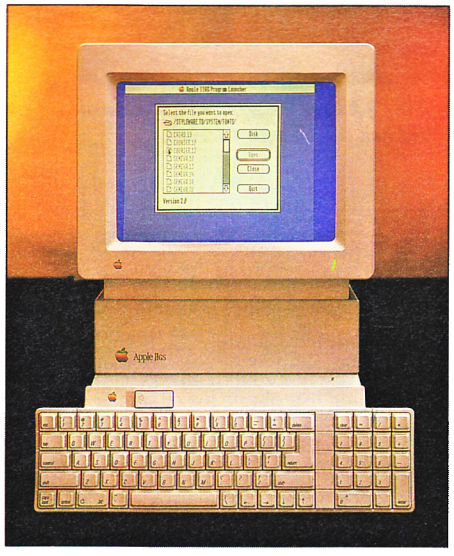
A free-lance writer, spokesperson on computers in education and computer consultant, the author is a former French teacher at Carman-Ainsworth Junior High School in Flint, Michigan.

The Apple IIGS As A File Cabinet

The Apple IIGS loves to organize numbers and words. Here are four database management programs to keep you and your computer as organized as you care to be.

One of the most popular computer applications is a database program. It's also one of the most misleading, misused names. A database is an organized set of information. A dictionary, encyclopedia, directory, set of jokes, mailing list, etc. — all of these qualify as databases.

What most people refer to as a database program is actually a *database manager* — a program that manages databases. Nevertheless, the term database has evolved into meaning a database manager. For this article, I'll continue spreading the myth and use the word "database" to refer to what technically is a database manager.



Apple II Assistance

How can a microcomputer program manipulate a database? Large databases were once the providence of mainframe computers, but now they are available for micros. With large hard disk drives a reality on the Apple IIGS, and the possibility for compact discs (CDs) and their associated huge databases on the horizon, micros and databases go hand in hand. Already it's possible to get the Grolier's Electronic Encyclopedia and the Library of Congress Catalog on CDs designed for microcomputers. Other large information databases will become available as prices decrease.

Today's database programs are designed for managing lists and records. Database programs can be used to store mailing lists, recipes, inventories, invoice generation, and record tracking, among other other popular applications. You can think of a database program as a sophisticated computer-based file card system, a high-tech Rolodex, file cabinet, or index card file.

Unlike your normal Rolodex, it's quite easy to tell your database program to sort all of the names in your mailing list in zip code order for lower mail rates, find all of your delinquent customers or even keep track of your programs. I use a database program to catalog all of the reviews and articles I've written, and which companies produce which products, to name just two applications. Database programs don't do anything that you can't do with a deck of index cards — they just do it faster and simpler.

Early Contenders

Apple File Cabinet was one of the earliest, simplest and most bug-ridden database programs for the Apple II market. It was distributed through Apple dealers as a freebie starting in 1979, just after the introduction of Apple's first disk drives. Although *Apple File Cabinet* was a fairly crude program by modern standards, it was popular simply because of its low price. Many of the bugs were removed, and a *File Cabinet II* is sold today by the A.P.P.L.E. user

group in Seattle, Washington. While *Apple File Cabinet* wasn't very powerful, it did open the door for other more powerful programs.

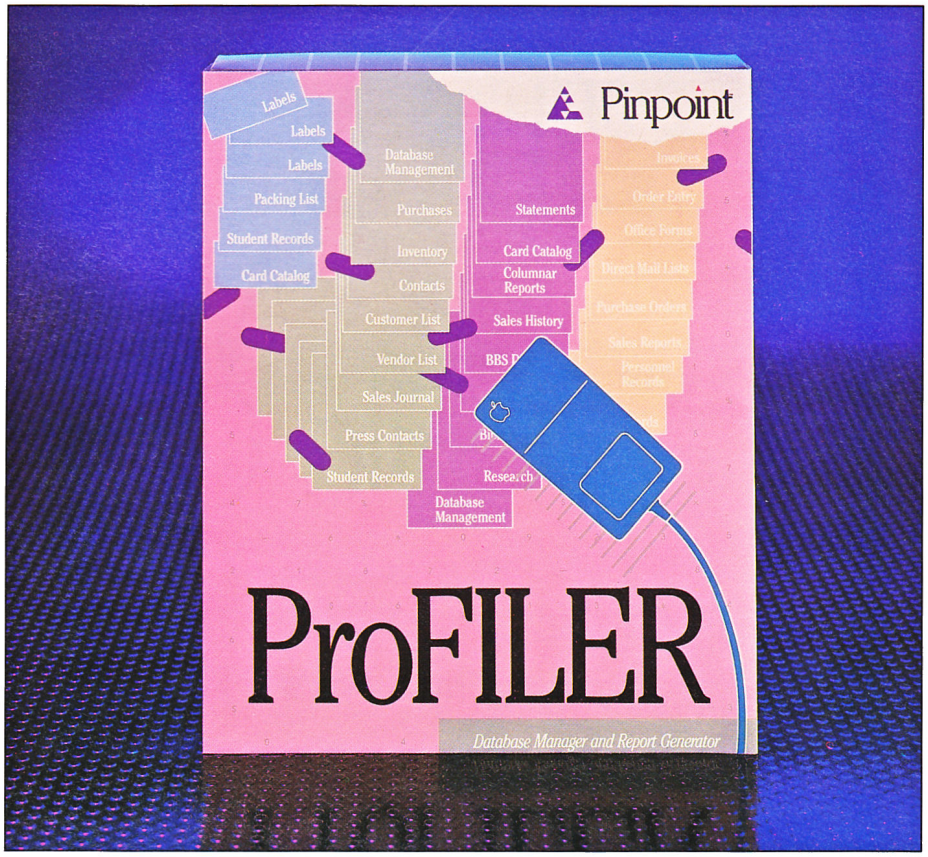
DB Master, one of the first powerful database programs, was introduced in 1980, and has gone through several revisions and enhancements. A new, completely rewritten release which can use many of the IIGS' enhanced capabilities has been recently introduced. Another early database program, *ProFiler 3.0*, has also been updated with the newest version supporting mouse functions and a large file capacity.

Most early database programs saved their data onto diskettes and only loaded one record into memory at a time. This made sense due to the high cost of memory chips. In 1983 a different approach to data storage became popular with the introduction of *Quickfile* and its successor *AppleWorks*, one of the most popular microcomputer programs for any computer. Although mostly used as a word processing program, *AppleWorks* also includes built-in spreadsheet and database modules. While the disk drive is still used to store the data in your file, *AppleWorks* loads the entire file into memory at once when you use it.

At first, *AppleWorks* and *Quickfile* were rather limited in how many records could be stored in the maximum 55K desktop limit of a standard 128K Apple IIe or IIc. Eventually several third-party companies (including Checkmate Technology, Inc. and Applied Engineering) produced programs that could enhance the *AppleWorks* desktop.

The simplest *AppleWorks* expanders just loaded *AppleWorks* into a RAM card and didn't really upgrade *AppleWorks*' maximum file limitations. Other programs expanded the 55K desktop to the size of the memory card available. The Applied Engineering version even modified *AppleWorks* so that it could accept over 5,000 records. Since *AppleWorks* keeps entire files in memory at once, you can view many records at the same time for comparison and make global changes easily.

Even with all of the desktop expansions and enhancements, *AppleWorks* is still a rather limited program. The database is limited to a maximum of one line of data (79 characters) for each field, a maximum of one line of data per record in the view mode, and offers limited report generation utilities. In short, *AppleWorks*' database function just isn't very powerful. Still, it's adequate for a small mailing list, phone list or similar application.



ProFiler 3.0 *uses the mouse or standard text entry to build records up to eight screens long. A field can fill the entire screen.*

Several companies have developed external enhancements to make up for its deficiencies, however. Sophisticated report generators, mail merge utilities and programs that read *AppleWorks* databases into other programs are available from several manufacturers. Still, keep this in mind — RAM-based databases like *AppleWorks* are much faster for small files (100 records or less) yet much slower for massive files (say, 1,000 records or more), and much less practical.

Are you ready for more octane in your database program? Here's a quick look at four database programs for the Apple II family. Two of these are older programs that have been updated with recent releases, and two are new programs designed specifically for the Apple IIGS. Each of these programs has the capability of importing data from other programs like *AppleWorks*, and can create their own files for export to other packages, such as form letter programs.

ProFiler 3.0 By Pinpoint Publishing

ProFiler 3.0, from Pinpoint Publishing, is a text and mouse oriented program, although it's also designed to work on non-mouse Apple IIs. The program is disk based, and stores its records on any ProDOS-compatible drive (5.25-inch floppies, 3.5-inch diskettes, hard disk drives, RAM disk drives, etc.). It uses a special B-tree format which makes record retrieval very fast. Each record is loaded into memory, one at a time, as you need it. For small databases, it's much slower than a RAM-based system; however for large databases, it is much quicker, especially for printer output.

Each *ProFiler 3.0* record can be up to eight screens long, and fields can fill up the entire screen if necessary, making very large entries (for example, encyclopedia entries) possible. One unique feature: While *ProFiler 3.0* uses the text screen for fast input/out (I/O), it also uses the Apple mouse for menus and record selection. The mouse is optional, though, and you can use the keyboard exclusively if you prefer.

Because *ProFiler 3.0* stores data on the drive while it operates, a fast SCSI hard drive or large RAM drive is recommended for your data. The program itself resides partially in RAM and partially on diskette, with modules loaded as needed. If you use *ProFiler 3.0* a lot, you may wish to copy it onto a RAM drive before using it.

ProFiler 3.0 works on the enhanced Apple IIe, Apple IIc or Apple IIGS. At least two drives, preferably with at least one high density drive (hard drive, 3.5-inch diskette, etc.) is recommended. The mouse is optional and your personal preference will determine whether or not you use it. If you don't have a 5.25-inch drive, you will have to ask your dealer to copy it over to a 3.5-inch floppy for you.

DB Master
By Stone Edge Technologies

DB Master's latest version, number five, is a total rewrite of the popular early database program, with a variety of enhancements and new functions. Like *ProFiler 3.0*, it is designed to operate on the enhanced Apple IIe and IIc as well as the Apple IIGS. It doesn't use the mouse, and menus are designed to use the tried and true text line input standard. A special "dynamic prompting system" shows you the names of common commands at the bottom of the screen. Yet this system doesn't give any clue of what each command does — for that, you must refer to the manual.

There's little doubt that *DB Master* is the most powerful database program available for the Apple II. It rivals, and even surpasses, sophisticated database programming languages (languages designed specifically for writing custom database applications) in many ways. However, it's also a complex and difficult to learn program.

DB Master's main menu presents 33 separate functions, all grouped into four categories: Data Entry and Search, Report Generator, Maintenance Functions, and Change Files or Exit. Instead of pull down menus, everything is displayed on the screen at the same time. This isn't as easy to learn as the Macintosh-style menus used by the other databases described in this article, or the even easier to master *AppleWorks* file folders. Once you get experienced in using *DB Master*, however, the menus will become second nature.

Because of *DB Master*'s menu system, you can create files easier than with database programming languages used on other computers (e.g., *dBASE III* on MS-DOS computers). With *DB Master* you can generate "turnkey systems" and train inexperienced users to input information fairly quickly. However, don't expect beginners to be able to automatically handle more complex operations such as adjusting printouts or changing file formats.

A disadvantage to *DB Master*'s menu scheme is that you can't create your own custom menus or commands. You'll be locked into the menus that *DB Master* defines forever. On the other hand, an advantage is that a user who has been trained to use one *DB Master* file can also use another with minimal retraining.

One problem with *DB Master* is that it often assumes you know what the possible entries are and which ones you want. For example, the program will ask for the name of a file without telling you the possible file names to enter.

Technical phone support is available, and you can purchase extra support services on a yearly basis.

If you're used to friendly, simple to use programs, then *DB Master* will appear to be as complicated as fixing or designing your own computer. However, if you're willing to learn how to use a sophisticated database generator and are prepared to wade through its 450 page manual, then you can tap *DB Master*'s capabilities. What *DB Master* lacks in user friendliness it certainly makes up in power.

Still not powerful enough for you? *DB Master Professional* is currently under

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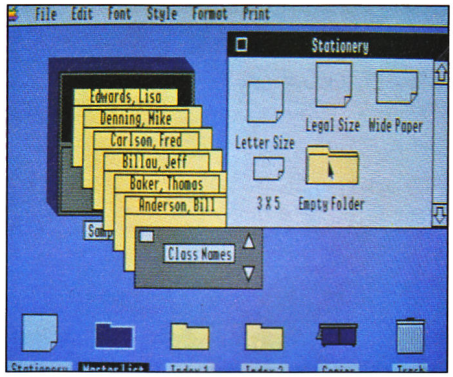
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Notes 'N Files *uses common office items as icons for ease of operation. To open a file, a picture of a file cabinet appears on the screen.*

development, and should be available by the time you read this article. The new version will be a relational database, a more sophisticated database design in which data from different files can interact. Here's an example of what this means: Say you have a sales order database made up of several component databases, including product description information, an inventory database and a customer contact database. When it's time to print an invoice, it will be possible to "relate" information from each of the smaller databases automatically inside the invoice.

DB Master is copyable and is provided on both 5.25-inch and 3.5-inch diskettes. The program can use a large RAM drive either to store the program itself (to increase the speed of operation while moving between different modules), the data (to increase the speed of accessing the data), or to increase the sorting speed when necessary. If you have a large RAM drive, you can store both data and the program in RAM.

Notes 'N Files By DataPak Software

Notes 'N Files is an Apple IIGS-specific program designed for ease of use. The *Notes 'N Files* menu actually looks and acts like a file cabinet in an office. When you want to print a document, you send it to the photocopier icon. When you want to get rid of a something, you toss it into the garbage can.

When you open up a file, a picture of a file cabinet with two drawers appears on your screen. Each drawer is a separate file and stores your file folders. When you open a drawer (push the open button on the drawer with the mouse), it pops out, and several folders with their titles appear. You can scroll back and forth to choose the folder you want to look at, or open a specific folder to examine or edit its contents. Each folder's information is saved in several fields which you can adjust as needed.

Notes 'N Files creates an interesting compromise between disk and RAM-based programs — some of the records (the exact number depends on how large your folders are and how much memory you have) are loaded into your computer's memory for easy access, and the rest of the files are stored on disk. This way you can get the advantages of both, with none of the disadvantages.

Loading several folders at once lets you do a comparison with several records at the same time (for example, all of the people with a specific zip code). Besides standard database information, each file folder can also hold a memo, which is basically a mini word processor file. Memos are most useful for creating form letters, although they can also be used as big fields to store information in paragraph form. The memo feature has adequate word processing edit functions, although it isn't as powerful or flexible as a stand-alone word processor.

Each "file cabinet" comes with two file drawers. Each drawer holds a number of folders, limited to the size of your diskette or storage device. The two drawers must have identical file formats. For example, you can have a personal and business mailing list located in separate drawers, but you can't have a mailing list and an inventory list in the same file cabinet. Still, files can be interrelated for comparisons and selections. This amounts to an extremely limited form of a relational database.

Notes 'N Files is copy protected. It does come with one backup diskette and you can purchase up to two more copies for $16 each. The program can also be transferred to a hard disk with its transfer utility.

Notes 'N Files is certainly easy to use and learn. It can make an excellent beginning database program for the novice computer

user and offers a surprising amount of power.

GS File
By Softwood Company

GS File, like *Notes 'N Files*, is designed specifically for use with the Apple IIGS desktop and it's also mouse oriented. While *Notes 'N Files* simulates a real desktop, *GS File* looks more like a traditional Macintosh-style program.

GS File is a RAM-based database program, similar to *AppleWorks* in structure and format. The pull down menus let you design, edit and print your files with your mouse on the GS' desktop. However, *GS File* is more flexible than *AppleWorks* in many ways. You can, for example, choose from a variety of money formats with the various international money indicators (dollar sign, British pound, lira, yen, etc.) and dozens of different date formats.

In addition, *GS File* keeps track of how much space a file takes up, how much memory you have available, and whether your present diskette has enough room to save the file. *GS File* displays information in a spreadsheet-style format, similar to *AppleWorks*. It also offers abbreviated columns that fit everything on the screen at the same time, and a single record mode where an entire record is displayed on the screen.

While in the single record mode, you can use *GS File*'s report generating function to control how your printout appears. Just pick up the fields in your record with your mouse and move them around until it looks like what you had in mind.

GS File is very easy to learn and very simple to use. For *AppleWorks* owners, it may be somewhat redundant, although its report and printout modes are more flexible. Since it is RAM-based, the theoretical file limit is tied to the amount of memory installed.

The Right Choice

Which database program is right for you? It all depends on what you want to do and how easily you need the program to operate. A database program is one of the most important applications for any serious computer user, and quite versatile if you learn how to use it properly. Who knows? You may start simple and then someday become a database consultant! ■

— Philip Chien, contributing editor

The Desktop Manager™ - The Ultimate Apple IIGS Desk Accessories

The Desktop Manager is a powerful tool for your Apple® IIGS. It gives you great Desk Accessories within virtually every application that runs on your GS. These desk accessories are not the cute little puzzles that other packages provide, but powerful and full featured applications that will unclutter your desk and help you get the most out of your Apple IIGS. **The Desktop Manager** comes complete with the following accessories that can be used within virtually ALL ProDOS 8 and ProDOS 16 applications:

- Δ **Note Pad** with sophisticated word processing features such as word-wrap, automatic repagination, printing and copying. Automatically saves and loads notes.
- Δ **Calculator** with 16 digit precision, 20+ functions, memory, base conversions, degrees and radians, a scrolling 'Paper Tape' and printing capabilities!
- Δ **Envelope Labeler** lets you quickly define address labels that can be printed at any time.
- Δ **Screen Save/Print** allows you to save your graphics or text screen and print the current text screen at any time.
- Δ **Appointment Calendar** with auto-prompting. Set up to 15 appointments per day. TDM automatically notifies you of the appointment within any program!
- Δ **Printer Manager** lets you send complex controlling codes to your printer via easy to use menus. It has built-in macros and an intelligent typewriter.
- Δ **Ascii Chart** lists the decimal and hex. values for the ASCII characters. Also shows keypress equivalents.
- Δ **Pickup & Paste** Text between applications. Quickly and easily transfer info. from one program to another!

The Desktop Manager (TDM) accessories all run in the background. This means that you can be in the middle of your word processor, data base, spreadsheet, painting or almost any other application that you use on your Apple IIGS, and a simple keypress will 'Pop-Up' the TDM menu. Here you can easily select any of the available accessories and in an instant you can be using the Note Pad, Appointment Calendar, Calculator or other TDM accessories. Short cuts are even available to instantly pop-up selected accessories.

Have you ever been in the middle of your word processor and needed to multiply some numbers? Ever wanted to jot down a note or two while inside your data base? Not enough room to save your file - too bad your program can't format blank disks! All of these problems are cured with TDM. With TDM, you'll get all of the desk accessories you ever wanted inside every one of your programs.

Best of all, **The Desktop Manager** is expandable, so you can add the accessories that *you* want. New and powerful accessories that provide Macros, Communications, Disk/File management and more are available today! Coming soon as add-on accessories for TDM are a fast and powerful Spelling Checker and an Outline Processor. Don't settle for accessories that only work under a few selected applications and/or require clumsy patch programs. Order **The Desktop Manager** today and discover the true power of your IIGS.

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Circle 12 on Reader Service Card

PC Transporter

Where ProDOS Meets MS-DOS

Despite the clear-cut advantages of using an Apple IIGS at school and at home, there's much more business software available for the IBM PC than any other computer. Wouldn't it be nice to access that software library from time to time on your Apple IIGS?

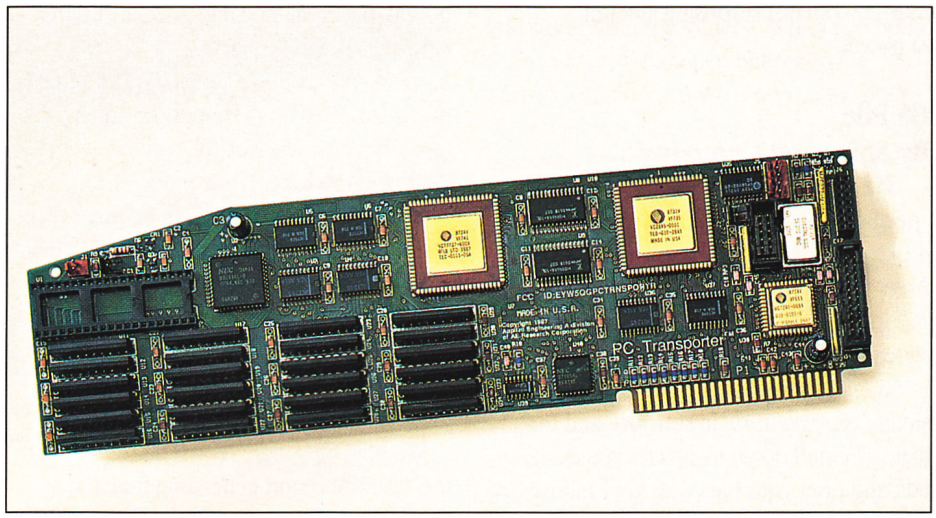
In addition, many users — with Apples at home and personal computers (PCs) at work — would like to transfer data back and forth. Even better, they'd like to run the same programs at home that they do at work.

Early attempts to transform the Apple II into an IBM PC compatible failed for a variety of reasons. In most cases, it was actually cheaper to purchase an entire IBM PC-compatible computer than an IBM emulator board. Why purchase a board that turns an Apple II into an IBM PC when you can purchase a PC-compatible computer for less money?

The latest IBM-compatible enhancement for the Apple is the PC Transporter board from Applied Engineering. PC Transporter starts at $500, about the same price as the least expensive PC-compatible clones, yet it offers more value.

For starters, all ProDOS-compatible accessories can be accessed on a IIGS while running programs under the IBM PC mode. In addition, many standard IIGS peripherals can be made to emulate their PC cousins. For example, PC Transporter makes the ImageWriter printer look like an IBM Graphics Printer, a standard IIGS modem behave like a PC-compatible modem port, and a IIGS mouse do everything that Microsoft's mouse does on a PC.

The IIGS clock will work with MS-DOS, the most popular IBM PC operating system, once the driver files supplied with the PC Transporter card have been loaded. What's more, any ProDOS-compatible block input/output (I/O) device — disk drives, hard drives, RAM drives and so on — can be used to store MS-DOS data in IBM mode.



PC Transporter turns an Apple IIGS into an IBM PC-compatible computer without giving up the advantages of running IIGS software.

The bottom line is: Your Apple IIGS hard drive will look like an IBM hard drive and work with any program that requires a hard drive.

The only thing you can't add to the PC Transporter board are accessories that must be plugged into PC-compatible slots.

The PC Transporter board performs its magic because it contains almost an entire IBM PC clone within its 30-square-inch (250 square centimeters) area. The board includes a NEC V30 microprocessor (an upgraded processor compatible with the Intel 8086 used in the IBM System/2 Model 30), an IBM CGA (color graphics adapter) compatible video circuit, a sophisticated disk controller chip and up to 768K of RAM.

An 8087 coprocessor chip can be added to the board as an option to speed up math calculations.

PC Transporter comes with a minimum 384K of RAM. Some 128K of that RAM is used by the board for its drivers, BIOS (basic input/output subroutines) and other utilities. With a 384K PC Transporter, that leaves you with 256K of RAM usable in PC mode.

Most serious PC users eventually upgrade to an entire 640K system, because many large programs require that much memory. For that reason, most PC Transporter users will likely do the same. A PC Transporter with a total of 768K will provide the functional equivalent of a 640K IBM PC look-alike.

When you aren't using the PC Transporter card as an IBM-compatible computer, its memory can be used in the normal Apple mode. With driver software loaded, a IIGS will regard PC Transporter as a standard Apple Memory Expansion Board. Software is provided for using this memory as a ProDOS RAM drive and also for *AppleWorks* desktop expansion.

