

New Hardware, Software, and Peripherals

Apple II

The Review

A Redgate Publication
Fall 1985, \$5.00



Apple's Newest Hardware:

- UniDisk 3.5
- Imagewriter II
- Memory Expansion Card
- Personal Modem
- New Color Monitors

Over 50 New Product Reviews

Expanding Your Apple IIc

Breaking the 128K RAM Barrier

Smart Printer Cards



Why every kid should have an Apple after school.

Today, there are more Apple® computers in schools than any other computer.

Unfortunately, there are still more kids in schools than Apple computers.

So innocent youngsters (like your own) may have to fend off packs of bully nerds to get some time on a computer.

Which is why it makes good sense to buy them an Apple IIc Personal Computer of their very own.

Send them home to a good school system.

The IIc is just like the leading computer in education, the Apple IIe. Only smaller. About the size of a three-ring notebook, to be exact.

Of course, since the IIc is the legitimate offspring of the IIe, it can access the world's largest library of educational software. Everything from Stickybear

Shapes™ for preschoolers to SAT test preparation programs for college hopefuls.

In fact, the IIc can run over 10,000 programs in all. More than a few of which you might be interested in yourself.

For example, the best-selling, AppleWorks™ 3-in-1 integrated software package. Personal finance and tax programs. Diet and fitness programs.

Not to mention



fun programs for the whole family. Like "Genetic Mapping" and "Enzyme Kinetics."

One Apple that won't leave them hungry.

The Apple IIc is easy to set up and learn. And it comes complete with most everything you need to start computing in one box.

Including a free, easy-to-use 4-diskette course to teach you all about the IIc — when your kids get tired of your questions.

As well as a long list of built-in features that would add about \$800 to the cost of a smaller-minded computer.

The features include: 128K of internal memory — as powerful as the average office computer.



The ImageWriter II prints high quality color graphics.

A built-in disk drive that could drive up the price of a less-senior machine considerably.

And built-in adaptors for

adding accessories, like our new ColorMonitor IIc, ImageWriter™ II printer and the Apple Personal Modem 300/1200.

A feast for their eyes.

The big 14-inch ColorMonitor IIc displays crisp, color graph-



The most popular peripherals plug right into the back of the Apple IIc.

ics or a high resolution 80-column monochrome text for word processing.

You can print sharp color graphics, too, with our new ImageWriter II. It also prints



And speaking of high quality color, introducing ColorMonitor IIc.

near-letter-quality text in black and white, quickly and quietly. And, with its new SheetFeeder, you can switch to single sheets without

removing the sprocket paper.*

If local color isn't enough, you can talk to the rest of the world through our new wall-mounted Apple Personal Modem 300/1200. With it, you can do your banking at home, check your stocks, gain access

to all kinds of information libraries and much more.

Which would all add up to a very impressive list of expandable accessories if it weren't for all the others. Like an Apple-Mouse. And an extra disk drive when the time comes.

Avoid growing pains.

So while your children's shoe sizes and appetites continue to grow at an alarming rate, there's one thing you know can keep up with them. Their Apple IIc.

To learn more about it, visit any authorized Apple dealer. Or talk to your own computer experts.

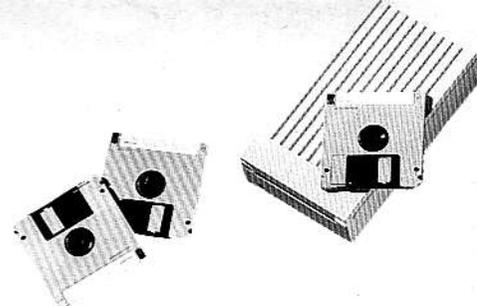
As soon as they get home from school.



* Optional accessory may be purchased for ImageWriter II. © 1985 Apple Computer, Inc. Apple and the Apple logo, AppleWorks, and ImageWriter are trademarks of Apple Computer, Inc. Stickybear Shapes is a trademark of Optimum Resource. For an authorized Apple dealer near you, call (800) 538-9696. In Canada, call (800) 268-7796 or (800) 268-7637.