Before PC Transporter can be put to work, it will need an IBM-compatible disk drive to run IBM programs. Fortunately, the Apple 3.5 drive (the standard Apple IIGS disk drive) plugs into the PC Transporter disk port. With the proper software driver loaded, the Apple 3.5 drive will operate as a standard Apple 800K disk drive. In IBM mode, the same drive will read and write standard IBM-compatible 720K disks.

Because 3.5-inch, 720K disks are standard on IBM System/2 computers and a variety of PC portables, most major software packages for the PC are available on 3.5-inch disks that are compatible with PC Transporter. There is one disadvantage to using a 3.5-inch drive attached to the PC Transporter card, though. While attached to PC Transporter, the drive won't work in either the Apple or PC mode until you load the proper driver routines (either the Apple

800K or IBM 720K driver) from *another* disk drive.

While the 3.5-inch drives are becoming the standard in the PC-compatible world, many users still use 5.25-inch, 360K disks. Many IBM PC programs are only available in the older 5.25-inch format. If you have a lot of PC software on 5.25-inch disks, you can purchase a drive from Applied Engineering with one or two 5.25-inch PC-compatible drives.

The video circuit on PC Transporter is actually better than the IBM CGA display it emulates. The standard IBM CGA display flickers whenever text is scrolled; PC Transporter's display doesn't. In general, we found the color and screen resolution quality to be better on the IIGS than most PC clones we've used.

For keyboard input, PC Transporter remaps the Apple's keyboard into a PC-compatible keyboard and keys are reassigned. For example, pressing the Option key (Closed Apple key on the IIe) with a number key is the same as pressing an IBM function key. The IIGS' Command key (Open Apple on the IIe) becomes the Alt key, and the popular Ctrl-Alt-Del function on PC clones, which reboots the system, translates into Ctrl-Command-Period on the IIGS' keypad.

Because the Apple IIe doesn't have as many keys as the IIGS — with its built-in keypad — many keys change into multiple keystrokes. If you forget what key does what, a built-in Help screen shows you the new keyboard map. If you really want PC Transporter to look like a true IBM PC, you can purchase and hook up an IBM keyboard and adapter cable.

Under PC Transporter, many existing Apple peripherals become IBM-compatible peripherals, thanks to PC Transporter's Portware operating system. Portware provides the necessary translations so standard Apple peripherals can use standard IBM-compatible drivers and programs.

Because PC Transporter allows you to use the peripherals you already own — printer, modem, disk drives and so forth — the overall cost of adding PC compatibility to an Apple IIGS is much less than purchasing an IBM PC or compatible and all new peripherals.

In addition to driver routines and support software, PC Transporter comes with a utility that lets you transfer text files between Apple and IBM disks. This utility is useful for converting word processing files and other forms of data.

What's the ideal configuration for PC Transporter? We recommend IIGS owners have two Apple 3.5 drives with their systems. One drive should remain attached to the Smartport as a standard Apple boot drive, and the other drive should be attached to PC Transporter. With the proper drivers loaded, the drive attached to PC Transporter can be used as either an Apple- or IBM-compatible drive. The drive attached to the Smartport can be used as the normal Apple boot drive.

Once all cables are attached and all software drivers are loaded, your Apple IIGS will look like an IBM PC-compatible computer. Many popular programs, such as *Microsoft Flight Simulator, Lotus 1-2-3, Crosstalk* and *dBASE III Plus*, have all been tested. The few compatibility problems that may crop up are, generally, found with programs that use tricky copy-protection schemes. Many of these programs won't boot reliably on real PC clones, either.

PC Transporter does not come with MS-DOS (the standard operating system for IBM PCs) or GWBASIC (the most popular BASIC for PC clones), but this software is widely available through most dealers.

Purchasing PC Transporter and an Apple is certainly more expensive than purchasing a PC clone. If you need to work in both the MS-DOS and Apple worlds, however, then PC Transporter is less expensive than purchasing both an Apple IIGS and a PC compatible. It's also a more versatile combination.

There's one final feature worth mentioning: PC Transporter uses high-speed circuitry and components and performs calculations 3.7 times as fast as a standard IBM PC. The result is that an Apple IIGS with a PC Transporter board will perform at about the same speed as the original IBM PC AT.

— Philip Chien

Product: PC Transporter
Company: Applied Engineering; PO Box 798; Carrollton, TX 75006; 214-241-6060
Price: $489 retail; PC Transporter with 384K RAM
$40 retail; 128K upgrade
$609 retail; with the maximum 768K RAM
$49 retail; IIGS Installation Kit
$39 retail; IIe/II+ Installation Kit
$139 retail; PC-style keyboard
$269 retail; 5.25-inch PC-compatible drive
$399 retail; dual 5.25-inch PC-compatible drives
$229 retail; 8087-2 math coprocessor
Requirements: Apple IIGS, IIe, II+; at least one disk drive; additional Apple 3.5-inch drive is recommended

FutureSound

Plays And Records

One of the things Apple Computer, Inc. surprisingly didn't include with the Apple IIGS was a built-in stereo output. While the IIGS comes with the powerful Ensoniq stereo sound generator, it doesn't have the proper circuitry to decode stereo sound.

Adding insult to injury, the only form of audio output supplied is a small mono speaker. Fortunately, the Apple IIGS' lack of stereo equipment has opened up the market for third-party companies to produce their own stereo boards.

FutureSound is Applied Visions' stereo generator for the Apple IIGS. Besides generating stereo sound, it's also the first IIGS product with the capability of *recording* stereo sound.

The board plugs into any empty IIGS slot and comes with three sets of connector cables. One set of cables attaches the board to the Ensoniq connector on the IIGS' motherboard; the other two sets are audio input and output jacks.

The board provides stereo phono jacks for speakers, plus a mini stereo jack for connecting Walkman-type headphones. The input connectors include two phono jacks, which can be attached to a stereo output,

and a mini jack, designed for use with a supplied mono microphone.

Any program that supports stereo output will work with the FutureSound board. In fact, many games and music utilities have been released that specifically take advantage of the IIGS' internal stereo capabilities. Sound digitizing is another story, however. There aren't many programs that record sound.

FutureSound comes with a powerful sound recorder and editing utility. You only need to set up three parameters to start the digitizer's record mode: the slot the board is plugged into, which audio source you're using (mono, stereo or the supplied microphone) and the gain level. Adjusting the gain level is simple, thanks to an on-screen level meter.

Up to 15 sound "tracks" can be recorded in memory at the same time, and the tracks can be played back selectively. Through on-screen controls, you can select how long the digitizer records and the recording rate.

With mono recordings, the highest quality sound possible is 31.5 kilohertz (Khz). For stereo recordings, the sound quality is limited to 19.5 Khz, about the same response level as standard voice-grade phone circuits.

The maximum amount of recording time depends on how much memory you have available and how many tracks you want to manipulate simultaneously. Digitized sound takes up *lots* of memory. To do any serious recording, you'll need a high-capacity memory board of at least 2 MB.

Once a sound is recorded, a sound graph appears on screen, and you can edit and manipulate what you've recorded. You can cut out a sound, splice sounds together and insert a sound within other sounds, among other functions. A fine-resolution graph mode — and the ability to play back a selected sound repeatedly — makes it easy to choose the portion of sound you want to edit.

Besides editing sounds, you can also create special effects. The Bag of Tricks menu gives you several unusual effects, including echo, fade and stutter (better known as the M-M-M-M-ax Headroom effect).

There are minor bugs in the recorder program, though. For example, when you are playing back sounds, the program ignores the edits and changes you made to the sound graph.

The digitizer program is quite friendly, but a few functions are missing that could have made it better and easier to use. A graph showing memory progress as music is recorded would be a good feature in a future version. So would a playback indicator on the sound graph that shows exactly where the playback is in memory.

FutureSound comes with a set of driver routines that let you play back sounds from your GS-BASIC or C programs. With early Apple computers, your programs could beep you to indicate a problem. Now, with Apple IIGS and FutureSound routines, you can add code to your own BASIC programs and make them speak — or even sing.

—Philip Chien

Product: FutureSound
Price: $279 retail
Company: Applied Visions, Inc.; 1 Kendall Sq., Ste. 2200; Cambridge, MA 02139; 617-494-5417
Requirements: Apple IIGS; 512K RAM; more memory recommended; two speakers or stereo amplifier



Think of Turbo Mouse as a mouse turned upside-down. Instead of a mouse moving around on the desktop, Turbo Mouse stays put in one location.

Turbo Mouse ADB

A Faster Mouse

The Apple Mouse is an excellent and easy-to-use pointing device for beginning computer users. A person who has never seen a computer before can pick up a mouse and learn how to access files and run programs within an hour. A mouse does have its disadvantages, however, especially for those of us with cluttered desktops (we mean wooden desks, of course).

The Turbo Mouse is basically an upside-down mouse. Instead of moving a mouse around your desktop, you twirl a trackball with your fingers. Because the trackball stays in one place, it takes up only a small area — four inches by six inches to be exact — about a quarter of the area used by a mouse in normal operation.

Besides saving space, the Turbo Mouse gathers less dust and grime than a normal mouse ball, because the only thing touching the Turbo Mouse ball is your fingers. From the Apple IIGS' point of view, a Turbo Mouse looks identical to a normal mouse,

making the Turbo Mouse automatically compatible with IIGS programs.

Two separate Turbo Mouse models are available. One model attaches to an Apple II+ or IIe, with a mouse interface card installed, or an Apple IIc and early Macintoshes. The ADB model attaches to an Apple IIGS, Macintosh SE or Macintosh II.

While the two Turbo Mouse models use identical trackball mechanisms, they use different interfacing techniques to attach to different Apples. Make sure you order the correct version for your computer.

Attaching the Turbo Mouse to an Apple IIGS is a simple operation. Just unplug the old mouse from your IIGS' keyboard and plug the Turbo Mouse in its place. If you still want to use the old mouse, plug it into the Turbo Mouse's expansion port. The Turbo Mouse also comes with a "mouse pocket," which is a mouse holder that attaches to the side of your IIGS.

While keyboard commands may be faster than using a mouse or a trackball, you can do much more with a pointing device than with the keyboard. In comparison with other pointers (mouse, graphics tablet, foot mouse, light pen and so on), the Turbo Mouse is faster and more precise once you get used to its mechanism.

The Turbo Mouse sits on your desk next to your keyboard and requires less hand movement than a normal mouse device. When you move a normal mouse, your hand has to move around your desk, too. With the Turbo Mouse, your hand stays in the same place and only your fingers move, resulting in less strain. In addition, the mechanism is more sensitive; a quick flip with your fingers causes the pointer to fly across the screen.

Two large buttons are provided that make the Turbo Mouse usable by both left and right-handers. It takes a little experimenting to get the feel of the fast trackball and the sensitivity of the button for double-clicks. Once you get used to the Turbo Mouse, however, you'll be moving around the screen much faster than ever before.

Is Turbo Mouse worth the extra money? If you have an Apple IIe and get the IIGS upgrade, it may be. After all, Turbo Mouse costs about the same as the optional mouse that Apple sells.

If you have a standard IIGS, however, you already have a mouse, which makes the Turbo Mouse an extra cost item. Still, the Turbo Mouse lets most users choose menu items, draw and perform other mouse functions much faster.

The choice of a pointing device is one of personal preference. The best thing to do is experiment with a Turbo Mouse and see if you like it. Try a variety of programs. You may find that the Turbo Mouse is right for you.

—Philip Chien

Product: Turbo Mouse ADB
Price: $129 retail
Company: Kensington Microware; 251 Park Ave. S.; New York, NY 10010; 800-535-4242 or 212-475-5200 (in NY)
Requirements: Models available for the Apple IIGS, IIe, II+ and Macintosh

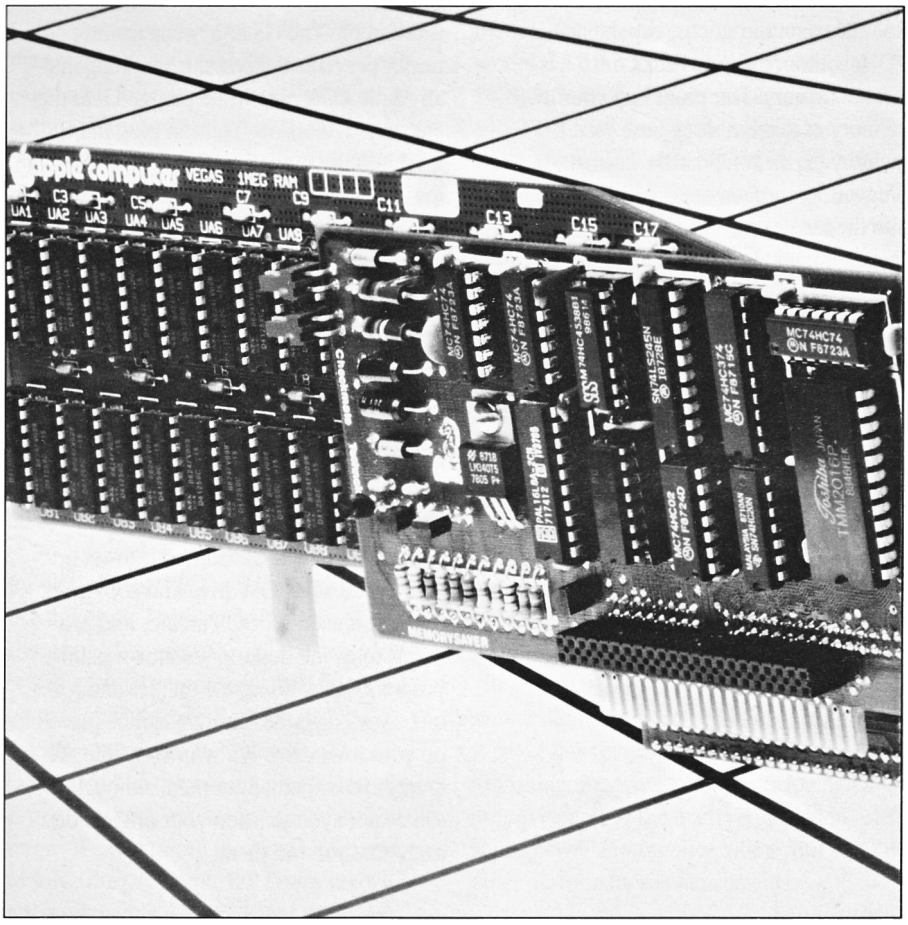
MemorySaver

Boots Up Fast

One of the most obvious drawbacks of the Apple IIGS is the amount of time it takes to load programs. Wouldn't it be great if you could just turn on the power and be up in *AppleWorks* or some other favorite program almost instantaneously?

MemorySaver is designed to do just that, as well as protect your computer's memory in the event of a power failure. Here's how it works.

Random access memory (RAM) requires constant power to keep its contents intact. ROM (read only memory) keeps its contents intact even without power. However, ROM and other non-volatile forms of memory are more expensive than RAM. They are also difficult, if not impossible, to modify once their memories are "burned" in silicon.



MemorySaver constantly powers the RAM on a IIGS memory expansion board. With it, users can get into AppleWorks *and other programs in a matter of seconds.*

Normally, whatever is stored in RAM has to be saved to a disk. If you don't save data often, power failures will erase memory as surely as shutting off your computer will.

One obvious method to saving memory when the power goes off is to maintain power to the memory with a small battery or auxiliary power source. The Apple IIGS includes a small amount of memory just for this purpose. This battery RAM stores Control Panel parameters, including screen colors, keyboard type, slot assignments and so forth. The battery RAM also powers a IIGS' clock. Unfortunately, there's little battery RAM available, and what is available isn't suitable for storing programs.

Checkmate Technology has taken the concept behind battery RAM and extended it a couple of steps in the MemorySaver board, which constantly powers the RAM on your IIGS' memory expansion board — even when the computer's main power supply is off. As a result, your externally powered RAM takes on the storage capabilities of ROM, without the drawbacks.

The MemorySaver plugs into your IIGS' memory expansion slot where your IIGS memory expansion board is normally plugged. Your memory board then plugs into the MemorySaver's slot or expansion socket, depending on which brand memory board you own.

Currently, the MemorySaver is compatible with Apple's Memory Expansion board, Applied Engineering's GS RAM board and Orange Micro's RamPak 4GS. Other boards should be compatible by the time you read this, so contact Checkmate for the latest list.

For the most part, what few board incompatibilities do exist are due to the physical shape and size of the boards involved. After all, you do have to locate two boards (the MemorySaver and your memory board) into a place in the IIGS that was designed to hold only one board.

The MemorySaver comes with an auxiliary power supply (a calculator-style wall-mounted AC adapter) and a battery holder that holds six AA nicad batteries. The battery pack slips out of the way underneath your IIGS' power supply.

The MemorySaver doesn't include the nicad batteries — you have to get them yourself. A quick check at a local Radio Shack store revealed that six AA nicad batteries cost about $12.

When power goes out, the nicads will keep the memory on the expansion board intact for 15 minutes to an hour, depending on which memory board you own and how much memory it contains. You cannot continue working on your IIGS when the lights go out. No source will supply power to the rest of the computer, including your monitor!

Although most standard IIGS memory boards plug into the MemorySaver's expansion slot, the Applied Engineering GS RAM is different. The GS RAM's expansion connector prevents the board from fitting into an Apple IIGS' case while plugged into the MemorySaver's slot. You can plug the GS RAM into the secondary front connector on the MemorySaver by using the GS RAM expansion connector, however.

With this arrangement, you can't plug any card into slot 7 on your IIGS, but you do gain another memory expansion capability. While the GS RAM is plugged into the MemorySaver's front connector, you can also plug another memory expansion card into the MemorySaver's standard back slot. The two memory boards then both operate simultaneously.

The best way to get started is to set up your board as a ROM drive and copy over your most used ProDOS utilities and programs (e.g., the desktop selector, a paint program, *AppleWorks*, file utilities and so on). Any copyable program can be placed on your RAM card. Many uncopyable programs can be partially copied, although they still require you to insert your original disks each time you run them.

If you tell the IIGS Control Panel that you want the ROM drive to boot when you turn your IIGS on, the memory-saved RAM will boot into memory and act like a normal ProDOS RAM drive. While your IIGS is shut off, the external AC power pack keeps the memory powered. When power is restored and your IIGS is turned back on, the RAM card will boot again and you can continue your work.

Although the memory in the expansion card is semipermanent, you should still back up your data on a regular basis to floppy disks, because it is still possible to lose memory under unusual circumstances (board failure, chip degradation, accidentally unplugging the power plug and so forth). Under normal circumstances, however, MemorySaver and an expansion card will keep your programs powered and ready to use.

If you already have a memory expansion board for the Apple IIGS — or even two — the MemorySaver is an excellent way to convert your board(s) into battery-protected RAM at a reasonable price. MemorySaver will store much more memory than other non-volatile storage methods, allowing you to bypass the time-consuming loading process and get right to work.

— *Philip Chien*

Product: MemorySaver
Price: $149.95 retail
Company: Checkmate Technology; 509 S. Rockford Dr.; Tempe, AZ 85281; 602-966-5802 or 800-325-7347
Requirements: Apple IIGS; compatible memory board

VIP Professional

More Than A Lotus Look-Alike

Missing from the Apple II world has been a spreadsheet with the capabilities of *Lotus 1-2-3*. (*SuperCalc* comes close, but its keystrokes are different.) *VIP Professional*, an integrated program with spreadsheet, graphing and data management functions, now brings its power to the Apple II. This package is the next best thing to being able to boot *1-2-3* on your Apple IIGS.

Because the keyboard commands are virtually identical, those who know *1-2-3* will be able to use *VIP Professional* right away. With a modem and communications software, *VIP Professional* can use actual *1-2-3* data files. According to its manual, *VIP Professional* users can also take advantage of many of the templates and reference guides available for *Lotus 1-2-3*.

With 8,192 rows, 256 columns and 51 financial, logical and mathematical functions, *VIP Professional* is a powerful spreadsheet in its own right, slightly bettering *1-2-3* in capacity.

VIP Professional does a good job of combining the power of *Lotus 1-2-3* with the user friendliness of the Apple. Its keyboard commands, which match those of *1-2-3*, are accompanied by the familiar pull-down menus and mouse commands that make an Apple IIGS easy to use. Even the function-key commands have been transported to the IIGS as Open Apple commands.

We particularly like *VIP Professional*'s flexibility. There are always two — sometimes three or more — ways to execute a specific command. And getting around in a *VIP Professional* worksheet is fast and easy.

The screen features an express icon, which gives instant access to the worksheet's corners. With the mouse, you can scroll through a large worksheet one screen at a time. Vertical and horizontal scroll bars provide more rapid movement, and keyboard commands may be used to address specific cells.

Some *VIP Professional* features are particularly useful. For instance, it's easy to create and use macros to execute often-repeated command sequences. You can also split the screen horizontally or vertically and work with two widely separated areas of a worksheet at the same time.

VIP Professional's graphing capabilities are dazzling. With a couple keystrokes, worksheet information can be transformed into pie charts, bar graphs, stacked bar graphs, X-Y graphs and line graphs. Many labeling and legend options are available. Users with enough patience can even draw pictures with X-Y graphs.

We think it's useful that graphs may be displayed in either color or black and white. While color graphs are striking, they don't photocopy well. Black-and-white graphs have varying fill patterns that help differentiate data categories and photocopy beautifully.

After creating some small databases and running quick sorts to test *VIP Professional*'s data management capabilities, we were satisfied with the results. The program sorts both primary and secondary fields and provides results in either ascending or descending order.

While a single *VIP* spreadsheet can be huge, only one worksheet may be on the desktop at a time. This is an acceptable trade-off for the large capacity of each worksheet.

VIP Professional's manual is its weakest point. It is wordy and, at times, unclear. We had to reread several portions to understand the meaning. The manual also contains a number of errors and inconsistencies.

To conserve as much memory as possible for worksheets, *VIP Professional* does not use the Apple Desktop or Program Launcher. The manual suggests two methods of customizing disks to load the program from the Apple Desktop, but we couldn't make either of them work.

We also had trouble booting the program. Every time we tried, we got a fatal system error. We had to call the program's vendor to solve the problem. *VIP Professional* will not work with a Control Panel RAM disk. Once we changed the Control Panel settings, everything worked fine.

Something that causes a fatal system error on booting should be clearly explained in the instruction manual, however.

Some instructions are missing from the manual completely, such as the Save As command, which saves a worksheet under a different name. This feature allows you to experiment with and save what-if numbers without losing the figures on your original worksheet.

In *VIP Professional*, choosing Save from the File menu brings up a dialogue box with the name of the original worksheet. Though you can save the file under another name by typing the new name in the dialogue box, there is no mention of this feature in the manual.

You're also not told how to load a new worksheet without quitting the program. Clicking the Close box quits the program, and there is no Open command in the File menu. It is possible, though, to open a worksheet from a disk simply by selecting Retrieve from the File menu. It is important to make a final save of the current worksheet, because all unsaved data will be lost.

While *VIP Professional* has its shortcomings, they are more inconveniences than disabling flaws. Many of these shortcomings are related to the program's adherence to compatibility with *Lotus 1-2-3*. Adding menu items, for example, would have compromised that compatibility.

VIP Professional is a good workhorse spreadsheet, especially for anyone who needs *1-2-3* compatibility on an Apple IIGS. It also offers macros, a database function and built-in graphics. For those with communications capabilities, the ability to work at home on *1-2-3* office files is a great advantage. So is using familiar commands. The program is also attractive to those who must build large worksheets.

Since this review was written, ISD Marketing, Inc. says that it has made major improvements in the math recalculation speed of *VIP Professional*, along with several other performance enhancements.

—Sandra Irish

The best in all creation.

However you express your creativity. In words. In pictures. Or both. Activision has the software for you.

Paintworks Plus, *Writer's Choice elite,* and *Draw Plus.* Graphics, paint and animation, word processing, and precision drawing for your Apple IIGS.

All three look and work alike, with pull-down menus and simple, one-step mouse operations. All three work together, so combining pictures with text is as simple as cut and paste.

Paintworks Plus—as powerful and versatile as your imagination.

That's why this paint program is the top selling software product for the Apple IIGS. With all the colors and tools it takes to make a computer artist's studio.