Apple II[®]

The Review



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Apple's integrated package is so good that it may be all the business software you'll ever need. On the other hand, it's comforting to know that many accessory programs are available to add features that *Appleworks* lacks.

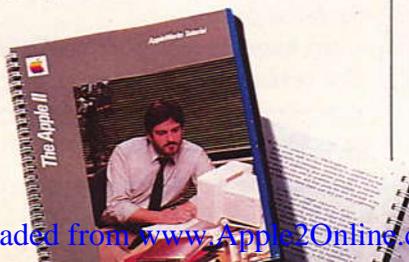
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The Apple II Review

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Long Live the Apple II

The Apple II personal computer turned eight years old this year. In an industry where chip designs become obsolete in months and engineers are sometimes considered over the hill when they pass 30, the Apple II's continuing popularity is testimony to its superior performance, flexibility, and software following.

There have been evolutionary changes to the original Apple II over the years, including better graphics, more memory, improved disk drives, and the introduction of the all-in-one Apple—known as the Apple IIc.

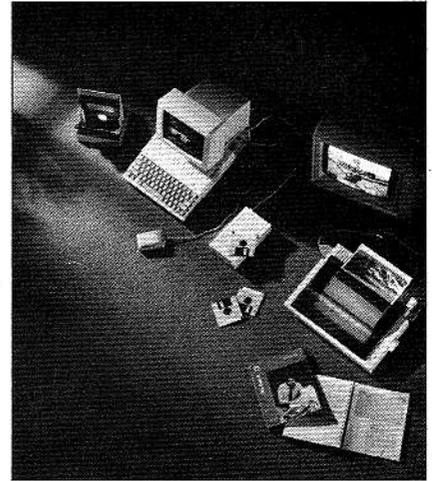
The pace of these changes has quickened in recent months, making it nearly impossible for anyone to keep up. Hence the purpose of this magazine, the premiere issue of *The Apple II Review*. This is the first issue in a continuing series of magazines that will keep you fully informed by introducing the best of what's available for the Apple II.

Launching a new magazine is always a challenge, and *The Apple II Review* was no exception. Our first objective was to define an editorial direction that would be most useful to readers. Two options seemed plausible.

One was to produce an Apple II product directory or catalog with perhaps a limited number of reviews. The other was to forget about documenting the thousands of Apple II products available and concentrate on quality coverage of the newest and the best. After considerable discussion we opted for the latter approach. We think you'll appreciate the difference.

Given our preference for hands-on reviews whenever possible, we've spent the past few months living and breathing Apple II software, hardware, and accessories. We installed, booted, and otherwise closely examined over 50 products. Our discoveries are fully described for you on the following pages.

Any magazine reflects the combined efforts of many people, but we're especially appreciative of the help provided by several individuals at Apple Computer, Inc.



Their consultation and advice is reflected throughout this magazine.

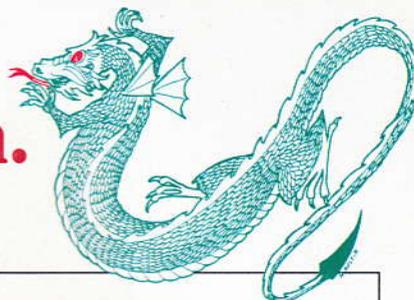
In an indirect way these "evangelists" are partially responsible for many of the programs reviewed in this issue, especially those supporting the new Imagewriter II color printer, Apple II Memory Expansion Card, and UniDisk 3.5. Our thanks to Tom Virden, Leslie Torvik, Alison Elliott, Cathy Raymond, Kathy Schjelderup, Sandi Ferry, Matt Cobb, Guy Kawasaki, and Lee Ron.

Magazines are always subject to change, and we welcome your comments and suggestions as to how we can make *The Apple II Review* better. We're already working on a new department that we think will help you make better buying decisions. This section will provide a quick rundown on the best Apple II software and peripheral products available. These classics will include products reviewed in past issues of *The Apple II Review* and others that you tell us are just plain good.