Choose from the 4096 colors available to create just the right palette for every picture.

Cut and paste images. Add titles and captions with a variety of fonts, styles and sizes. Bring your painted creations to life with a thrilling animation capability.



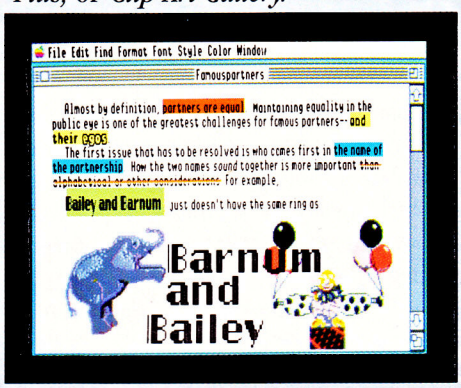
And now every *Paintworks Plus* package includes *Clip Art Gallery,* a library of over 650 vivid color images, FREE.

If you can see it in your mind's eye, you can picture it on your Apple IIGS—with *Paintworks Plus.*

Writer's Choice elite—your words never looked so good.

Go beyond black words on a white screen. Write and edit in color—for emphasis, for fun, or to help organize your ideas.

And when a picture is worth a thousand words, dress up your text with graphics from *Paintworks Plus, Draw Plus,* or *Clip Art Gallery.*

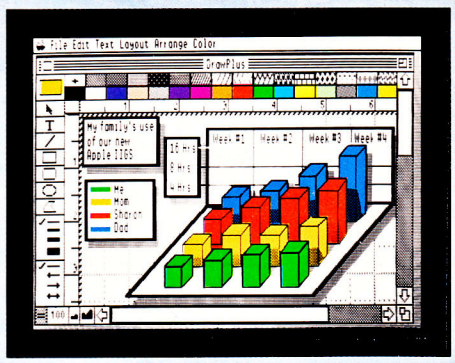


Multiple windows let you work with several documents at the same time. Cut and paste lets you move text around—with a click of the mouse.

Local rulers give you total formatting freedom and flexibility. 12 different fonts, in a variety of sizes and styles, give every word just the look you're looking for.

Draw Plus. Power and precision . . . in color.

Forms, graphs and charts. Floor plans and perspective drawings. Logos, letterheads and layouts. Graphics for business or banners for fun. Whatever you want to draw or design, you'll draw inspiration from *Draw Plus.*



And you can integrate your *Draw Plus* creations with pictures from *Paintworks Plus* and words from *Writer's Choice elite.*

Use rulers and grids for added precision and drawing to scale. Add labels, legends and captions to your drawings, with 12 fonts in many sizes and styles.

Draw a variety of perfect shapes—instantly—and create and save custom images, too, for instant drawing any time.

Print what you paint, write and draw in color with the ImageWriter® II or in black and white with the ImageWriter or LaserWriter.®

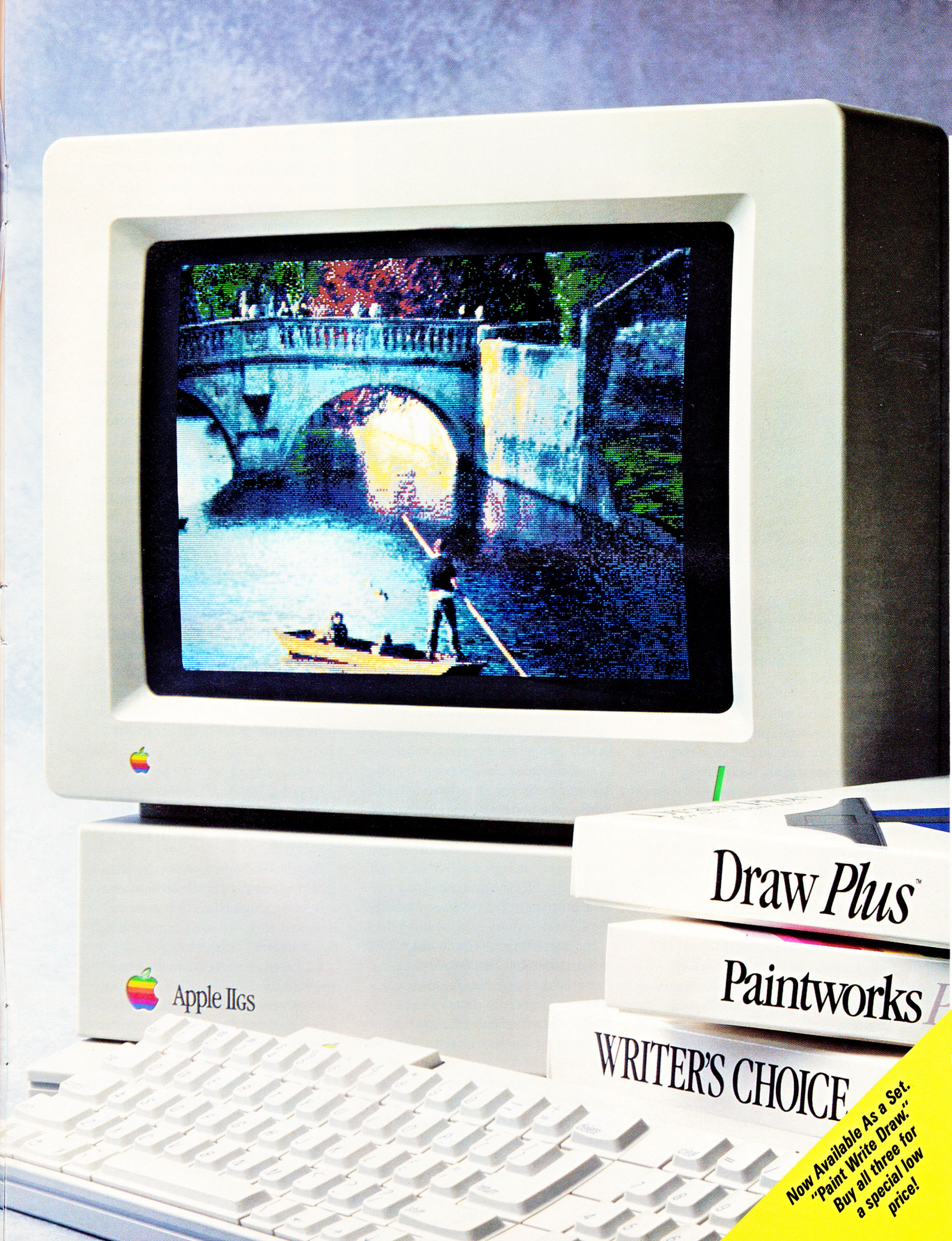
Ask your retailer about Activision's great software for the Apple IIGS. Or you can order by mail: call 1-800-227-6900.

ACTIVISION.



Circle 13 on Reader Service Card

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Apple IIGS
Draw Plus™
Paintworks
WRITER'S CHOICE
Now Available As a Set.
"Paint Write Draw."
Buy all three for
a special low
price!

Product: *VIP Professional*
Price: $299.95 retail
Company: ISD Marketing, Inc.; 2651 John St., Unit #3; Markham, Ontario, Canada L3R-2W5; 416-479-1880
Requirements: Apple IIGS; 512K RAM

Instant Music

Everyone's A Maestro

The music capabilities of the Apple IIGS are fantastic, but many of them can only be used by those who know how to read music or play a musical instrument. Sure, there's a handful of music programs available, but they require musical notes to be input from sheet music or played on a keyboard. Most non-musicians can only play songs created by others. Until now, that is.

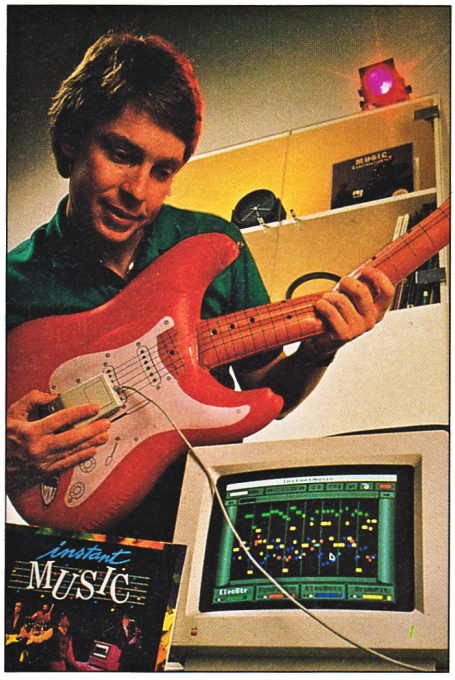
Instant Music is a non-technical music-generation program that requires no musical knowledge. The program just won't let you create bad music!

The main menu shows up to four separate instruments, each in a different color. The intensity of each color depicts the volume level, and the position of the notes indicates their pitch. Each instrument's sound level is adjustable, and all instruments can be replaced with other instruments, even while a song is playing.

Each instrument can play three-note chords or single notes, depending upon user preference. As the mouse is moved up and down, the pitch of a note changes. The program's artificial intelligence compares notes from the user's mouse input with the other notes on the screen and notes that were just played to determine the final musical sounds. Music created by the user always comes out sounding correct, with melodies and rhythms intact.

The results are interesting, but they, nonetheless, have a decidedly "computer" sound. The program's special Mouse Jamming mode lets you play one instrument with the mouse, while the other three instruments play in the background.

Instant Music isn't a music tutorial, but it does teach musical terms — much the same way a word processor teaches typing. Users learn by doing and experimenting. In addition, the program manual has an appendix filled with musical terms, and the software could be a useful part of a music course.



With Instant Music, *even non-musicians can create and play songs.*

The *Instant Music* disk comes with samples of classic, folk, jazz and rock tunes. Two data disks can be purchased separately: *It's Only Rock 'N Roll* and *Hot & Cool Jazz.* Each data disk includes a variety of new musical instruments and several songs.

It's Only Rock' N Roll is separated into the following categories: Memphis 1956 (early 1950s rhythm and blues), Philadelphia 1959 (late 50s pop and early 60s beat), Detroit 1962 (the Motown sound), Chicago 1965 (rock blues), San Francisco 1968 (acid rock), Los Angeles 1971 (heavy metal), London 1974 (progressive rock) and New York 1977 (New Wave).

The extra instruments on the disk include: Strat, Fuzz, LesPaul, FenderBass, Powerchord, PowerFifths (guitars), Moosehead, SynPercus, Drumkit2, RideCymbal and others. The sounds provided can be cut and pasted together to create new musical works.

The documentation that comes with *It's Only Rock' N Roll* — which is almost as interesting as the program — is a history of rock. It shows how various chord progressions were used in each period of rock history and how rock and roll changed over time. The manual also describes each time period, influential rock musicians of each era and how social and political events affect popular music.

Hot & Cool Jazz is similar and covers jazz history from 1900 to the present.

With *Instant Music*, beginners can create music without any previous musical or computer knowledge. Unfortunately, *Instant Music*'s friendliness and simplicity can be as much a limitation as an asset. While the copy-protected program won't let you create bad music, it also prevents you from using your imagination to create extremely exotic and esoteric music.

In summary, while *Instant Music* is an excellent musical entree for a beginner with no musical knowledge, advanced musicians won't find it as useful.

—Philip Chien

Product: *Instant Music*
Price: $49.95 retail; *Instant Music*
$29.95 retail; *It's Only Rock 'N Roll*
$29.95 retail; *Hot & Cool Jazz*
Company: Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171
Requirements: Apple IIGS; 512K RAM; 768K RAM and stereo board recommended

ORCA/M and TML

Two Pascals For The IIGS

Pascal is one of the most popular programming languages in schools, businesses and among programmers. It is powerful, structured, fairly well standardized and flexible enough for most applications.

Unlike Applesoft BASIC, which is built into the Apple IIGS, Pascal is expandable and new versions with upgraded capabilities are released from time to time. In contrast, the Applesoft BASIC inside every IIGS is nearly identical to the version of Applesoft BASIC that was first released in 1978. Applesoft can't use any of the IIGS' special capabilities (super high-resolution graphics,

sound, Toolbox functions and so forth) and even has difficulty handling simple functions, such as disk access and double high-resolution graphics.

In 1979, the first version of Pascal came out for the Apple II. Called *Apple Pascal* and based on UCSD Pascal, it was produced by Apple with the assistance of the University of California at San Diego, where it was originally developed. *Apple Pascal* produced a special type of semicompiled code, called P-code (Pseudo code), which wasn't as fast as true compiled code, but still much faster than Applesoft BASIC. With the introduction of excellent instructional manuals, *Apple Pascal* quickly became the most popular beginning programming language for many high schools and colleges.

Besides *Apple Pascal*, which has gone through four upgrades since its original release, Apple also released *Instant Pascal*, a much slower, simpler and less powerful programming language designed specifically for beginners.

Although UCSD Pascal is an adequate standard, it isn't as powerful or fast as newer Pascals available for the Apple IIGS. UCSD Pascal is limited by design and licensing requirements, and Apple hasn't announced any new releases that use the IIGS' enhanced capabilities.

TML Systems and The Byte Works, Inc., two companies specializing in powerful programming languages, have released true compiler Pascals — *TML Pascal* and *ORCA/M Pascal*, respectively — designed specifically for the IIGS. As true compilers, both versions use more memory than a P-code compiler (not a major disadvantage due to the larger amount of memory in the IIGS) and are much faster than other languages.

In fact, programming in these Pascals yields code almost as fast as machine language. Both Pascals let you access the IIGS Toolbox, create desk accessories for access within other IIGS programs, create Macintosh-style mouse-oriented menus and design much larger programs than can be made on earlier Apple IIs.

Each company is perfectly willing to spend several hours explaining why its



ORCA/M Pascal *operates under the Apple Programmer's Workshop, a programmer's environment that The Byte Works originally wrote for Apple Computer, Inc.*

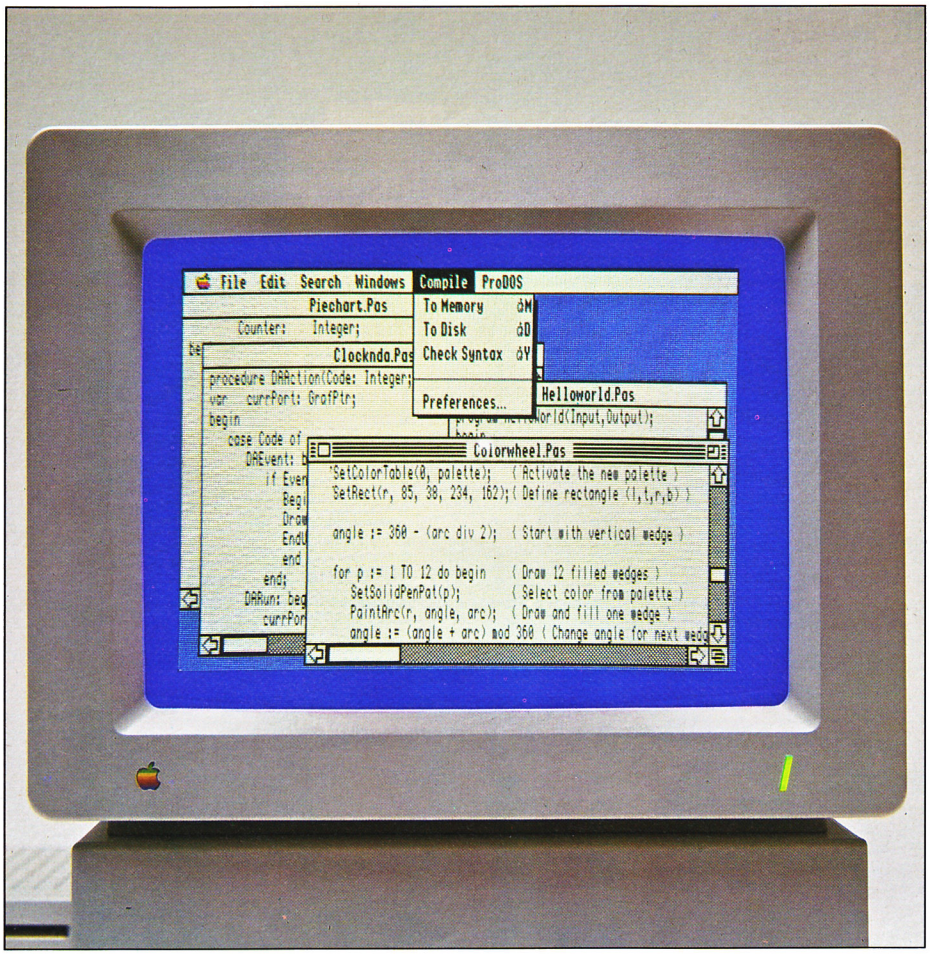
Pascal is better than the competition's. For most beginning users, however, which Pascal you use doesn't make much difference. The same program, with very few syntax changes, can be made to run under either Pascal. It's even possible to write a program and, using identical commands, compile it under both Pascals.

The two products are based on different standards that have been established by industry panels. Both standards are well written and primarily differ in terms of syntax and subtle specifications. Under most circumstances, it won't make any difference which standard you use, unless a program you're writing has to be transferred to run on another computer that requires a specific standard.

Experienced programmers should ask both companies for their spec sheets and check carefully before deciding which version provides the best features and capabilities.

ORCA/M Pascal by The Byte Works conforms to the level 0 ISO 7185 Pascal standard. It uses a standard text-oriented display with command-line inputs. Its operating system is APW (the Apple Programmer's Workshop), which The Byte Works originally wrote for Apple. Besides a standard programming diskette, this version comes with a data diskette filled with sample programs.

TML Pascal by TML Systems is based on the ANSI/IEEE770X3.97 — 1983 standard. It uses a Macintosh-like mouse-oriented desktop, complete with pull-down windows. Besides the standard version of *TML Pascal*, a special version is available that uses the APW operating system, the same command-line operating system used in *ORCA/M Pascal*. The APW version of *TML Pascal* is



Pull-down menus and a mouse-oriented desktop make* TML Pascal *resemble a Macintosh program. A Speech Tool Kit accessory is available for adding sound to IIGS Pascal programs.

available directly from TML Systems as a special-order item.

TML Pascal includes a few sample programs on its program diskette. Other support utilities are available separately. A set of library routines, including their source-code documentation and a special speech tool kit, are also available.

The speech tool kit is a set of routines that let you add speech capabilities to your programs. With this utility, a program can "print" text to the speech routine, which changes English text into male or female speech.

Digitized Apple IIGS speech has much better sound quality than computerized phonetic speech, but phonetic speech is more flexible. With the speech tool kit, anything you type in can be converted into speech, as opposed to digitized speech where anything spoken has to first be recorded.

Both *TML* and *ORCA/M Pascal* can "speak" prerecorded digitized speech through toolbox routines. Both versions can also create stand-alone applications that run by themselves without using Pascal.

Stand-alone applications which you write can be sold separately, without paying any license fees to the company that wrote the version of Pascal you used to write the programs. All you have to do is include the proper copyright statement acknowledging the version of Pascal you used.

—Philip Chien

Product: *TML Pascal*
Price: $125 retail; *TML Pascal*
$69 retail; Speech Tool Kit
$49 retail; Source Code Library
Company: TML Systems; 8837-B Goodby's Executive Dr.; Jacksonville, FL 32217; 904-636-8592
Requirements: Apple IIGS; 768K RAM; more memory and large drives recommended

Product: *ORCA/M Pascal*
Price: $125 retail
Company: The Byte Works, Inc.; 4700 Irving Blvd. NW, Ste. 207; Albuquerque, NM 87114; 505-898-8183
Requirements: Apple IIGS; 768K RAM; more memory and large drives recommended

The Sensible Series

Software Support For Writers

Whether amateur or professional, all writers need editors. Students, who can rarely afford such services, benefit greatly from having their papers proofread. Attempting this task on their own, students and other writers often overlook serious grammatical errors. *Sensible Grammar* may be the answer to this all too common problem.

Compatible with numerous ProDOS word processing programs, including *AppleWorks, AppleWriter, Format II, MouseWrite* (text files only), *MouseWord, PFS:Write, Word Juggler, Zardax* and *Sensible Writer, Sensible Grammar* proofreads manuscripts, checking each sentence for possible punctuation and grammatical errors.

Sentences with errors are displayed on screen, along with descriptions of the errors and suggested changes. A print option allows a user to print out this information for later revision.

An interesting feature of *Sensible Grammar* is that it stores 2,000 commonly misused phrases in memory, which it uses to detect pompous, informal, cliche, vague, wordy, repetitive, sexist and other faulty phrases. This phrase list can be added to or deleted from, depending upon the type of manuscript being checked. For example, a useful phrase function is to convert legalese into plain English.

Sensible Grammar also detects common punctuation and capitalization errors. The list of punctuation errors, however, is not inclusive. The program will detect errors

involving brackets, colons, commas, dashes, parentheses, periods, quotation marks and semicolons. Possible comma errors are most often pointed out, and a Mark feature allows a user to mark a possible error for further review. We found this a particularly attractive feature.

Sensible Grammar employs pull-down menus and a Macintosh-style user interface that can be used with either the keyboard or mouse. Users have the option of making corrections immediately, using either the program's suggestions or their own revisions. Punctuation errors can be marked for later correction with a word processor.

With the exception of groups of words that are misspelled (e.g., every thing, can not), *Sensible Grammar* does not detect spelling errors — that's a task for *The Sensible Speller.* Although there are a number of spelling verification programs on the market, we were impressed with *The Sensible Speller.*

Sensible Software's spelling program provides an 80,000-word dictionary based on the *Random House Dictionary* (Concise Edition). *The Sensible Speller* also allows a user to create a customized dictionary by adding or deleting words or by adding special terms.

The program includes a cumulative word count that keeps track of word usage and manuscript length. This feature points out the possible overuse of words within a document. *The Sensible Speller* is compatible with essentially the same word processing programs as *Sensible Grammar.*

The spelling program proofreads a document, compiling a list of suspect words — words not found in its dictionary. On command, *The Sensible Speller* offers a list of suggested spellings, usually 10 words that are similar to the suspect word. Once a word is properly identified, the user may exercise one of four options: add the original word to the dictionary, ignore the word, replace the word with a new word or mark the word as misspelled.

The spelling program will not check for grammatical errors, and some misspellings go undetected.

Sensible Software also offers three specialized dictionaries: Black's Legal, Stedman's Medical and Sensible Technical, which can be purchased separately.

Sensible Grammar and *The Sensible Speller* together present an attractive, effective proofreading/editing package. The instruction manuals for both programs are well written and easy to follow. Offered at a reasonable cost, these programs are effective learning devices for writing students.

Sensible Software also offers *Sensible Writing,* a word processing program that can handle up to two documents at a time. Naturally, *Sensible Writer* is compatible with *The Sensible Speller* and *Sensible Grammar.* Either a mouse or a keyboard can be used. Directions for using both are included in the instruction manual for *Sensible Writer.*

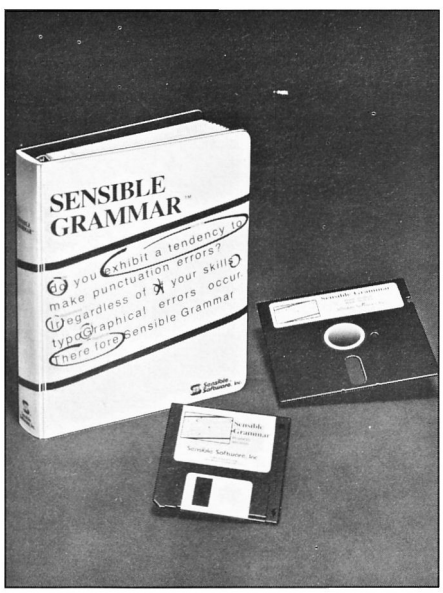
Sensible Writer features pull-down menus, dialogue boxes, a built-in mail-merge facility, envelope addressing and rulers for formatting documents. Another useful program feature permits text that appears on screen to be printed out *exactly* as shown.

Sensible Writer makes use of a clean and uncluttered Macintosh-style interface that makes writing assignments easier to accomplish. The mouse interface simplifies the process of selecting portions of a manuscript that must be moved, underlined, justified, printed out bold or even printed in color.