To nominate any of your favorite programs for the classics column fill in the appropriate blank on the enclosed Reader Service Card. We look forward to hearing from you.

—Paul Pinella, Managing Editor

Big Game Hunting? Try Baggin' Our Dragon.



It's the biggest game in town

Our dragon, of course, is Wizardry—that unique series of computer recreation programs designed for Apple users who are seeking the ultimate “big game” challenge.

Since its debut, Wizardry has been the best-selling computer game of its kind.

For a very good reason:

Because Wizardry is more than just a game, more than a diabolically clever maze.

Wizardry is a complex world of variety and depth. A world of richness and pleasure.

Packed with suspense, full of surprises, Wizardry is enchanting—a compelling

diversion that turns your leisure time into prime time.

Wizardry is powerful and sophisticated. A simple command system, 3D maze displays and superb programming provide you with month after month of involvement and satisfaction.

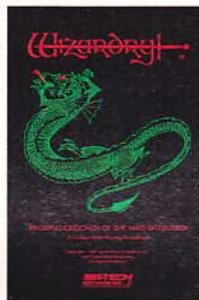
Four years old and still growing, the game is already recognized by critics and game lovers as a classic.

Simply stated, Wizardry is the finest fantasy role-playing computer game you can buy.

Set your sights on the best. Track down Wizardry—the biggest game in town.

Enter the World of Wizardry®

A Classic Encounter



Proving Grounds of the Mad Overlord

The First Scenario

Unlike any other game you have ever played. A fascinating 10-level maze full of monsters, sorcery, traps and treasures. As you gain skills, the characters you create grow stronger, richer, wiser and better able to survive. The final goal is elusive. Your experience... unforgettable.

Twice voted “All Time Most Popular Computer Program”
—Softalk Readers

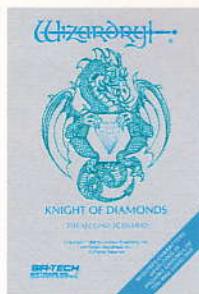


Legacy of Llylgamyn

The Third Scenario

A spellbinder that advances the classic traditions of Wizardry. Find the great dragon Llybreth and save the people of Llylgamyn. Includes full screen maze display and Windo-Wizardry, the revolutionary pop-up window graphics system. Requires brave adventurers of any level developed in PROVING GROUNDS.

“... A Landmark in Graphics Advancement” and “The Best Yet!”
—Softalk

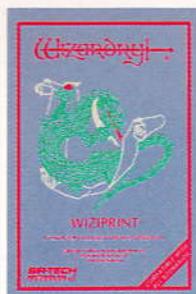


Knight of Diamonds

The Second Scenario

This classic journey should only be attempted with those Wizardry heroes who have attained the 13th level of ability in PROVING GROUNDS. Their challenge—and yours—to adventure through a six-level maze and become the Knight of Diamonds. First-rate fantasy!

Awarded “Best Adventure Game for the Home Computer”
—Game Mfrs. Association of America



Wiziprint

Character Statistics Printout

A helpful utility program that prints the possessions, attributes and known spells of all your Wizardry characters. Quick, neat and easy-to-read. For use with 80-column printers. Compatible with all Wizardry scenarios. A real timesaver!

“Wiziprint is a very handy utility disk for ardent Wizardry players”
—Roe R. Adams III, Softalk

LOOK FOR THE DRAGON—
SYMBOL OF WIZARDRY.
PROMISE OF EXCELLENCE.

Circle 1 on Reader Service Card

All software available for Apple II series computer 48k

Coming soon for the Macintosh

Proving Grounds also available for IBM PC and PCjr 64k

SIR-TECH
SOFTWARE INC.

6 MAIN STREET • OGDENSBURG, N.Y. 13369 • (315) 393-6633 **LEADERS IN COMPUTER FANTASY ROLE-PLAYING**

Dressed for Success

With so many Apple II accessory products around, it's been said that few Apple II installations are exactly alike. Here are some new hardware additions that add even more truth to that statement.

A good way to judge a personal computer's success is by the number and quality of accessory products developed for it. The Apple II family has always been strong in this regard, having practically pioneered the concept of hardware expansion with eight expansion slots just waiting for add-ons to be plugged in. Hundreds of companies view these slots as open invitations. The result is a plethora of products that add many functions to the basic computer, including printer ports, modems, and even music synthesizers.

As the following reviews and descriptions demonstrate, the latest Apple IIe and

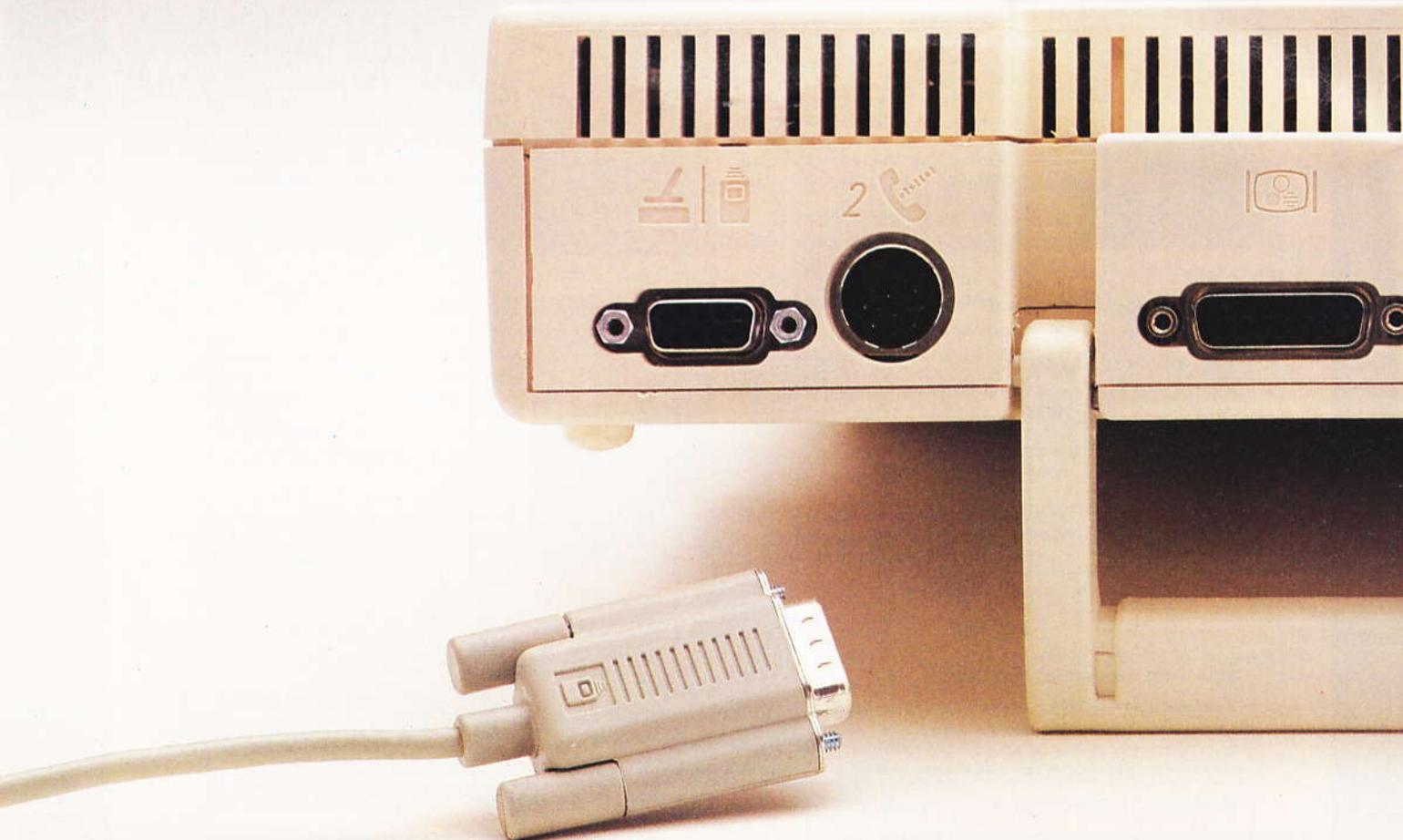
even the "computer-in-a-case" Apple IIc are just as expandable as the original Apples. While the Apple IIc lacks the slots of the IIe it still accepts many outside additions, including a color monitor, modem, and external disk drive. Even the lack of slots hasn't stopped at least two internal boards from appearing. Just how you can fit this extra hardware into the Apple IIc's slender case is described in this section.