We were impressed with Sensible Software's word processing and editing programs. Put to their full use, these programs serve as innovative, effective writing tools for amateur and professional writers. ■

—Darby Gibbons

Products: *Sensible Writer*
Sensible Grammar
The Sensible Speller
Price: $99.95 retail; each package
Company: Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950
Requirements: Apple IIGS, IIe, IIc, II+; one or more 3.5- or 5.25-inch disk drives



The three programs in the Sensible series* — Sensible Grammar, Sensible Writer and Sensible Speller — *can be used by themselves, as an integrated family or run with other programs.

Apple IIGS Hardware And Software Directory

About This Directory

The Apple IIGS is the latest member of the Apple II family. In most cases, the Apple IIGS runs the vast majority of programs and works with most hardware designed for earlier 8-bit Apple II computers, including the Apple IIe, IIc and II+. Most of this software is supplied on 5.25-inch disks, and a 5.25-inch disk drive may be required to run these packages.

The Apple IIGS, however, also offers a new 16-bit capability that's unique. Programs or peripherals designed to take advantage of this capability incorporate improved graphics and sound and typically utilize more memory than found on earlier Apple II machines. In the case of software, virtually all of the Apple IIGS-specific products use the ProDOS 16 operating system and are supplied on 3.5-inch disks.

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. Why? 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.

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

Accessories

A-B Box

Switch box

Apple IIGS.

The A-B Box is a switch box that connects two peripherals to one serial port or lets you share one peripheral between two Apple IIGS computers. It comes with a 2-inch-Mini-DIN8 cable. For older equipment with DB9 connections, you can get an Apple conversion cable from the vendor. The A-B Box is also compatible with the Macintosh.

$99.95 retail

Kensington Microware Ltd.;
251 Park Ave. S.; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

Apple Security System

Security kit

Apple IIGS.

The Apple Security System lets you secure an Apple IIGS computer, monitor, keyboard and peripherals without interfering with its functioning or setup. It attaches easily and comes with security cables, screws and a padlock.

$49.95 retail

Kensington Microware Ltd.; 251 Park Ave. S.; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY

AppleTalk Clips

AppleTalk accessory products

Apple IIGS; AppleTalk network.

AppleTalk Clips are designed to keep an AppleTalk network securely connected. With these products, the chances for poor connections between printers and Apple IIGS computers, or networked IIGS and Macintosh computers, are reduced. Clips are available for securing cables (plain Cable connections) and for securing Connection Boxes.

$25 retail; 25 Clips for plain Cables
$13.75 retail; Three Clips for Connection Boxes, 4 Clips for plain Cables
$25 retail; 25 Clips for Connection Boxes

Kensington Microware Ltd.; 251 Park Ave. S.; New York, NY 10010; 800-535-4242 or 212-475-5200 in NY

Bose RoomMate Speakers

Digital sound speakers

Apple IIGS.

Bose RoomMate Speakers contain full range drivers, a dual-channel amplifier, an equalization network and distortion-limiting circuitry. Their compact size, finish and advanced sound capabilities make them ideal for use with the Apple IIGS.

$229 retail

Bose Corp.; The Mountain; Framingham, MA 01701; 617-879-7330

Cable Assemblies

Third-party cables

Apple IIGS.

Data Spec offers a variety of cable assemblies compatible with the Apple IIGS and most Apple-compatible peripherals, including printers and modems.

$9.95 retail to $28.95 retail

Data Spec; 20120 Plummer St.; PO Box 4029; Chatsworth, CA 91313; 818-993-1201

Disk Accessories

Disk cleaning kit and holder

Apple IIGS.

The Disk Drive Cleaning Kit for the Apple IIGS contains a reusable cleaning cartridge, cleaning disks and cleaning fluid. Everything is included for 12 cleanings, a full year's supply.

The Disk Pocket is a tray that attaches to the side of an Apple IIGS or monitor and stores up to five 3.5-inch disks. No tools are required for installation. The Disk Pocket removes easily when placing the Apple IIGS in its carrying case.

$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

Disk drive cleaner
Apple IIGS; disk drive.

The 3 1/2" Disk Drive Cleaner is designed for use with the 3.5-inch drives of the Apple IIGS. It is a non-abrasive, wet-type system that includes a .5-ounce bottle of cleaning fluid and instructions.
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1201

DMS802 and DSM804

Data switches
Apple IIGS; peripherals.

The DSM802 and DSM804 are compact data switches with mini pin connectors. The DSM802 is a two-way switch with mini 8-pin DIN connectors. The DSM804 is a four-way switch with 8-pin connectors.

Designed for an Apple IIGS and Macintosh Plus, both products enable a user to attach several peripherals to one computer or several computers to one peripheral. A two-tone gray finish matches the Apple IIGS case coloring scheme.
$52.95 retail; DSM802
$59.95 retail; DSM804
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1201

Dust Cover For The Apple IIGS

Dust cover
Apple IIGS and monitor.

The Dust Cover For The Apple IIGS is a clear, anti-static cover that protects an Apple IIGS computer, monitor and keyboard.
$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.

Apple IIGS dust covers from Co-Du-Co come in tan, navy, royal, gray, red and brown. Unlike plastic covers, these covers allow heat from equipment to flow through the fabric. The covers are all-fabric machine washable and custom designed for IIGS contours.
$24.95 retail
Co-Du-Co; 4802 W. Wisconsin; Milwaukee,
WI 53208; 414-476-1584

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.

Kablit for the IIGS is a cabling system that ties down and secures an Apple IIGS and peripherals. It uses snap-in fasteners for the computer and monitor and comes complete with all necessary hardware, in addition to a lock and cable.
$39.95 retail
Secure-It, Inc.; 10 Center Sq.; E.
Longmeadow, MA 01095; 413-525-7039

Kraft Premium II

Joystick
Apple IIGS; adapter card.

The Kraft Premium II is a two-button joystick available for the Apple IIGS. It is equipped with a "center-lok" mode selector for spring-centered or free-floating use.
$44.95 retail
Kraft Systems, Inc.; 450 W. California Ave.;
Vista, CA 92083; 619-724-7146

Kurta GIS

Cordless graphic input system
Apple IIGS.

The Kurta GIS is a cordless graphic input system for an Apple IIGS that includes either a cordless pen or a cordless puck and tablet. It can be used either as a mouse or graphics tablet. Users can switch between mouse and tablet modes while working on any application.
$495 retail
Kurta Corp.; 4610 S. 35th St.; Phoenix, AZ
85040; 602-276-5533

MODUNET

Networking connectors
Apple IIGS; AppleTalk network.

MODUNET is a line of networking connectors designed to connect an Apple IIGS or Macintosh into an AppleTalk network. The product conforms to AppleTalk standards, yet offers additional features, including adaptability to existing phone wiring. With MODUNET, users can connect into existing telephone cabling or string new network wiring with standard telephone wires. Extended distances are possible, with communication capabilities of up to 5,000 feet.
$37.95 retail to $47.95 retail
Data Spec; 20120 Plummer St.; PO Box 4029;
Chatsworth, CA 91313; 818-993-1201

Mouse Accessories

Accessories for mice
Apple IIGS; mouse.

The Mouse Cleaning Kit contains nonabrasive foam swabs, lint-free cleaning cloths, cleaning solution and a can of compressed air — everything, its vendor claims, most users will need for 25 cleanings a year.

Mouse Pocket ADB is designed to keep the mouse clean and safely out of the way when not in use. It installs with adhesive backing and is colored Apple Platinum.

Mouseway provides a smooth, dirt- and static-resistant work surface for the Apple IIGS mouse. It keeps the mouseball from scratching furniture surfaces and absorbing damaging furniture cleaning solutions. Its color is slate gray.
$24.95 retail; Mouse Cleaning Kit With Mouse Pocket
$9.95 retail; Mouse Pocket ADB
$9.95; Mouseway
Kensington Microware Ltd.;
251 Park Ave. S.; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

MousePouch
Mouse container
Apple IIGS.

MousePouch is a place to keep your mouse when not in use. It is a vinyl suede pocket that attaches to the side of the Apple IIGS or monitor, or any other convenient surface with Velcro. The product will also carry eight 3.5-inch disks.
$5.95 retail
H&H Enterprises; PO Box 2672; Corona, CA 91718; 714-737-1376

Printer Accessories
Printer accessory products
Apple IIGS; printer.

The Printer Muffler 80 and Printer Muffler 132 are printer covers that reduce noise from Apple IIGS printers by 75 to 80 percent. Molded from high-impact styrene plastic for durability, they keep dust out and are transparent. Both products are intended for use with dot matrix printers only with carriages of 80 and 132 inches.

The Printer Muffler 80 Stand and Printer Muffler 132 Stand are companions to the Printer Muffler products. They allow the user to raise a printer and Printer Muffler four inches, allowing for paper storage underneath.

The Universal Printer Stand is made of sturdy metal and fits all popular dot matrix printers, short carriage or wide, including the ImageWriter II. It raises a printer 1 1/2-inches at the front and 4 1/2-inches at the back. (For use without the Kensington Printer Mufflers.)
$59.95 retail; Printer Muffler 80
$79.95 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

System Saver IIGS
Cooling fan power center
Apple IIGS; monitor; two peripherals.

System Saver IIGS organizes a IIGS power supply and provides four outlets for a computer, monitor and two peripherals. Two front-mounted switches attach to the computer and the monitor respectively.

System Saver IIGS protects a IIGS system against power surges, spikes and noise. It clips spikes and surges at a safe level and filters out disruptive noise. A built-in fan draws air up and through the IIGS case.
$99.95 retail
Kensington Microware Ltd.;
251 Park Ave. S.; New York, NY 10010;
800-535-4242 or 212-475-5200 in NY

Turbo Mouse ADB
Replacement mouse
Apple IIGS; mouse attachments.

The Turbo Mouse ADB works at twice the speed of a standard mouse and in half the space, its vendor says. It turns mouse technology around and puts the mouse ball on top, not the bottom. Only the ball of the mouse moves, not the whole mouse.
$129.95 retail
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
Apple IIGS.

The Universal Security Kit simplifies the task of providing physical security for the Apple IIGS. It includes adapters for the platinum-colored IIGS, along with a special screwdriver and 10 tamper-resistant screws that are used to secure the system. One 10-foot steel security cable is included; the user supplies a padlock or similar device.
$49.95 retail
Grimes Co.; 115 S Airovista Circle; Brea, CA 92621; 714-671-3931

AppleWorks

1040Works-X
Copes with new tax laws
Apple IIGS; other Apple II models.

1040Works is a tax template for *AppleWorks* that provides most of the commonly-used tax forms for preparing individual tax returns. It performs all of the calculations for each form and prints out finished forms that can be sent to the IRS without recopying.
$27.95 retail; $3 for 3.5-inch disk
Personal Financial Services; PO Box 1401; Melville, NY 11747; 516-261-8652

AppleWorks Version 2.0
Word processing, database management, spreadsheet analysis
Apple IIGS.

This latest version of this best-seller from Claris Corp., a subsidiary of Apple Computer, Inc., includes a built-in mail-merge capability that allows a user to produce customized form letters by combining a word processing document with selected information from a database.

Word processing features include on-screen display of page breaks, centering, headers, footers, insertions, deletions, search and replace, proportional spacing and more.

The electronic spreadsheet features 999 rows by 127 columns, reads *VisiCalc* files and sets variable column widths.

Database management features including tracking and sorting of up to 30 categories.
$250 retail
Claris Corp.; C/O Apple Computer, Inc.;
20525 Mariani Ave.; Cupertino, CA 95014;
415-960-1500 or 408-996-1010

Graphic Edge
Prints graphics
Apple IIGS; other Apple II models.

Graphic Edge creates color charts and graphs directly from within AppleWorks spreadsheets. Users can generate any of eight different types of graphs, including bar graphs, pie charts and X-Y graphs. A link between *Graphic Edge* and *AppleWorks* automatically redraws graphs anytime numbers are changed.
$89 retail
Pinpoint Publishing; 5865 Doyle St. ;
Emeryville, CA 94608; 415-654-3050

ReportWorks
AppleWorks enhancement program
Apple IIGS; AppleWorks.

ReportWorks is a report generator that uses *AppleWorks* files to print lists, fill out

forms and analyze data. The program allows users to design intricate reports, including purchase orders, statements, invoices, estimates and more. It also has the ability to perform math calculations more advanced than offered by *AppleWorks* and has enhanced sorting capabilities.
$49.95 retail
Megahaus Corp.; 5703 Oberlin Dr.; San Diego, CA 92121; 619-450-1230

The Timeout Series

AppleWorks enhancements
Apple IIGS; AppleWorks.

The Timeout Series consist of seven new *AppleWorks* enhancements. *Timeout Quickspell* is a spell checker that comes with an 80,000-word dictionary and the ability to add an unlimited number of words to the user's own custom dictionary. *Timeout Superfonts* adds a variety of styles to printouts, including bold, italic, underline, shadow and more. *Timeout Graph* creates graphs directly from spreadsheets or databases in any of nine graph types. *Timeout Ultramacros* can define up to 500 different macros at one time. *Timeout Spread* rotates spreadsheets 90 degrees, enabling the user to print sideways with no limit on the size of the file to be printed. *Timeout Filemaster* provides user control over all file and disk handling needs inside *AppleWorks*. *Timeout Desktools* comes equipped with a clock, calendar, appointment scheduler, task list, calculator and more.
$69.95 retail; *Timeout Quickspell*
$79.95 retail; *Timeout Superfonts*
$89.95 retail; *Timeout Graph*
$59.95 retail; *Timeout Ultramacros*
$49.95 retail; *Timeout Sidespread*
$49.95 retail; *Timeout Filemaster*
$49.95 retail; *Timeout Desktools*
Beagle Bros.; 3990 Old Town Ave., Ste. 102C; San Diego, CA 92110; 619-296-6400 or 800-345-1750

Books And Publications

Apple IIGS Assembly Language Programming

Tutorial on assembly language

Apple IIGS Assembly Language Programming is a tutorial that provides a complete introduction to the machine's architecture, the process of developing a program in assembler, the command set of the 65816 processor and the links between the assembler and the IIGS Toolbox.

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For IIGS or Apples/compatibles with at least 256K RAM, only $27.95 (includes shipping). Requires AppleWorks; printer recommended. Available on 3.5-inch disk; add $3. We also offer **1040Works** for 128K Apples, $24.95. In NY add state/local tax. Sorry, no bank card orders.

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GRAPPLER IIGS/Mac for parallel printer. . . . . $ 69
AST VISION PLUS IIGS $299, **THUNDERSCAN** $199
MDIDEAS SUPERSONIC STERIO Card for GS $ 59
OCTORAM (expandable to 8MEG) w/1 MEG. . $369
ADAPTOR for IIGS to old 20 pin drives. . . . . $ 39
CABLE for IIGS to Modem or Image II. . . . . $ 20ea
DELUXE PAINT II $69, ADD-ON Disks. . . . . $ 25ea
DRAW PLUS $59, **PAINTWORKS+$49,** POSTCARD $ 25
TOP DRAW IIGS $79, GRAPHIC WRITER IIGS $ 99
WRITER'S CHOICE ELITE $59, MULTISCRIBE $ 79
SOFTWOOD GS FILE $99, **TIMEOUT SERIES** $Call
PINPOINT GS STARTER $99, Softswitch. . . . . $ 45
PRINTSHOP IIGS $49, **FANTAVISION IIGS**. . . $ 49
SIDER 20 MB HARD DRIVE $599
BASKETBALL, HARDBALL, MEAN 18 GOLF. . $ 35ea
TWR of MYR$35, SPACEQUEST$39, **WORLDGAMES** $ 39
MAD LIBS $19, BARD'S TALE $39, HACKER II $ 39
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Included is also a set of examples of commonly-used procedures.
$24.95
Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103; 212-765-6500

Apple IIGS Firmware Reference

Guide for programmers and hardware designers

The Apple IIGS Firmware Reference is a technical guide for programmers creating software for the Apple IIGS. It provides an extensive description of the internal operations of an Apple IIGS and presents the latest information about its firmware facilities.
$24.95 retail
Addison-Wesley Publishing Co.; Rte. 128; Reading, MA 01867; 617-944-3700

Apple IIGS Hardware Reference

Guide to Apple IIGS hardware

Designed as a companion volume to the *Apple IIGS Firmware Reference,* the *Apple IIGS Hardware Reference* provides an extensive description of the mechanisms and internal operations of an Apple IIGS. It also presents the latest information on all the machine's hardware.
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Apple IIGS ProDOS 16 Reference

Technical reference source with software

The *Apple IIGS ProDOS 16 Reference* is Apple Computer, Inc.'s guide to ProDOS, the premier operating system for the Apple IIGS. The reference is packaged with ProDOS 16 software and the System Loader. The book documents ProDOS 16, the System Loader and software that works in concert with ProDOS 16.
$29.95 retail
Addison-Wesley Publishing Co.; Rte. 128; Reading, MA 01867; 617-944-3700

Apple IIGS Technical Reference

Apple Architecture book

The *Apple IIGS Technical Reference* explores the inner workings of an Apple IIGS. All operating modes are explained so that readers can write software that runs on 8- or 16-bit systems.

The book reveals insights about an Apple IIGS' built-in software, the ROM operating system, the disk, serial input/outputs and the IIGS' Toolbox.
$19.95 retail
Osborne/McGraw-Hill; 2600 Tenth St.; Berkeley, CA 94710; 415-548-2805

Apple IIGS Toolbox Reference, Vols. I and II

Toolbox description book

The *Apple IIGS Toolbox Reference* is a two-volume set that describes the Apple IIGS Toolbox. The Toolbox itself is a collection of more than 600 ready-to-use routines that enable users to access the capabilities of the Apple IIGS.
$26.95 retail
Addison-Wesley Publishing Co.; Rte. 128; Reading, MA 01867; 617-944-3700

Exploring The Apple IIGS

Graphics and sound programming guide

Exploring The Apple IIGS is a technical introduction to the inner workings of a IIGS. It includes studies that tell how an Apple IIGS is built and how it works.

The book discusses the architecture and capabilities of the Apple IIGS' microprocessor, software development environments, ProDOS 16, memory mapping, super-high-resolution graphics and more.
$22.95 retail
Addison-Wesley Publishing Co.; Rte. 128; Reading, MA 01867; 617-944-3700

Human Interface Guidelines

Defines the Apple standard

The *Human Interface Guidelines* from Apple Computer, Inc. defines the Desktop Interface used in Apple IIGS-specific programs. The book describes the mouse pointer, windows, dialogue boxes, buttons, pull-down menus, scroll bars and other features. Programs that adhere to the standardized user interface guidelines are generally more consistent with other programs, and hence easier to use.

The book begins with a history of the desktop interface and describes its implementation on Apple family computers.
$14.95 retail
Addison-Wesley Publishing Co.; Rte. 128; Reading , MA 01867; 617-944-3700

Technical Introduction To The Apple IIGS

Software conversion book

The *Technical Introduction To The Apple IIGS* is written for programmers who want to write their own software or adapt programs to an Apple IIGS. It provides an overview of the general design, system architecture, programming environments, Toolbox, graphic modes and sound capabilities of a IIGS.
$9.95 retail
Addison-Wesley Publishing Co.; Rte. 128; Reading , MA 01867; 617-944-3700

The Apple IIGS Book

Historical overview

The Apple IIGS Book chronicles the Apple IIGS computer from conception to development. It begins with a user's reference guide that explains basic computer concepts and working procedures, then explains the features of an Apple IIGS, the computer's 16-bit environment and some of its new software.
$18.95 retail
Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103; 212-765-6500

The Apple IIGS Toolbox Revealed

Read before programming

The Apple IIGS Toolbox Revealed introduces the reader to crucial concepts before starting to program. Programming newcomers can take a look inside the computer and some of its circuits, and can learn about programming languages and how to choose the appropriate one. Experienced Apple II programmers can learn how the Toolbox works and how to incorporate its routines into C, Pascal and assembly language programs.
$21.95
Bantam Books, Inc.; 666 Fifth Ave.; New York, NY 10103; 212-765-6500

Business And Productivity

//WRITE

Word processor
Apple IIGS.

//WRITE is a word processor that features multiple document windows, full control of commands through the mouse and keyboard, true what-you-see-is-what-you-get displays, cut-and-paste capabilities, pull-down menus, a wide range of font and type styles, scroll bars, multifaceted alignment rulers and shortcut keys for experienced users.

Other features include cut, copy, paste, replace and delete; cut or copy to the clipboard; and align left, right, justify and center.
$79.95 retail
Random House, Inc.; 201 E. 50th St.; New York, NY 10022; 800-638-6460 or 212-751-2600

BusinessWorks

Business accounting software
Apple IIGS; two 3.5-inch disks or hard disk; 80-column printer.

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

Features of the program include on-line help, which is available at almost every prompt; pop-up windows that list needed account numbers and other information; password security; an interface that looks and acts like *AppleWorks*; and more.
$395 retail; each module
$95 retail; System Manager
Manzanita Software Systems; One SierraGate Plaza, Ste. 200-A; Roseville, CA 95661; 800-531-3552 or 800-447-5700 in CA

CADAPPLE 3.5 Version 3

Design and drafting
Apple IIGS.

CADAPPLE 3.5 Version 3 features sophisticated, precision drafting tools for educational and professional use. Included in this computer-aided design package are features such as floating-point operation, logical on-screen menu structure for easy learning and focused attention, single-keystroke command selection, interactive screen graphics and context-sensitive help screens.

The program also has built-in primitives, including curves and ellipses, as well as independent drawing attributes for line style, density and plotter pen.
$995 retail
Versacad Corp.; 7372 Prince Dr.; Huntington Beach, CA 92647; 714-847-9960

DB Master Version 5

Versatile database management system
Apple IIGS; other Apple II models.

DB Master Version 5 is the latest and most powerful version of the DB Master family. It uses menus, text line input and a "dynamic prompting system" to help users build sophisticated database applications on the Apple IIGS. The product works with all ProDOS disk drives and most RAM disks and easily exchanges data with other programs, including AppleWorks. *DB Master Version 5* also offers several field types.

From the main menu, 33 separate functions are available, grouped into four categories: Data Entry and Search, Report Generator, Maintenance Functions, and Change Files or Exit. The program comes with a 450-page manual and technical phone support.

DB Master Version 5 Professional brings multifile, relational capability to the *DB Master* user.
$179 retail; *DB Master Version 5*
$295 retail; *Professional Version*
Stone Edge Technologies, Inc.; PO Box 200; Maple Glen, PA 19002; 215-641-1825

Dental Office Management IIP

Dental Office Management
512K Apple IIGS; SCSI hard drive; 3.5-inch disk drive; 130-column printer.

Dental Office Management IIP provides a mouse-selected integrated application for patient billing, claim form preparation, appointment scheduling, patient transaction histories, treatment records/plans and word processing.

The system will handle up to 10 dentists/hygienists and 9,000 patients and will maintain appointments for a year.
$1,295.95 retail
CMA Micro Computer; 55888 Yucca Trail; PO Box 2080; Yucca Valley, CA 92286; 619-365-9718

GS File

Graphical database management system
Apple IIGS; 512K RAM.

GS File is a mouse-oriented database manager designed specifically for the Apple IIGS. It simulates a real desktop and appears very much like a Macintosh program.

The program is RAM-based and works similar to *AppleWorks.* Pull-down menus are used to design, edit and print files with the mouse. The program's report generator allows users to visually control how printouts appear.
$99.95 retail
Softwood Co.; 1311 Anacapa St.; PO Box 90331; Santa Barbara, CA 93190; 805-966-4662

List Manager

Database and report generator
Apple IIGS; 512K.

List Plus is a full-featured IIGS database and report generator for keeping up-to-date business or personal records, mailing lists and labels, customer lists, name and address files, etc. It features a mouse interface and pull-down menus and allows users to input data easily and without prior setup. Reports are generated using a Quicklist feature.
$89.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Managing Your Money

Financial Planning/small business package
Apple IIGS; two disk drives.

Managing Your Money combines nine integrated programs in one to help users organize and analyze their financial affairs,

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20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
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from basic checkbook management to complex investment tracking.

More than 200 help screens are provided in the program on subjects ranging from investment portfolios, taxes, life insurance needs and net worth. The program is integrated and generates a variety of reports.
$149.95 retail
MECA Ventures, Inc.; 355 Riverside Ave.; Westport, CT 06880; 203-222-9087

MouseTalk

Telecommunications
Apple IIGS; modem.

MouseTalk is a telecommunications product that uses a Macintosh-like interface and features a mouse-driven operating environment and pull-down menus.
Program features include a built-in text editor and macro system and the ability to use keyboard commands as an alternative to a mouse.

MouseTalk accommodates data-transfer speeds up to 19,200 bits per second on the Apple IIGS and is compatible with most popular modems.
$99.95 retail
United Software Industries; 8399 Topanga Canyon Blvd., Ste. 200; Canoga Park, CA 91304; 818-887-5800

MouseWrite

Word processor
Apple IIGS; extended memory card recommended; two disk drives.

MouseWrite Version 2.6 is a ProDOS mouse-based word processor that features pull-down menus, mouse control and support of the expanded memory environments. The expanded desktop can handle up to 12 open documents at once, and a feature called Print-While-You-Work has background print spooling ability.

Other enhancements include an integrated spelling checker, mail merge, communications, glossary and the ability to directly load *AppleWorks* word processing files without conversion.
$149.95 retail
Roger Wagner Publishing, Inc.; 10761 Woodside Ave., Ste. E; Santee, CA 92071; 619-562-3670

Notes 'N Files

Database and word processor
Apple IIGS; 512K RAM.

Notes 'N Files combines a database filing system with a word processor-like editor. The product includes full mail-merge and mailing-label management capabilities. According to its vendor, *Notes 'N Files* also offers a desktop environment with graphic representation of filing cabinets, office stationery, etc.
Other features include direct import of *AppleWorks* files, choice of font size and typefaces, and a customized mailing list capability.
$129.95 retail
DataPak Software, Inc.; 14011 Ventura Blvd., Ste. 507; Sherman Oaks, CA 91423; 800-327-6703 or 818-905-6419

On Balance

Personal finance program
Apple IIGS.

On Balance for the Apple IIGS is a personal finance program with information entry screens designed to look and work like a checkbook register. It provides a familiar format for people trying to get used to electronically recording their financial records.

The program includes record keeping and automatic reconciliation, reports net worth and net income, develops monthly and yearly budgets and prints and balances checks.
$59.95 retail
Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903-2101; 415-492-3200

Personal Accountant 2.0

Personal accounting system
Apple IIGS.
$49.95 retail

Personal Accountant 2.0 has a desktop interface resembling the Macintosh. Data can be entered using either a mouse or the keyboard, and files can be exported to most spreadsheets. The latest version is a financial package designed for personal and small business use. It contains an easy-to-use double entry bookkeeping system and automatically posts entries to the general ledger.
Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

Point-To-Point

Telecommunications program
Apple IIGS; two disk drives; extended memory card recommended.

Point-To-Point opens an Apple IIGS to the world of telecomputing and lets it communicate with almost any computer and modem. It can electronically search databases, join ongoing real-time discussions and swap programs and files. Several communications protocols are supported.
$129 retail
Pinpoint Publishing; 5865 Doyle St.; Emeryville, CA 94608; 415-654-3050

ProFiler 3.0

Database management system
Apple IIGS; hard disk drive recommended.

ProFiler 3.0 uses both a textual and mouse-based interface. Its B-tree file saving format works fast and efficiently. The Apple IIGS text screen is used for input and output, but an Apple mouse can be used for menus and record selection.

Each *ProFiler 3.0* record can be up to eight screens long, and fields can occupy the entire screen. This makes very large entries possible, including directory material.
$129 retail
Pinpoint Publishing; 5865 Doyle St.; Emeryville, CA 94608; 415-654-3050

ProTERM

Telecommunications
Apple IIGS.

ProTERM is a telecommunications package that features a Scrollback buffer that captures all text as it crosses the screen, allowing a user to scroll forward and backward through data for editing, printing or saving to disk.

Other features include automatic macro generation for log-on to remote databases, support for larger memory cards and sophisticated data transfer capabilities. Version 2.0, available in November, also includes a text editor, full VT100 emulation and exec procedure files that can be called from *ProTERM* macros.

$95 retail
Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 800-325-7347 or 602-966-5802

Salary Magic

Salary spreadsheet
Apple IIGS; 512K.
Salary Magic is a spreadsheet/database program designed to calculate employees' salaries, benefits and annual raises.

Salary schedules are created quickly, and tools are provided to make what-if projections individually and collectively. Raises, benefits and experience can be taken into account and recalculated based on alternatives to current proposals.
$395 retail
Magic Software, Inc.; 1706 Galvin Rd. S.; Bellevue, NE 68005; 800-342-6243 or 402-291-0670

Sensible Grammar

Proofreading program
Apple IIGS; word processing program.

Sensible Grammar is a proofreading program that checks word processing files for common writing errors. It contains a library of more than 2,000 commonly misused English phrases to identify pompous, informal, cliche, vague, wordy, repetitive and other faulty phrases in a user's writing. The program also catches many punctuation, capitalization and other typographical errors, such as repeated words.
$99.95 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Speller For ProDOS

Electronic dictionary
Apple IIGS; word processing program.

Sensible Speller is an electronic dictionary designed to correct misspellings after a document has been written. The program contains the 80,000-word Concise Edition of the *Random House Dictionary* on disk.
$125 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Sensible Writer

Word processor
Apple IIGS.

Sensible Writer uses a Macintosh-like user interface that makes it easy to select portions of text to be moved, underlined, boldfaced, justified and more. According to its vendor, the program is fast, reliable and easy to use. The program uses visual format rulers to easily set tab stops, margins, and paragraph indentations on the screen.

Multiple windows allows users to work on two independent, full-size documents at the same time.

Other features include built-in mail merge; easy to share data with *AppleWorks* and other word processors; and takes advantage of most extended memory cards by allowing for large text files.
$99.95 retail
Sensible Software, Inc.; 335 E. Big Beaver, Ste. 207; Troy, MI 48083; 313-528-1950

Tax Preparer

Tax accounting software
Apple IIGS.

The latest edition of *Tax Preparer* contains information for filing under the Tax Reform Act. The new edition also contains major advances in speed, automation and ease of use.

Among the programs' automated features are on-screen support to guide users through the program, a calculator scratch pad, unlimited itemizing and built-in record keeping.
$250 retail
HowardSoft; 1224 Prospect St., Ste. 150; La Jolla, CA 92037; 619-454-0121

VIP Professional

Integrated spreadsheet
Apple IIGS; extended memory card recommended.

VIP Professional is an integrated spreadsheet with database and graphics features. It incorporates the features and functionality of *Lotus 1-2-3,* as well as a mouse interface with pull-down menus and icons. The program offers file compatibility with *Lotus 1-2-3* and *AppleWorks,* thereby allowing users to move spreadsheets from one program to another.

The latest version offers performance improvements in recalculation speed and other areas.
$299.95 retail
ISD Marketing, Inc.; 2651 John St., Unit 3; Markham, Ontario, Canada L3R 2W5; 416-479-1880

Visualizer

Business graphics
Apple IIGS.

Visualizer is a business graphics program designed to take advantage of the graphics capabilities of an Apple IIGS, including color, mouse support, fonts and pull-down menus.

Features include the ability to display title and legend boxes; more than 100 colors for text and graphs and a graph background that can be displayed in different color patterns.
$99.95 retail
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

WordPerfect for the Apple IIGS

Word processor
Apple IIGS; 512K; two disk drives or a hard disk drive recommended; extended memory card recommended.

WordPerfect for the Apple IIGS provides more than 110 word processing features. In addition to a 115,000-word speller and a thesaurus, the program offers footnotes, mail-merge, macros and several formatting features.

The program has a mouse interface with pull-down menus and multiple documents on-screen. Users can edit an unlimited number of documents at the same time and take advantage of any extra memory available.

Other features include boldface, underlining and centering; advance up or down a half of a line; center page top to bottom; screen up, down, left and right; page up and down; scroll horizontally and vertically; and delete character left and right.
$179 retail
WordPerfect Corp.; 288 W. Center; Orem, UT 84057; 801-225-5000

Creative

816/Paint

Color graphics program
Apple IIGS; color monitor.

816/Paint software supports the 4,096-color super high-resolution mode on the Apple IIGS. In fact, the latest version supports all Apple color graphics modes, including the 320 and 640 modes.

Users can scale, rotate, stretch or paint any object on screen. The program can be used to illustrate "video slides," to produce clip art for desktop publishing or as a form of entertainment.
$75 retail
Baudville, Inc.; 1001 Medical Park Dr.; Grand Rapids, MI 49506; 616-957-3036

Award Maker Plus

Award-style graphics
Apple IIGS; printer.

Award Maker Plus is graphics software designed to create awards, certificates, licenses, coupons or other documents. It is compatible with *The Print Shop* from Broderbund and has 12 border designs that can use any of 14 colors.

You can use your own custom high-resolution pictures on award styles or choose from 286 prepared award styles. Users can also choose text styles, enter messages and select colors.
$39.95 retail
Baudville, Inc.; 1001 Medical Park Dr.; Grand Rapids, MI 49506; 616-957-3036

Clip Art Gallery

Clip art software
Apple IIGS; graphics program.

Clip Art Gallery is a database of more than 600 images designed for use with several Apple IIGS graphics programs. It consists of pictures in 24 categories, including business, school, sports, American themes, animals, bugs, fantasy, outer space, gadgets, people and holidays.

The product is designed to work with *Paintworks Plus* and *Writer's Choice elite,* or any other IIGS-specific paint or word processing program.
$29.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Deluxe Library

Clip art software
Apple IIGS: DeluxePaint II.

Deluxe Library is a family of color clip art disks for *DeluxePaint II.*

Art Parts, Volume I contains more than 175 color images, including faces, maps, charts, birds, plants and fantasy art ranging from dinosaurs and African landscapes to alien creatures.

Art Parts, Volume II contains more than 100 color images in 12 categories, including astronomy, military, interiors, seascapes, people, store fronts, farms and nature.

Seasons & Holidays contains art for holidays, including New Year's Eve, Easter and Fourth of July.
$29.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

DeluxePaint II

Paint software
Apple IIGS; color monitor.

DeluxePaint II contains more than 90 painting tools and effects, including perspective, custom brushes, variable zoom, stenciling, fixed backgrounds, gradient fills, pattern fills, color cycling, font control and symmetry.

Users can copy or pick up any piece of a painting, and use it as brush or fill pattern. The "brush" image can be rotated, stretched and flipped (vertically or horizontally), or used as a nozzle on the Airbrush tool.
$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

DeluxePrint II

Design your own messages
Apple IIGS.

DeluxePrint II is a creativity program for designing and printing a variety of messages, including banners, cards, invitations, signs and stickers. The program contains seven built-in formats for creating color and black-and-white messages. A full-featured editor allows users to create their own clip art or modify over 200 images found on the program disk.
$49.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Design Your Own Home, Architecture

Rewritten for the Apple IIGS
Apple IIGS; 512K.

Design Your Own Home, Architecture, has been rewritten from the ground up to provide new features and a new user interface. The program enables the user to draw floor plans, view building plans and structural details with ease. Shapes can be rotated, scaled up and down or arranged in numerous ways on the screen.

The program also features zoom, 360 degree variable shape rotation and color printing.
$89.95 retail
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Draw Plus

Drawing software
Apple IIGS.

Draw Plus is a full color drawing program that can be used together with *Paintworks Plus, Writer's Choice elite* and *Clip Art Gallery* to create and customize graphics and documents in limitless ways.

With *Draw Plus,* users can create floor plans, logos, forms, letterheads, flow charts and organizational charts, furniture arrangements, presentation graphics, landscape designs and more.
$89.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Fantavision IIGS

Animation and special effects
Apple IIGS; color monitor.

Fantavision has been rewritten to make full use of the Apple IIGS' color, speed, sound and super high-resolution screens. Using "Tweening and Transformation" tools,

a user can create detailed animation without needing to be an artist or expert animator.

With Tweening, Fantavision can create up to 64 intermediate frames of animation for each user-drawn image. Transformation enables Fantavision to automatically transform one object to another.

The enhanced sound capabilities of the Apple IIGS are also supported. An upgrade to owners of the original *Fantavision* is available for $20.
$59.95 retail
Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903-2101; 415-492-3200

Paintworks Plus
Paint program
Apple IIGS.

Paintworks Plus allows Apple IIGS computer users to produce multicolored graphics which can come alive in animated sequences. The program contains a Clip Art Gallery, with over 600 images.

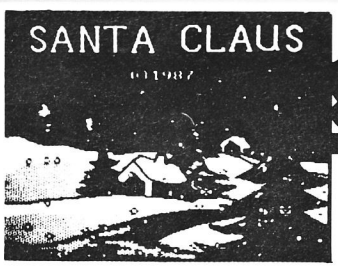
The color imagery uses all 4,096 separate colors and up to 128 customized color palettes may be saved for future reference. Other features include a color search that identifies all areas of an image that use any color or color shade; a mirror option that provides the ability to draw symmetrical shapes; and a lasso that gives users the power to move any image without capturing the background.
$89.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Postcards
Creative paint and print product
Apple IIGS.

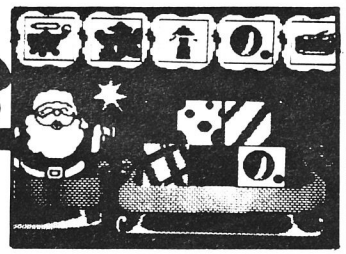
Postcards is a collection of crazy clip art, bizarre backgrounds and catchy captions that can be used for making postcards, invitations, office notes, momentos and much more. *Postcards* includes a full-featured paint program so the user can write and design his own artistic creations. The Apple IIGS version requires the use of *Paintworks Plus.*
$29.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

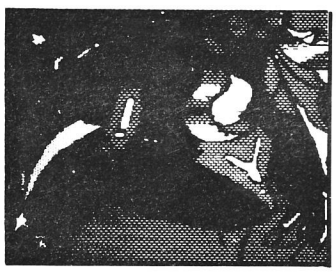
ShowOff
Professional-looking visuals
Apple IIGS.

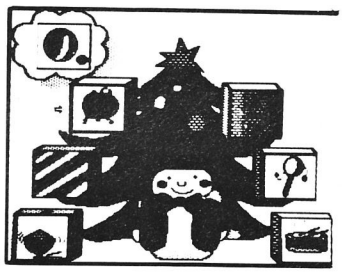
ShowOff is designed to help users produce overhead transparencies, 16-color printed sheets and IIGS interactive video slide shows. The program includes over 380 graphics, 140 borders and a variety of type



SANTA CLAUS









Santa Claus is an educational program for children that emphasizes memory skills and image recall. Santa Claus contains three game scenarios that children ages 4 to 12 will enjoy. The program includes various levels of difficulty. Santa Claus — with its superior animation, brilliant colors, and distinctive Yuletide sounds — fully utilizes the high quality sound and graphics available on the Apple IIgs computer. Available for the Apple II, IIe, IIgs and IIplus. **$29.95** For VISA & MASTERCARD orders call Astro Software 24 hours a day at 1-800-541-0900. Send money orders to 7311 Bellerive, Suite 113, Houston, TX 77036. For general information call (713) 781-3750. Please allow 7 days for delivery.



ASTRO SOFTWARE™

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styles and sizes. In addition, *ShowOff* offers a built-in graphics editor and design tools that let users create original graphics.
$59.95 retail
Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903-2101; 415-492-3200

Top Draw
Design software
Apple IIGS; color monitor.

TopDraw is an object-oriented drawing program that offers structured graphics and Macintosh-like features similar to *MacDraw*. Drawings are based on mathematically defined shapes that can be moved, grouped, placed on top of one another, duplicated, reshaped, resized and filled with patterns and colors.

Objects can also be flipped vertically or horizontally, rotated in 90-degree increments and protected from unintentional editing or deletion.
$99.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E; Houston, TX 77081; 713-668-1360

Desk Accessories

DESKPAK
Desk accessories
Apple IIGS.

DESKPAK is a desk accessories package designed for the Apple IIGS. It provides 10 Macintosh-like accessories, which are installed and accessible under the Apple icon found on most IIGS programs. The package is compatible with all IIGS software using the Apple icon in the menu bar.
$39.95 retail
Simple Software; 4612 N. Landing Dr.; Marietta, GA 30066; 404-924-2667

DeskWorks
A collection of utilities
Apple IIGS.

DeskWorks combines the standard desk accessories familiar to Macintosh users — a scrapbook and notepad, for example — with additional accessories, including a phone dialer, scientific calculator, keyboard macros, a scrapbook for storing graphic images and an alarm clock. The product includes a utility for blanking the IIGS screen when the computer is not in use.
$59.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E; Houston, TX 77081; 713-668-1360

Pinpoint Desktop Accessories
ProDOS enhancements
Apple IIGS; two disk drives; AppleWorks 1.3 or later version or selected ProDOS applications; extended memory card recommended.

Pinpoint Desktop Accessories offers a complete selection of pop-up tools designed to enhance *AppleWorks* or other selected ProDOS programs. Its eight applications include Appointment Calender, Calculator, Communications Window, Telephone Dialer, Graphmerge, Notepad, Quicklabel and Typewriter.

With *Pinpoint Desktop Accessories,* an entire program remains resident in RAM while *AppleWorks* (or other ProDOS programs) continue in the foreground.
$89 retail
Pinpoint Publishing; 5865 Doyle St.; Emeryville, CA 94608; 415-654-3050

Softswitch
Desk accessory
Apple IIGS; 512K.

Softswitch is a desk accessory that allows users to switch among several applications loaded into RAM with just a keystroke. It installs automatically and allows users to cut and paste regular and double high-resolution screens between certain graphics programs, such as *The Print Shop, Fantavision, Blazing Paddles, LogoPrint* and others.

The program is able to revert from the current program to an earlier state, enabling the user to switch back and forth between different locations in the same program.
$59.95 retail
Roger Wagner Publishing, Inc.; 10761 Woodside Ave., Ste. E; Santee, CA 92071; 619-562-3670

Starter Pak
Three-in-one package
Apple IIGS; other Apple II models.

The Starter Pak combines three of Pinpoint Publishing's programs onto one 3.5-inch disk: the *Pinpoint Desktop Accessories, Spelling Checker* and *KeyPlayer* macro keys. The programs are compatible with all other *Pinpoint* programs and take advantage of the IIGS mouse.
$149 retail
Pinpoint Publishing; 5865 Doyle St.; Emeryville, CA 94608; 415-654-3050

The Communications Manager
Desktop communications
Apple IIGS; 512K; The Desktop Manager.

The Communications Manager works in conjunction with *The Desktop Manager* from the same vendor. It runs as an accessory on the Apple IIGS and provides most standard telecommunications features, including XMODEM and Binary II file transfer protocols, fast downloading and more.
$49.95 retail
On Three, Inc.; 4478 Market St., Ste. 701-702; Ventura, CA 93003; 805-644-3514

The Desktop Manager
Unclutters the desktop
Apple IIGS; 512K.

The Desktop Manager is a full-featured desk accessory that runs with most ProDOS 8 and ProDOS 16 applications. It includes: a Note Pad with word processing features such as word wrap and automatic repagination; a Calculator with 16-digit precision and paper tape printout; a Printer Manager for printer control; an Envelope Labeler for defining mailing labels; an ASCII chart; a Screen Print facility; Cut and Paste between applications; and an Appointment Calendar.

All accessories run in the background. In addition, the program is expandable with other add-on accessories from the vendor.
$89.95 retail
On Three, Inc.; 4478 Market St., Ste. 701-702; Ventura, CA 93003; 805-644-3514

The Disk Manager

Utilities from within any program
Apple IIGS; 512K; The Desktop Manager.

The Disk Manager accessory works with *The Desktop Manager* from On Three, Inc., and provides access to several disk functions from any program. They include: list files to screen; print files; copy files between disks; delete, rename and lock/unlock files; copy disks; format and erase disks; verify disks; create subdirectories; and more.
$39.95 retail
On Three, Inc.; 4478 Market St., Ste. 701-702; Ventura, CA 93003; 805-644-3514

Desktop Publishing

DeluxeWrite

Combines text and graphics
Apple IIGS.

DeluxeWrite is a word processing program compatible with *DeluxePaint II.* It combines text and graphics in letters, memos and reports.

As a text processor, the program is compatible with all current fonts and styles for the Apple IIGS. A 90,000-word spelling checker is included, along with the ability to cut and paste, search and replace, and add headers and footers.

As a graphics processor, *DeluxeWrite* will accept high resolution or low resolution images anywhere in a document.
$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

GraphicWriter Version 2.0

Graphics/word processor
Apple IIGS; 512K; extended memory card recommend.

GraphicWriter is a word processor that allows graphics and text to be combined on the same page. It can be used to produce personal and business letters, legal documents, reports, illustrated manuals, fliers, ads, and newsletters with multiple columns.

Left, right, center, full justification and multiple settings are paragraph oriented, so a user can set each one individually or use the same setting for an entire document.

Pages can be laid out by selecting the program's Regions function. Regions can be rearranged, if necessary, through an option called Show Full Page. Object-oriented graphic tools, displayed along the bottom of the screen, can be incorporated into any document.
$149.95 retail
DataPak Software, Inc.; 14011 Ventura Blvd., Ste. 507; Sherman Oaks, CA 91423; 800-327-6703 or 818-905-6419

MultiScribe GS 3.0

Word processor with graphics
Apple IIGS; 512K.

MultiScribe GS 3.0 is a mouse-based word processing program that brings Macintosh-like pull-down menus, windowing and fonts to an Apple IIGS. It lets users choose from a selection of fonts and character sizes and offers what-you-see-is-what-you-get word processing.

MultiScribe GS 3.0 also allows a user to open up eight different document windows at once. Editing options include the Cut, Copy, Paste and Undo commands.

The latest version includes an 80,000-word spell checker and thesaurus that provides alternative suggestions that are made phonetically as well as typographically.
$99.95 retail
StyleWare, Inc.; 5250 Gulfton, Ste. 2E; Houston, TX 77081; 713-668-1360

Personal Newsletter

Graphics and page composition
Apple IIGS; other Apple II models.

Personal Newsletter provides integration of text, graphics and page composition. The program includes a wide selection of fonts and many type styles, including underline, boldface, italics, reverse, outline, shadow, fat and tall. Other features include word wrap, cut and paste, unlimited columns, newspaper-style headlines, on-screen help and 30 fill patterns.

The program also imports files from *The Print Shop, Dazzledraw* and other programs, including double high-resolution graphics. In addition, *Personal Newsletter* includes a library of clip art and imports ASCII files from any word processor.
$59.95 retail
Softsync, Inc.; 162 Madison Ave.; New York, NY 10016; 212-685-2080

Printrix 1.0

Font printing package
Apple IIGS; printer.

Printrix is a font printing package that includes a large selection of fonts. It enhances the print quality of many dot-matrix printers, including the ImageWriter and Epson FX series printers and allows direct printing of text files from *AppleWorks, AppleWriter, WordPerfect* and *Word Juggler.*

The software also merges text and graphics together, includes boldface and italic lettering, prints in color and more.
$65 retail
Data Transforms, Inc.; 616 Washington St.; Denver, CO 80203; 303-832-1501

Springboard Publisher

Publishing program
Apple IIGS; other Apple II models.

Springboard Publisher is a desktop publishing package designed for those who create and publish pages in the home, school and business. Pages can be preformatted or the user can work free-form. All of the tools are available on screen and are accessed through pull-down menus.

Page-layout features include "intuitive text" that automatically flows around graphics; direct import of *AppleWorks* files; multiple-column, variable-width column pages; automatic borders to separate sections of the page; and the capacity to insert and overlap both text and graphics.

The program includes a full-featured word processor, graphics tools, and can print using dot matrix printers or laser printers, using the optional Laser Driver product.
$139.95 retail; *Springboard Publisher*
$39.95 retail; Laser Driver
$29.95 retail; Style Sheets
Springboard Software, Inc.; 7808 Creekridge Cir.; Minneapolis, MN 55435; 612-944-3915

The Personal Publisher

Integrated desktop publishing
Apple IIGS; 1 MB; color monitor recommended.

The Personal Publisher is an integrated desktop publishing program created specifically for the Apple IIGS. It combines complete word processing, artwork and page layout capabilities into a single program.

Features include: complete word processor, with justify, hyphenation, change of fonts, etc.; complete color artwork functions, including ability to modify clip art pictures; complete page layout capability, including multiple columns; an 80,000-word spelling checker; a thesaurus; movement from text to art functions and back; and a 500-picture clip art library.
$195 retail
Milliken Publishing Co.; 1100 Research Blvd.; PO Box 21579; St. Louis, MO 63132-0579; 314-991-4220

The Print Shop IIGS

Personal publishing
Apple IIGS; printer.

The Print Shop has been redesigned to take advantage of the power, color and resolution of the Apple IIGS. The IIGS version of *The Print Shop* can be used to create personalized greeting cards, stationery and banners (either vertically or horizontally) and prints out creations in up to 10 colors.

The program offers a wide range of type styles and sizes and dozens of multicolored graphics, borders and backgrounds. Graphics are available in small, medium and large sizes, and users can put two graphics on the same page. A sophisticated graphics editor for editing multicolor graphics is also included, along with full on-screen Preview and Save features. An upgrade to owners of the original *The Print Shop* is available for $20.
$59.95 retail
Broderbund Software, Inc.; 17 Paul Dr.; San Rafael, CA 94903-2101; 415-492-3200

Writer's Choice elite

Graphics/text word processor
Apple IIGS.

Writer's Choice elite is a word processor that allows a user to combine graphics and text. It can be used with *Paintworks Plus, Draw Plus, Clip Art Gallery* or other compatible graphics programs to create custom reports, memos, letters, fliers and more.

Key features include full graphic integration with leading Apple IIGS software; mouse interface and pull-down menus; 16 document windows available to work on several documents at once; full-color capabilities including highlighting and crossed-out text; printing in 16 colors; and ruler formatting, including single, double and triple spacing.
$89.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Education

Calendar Crafter

Creates customized calendars
Apple IIGS; 512K; printer.

Calendar Crafter is a utility that allows teachers to create and print customized calendars for a week, month or year. Event information can be added to appropriate dates. Designed to work specifically with the Apple IIGS, *Calendar Crafter* includes the ability to store holidays, birthdays and other events using up to 15 categories and 100 events per category.
$59 retail
Minnesota Educational Computing Corp. (MECC); 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Clock Works

Time teaching program
Apple IIGS.

Clock Works teaches young users in grades 1 through 3 how to tell time and set time on both analog and digital clocks. It uses both time intervals, such as minutes, quarter hours and hours, etc. and words. The program offers animation and sound as rewards for correctly answering questions.

Four activities make up the bulk of the program: What's The Time; Set The Clock; Digital Drill; and The Clock Factory.
$55 retail
Minnesota Educational Computing Corp. (MECC); 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Computer Mad Libs

Entertainment word game
Apple IIGS; 768K.

Computer Mad Libs is an electronic version of the party game people have been playing for years. The program's stories use the vendor's Smoothtalker speech technology to let players hear their stories with humorous results.

This strategic word game is appropriate for all ages and provides pure entertainment illustrated with cartoons. Mad Libs Titles, Mystery Mad Libs and Mad Libs Library are the main menu choices so far available.
$19.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

CSL Marks

Software for teachers
Apple IIGS.

CSL Marks is a fast, easy program that allows teachers to produce reports. It handles the production of report cards and keeps complete academic progress records. Among the areas tracked are standard comments from teachers regarding students, grading scale with up to 41 user-defined letters or numeric grades, sorts by student name or I.D., and production of Individual Student Reports, Class Lists, Spreadsheet Reports and more.
$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

ELFE

Grammar for French students
Apple IIGS; 512K.

ELFE is a set of exercises designed to give students practice on the basic grammar

points of the French language. It includes 800 exercises grouped according to verb forms, functions words and sentence patterns. The exercises include most of the grammar forms and structures typically presented in elementary and intermediate French classes. Each exercise contains between five and 35 items so that students have ample opportunity to master each grammar form. The software is available in modules or a complete set.
$480 retail; complete set
Conduit; The University of Iowa; Oakdale Campus; Iowa City, Iowa 52242; 319-335-4100

First Letters and Words

Alphabet learning program
Apple IIGS; 768K.

First Letters and Words introduces children 3 to 6 to the alphabet through a talking narrator named Ted E. Bear. *First Letters and Words* is the second title in First Byte's Building Blocks for Learning series.

The program is an early education skill builder in letter formation and building letters into words. It incorporates synthesized speech to aid children in learning reading-readiness skills.
$49.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

First Shapes

Basic shapes recognition program
Apple IIGS; 768K.

First Shapes is an elementary program on geometric shapes for children ages 3 to 8. It introduces young learners to the world of geometric shapes and sizes through a talking character named Ted E. Bear.

The program helps children increase their understanding and interest in mathematics and boosts their confidence in problem-solving and independent decision making.
$49.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

Garden Series

Primary education software
Apple IIGS.

This series of 10 programs based on natural science themes invites discussion of many different topics, including the plant kingdom, the weather and its influences and water in its different states. Many social, prereading and premath skills are encouraged and developed.

The programs include Grow A Garden, Trees And Seasons, Gardening Tools/Gardening Step-By-Step, Parts Of A Flower, Flower Pollination/Growing A Bean Seed, and Flowers And Their Leaves.
$39.95 retail
Didacticiel International Et Laboratique; 2025 Rue Lavoisier, Ste. 180; Sainte-Foy, Quebec, Canada GIN 4L6; 418-687-9788

GradeBook Deluxe

Grade tracking for teachers
Apple IIGS; other Apple II models.

GradeBook Deluxe, Version 3.4, has been enhanced for the Apple IIGS with several new features. The latest version prints student names on labels, automatically personalizes report comments with each student's name, allows teachers to select and substitute a minimum topic average and more. It handles up to 255 grades per student, 40 students per class and up to 18 classes.
$59.95 retail
EduSoft; PO Box 2560-PS; Berkeley, CA 94702; 800-EDUSOFT or 415-548-2304 in CA

Homework Helper-Writing

Term paper program
Apple IIGS.

Homework Helper-Writing guides students through the three fundamental steps in writing a paper: formulating ideas about the topic, organizing those ideas into an outline and writing the actual text. The program is designed to address book reports and essays, the most common writing assignments for students in grades 7 to 12.
$49.95 retail
Spinnaker Software Corp.; 1 Kendall Sq.; Cambridge, MA 02139; 617-494-1200

Homework Helper-Math Word Problems

Math program
Apple IIGS.

This program teaches students a step-by-step method of solving many types of math word problems. Geared for grades 7 through 12, it shows how the key to solving math word problems is in building a proper equation with the provided information.

The program includes a tutorial section with a complete range of problems in terms of type and level of difficulty, includes help screens that explain prompts and questions in greater detail and provides calculator and word processor modules.
$49.95 retail
Spinnaker Software Corp.; 1 Kendall Sq.; Cambridge, MA 02139; 617-494-1200

Homeworker

Secondary education program
Apple IIGS.

Homeworker is a productivity tool for secondary and college students that is designed to provide the tools necessary to earn good grades. The program attempts to accomplish this objective through six integrated modules: Work Processor, Outliner, Flash Card Maker, Grade Keeper, Calendar and Calculator with conversion tables.

Homeworker features on-screen tutorials, special multiple-learning activity data files and a clipboard for easy transfer of material from one module to another.
$89.95 retail; Home Edition
$249.95 retail; Classroom Edition with 10 disks
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

Kidstime II

Creative software
Apple IIGS; 512K; color monitor.

Kidstime II contains two educational programs designed for children ages 3 to 10: *Abkey* and *Kidsnotes*.

Abkey is a letter-recognition/keyboard skill program that contains different levels of difficulty. The simplest level involves identifying an uppercase letter on screen and pressing the corresponding key on the key-

board. A more difficult level involves identifying lowercase letters.

Kidsnotes is an introductory music program that allows a child to explore the many aspects of music. An assortment of simple melodies, familiar to young children, is included on the disk.
$39.95 retail
Great Wave Software; 5353 Scotts Valley Dr.; Scotts Valley, CA 95066; 408-438-1990

KidTalk
Talking notebook
Apple IIGS; 768K; color monitor recommended.

According to its vendor, *KidTalk* increases a child's ability to read, write and communicate ideas. It creates an environment in which a child can write, hear and read stories, reports, plays, poems and secret messages.

KidTalk provides word-oriented pull-down menus for older children along with standard file, edit and print commands. For younger children, it offers picture-oriented menus with speech capability that allows a child to hear an entire story or have each letter, word or sentence spoken as it is entered into the computer.
$49.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

Mastering Math
Drill-and-practice software
Apple IIGS.

Mastering Math is a collection of arithmetic drill-and-practice software for students in grades 1 through 4.

Coordinate Math provides students in grade 9 with practice at using Cartesian coordinate systems. *Equation Math* is designed for high school students choosing to investigate linear, quadratic or trigonometric equations.
$35 to $60 retail; individual *Mastering Math* packages
$400 retail; all 10 packages in *Mastering Math*
$59 retail; *Coordinate Math* and *Equation Math* (3.5-inch disk)
Minnesota Educational Computing Corp. (MECC); 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Math Blaster Plus
Mastering math skills
Apple IIGS; other Apple II models.

Math Blaster Plus, designed for students in grades 1 through 6, covers the fundamental skills of mathematics: addition and subtraction, multiplication and division, and fractions, decimals and percents. The program uses colorful graphics on the Apple IIGS, sound effects and five learning activities to build motivation and skills.

The program includes over 750 basic math facts. Learning activities include Countdown, Ignition, Lift-off, Orbit, and the Blasternaut Game, where students direct an animated character while reviewing basic math facts. New features in the latest version cover student record keeping, printed graphics, a test maker, drill-and practice sessions, pull-down menus and more.
$49.95
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

MathTalk
Talking notebook
Apple IIGS; 512K RAM; color monitor recommended.

MathTalk is designed to help children solve math problems, learn to complete assignments on time, prepare for tests, learn calculator skills and master basic mathematical facts.

The program allows children to enter their own math problems and receive individualized graphic and spoken help specific to each problem.

In addition, *MathTalk* introduces a talking helper who provides each child with his own private tutor. This character helps a child work through the program's tutorials, simulations and games.
$49.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

MathTalk Fractions
Talking notebook
Apple IIGS; 768K; color monitor recommended.

MathTalk Fractions features Professor Matt A. Matics matching wits with his students as he guides them through this talking notebook of decimals, fractions and percents. Students enter their own problems, plus play a variety of games, as they test their skill at math while getting their homework done.
$49.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

Read 'N Roll
Reading comprehension program
Apple IIGS; other Apple II models.

Read 'N Roll helps students in grades 3 through 6 improve overall reading comprehension in five main skill areas. The five reading activities include 320 high-interest reading passages and 320 vocabulary words. An optional timing feature allows students to work at their own speed or build to a faster pace. A printed Certificate of Excellence rewards outstanding scores.

The five reading areas include: Main Idea, where students practice reading important passages; Sequences, where story sequences are identified; Inferences, where students analyze passages and make inferences; a Vocabulary Building Bowling Game; and an easy-to-use Editor.
$49.95 retail
Davidson & Associates, Inc.; 3135 Kashiwa St.; Torrance, CA 90505; 213-534-4070

Reader Rabbit
Talking early education program
Apple IIGS; color monitor recommended.

Reader Rabbit uses the speech capabilities of the Apple IIGS to reinforce the learning process in children ages 5 to 7, particularly reading, spelling and vocabulary skills.

An animated Reader Rabbit and lively music help to reward correct solutions. Special exercises develop and test concentration and memory. Multiple options also allow parents and teachers to customize the

program to individual reading levels. The program includes a vocabulary of over 200 three-letter words.

The IIGS version of *Reader Rabbit* supports the 16-color graphics of the IIGS and does not require additional sound hardware. It uses digitized speech, a more natural-sounding speech than synthesized speech.
$59.95 retail; home edition
$79.95; retail; school edition
$39.95 retail; edition without speech
The Learning Co.; 6493 Kaiser Dr.; Fremont, CA 94555; 415-792-2101

SpaceLace
An interactive kaleidoscope
Apple IIGS.

SpaceLace turns the Apple IIGS into a fascinating visual display that's educational as well as pleasing to the eye. The program creates various kaleidoscope patterns that perform in intricate symmetries, changing color or patterns with a keystroke.

The program includes two levels of tutorials for assistance in creating symmetries. The first is for novices at programming. The second teaches programming in Applesoft BASIC as well as how to create exciting shapes.
$29.95 retail
Great Wave Software; 5353 Scotts Valley Dr.; Scotts Valley, CA 95066; 408-438-1990

Speller Bee
Talking notebook
Apple IIGS; 768K; color monitor.

Speller Bee incorporates speech capability and graphics for the purpose of improving a child's spelling skills. Designed for ages 5 to 13, *Speller Bee* allows a child not only to see his own spelling words, but to hear them spoken as well.

Children are able to create 32 of their own spelling lists, with each list containing 10 words up to 15 letters in length. *Speller Bee* contains 150 prestored spelling words, each at a different level of difficulty.
$49.95 retail
First Byte, Inc.; 3333 E. Spring St.; Long Beach, CA 90806; 213-595-7006; distributed by Electronic Arts

Talking Text Writer
Speech word processor
Apple IIGS; Echo board.

Talking Text Writer is a software package that combines word processing with the Echo board, a speech synthesizer from Street Electronics. Children can hear aloud any letters, words, sentences, stories or other text they type.

The program is designed as a literacy tool for use by students in prekindergarten through sixth grade, for gifted and bilingual children and for students with communication disorders or in remedial reading programs.

Students can see the text and control how they want it to look by changing screen colors, margins and text size.
The latest version of *Talking Text Writer* uses the Ensoniq speech chip built into the IIGS and does not require the Echo board.
$199.95 retail to educators
$249.95 retail for home versions (includes Echo board)
Scholastic, Inc.; 730 Broadway; New York, NY 10003; 212-505-3000

To Preserve, Protect and Defend
A U.S. Constitution lesson
Apple IIGS; other Apple II models.

To Preserve, Protect and Defend is an educational computer game based on key issues and persons that affected the creation of the U.S. Constitution in 1787. Students play the role of a guard assigned to protect the Constitution before it is to be signed at the Constitutional Convention. Students perform their guard duties in the State House in Philadelphia.
$59 retail
Minnesota Educational Computing Corp. (MECC); 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Typing Tutor IV
Keyboard instruction
Apple IIGS; color monitor recommended.

Typing Tutor IV is a typing program that automatically adjusts to a user's abilities and progress. It shows a user his speed, accuracy, strengths and weaknesses and graphs progress along the way. The program can also be used to create customized typing lessons.
$49.95 retail
Simon and Schuster Software; 1 Gulf & Western Plaza; New York, NY 10023; 212-373-8882

Zoyon Patrol
Learning the scientific method
Apple IIGS; other Apple II models.

Zoyon Patrol is a game-like simulation that provides an environment for learning the problem-solving strategies in the scientific method. A student or group of students assumes the role of a director of a city agency responsible for locating and capturing zoyons — an imaginary order of animals that is an endangered species. Players use the tools and information at their disposal to find the animals.
$59 retail
Minnesota Educational Computing Corp. (MECC); 3490 Lexington Ave. N.; St. Paul, MN 55126-8097; 612-481-3500

Entertainment

California Games
A game of skill
Apple IIGS.

California Games is a challenging game of skill. The players will find themselves going through the Golden state with events like Surfing, Half Pipe Skateboarding, Roller Skating and more. The players have the opportunity to win prizes from the on-screen sponsors -- names like Kawasaki, Casio and Ocean Pacific.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Cavern Cobra
Action arcade game
Apple IIGS.

Cavern Cobra is a fast-action arcade game with digitized sounds which will play back in stereo when used with the MDIdeas' SuperSonic Stereo Card. The mission for *Cavern Cobra* is to enter a terrorist stronghold consisting of over seven cavern

levels, destroy that stronghold and ultimately kill the world's most dangerous terrorist.
$49.95 retail
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

Destroyer

You are in command
Apple IIGS.

Destroyer is a cross between an action game and simulation. The user is in control of a Navy destroyer and can command and oversee all of the operations. The game includes several missions, such as hunting for subs, rescuing a downed pilot, or guiding a convoy into a port.
$39.95 retail
Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Dondra: A New Beginning. . .

Adventure with fantasy role playing
Apple IIGS.

In this the first in the Questmaster series, users enter a room with a glowing, green pentagon. Each wall has a different ornate door in it, through which only the user may enter. Once inside, users quickly discover that Dondra is a futuristic land with many mountains, deserts, streams and cities.

This unique quest has many animated sequences, superb cartoon-style graphics that take full advantage of the Apple IIGS, and a character who gains experience points based on attributes of play.
Retail Price: N/A
Spectrum Holobyte; A Division of Sphere, Inc.; 2601 Challenger Dr.; Alameda, CA 94501; 415-522-3584

GBA Championship Basketball

Basketball simulation
Apple IIGS.

GBA Championship Basketball combines arcade game action with basketball strategy. This Apple IIGS version of the original Activision classic allows one or two players to practice inside and outside shooting, dribbling, ball stealing, quickness and jumping ability.
$44.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Hacker II: The Doomsday Papers

Strategic adventure
Apple IIGS.

The United States government discovers a diabolic plot to destroy the world. Players of *Hacker II: The Doomsday Papers* are asked to help collect details on the project, known only as "The Doomsday Papers."

Players are provided with a top secret operations document, called the MSFM Operational Manual, which gives secret intelligence-gathering procedures to help complete a mission.
$39.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Mean 18

Realistic golf simulator
Apple IIGS; 512K.

Mean 18 sets up for the player a round of 18 holes on three of the toughest golf courses in the U.S. The video golfer first chooses a course (beginner to expert levels are available), and then controls practice tees, putting on the green, and playing a whole round of golf using the IIGS mouse. The game uses sharp, colorful graphics and sound, and even allows the user to "paint" a fairway by adding roughs and hazards.
$44.95 retail
Accolade; 20813 Stevens Creek Blvd.; Cupertino, CA 95014; 408-446-5757

Monte Carlo

Games rich people play
Apple IIGS.

Monte Carlo allows the user to experience casino games. Games include blackjack, roulette, craps, baccarat, poker, and trente-et-quarante.
$39.95
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

Realm Of Altair Trilogy

All-text adventure series
Apple IIGS.

The *Realm Of Altair* series is a trilogy of all-text adventures similar to Zork. Each game has a sophisticated vocabulary interpreter that understands more vocabulary than most adventure games.

The Gem Of Zephyrr involves a journey through strange cities, a water borne adventure and more. *The Sword Of Altair* continues the adventure started in the first part, where the user saves the realm from various evils. *The Quest For Varsar*, due out in the second quarter of 1988, will be the conclusion.
$29.95 retail; *Gem Of Zephyrr*
$29.95 retail; *Sword Of Altair*
$29.95 retail; *Quest For Varsar*
DAR Systems International; PO Box 16-4933; Miami, FL 33116; 305-529-3572

Sea Strike

Save the tankers
Apple IIGS.

Sea Strike is a fast-action arcade game. The player's mission is to defend endangered oil tankers from attack. This arcade game uses digitized sound, super high resolution graphics, pull-down menus, mouse control and high speed animation.
$39.95 retail
PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

Shanghai

Oriental strategy game
Apple IIGS.

Shanghai is derived from an ancient oriental game called Mah Jongg. The game consists of 144 tiles of seven visually different suits, which are stacked in a five-level, dragon-shaped pyramid.

To play the game, players must match and remove pairs of tiles until no additional moves can be made. As each pair of tiles is matched, they disappear, leaving in view any tiles hidden underneath. The play continues until no additional moves can be made.
$44.95 retail

Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

Silent Service

Submarine simulation

Apple IIGS; color monitor recommended.

The Apple IIGS' graphics, sound and speed enhance the realism of *Silent Service*, a submarine simulation game. Players captain a World War II submarine in the South Pacific through a wide selection of historical scenarios, ranging from single-ship attacks to patrol missions with heavily escorted convoys.

All of a submarine's critical battle stations are replicated: the conning tower, engine room and ship's bridge.

$39.95 retail

MicroProse Software, Inc.; 120 Lakefront Dr.; Hunt Valley, MD 21030; 301-771-1151

Space Quest

A 3-D animated adventure game

Apple IIGS.

Space Quest features 3-D graphics, advanced animation, arcade sequences and a colorful, new windowing system that reveals player information quickly. *Space Quest* introduces Roger Wilco, sanitation engineer turned space-age swashbuckler. His mission is to search and destroy the super-secret star generator which has been stolen from his vessel, then initialize a new star for his paling planet.

$34.95 retail

Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

Strategic Conquest II

Strategy war game

Apple IIGS.

Strategic Conquest II is a strategy war game that starts the player in an unknown world. The player then explores continents, develops forces and eventually confronts his mortal enemy, the computer. There are two billion different world maps and 15 levels of play.

$49.95 retail

PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

Sub Battle Simulator

Command a Navy sub

Apple IIGS.

Sub Battle Simulator allows the players to be in command of any one of six different classes of U.S. Navy submarines or German Kreigsmarine U-Boats during any selected year between 1939 and 1945.

$39.95 retail

Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Tass Times In Tonetown

Exotic adventure

Apple IIGS.

In this detailed adventure, the Gramps character travels to a place called Tonetown and acquires "tass." A grandchild, set on saving his grandfather's life, journeys to Tonetown with the only clue Gramps left behind: a cryptic note and a receipt for pepperoni pizza. This game uses the graphics and sound capabilities of the Apple IIGS.

$34.95 retail

Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

The Bard's Tale

Medieval adventure

Apple IIGS.

The Bard's Tale is an adventure story played and narrated in a way that takes advantage of the Apple IIGS' sound and graphics capabilities.

The game takes place in a country town called Skira Brae. The plot revolves around attempts to halt the evil spread by the wizard Mangar the Lionhearted, who has stolen magical powers.

The Bard's Tale characters are created from 10 character professions and six status levels.

$49.95 retail

Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

The Tower of Myraglen

Adventure action game

Apple IIGS.

The Tower of Myraglen revolves around a dying world known as Myraglen. The few remaining knights of justice draw together in the once-great civilization, knowing that its only hope lies with them. Each knows well the world of Myraglen and of its devastation since the unholy war. Myraglen is infected with a disease that cannot be cured without another confrontation.

$54.95 retail

PBI Software, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-349-8765

Thexder

A computer action game

Apple IIGS.

Designed in Japan, *Thexder* offers music, animation and play value. Players are given the chance to pilot an armored robot through multiple attack scenarios. The battlefields include caves, vast cargo holds and spaceship interiors. Over 20 different kinds of aliens will do battle with the player and the challenge and music escalate as the game progresses.

$34.95 retail

Sierra On-Line, Inc.; PO Box 485; Coarsegold, CA 93614; 209-683-6858

Wheel Of Boredom

Buy a vowel

Apple IIGS; other Apple II models.

Wheel Of Boredom is a computerized version of America's favorite game show. Users spin, choose a letter, buy a vowel or guess the puzzle. The user has the option of using one of the 300 puzzles included with the program, or making his own puzzles.

$18.95 retail

DEC Computing; 5307 Lynnwood Dr.; West Lafayette, IN 47906;

Winter Games

Enter the Olympics

Apple IIGS.

Winter Games is a compilation of eight events from the Winter Olympics. It includes bobsledding, downhill skiing, ice skating, ski jump and more. It can accommodate between one and eight players, who choose countries in which to compete. Players can compete in any or all of the events.

$39.95 retail

Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

World Games

Play the world

Apple IIGS.

In *World Games,* users participate in events that one normally identifies with particular countries. For example, Mexico has cliff diving, Japan offers sumo wrestling, Russia has weight lifting, and the United States offers bull riding at rodeos. According to Epyx, this game takes full advantage of the graphics capabilities of the Apple IIGS.

$39.95 retail

Epyx, Inc.; 600 Galveston Dr.; PO Box 8020; Redwood City, CA 94063; 415-366-0606

Hardware And Peripherals

Apple Hard Disk 20SC

Mass storage for data

Apple IIGS; Apple SCSI Card; System Cable.

The Apple Hard Disk 20SC provides 20 MB of storage for an Apple IIGS. It works in conjunction with the Apple II SCSI Card and Cable. The system's major features include: storage capacity equivalent to twenty-five (25) 800K 3.5-inch disks; a high-performance SCSI parallel port, which can easily connect up to three devices on an Apple IIGS; and a platinum finish.

$1,299 retail

Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple II SCSI Interface Card

Apple SCSI Interface

Apple IIGS; SCSI system cable.

The Apple II SCSI (small computer-system interface) Card provides compatibility with high-performance peripherals that use the SCSI standard, such as the Apple Hard Disk 20SC.

The card features high-performance parallel data transfers and the ability to connect up to four SCSI ProDOS 1.2-controlled peripherals with one card.

$129 retail

Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple IIGS Memory Expansion Card

Extended memory board

Apple IIGS.

The Apple IIGS Memory Expansion Card adds as much as 1 MB of additional memory in 256K increments to an Apple IIGS. The card is compatible with most Apple II software that works with the Apple IIe Memory Expansion Card.

$129 retail

Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple IIGS System Fan

Temperature maintainer

Apple IIGS.

The Apple IIGS System Fan maintains the proper temperature in an Apple IIGS that has three or more expansion cards installed.

$49 retail

Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

Apple IIGS Upgrade

Transformer kit

Apple IIe.

The Apple IIGS Upgrade gives the Apple IIe the advanced capabilities of an Apple IIGS. It is a dealer-installed option that involves replacing the logic board and metal base pan of an Apple IIe with a new Apple IIGS board. The Upgrade Kit's features include 256K of built-in memory, with RAM that is expandable to 8 MB. The basic system comes with 256K and can be increased in 256K increments.

$499 retail

Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

AppleColor RGB Monitor

Color monitor

Apple IIGS.

The AppleColor RGB Monitor simultaneously displays high-resolution text and color graphics. It features a 12-inch screen; high-resolution, analog RGB color; and direct connection to the RGB port of an Apple IIGS. The connector cable is supplied and no adapters or interface cards are necessary.

$499 retail

Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 408-996-1010

AST RamStakPlus

Extended memory card

Apple IIGS.

AST RamStakPlus is an extended memory card designed to take advantage of an Apple IIGS' memory addressing capabilities and built-in RAM-disk feature. Available in a minimum 256K configuration, the card can be increased by adding RAM chips.

In addition to its RAM capability, the card provides a read-only memory capability, supported by ProDOS. This feature allows entire applications to be loaded into read-only memory, where they become instantly available without extra disk access. The card is compatible with Apple's Memory Expansion Card.

$129 retail

AST Research, Inc.; 2121 Alton Ave.; Irvine, CA 92714; 714-553-0340

AST VisionPlus

Video digitizer

Apple IIGS; video camera.

AST VisionPlus is a video digitizer card that allows a user to capture black-and-white or color images. The video-input device can be a video camera, videocassette recorder, tuner or any North American Television Standard Committee (NYSC) device.

Once an image has been digitized by VisionPlus, it can be stored permanently on disk or printed out as hard copy. The product comes with image manipulation software that allows images to be cropped, rotated, color enhanced and so on.

$399 retail

AST Research, Inc.; 2121 Alton Ave.; Irvine, CA 92714; 714-553-0340

Central Point 3.5 Drive

Disk drive

Apple IIGS; Universal Disk Controller.

The Central Point 3.5-inch drive provides 800K of storage on an Apple IIGS. It connects to the Universal Disk Controller from the same company and includes an LED "in use" light. According to the vendor, the product is fully compatible with the 3.5-inch drive from Apple Computer, Inc.

$225 retail; 3.5-inch drive

$90 retail; Universal Disk Controller

Central Point Software, Inc.; 9700 SW Capitol Hwy., Ste. 100; Portland, OR 97219; 503-244-5782

ComputerEyes IIGS

Color video digitizer

Apple IIGS; video source.

ComputerEyes IIGS is the latest digitizer from the vendor and supports all the graphics capabilities of the Apple IIGS. This hardware/software combination includes a single card that plugs into the IIGS and any standard video source, including a VCR, videodisc player, etc. Video signals are scanned and captured in under six seconds in the 320 by 200 pixel, 16-color mode or under 12 seconds in the 640 by 200 pixel mode.

Images can be acquired for many popular IIGS paint programs, including *DeluxePaint* and *Paintworks Plus*. System software included with the package allow images to be shrunk, expanded, flipped, scrolled and more. Routines also allow high-resolution and double high-resolution graphics to be converted to the GS super high-resolution format.

$249.95 retail

Digital Vision, Inc.; 66 Eastern Ave.; Dedham, MA 02026; 617-329-5400

ComputerEyes/2

Video digitizer with GS software support

Apple IIGS; video source.

ComputerEyes/2 is a hardware/software slow-scan system that connects any standard video source with an Apple IIGS. It converts black-and-white images into near photographic-quality screen shots after several seconds have been allotted for capture time.

The ComputerEyes GS Support Package allows users to capture images in the super high-resolution mode of an Apple IIGS. According to its vendor, the software is friendly and menu-driven, making image acquisition easy.

Once an image is captured, it can be saved to disk for use in other graphics programs. The images are directly compatible with popular GS graphics packages, including *Paintworks Plus* and *816/Paint*.

$129 retail

$19.95 retail for the ComputerEyes/2 Support Package

Digital Vision, Inc.; 66 Eastern Ave.; Dedham, MA 02026; 617-329-5400

Conserver

Surge suppression device

Apple IIGS.

The Conserver is an integrated surge suppressing unit that provides six AC outlets, surge protection and a fan. The unit acts as both a monitor stand and as a holder for one or two Apple 3.5-inch disk drives. The fan circulates and extracts air from the computer, giving maximum cooling and protection from heat-related failures.

$149.95 retail

MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-573-0580

Datalink

Modem board

Apple IIGS.

Datalink is a 1,200-baud internal modem for an Apple IIGS. Because it looks to the computer like an Apple Super Serial card attached to a Hayes Smartmodem, Datalink is compatible with many communications software packages designed for this combination. The modem itself uses a one-chip design, fits into any Apple IIGS slot and has a second jack for connection to a telephone.

A basic communications package is built into the circuitry of Datalink. This software in ROM can be used to replace regular communications software for many communications purposes. More powerful communications software on disk is also included.

$219 retail

Applied Engineering; PO Box 798; Carrollton, TX 75006; 214-241-6060

Digitizer and Digitizer Professional

Two-channel audio digitizer

Apple IIGS.

Digitizer inputs audio into the Ensoniq sound chip of the Apple IIGS where it is digitized and stored in memory. Digitizer allows the user to record, edit, save and playback voices, music and sound waveforms. Features include its capability to plug directly into the SuperSonic stereo card expansion connector and its high speed CMOS sample and hold circuitry.

Digitizer Professional allows the user to digitize stereo or other two-channel audio sources. It is a complete standalone card, yet it remains compatible with the Ensoniq sound chip and the SuperSonic stereo card. Software controlled functions allow for panning and fading effects during digitizing.

$59.95 retail; Digitizer

$149.95 retail; Digitizer Professional

MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-573-0580

Echo IIb Speech Synthesizer

Text-to-speech board

Apple IIGS.

The Echo IIb is a small plug-in board that features both speech synthesis and natural-voice capabilities. It is compatible with speech, educational and special-needs software written for the Echo II and Echo+ boards.

Echo IIb has an improved audio circuitry and voice and a sharper, higher-quality speaker than its predecessors. With the addition of headphones, several individuals in a classroom or computer lab can simultaneously access talking programs without disturbing fellow students.

The Echo IIb includes a number of features to aid blind and non-vocal users. It supports Textalker 3.1.2 software, an enhanced version of Textalker.

$129.95 retail

Street Electronics Corp.; 1140 Mark Ave.; Carpinteria, CA 93013; 805-684-4593

FingerPrint GSi

Screen dump graphic utility card
Apple IIGS; printer.

The FingerPrint GSi is a screen dump graphic utility card with special desktop accessories and graphic tools that allow the user to interrupt the Apple IIGS at any moment, even if the application does not allow interrupts or access to the desktop and control panel. At a touch of a button, the user can access the product's desktop environment with pull-down menus. These can then control printers, handle screen dumps, or activate any of the standard, or user definable, desktop accessories.

Desktop accessories include a typewriter, calendar, calculator and more.
$99 retail
Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

FingerPrint-Key

Voice translator
Apple IIGS; accessories.

The FingerPrint-Key is a small board that plugs into any slot of an Apple IIGS. It interrupts the link between the keyboard and the computer to provide additional ways of inputting data. It uses advanced macros to convert long text strings and numbers into just a few keystrokes, including electronic banking account numbers, phone numbers, database numbers and passwords.

FingerPrint-Key accepts a wide range of accessories through its RS-232 ports, including optical scanners.
$199 retail
Thirdware Computer Products; 4747 NW 72nd Ave.; Miami, FL 33166; 305-592-7522

FutureSound

Stereo output/digital recorder
Apple IIGS; 512K RAM, 1MB recommended; two speakers or stereo amplifier.

FutureSound is a hardware/software package that gives the user complete control of the sound capabilities of the Apple IIGS. It records from a direct source in true stereo or mono, and comes with a microphone. The sound editor shows the sound wave and supports 15 separate tracks with splicing, looping, reversing and many more special effects. The stereo output works with all stereo software available.
$279 retail
Applied Visions, Inc.; 1 Kendall Sq., Ste. 2200; Cambridge, MA 02139; 617-494-5417

Grappler C/Mac/GS

Parallel printer interface
Apple IIGS; parallel printer.

The Grappler C/Mac/GS is a universal parallel interface that allows an Apple IIGS to print on a parallel printer, such as an Epson FX-80 or a laser printer. The product takes printer commands from the IIGS and converts them to code that a parallel printer understands. As a result, an Apple IIGS "thinks" it is talking to an Apple ImageWriter printer.

According to its vendor, the Grappler C/Mac/GS can even print color on parallel color printers. Mouse clicks generate a variety of printer graphics with options such as cropping, sizing, rotating, inverse printing, etc. The product can also serve as a IIGS desk accessory.
$99 retail
Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

GS-RAM and GS-RAM Plus

Extended memory boards
Apple IIGS.

The GS-RAM memory-expansion board is compatible with all operating systems for the Apple IIGS.

The board is available in 256K, 512K, 1 MB and 1.5 MB versions and can be increased to 8 MB by adding a piggyback card. It includes software that expands *AppleWorks'* memory limits, thereby allowing much larger databases to be created. Cache software is included as well that increases disk access time on a 3.5-inch drive. In addition, a graphic memory test utility is provided to test the board and any added memory chips.

The GS-RAM Plus board is available for unusually high memory requirements. It uses 1 MB RAM chips that plug into the main board. A piggyback card can be added to increase total memory to 8 MB.

$169 retail; 256K GS-RAM
$219 retail; 512K GS-RAM
$299 retail; 1 MB GS-RAM
$559 retail; 1 MB GS-RAM Plus
$1,009 retail; 2 MB GS-RAM Plus
$1,459 retail; 3 MB GS-RAM Plus
$2,809 retail; 6 MB GS-RAM Plus
Other configurations available
Applied Engineering; PO Box 798; Carrollton, TX 75006; 214-241-6060

GSX

Faster processing for the IIGS
Apple IIGS.

GSX is an add-on board that enables the IIGS to run at 5.6 MHz, twice the 2.8 MHz speed. It uses a faster 65816 processor and comes with high speed static RAM expandable to 1 MB. According to its vendor, GSX speeds up all applications.

The product installs in any slot and acts as an accelerator and memory expansion card at the same time.
Retail price; N/A
MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-573-0580

hammer30GS

External hard disk drives
Apple IIGS; SCSI card.

The hammer30GS is a high performance, SCSI-based external drive for the Apple IIGS. It delivers superior speed for expediting the loading of IIGS applications. The product is compatible with both ProDOS 8 and ProDOS 16 and operates up to five times faster than diskette drives. All necessary software and cabling are provided, and the drive is preformatted for immediate use.
$875 retail; 30 MB version
$750 retail; 20 MB version
FWB Software, Inc.; 2040 Polk St., Ste. 215; San Francisco, CA 94109; 415-474-8055

HyperDrive FX/20

Hard disk drive
Apple IIGS; SCSI card.

The HyperDrive FX/20 is an external SCSI hard disk drive. It can be installed on an Apple IIGS with the Apple II Conversion Kit. This kit contains special Apple II editions of the *HyperDrive System Software* on both 3.5-

inch and 5.25-inch disks, along with installation documentation.

When properly formatted, HyperDrive FX/20 can be plugged directly into an Apple IIGS with an Apple SCSI Card installed. It provides 20 MB for data storage.
$1,199 retail
General Computer Corp.; 215 First St.; Cambridge, MA 02141; 800-634-9737

MemorySaver

Makes memory cards into ROM disks
Apple IIGS; compatible memory card.

MemorySaver is a hardware/software system that transforms standard Apple IIGS memory cards into instant-access ROM disks. With *MemorySaver*, programs that once may have taken a minute or more to load can now be accessed and used much faster. Users can create a ROM disk that is larger than the 512K maximum described by Apple Computer, Inc. In addition, the product can accommodate two separate RAM cards.

MemorySaver works with several popular RAM cards besides a 2 MB card offered by the vendor. A separate power supply is included.
$149.95
Checkmate Technology, Inc.; 509 S. Rockford Dr.; Tempe, AZ 85281; 800-325-7347 or 602-966-5802

OctoRam and OctoRam ESP

Extended memory board
Apple IIGS.

OctoRAM is an extended memory board that uses SIMMS (single integrated memory modules), which are compact and easy to install. Memory chips come in modules of 256K and 1 MB, giving users flexibility in upgrading their systems.

OctoRAM is also available with an optional Extended Static RAM Pack (ESP board). This product mimics a ROM disk, allowing the Apple IIGS to access it like a fast disk drive. The ESP board can be used to allow any program to be loaded into memory in under two seconds.
$149.95 retail; OctoRAM with 256K
$599.95 retail; OctoRAM with 2 MB; other configuration available
$179.95 retail; 128K OctoRAM ESP (requires OctoRAM board)
MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-573-0580

PC Transporter

MS-DOS board for the Apple II
Apple IIGS; other Apple II models.

PC Transporter is a board that brings MS-DOS capabilities to the Apple IIGS and other Apple II computers. It plugs into a single expansion slot and allows the computer to run popular PC-compatible, MS-DOS software, such as *Lotus 1-2-3, MultiMate, dBASE III* and more. Once installed, PC Transporter will recognize all Apple IIGS peripherals as IBM hardware. In this way, the Apple ImageWriter printer can work and act just like an IBM Graphics Printer.

PC Transporter supports either an Apple mouse or an IBM-compatible serial mouse, and supports both 3.5-inch and 5.25-inch MS-DOS formatted diskettes. Disk drives in the IBM PC-compatible 5.25-inch format are available from Applied Engineering.

The Apple 3.5 Disk Drive supports both MS-DOS and ProDOS under PC Transporter. Any combination of up to five drives will work. As for graphics, PC Transporter uses an analog monitor to provide CGA-quality graphics superior to the IBM PC and compatibles.
$489 retail; PC Transporter with 384K
$529 retail; PC Transporter with 512K
$609 retail; PC Transporter with 768K
$269 retail; 5.25" 360K Drive
$399 retail; Dual-Drive 5.25" System
$139 retail; IBM-style Keyboard
Applied Engineering; PO Box 798; Carrollton, TX 75006; 214-241-6060

Phasor

Sound board
Apple IIGS.

Phasor allows an Apple IIGS to run many sound-oriented software programs written for earlier sound boards for Apple II family computers. It does this by emulating the Mockingboard, ALF music synthesizer, Echo speech board and others.

The product includes a music synthesizer and one speech chip. A second speech chip can be added at a later time.

Included with Phasor is software that includes demonstration programs and utilities for composing songs.
$179 retail
Applied Engineering; PO Box 798; Carrollton, TX 75006; 214-241-6060

Plus Hard Disk Systems

Hard disk drives
Apple IIGS; SCSI port.

The Plus drives are hard disk drives that add 20, 30, 45 or 60 MB of storage to an Apple IIGS through a SCSI port. A 20 MB tape backup system is also available. Up to seven drives can be connected to provide a maximum of 455 MB of storage.
$1,095 retail; Plus-20
$1,395 retail; Plus-30
$2,495 retail; Plus-65
MacPeak Systems; 1201 Spyglass; Austin, TX 78746; 512-327-3211

ProGrappler

Parallel printer interface
Apple IIGS; Apple IIe.

ProGrappler provides the hardware to connect most popular parallel printers to an Apple IIGS. It also provides many options for printing text or graphics directly from the screen. This is accomplished on the Apple IIGS through pull-down menus, allowing easy visual selection of any ProGrappler or printer features.

Printing options include inverted and rotated graphics windowing, enlargement and printing of any high-resolution graphics. All features can be accessed through traditional and English commands. ProGrappler functions can also be accessed through the IIGS' Desk Accessory menu.
$119 retail
Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

ProModem 1200A/2

Internal modem
Apple IIGS; communications software.

The ProModem 1200A/2 is a Hayes-compatible 300/1,200-baud internal modem with built-in ROM software that supports 80 columns and all modem functions. It has a built-in speaker and volume control; two

phone jacks, with exclusion switching that make it easy to switch back and forth between voice and data; senses whether to tone or pulse dial; and has auto-redial-on-busy capability.
$249 retail
Prometheus Products, Inc.; 4545 Cushing Pkwy.; Fremont, CA 94538; 415-490-2370

RAM Talker Plus

Memory card with speech
Apple IIGS; other Apple II models.

RAMTalker Plus is a multifunction card that combines battery-protected RAM with high quality speech. A clock/calendar function is also included. Because of the RAM disk capabilities, applications can be opened in seconds, since they work at RAM speeds.

For speech, RAMTalker Plus allows users to send print commands to the card, which in turn provides speech. The speech component takes up 32K of RAM in the computer.
$279 retail
Electronic Learning Systems, Inc.; 2630 NW 39th Ave.; Gainesville, FL 32605; 904-375-0558

RamPak 4GS

Extended memory card
Apple IIGS.

The RamPak 4GS memory expansion system for an Apple IIGS provides a standard 512K of memory, expandable to 4 MB. It includes a memory management utilities package for RAM caching, diagnostics and dynamic allocation of memory.

The RamPak 4GS uses 256K by 4 RAM chips, enabling a user to expand in two-chip increments, as opposed to the eight-chip minimum required by other formats. Memory automatically self-configures, so no switch settings or jumpers need be changed. A RAM diagnostics utility detects and pinpoints any RAM problems that may arise.
$189 retail; 512K RamPak 4GS
$49 retail; 256K Expansion Kit
Orange Micro, Inc.; 1400 N. Lakeview Ave.; Anaheim, CA 92807; 714-779-2772

Serial Pro

Multifunction card
Apple IIGS.

Serial Pro is a multifunction card that combines a serial port with a functioning clock/calendar card. It can connect to a printer, modem or other serial device and is compatible with most letter-quality and dot-matrix printers. The serial port can communicate with the fastest external modems at baud rates from 50 to 19,200.

Serial Pro's clock/calendar is ProDOS, DOS and *AppleWorks* compatible. All *AppleWorks* files are automatically time and date stamped. The card incorporates a 20-year auto recharging battery and switch selection for real-time interrupts.
$139 retail
Applied Engineering; PO Box 798; Carrollton, TX 75006; 214-241-6060

Sider

Hard disk drive backup
Apple IIGS.

Sider is an external hard disk available in 10 MB and 20 MB sizes. The internal Xebec controllers have a SASI/SCSI interface bus with a host interface card available for the Apple IIGS.

The interface offers fast throughput with low software overhead, an auto alternate track capability that ensures greater system integrity, and convection cooling that increases reliability and reduces power consumption.

The B-Sider is a tape backup subsystem for the IIGS that offers 20 MB cassette streaming tape combined with Xebec's menu-driven software to offer fast backup and restore capabilities.
$695 retail; 10 MB Sider
$795 retail; 20 MB Sider
$795 retail; B-Sider
Xebec/First Class Peripherals; 3579 Hwy. 50 East; Carson City, NV 89701-2826; 702-883-4000

Sierra-2040 and Sierra-3040

Hard disk drives
Apple IIGS.

The Sierra-2040 and Sierra-3040 add 20 MB and 30 MB of storage per drive, respectively, and come with a 40 MB streaming-tape backup. Each drive and tape backup fits neatly on top of an Apple IIGS. Up to two Sierra drives can be linked together.

Backups can be unattended. The drives automatically shut down the computer and Sierra System when a backup is complete.
$2,495 retail; Sierra-2040
$2,695 retail; Sierra-3040
MacPeak Systems; 1201 Spyglass; Austin, TX 78746; 512-327-3211

Smartmodem 1200A

Modem
Apple IIGS; communications software.

Smartmodem 1200A provides 1,200-baud communications capability, call-progress monitoring, built-in test modes, Hayes Standard "AT" command set implementation, voice and data transmission, auto-dial and auto-answer modes, two phone jacks, redialing and more.

Smartmodem 1200A may be operated using a new version of *Smartcom* communications software from Hayes, sold separately.
$439 retail; Smartmodem 1200A
$119 retail; Smartcom software
Hayes Microcomputer Products, Inc.; PO Box 105203; Atlanta, GA 30348; 404-449-8791

Supersonic

Digitized stereo card
Apple IIGS.

Supersonic uses the Ensoniq sound chip of an Apple IIGS to produce stereo sound for any software that addresses the sound capabilities of the computer. The card plugs into any slot and has high-speed circuitry for separating two channels into true stereo sound.

Filters allow only selected frequency sounds to pass through for distortion-free sound, and buffer amplifiers isolate the audio further for even cleaner sound.

The unit comes with two .5-watt amplifiers that can drive 8-ohm mini speakers. A user can also select power output levels for either speakers or headphones.
$59.95 retail
MDIdeas, Inc.; 1163 Triton Dr.; Foster City, CA 94404; 415-573-0580

ThunderScan

Low-cost digitizing
Apple IIGS.

ThunderScan fits into any ImageWriter printer, except the LQ, and replaces the platen with a digitizing element. Printed images are then scanned by ThunderScan, and the software shows 16 shades of gray that can be changed in contrast and brightness according to the user's specifications.

Once the user has an image to his liking, he can save it for use with painting programs like *DeluxePaint II, 816/Paint* and *Paintworks Plus.* Images can also be combined with text, frames and objects using *TopDraw* and the new desktop publishing packages. ThunderScan uses both super high-resolution and ultra resolution display modes.
$219 retail
Thunderware, Inc.; 21 Orinda Way; Orinda, CA 94563; 415-254-6581

TopRAM and MegaROM

Low-cost memory card
AppleIIGS.

TopRAM is an inexpensive 1 MB memory card that has two expansion ports for adding more memory, ROM or other add-ons. It is fully compatible with the equivalent card from Apple Computer, Inc.

MegaROM is an add-on product to TopRAM that provides up to 896K of ROM software. It also offers an expansion port for adding additional memory and other add-ons. The vendor says that several ROM software packages will be available in coming months.
$189.95 retail; TopRAM
$89.95 retail; MegaRom (unpopulated)
Parallax, Inc.; 5249 Locust Ave.; Carmichael, CA 95608; 916-721-5451

Universal Disk Controller Card

Connecting card
Apple IIGS; compatible drives.

The Universal Disk Controller Card connects many combinations of disk drives on an Apple IIGS, including 5.25-inch disk drives, the Apple UniDisk 3.5 and Macintosh-compatible 400K and 800K drives.

Two different drive types (a 5.25-inch drive and a 3.5-inch drive) can be connected to the card simultaneously. With any supported drive, data transfer rate occurs at full speed.
$90 retail
Central Point Software, Inc.; 9700 SW Capitol Hwy., Ste. 100; Portland, OR 97219; 503-244-5782

Music

ECL Music Training Programs

Family of music training products
Apple IIGS; MIDI card; synthesizer.

Electronic Courseware Systems, Inc. offers a broad range of IIGS-compatible products for music training purposes. Software is available for learning music basics as well as more advanced musical concepts. All programs require at least an Apple IIGS, and in many cases additional hardware is required, such as a Passport or Sonus MIDI card, or a Roland MIDI interface, MPU and synthesizer.
$39.95 retail; Keyboard Tutor-MIDI
$39.95 retail; Early Music Skills-MIDI
$79.95 retail; Keyboard Extended Jazz Harmonies-MIDI
$39.95 retail; Tap-It
$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 composition system
512K Apple IIGS.

A non-standard form of music notation and the use of artificial intelligence make *Instant Music* a creative music composition tool for non-musicians. Up to four instruments can be played at one time, and the user can take control of one instrument and "jam" along with the other three.

For composition, the user turns on a QuickDraw icon, describes a line on the screen with the mouse, and the program fills in the proper notes along that line. The user can zoom in to see several measure at a time or just one measure.

Instant Music is available with two library disks of songs, each containing over 15 new digitized instruments and 40 songs.
$49.95 retail; Instant Music
$29.95 retail; It's Only Rock 'N Roll
$29.95 retail; Hot & Cool Jazz
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

Master Tracks Pro

MIDI sequencing program
Apple IIGS.

Master Tracks Pro is a professional MIDI recording and editing package enhanced for the Apple IIGS. It provides real-time, step-time and song mode sequencing that uses up to 2 MB of expanded memory for longer songs.

The Main Sequencer and Song Mode sections can send and receive a MIDI Song Position Pointer. It can also be used to write film scores or jingles synced to videotape.
$299.95 retail
Passport Designs, Inc.; 625 Miramontes St., Ste. 103; Half Moon Bay, CA 94109; 415-726-0280

Music Construction Set

Digital sound creation
Apple IIGS; stereo card and speakers recommended.

Music Construction Set is a complete revision of the best-selling program available for the Apple IIc and Apple IIe. It lets a user compose music, play it back and print out sheet music of all songs created. Prior knowledge of music is not required.

New features developed for the Apple IIGS include eight digitized instruments; a MIDI output; stereo music capability; and music input with a mouse.
$49.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, CA 94404; 415-571-7171

MusicShapes

Musical graphics
Apple IIGS.

MusicShapes is a music construction program that involves the user in the process of music making. The user travels back and forth between screens making and arranging graphic patterns to produce rhythmic, melodic and sound patterns. These can be built into complex musical structures.

The program allows the user to mimic the sounds of many instruments utilizing the Ensoniq sound chip in the IIGS. The product can also link the Apple II to the multi-sound capabilities of the Casio CZ synthesizer.

The goal of *MusicShapes* is to enable those who don't know musical notation to build original, multi-dimensional sounds and music. Results are obtained instantaneously.
$175 retail
Music Systems for Learning, Inc.; 311 E. 38th St., Ste. 20C; New York, NY 10016; 212-661-6096

Pyware Music Writer and Music Administrator

Professional music programs
Apple IIGS; 512K; printer.

Pyware Music Writer is a music writing program designed for the Apple IIGS. It offers extensive use of the Ensoniq sound chip, a wide variety of symbols, complete control of symbol placement, automatic barring, automatic stem changing during transposition, automated error checking and more. The program also provides fast input and editing and supports copy, cut, paste, invert and transpose. It also uses a Macintosh-style interface with pull-down menus and icons, and works with a variety of printers.

The *Pyware Music Administrator* is designed for the music educator. It provides complete music management by keeping track of student files, a music library, and handles uniform checkout of inventory, a general ledger and instrument forecasting.
$295 retail; *Pyware Music Writer,* special edition
$595 retail; *Pyware Music Writer,* professional model
$295 retail; *Pyware Music Administrator*
Pygraphics Corp.; PO Box 639; Grapevine, TX 76051; 800-222-7536 or 817-481-7536

The Music Studio

Making music on the IIGS
Apple IIGS.

The Music Studio, one of the first music programs announced for the Apple IIGS, offers pull-down menus and pop-up menus to help users write music on the program's screen. A large double-staff occupies the middle of the screen, and users determine note duration, block operations, rest durations, and time signatures by clicking on them with the mouse. The program offers a music paintbox, where users can play music with no knowledge of formal notation.

The Music Studio can output to a MIDI device for high quality sound, and octave ranges are available for up to 15 instruments. In addition, up to three lines of lyrics can be input for a song.
$79.95 retail
Activision, Inc.; 2350 Bayshore Parkway; PO Box 7286; Mountain View, CA 94039; 415-960-0410

On-Line Databases

CompuServe

Telecomputing network
Apple IIGS; modem; communications software.

Apple IIGS users on the *CompuServe* network have access to several Apple forums, including an Apple II forum with lively interest in the Apple IIGS. Subscribers share information about peripherals, music, technical information and software. In addition, electronic mail allows members from across the country to communicate with one another.

CompuServe maintains a large database of free public domain software in its Apple forum. The only expense for downloading is connect time. Publications, such as the electronic editions of various computer magazines, are also maintained in the forums.
$39.95 retail; Subscription Kit
CompuServe Information Services; PO Box 20212; 5000 Arlington Centre Blvd.; Columbus, OH 43220; 800-848-8199

GEnie

Make friends on line
Apple IIGS; modem.

GEnie is an information exchange with special interest groups set up for Apple II users. Software is available for downloading, and users can participate in on-line conferences, "CB" simulations and more. Databases available include American Airlines travel service, Grolier's electronic encyclopedia, games, financial services and others.
$5 per hour retail
General Electric Information Services Co.; 401 N. Washington St.; Rockville, MD 20850; 800-638-9636

The Source/APPLESIG

Telecomputing network
Apple IIGS; modem; communications software.

The Source, a nationwide on-line database, offers APPLESIG, an on-line network of special interest to Apple IIGS owners. Members can meet other members on-line to discuss computer questions, problems, etc. In addition, APPLESIG maintains a large database of free public domain software, including *AppleWorks* templates, available for downloading.

APPLESIG members receive an APPLESIG Kit, complete with utilities needed to download software and articles from the APPLESIG Library. Members also receive discounts on accessories such as printers.

Members already on APPLESIG include Apple experts, experienced programmers, user group residents, businesspersons, investors and hobbyists.
$49.95 retail; initial membership dues
$7.80 per hour retail; 1,200 baud on evenings and weekends
The Source; 1616 Anderson Rd.; McLean, VA 22102; 800-336-3366 or 703-734-7500

Programming And Utilities

Disk Util GS

Backs up copy-protected software
Apple IIGS.

Disk Util GS is a utility program for backing up many copy protected programs. Once backed up, many programs can then be uploaded to RAM disks, ROM disks or hard disks. According to its manufacturer, *Disk Util GS* supports most of the latest copy protected applications on the market.
$59.95 retail
FWB Software, Inc.; 2040 Polk St., Ste. 215; San Francisco, CA 94109; 415-474-8055

Graphics Supermarket

Converts images into code
Apple IIGS; 512K.

The Graphics Supermarket automatically takes shapes, patterns, icons or entire screens that the user creates and translates them into assembly or C source code. The code can then be used in the user's programs, and no licensing fees are required for use in commercial products.
$49.95 retail; program only
$149.95 retail; program and source code
Abracadata; PO Box 2440; Eugene, OR 97402; 503-342-3030

Instant Pascal

Programming language
Apple IIGS.

Instant Pascal is an interactive programming environment for beginning programmers and students. Version 1.5 has been enhanced to support non-Apple printers such as Okidata and Epson. It also provides better support of faster media such as the UniDisk 3.5, memory enhancement boards and hard disks. Copy protection has been removed.
$140 retail
Claris Corp.; C/O Apple Computer, Inc.; 20525 Mariani Ave.; Cupertino, CA 95014; 415-960-1500 or 408-996-1010

LifeGuard

File recovery software
Apple IIGS.

LifeGuard protects Apple IIGS users from accidental loss of data by providing the ability to recover disk files that have been deleted. Files deleted under ProDOS 16 and ProDOS 8 can be recovered.

The program uses the GS mouse and a Macintosh-like interface and can search entire disks for missing files, using full or partial names given by the user or words and sentences as descriptions. Files can be found based on contents, without knowing their names.
$59.95 retail
Harbor Software, Inc.; 403 Great Rd., Ste. 8; Acton, MA 01720; 617-263-1870

MACtoGS Assembler/Linker

Cross development system
Apple IIGS; Macintosh.

MACtoGS Assembler/Linker is a cross development system that allows a user to develop Apple IIGS assembly language programs on the Macintosh. Features include a fully implemented 65816 assembler and linker, a multiple-window editor with Undo, compatibility with the *Apple IIGS Programmers Workshop* (APW), and ability to produce complete stand-alone IIGS applications.

The system supports all Apple IIGS ROM and Library routines, includes tools for file transfer of source and applications files, and assembles up to 10,000 instructions per minute.
$195 retail
Consulair Corp.; 140 Campo Dr.; Portola Valley, CA 94025; 415-851-3272

Menus & Windows

Software toolkit
Apple IIGS.

Menus & Windows is a software toolkit written in *Apple Pascal* and *6502 assembly language.* It lets developers quickly add menus and windows to Apple II programs. The software includes two disks, documentation, examples and source code.

The illustration manual provides complete instructions, examples and details for all routines in the package. Programmers can specify any one of several routines to add pull-down menus and windows to their programs.
$39.95 retail
Swan Software; PO Box 206; Lititz, PA 17543; 717-627-1911

MouseFiler 2.0

A Macintosh-like environment
Apple IIGS; other Apple II models.

MouseFiler brings the same user interface as the Macintosh to the Apple IIGS, and, in effect, replaces The Finder. It includes pull-down menus, and allows the user to select files with just a few clicks of the mouse. The product can copy and select single files, groups of files, files that only contain certain types, and so on. In addition, *MouseFiler* can run and list programs from the menu, and a file find feature is integrated into the system.
$69.95 retail
Harbor Software, Inc.; 403 Great Rd., Ste. 8; Acton, MA 01720; 617-263-1870

ORCA/BASIC Interpreter And Compiler

BASIC Programming On The IIGS
Apple IIGS.

The ORCA/BASIC Interpreter is an extended version of *Applesoft BASIC.* It is compatible with the *ORCA/BASIC compiler.* Extensions include PRINT USING; IF-THEN-ELSE; WHILE statement; true local variables; and more. The product provides full access to the Apple IIGS Toolbox, and comes with a samples disk of IIGS Toolbox samples and source code.

The ORCA/BASIC Compiler is also an extended version of *Applesoft BASIC.* It offers the same extensions as the interpreted version, and also supports variable dimensions for array declarations. *ORCA/BASIC Compiler* provides full access to the Apple IIGS Toolbox, and comes with a samples disk of routines and source code.
$50 retail; ORCA/BASIC Interpreter
$95 retail; ORCA/BASIC Compiler
The Byte Works, Inc.; 4700 Irving Blvd. NW.,

Ste. 207; Albuquerque, NM 87114;
505-898-8183

ORCA/M Assembler For The Apple IIGS

Assemble language programming
Apple IIGS; 512K.

ORCA/M is a complete development environment for assembly language programming on the Apple IIGS. The system includes the assembler with full macro capabilities, link editor, command processor, full screen text editor, disassembler, utilities, and macro and subroutine libraries. The product supports 65816, 65C02 and 6502 instruction sets. It's also compatible with *ORCA/Pascal, APW C* and the *ORCA/BASIC* compilers. It's interchangeable with the *Apple IIGS Programmer's Workshop.*
$69.95 retail
The Byte Works, Inc.; 4700 Irving Blvd. NW., Ste. 207; Albuquerque, NM 87114;
505-898-8183

ORCA/M Support Programs

Support for ORCA/M
Apple IIGS; ORCA/M For The Apple IIGS.

The Utility Package #1 adds 12 new commands to the *ORCA/M, ORCA/Pascal* or *Apple Programmer's Workshop* shell. The utilities include: calendar, bad-block check, file compare, lowercase conversion, quick sort, control character strip, tab and space trip and more. Source code is included.

Subroutine Library Source contains the source code to the *ORCA/M 1.0* subroutine libraries, including integer math, formatter I/O, number-string conversions, etc. All are called via the standard macro library.

The *Merlin to ORCA/M Source Code Translator* takes *Merlin* source code as input and writes *ORCA* source code as output. All labels and instructions are translated. ProDOS 8 and ProDOS 16 versions are included, and the program comes with source code.

$39.95 retail; *Utility Package #1*
$39.95 retail; *Subroutine Library Source*
$39.95 retail; *Merlin to ORCA*
The Byte Works, Inc.; 4700 Irving Blvd. NW., Ste. 207; Albuquerque, NM 87114;
505-898-8183

ORCA/Pascal For The IIGS

Pascal programming language
Apple IIGS.

ORCA/Pascal For The IIGS is a stand-alone implementation of *ISO Standard Pascal for the Apple IIGS.* It includes extensions for UCSD-style strings and provides support for systems and scientific programming. Also included are more than 60 built-in procedures and functions.

The compiler can be run in stand-alone mode or it can be installed to run under the *Apple Programmer's Workshop* or *ORCA/M* for Apple IIGS shells. It is also compatible with the *APW C compiler* and *ORCA/M macro assembler.* Access is provided to the Apple IIGS Toolkit, and sample programs are included on disk.
$125 retail
The Byte Works, Inc.; 4700 Irving Blvd. NW., Ste. 207; Albuquerque, NM 87114;
505-898-8183

The Diversi Series

Disk drive helpers
Apple IIGS.

The Diversi Series is a family of utility software designed to enhance performance of the Apple IIGS and disk drives. *Diversi-Key* is a keyboard macro generator that allows users to design single-key macros that replace hundreds of keystrokes. Users can define, edit, display and load macros for use in many programs, including *AppleWorks.*

Diversi-Cache speeds the performance of 3.5-inch disk drives, without the use of a RAM disk. According to its vendor, programs run up to five times faster after booting with *Diversi-Cache.*

Diversi-Copy lets users copy unprotected 3.5 or 5.25-inch disks at maximum speeds. It uses up to 800K in RAM for one-pass copying.
$45 retail; Diversi-Key
$35 retail; Diversi-Cache
$30 retail; Diversi-Copy
Diversified Software Research, Inc.; 34880 Bunker Hill; Farmington, MI 48018-2728;
313-553-9460

TML BASIC

Full-featured BASIC compiler
Apple IIGS; 512K.

TML BASIC is a new compiler, compatible with the Apple's *GS BASIC,* that offers much of the same functionality as the company's *TML Pascal. TML BASIC* creates stand-alone ProDOS 16 applications, provides access to the Apple IIGS Toolbox, produces super high-resolution graphics, provides access to the IIGS' sound functions and more. It also offers advanced language features, including PRINT USING, DO/WHILE, UNTIL and IF/THEN/ELSE.
$125 retail; TML BASIC
$69 retail; TML Speech Toolkit
TML Systems, Inc.; 8837-B Goodby's Executive Dr.; Jacksonville, FL 32217;
904-636-8592

TML Pascal Family

Complete Pascal programming
Apple IIGS; 512K; extended memory board recommended.

The stand-alone version of *TML Pascal* is a native code *Pascal* compiler that provides access to the Apple IIGS Toolbox for creating ProDOS applications and desk accessories. It implements a fully integrated programming environment for writing, editing, compiling and running applications. The software compiles at more than 6,000 lines of source code per minute.

The *Apple Programmer's Environment* version of *TML Pascal* is fully compatible with the stand-alone version. It is a one-pass compiler that features separate compilation of units and complete access to the Toolbox. The APW software package is required to use this version.

The *TML Source Code Library* is a collection of *TML Pascal* source code example applications that demonstrate IIGS ROM Tools.

The *TML Speech Toolkit* is capable of converting English text into computer-generated speech using the IIGS Ensoniq sound chip. It supports both male and female speech as well as control over the speed, pitch and volume of the speech generated. Compatible with both *TML Pascal* and *TML BASIC*, the *TML Speech Toolkit* allows computer-generated speech to be added to any program written in either language.
$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 Goodby's Executive Dr.; Jacksonville, FL 32217; 904-636-8592

ZBasic 4.0
ProDOS compiled BASIC
Apple IIGS; other Apple II models.

ZBasic 4.0 for ProDOS is a compiler that incorporates many new commands and features over the previous DOS 3.3 version. New features include support of ProDOS pathnames, double high-resolution graphics, MouseText characters, customized character sets and use of the Apple Mouse. A full screen editor that uses *WordStar* keystroke commands has also been included.
$49.95 retail
Zedcor, Inc.; 4500 E. Speedway, Ste. 22; Tucson, AZ 85712; 800-482-4567 or 602-881-8101

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Reader Service #	Advertiser	Page #
13	Activision, Inc.	38-39
—	Apple Computer, Inc.	16-17
02	Applied Engineering	03
03	Applied Engineering	05
16	Astro Software, Inc	53
04	Bose Corporation	06
10	CDA Computer Sales	29
11	Co-Du-Co	30
15	Computers Plus Company	47
05	EPIC Technology, Inc.	09
01	First Class Peripherals	IFC-1
07	MECC	12
12	On Three, Inc.	31
14	Personal Financial Services	47
17	Pygraphics Corporation	IBC
06	Stone Edge Technologies, Inc.	11
08	Street Electronics Corp.	13
18	StyleWare, Inc.	BC

Comprehensive Listing Of All Entries By Product Name

//WRITE 49
1040Works-X 46
816/Paint 52
A-B Box 44
Apple Hard Disk 20SC 62
Apple II SCSI Interface Card 62
Apple IIGS Assembly Language Programming 47
Apple IIGS Firmware Reference 48
Apple IIGS Hardware Reference 48
Apple IIGS Memory Expansion Card 62
Apple IIGS ProDOS 16 Reference 48
Apple IIGS System Fan 62
Apple IIGS Technical Reference 48
Apple IIGS Toolbox Reference, Vols. I and II 48
Apple IIGS Upgrade 62
Apple Security System 44
AppleColor RGB Monitor 62
AppleTalk Clips 44
AppleWorks Version 2.0 46
AST RamStakPlus 62
AST VisionPlus 62
Award Maker Plus 52
Bose RoomMate Speakers 44
BusinessWorks 49
Cable Assemblies 44
CADAPPLE 3.5 Version 3 49
Calendar Crafter 56
California Games 59
Cavern Cobra 59
Central Point 3.5 Drive 63
Clip Art Gallery 52
Clock Works 56
CompuServe 68
Computer Mad Libs 56
ComputerEyes IIGS 63
ComputerEyes/2 63
Conserver 63
CSL Marks 56
Datalink 63
DB Master Version 5 49
Deluxe Library 52
DeluxePaint II 52
DeluxePrint II 52
DeluxeWrite 55
Dental Office Management IIP 49
Design Your Own Home, Architecture 52
DESKPAK 54
DeskWorks 54
Destroyer 60
Digitizer and Digitizer Professional 63
Disk Accessories 44
Disk Drive Cleaner 45
Disk Util GS 69
DMS802 and DSM804 45
Dondra: A New Beginning 60
Draw Plus 52
Dust Cover For The Apple IIGS 45
Dust Covers 45
Echo IIb Speech Synthesizer 63
ECL Music Training Programs 67
ELFE 56
Exploring The Apple IIGS 48
Fantavision IIGS 52
FingerPrint GSi 64
FingerPrint-Key 64
First Letters and Words 57
First Shapes 57
FutureSound 64
Garden Series 57
GBA Championship Basketball 60
GEnie 68
GradeBook Deluxe 57
Graphic Edge 46
Graphics Supermarket 69
GraphicWriter Version 2.0 55
Grappler C/Mac/GS 64
GS File 49
GS-RAM and GS-RAM Plus 64
GSX 64
Hacker II: The Doomsday Papers 60
hammer30GS 64
Homework Helper-Writing 57
Homework Helper-Math Word Problems 57
Homeworker 57
Human Interface Guidelines 48
HyperDrive FX/20 64
Instant Music 67
Instant Pascal 69
JuiceBox 45
Kablit 45
Kidstime II 57
KidTalk 58
Kraft Premium II 45
Kurta GIS 45
LifeGuard 69
List Manager 49
MACtoGS Assembler/Linker 69
Managing Your Money 49
Master Tracks Pro 67
Mastering Math 58
Math Blaster Plus 58
MathTalk 58
MathTalk Fractions 58
Mean 18 60
MemorySaver 65
Menus & Windows 69
MODUNET 45
Monte Carlo 60
Mouse Accessories 45
MouseFiler 2.0 69
MousePouch 46
MouseTalk 50
MouseWrite 50
MultiScribe GS 3.0 55
Music Construction Set 67
MusicShapes 68
Notes 'N Files 50
OctoRam and OctoRam ESP 65
On Balance 50
ORCA/BASIC Interpreter And Compiler 69
ORCA/M Assembler For The Apple IIGS 70
ORCA/M Support Programs 70
ORCA/Pascal For The IIGS 70
Paintworks Plus 53
PC Transporter 65
Personal Accountant 2.0 50
Personal Newsletter 55
Phasor 65
Pinpoint Desktop Accessories 54
Plus Hard Disk Systems 65
Point-To-Point 50
Postcards 53
Printer Accessories 46
Printrix 1.0 55
ProFiler 3.0 50
ProGrappler 65
ProModem 1200A/2 65
ProTERM 50
Pyware Music Writer and Music Administrator 68
RAM Talker Plus 66
RamPak 4GS 66
Read 'N Roll 58
Reader Rabbit 58
Realm Of Altair Trilogy 60
ReportWorks 46
Salary Magic 51
Sea Strike 60
Sensible Grammar 51
Sensible Speller For ProDOS 51
Sensible Writer 51
Serial Pro 66
Shanghai 60
ShowOff 53
Sider 66
Sierra-2040 and Sierra-3040 66
Silent Service 61
Smartmodem 1200A 66
Softswitch 54
Space Quest 61
SpaceLace 59
Speller Bee 59
Springboard Publisher 55
Starter Pak 54
Strategic Conquest II 61
Sub Battle Simulator 61
Supersonic 66
System Saver IIGS 46
Talking Text Writer 59
Tass Times In Tonetown 61
Tax Preparer 51
Technical Introduction To The Apple IIGS 48
The Apple IIGS Book 48
The Apple IIGS Toolbox Revealed 48
The Bard's Tale 61
The Communications Manager 54
The Desktop Manager 54
The Disk Manager 55
The Diversi Series 70
The Music Studio 68
The Personal Publisher 56
The Print Shop IIGS 56
The Source/APPLESIG 68
The Timeout Series 47
The Tower of Myraglen 61
Thexder 61
ThunderScan 67
TML BASIC 70
TML Pascal Family 70
To Preserve, Protect and Defend 59
Top Draw 54
TopRAM and MegaROM 67
Turbo Mouse ADB 46
Typing Tutor IV 59
Universal Disk Controller Card 67
Universal Security Kit 46
VIP Professional 51
Visualizer 51
Wheel Of Boredom 61
Winter Games 61
WordPerfect for the Apple IIGS 51
World Games 62
Writer's Choice elite 56
ZBasic 4.0 71
Zoyon Patrol 59

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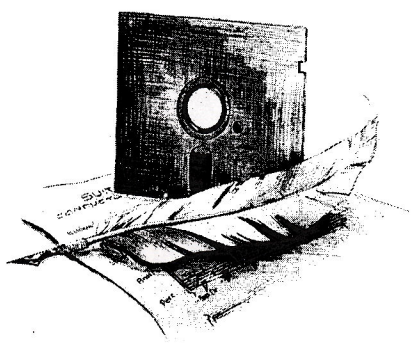
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