Development activity surrounding the Apple II family is perhaps more intense now than ever before. New hardware announcements from Apple Computer, Inc. and third-party suppliers are helping Apple II computers reach new heights.

Products that break the 128K RAM barrier and advances in mass storage are particularly worth watching, since they allow Apple II's to store more data and run more sophisticated programs than previously possible

What's New in Storage

The UniDisk 3.5 disk drive, just announced by Apple Computer, Inc. and described in this section, is a technological jewel best appreciated when compared side by side with the 5¼-inch floppy-drive standard. The new drive can store 800K of data on two sides of a small but sturdy micro diskette. The older drives



can hold a maximum of 140K. Better still, the price difference is marginal.

Apple IIe or IIc computers equipped with one or two UniDisk 3.5s can take full advantage of subdirectories and other ProDOS features. Also, programs previously sold on more than one floppy due to their size can now be combined onto a single micro diskette.

Many of the programs reviewed in this magazine can now use the UniDisk 3.5. A growing number of packages are even being sold with software contained on both a standard 5¼-inch floppy and a micro diskette. Over time, we suspect that more and more programs will be distributed in the UniDisk 3.5 format.

Hard-disk drives are another alternative for storing large quantities of information. If your Apple IIe hungers for 10 megabytes of raw storage read our review of The Sider, a genuine mail-order bargain for under \$700.

128K and Counting

Just as significant as mass storage are the latest advancements on the RAM front. The original Apple II and II+ computers could access a maximum of 64K of inter-

nal memory or RAM. The Apple IIe and IIc broke this barrier—using a technique known as bank switching—and reached 128K, thereby spawning a new generation of more powerful programs. Now, with the introduction of the Apple II Memory Expansion Card and other cards reviewed on the following pages, an Apple IIe and even IIc can approach a megabyte of internal memory.

A few programs can utilize this extra RAM now, but it's still too early to predict what new programs will follow in the days ahead. One thing's for sure: they'll knock your socks off.

Fit to Print

Sooner or later most Apple II users begin to explore computer graphics. Just as inevitably there comes a time when a hard copy of a business graph or drawing is needed. The fastest, cheapest, and most flexible way to get graphics on paper is by using a printer with graphics capabilities. Of the many suitable printers available, Apple's new Imagewriter II seems a good choice for printing both black-and-white and color images from compatible software.

We're still waiting to get our first look

at this printer, but its specifications are described in the following section. If it's anywhere near as reliable as the original Imagewriter, we're sold.

A graphics printer is really just one side of the printing equation. Also required for printing graphics is either suitable software that can send images to the printer or an intelligent printer interface. What's special about intelligent printer cards is that all of their "brains" are programmed on ROM chips.

Most of the printer cards reviewed in this section, including a special board for the Apple IIc, make printing screen graphics a simple affair without need of special software. Just press a special button or combination of keys and your graphics are printed.

Flexibility is the hallmark of the Apple II family today, just as it was in 1978 when a young Apple Computer, Inc. began shipping the original Apple II. We've attempted to convey some of the versatility of this machine by reviewing a wide variety of accessory products on the following pages. Here you'll find information on color monitors, a light pen and new modem, a multifunction interface card, and more. We hope you enjoy the trip. ■



Apple IIc Additions

Z-RAM

More than Memory

A lot of hardware features are built into the Apple IIc, including two serial ports, an 80-column text capability, disk-drive connector, and 128K of RAM memory. Still, some users inevitably demand more hardware options and that causes a problem. It's much easier to expand the Apple IIe with plug-in cards than to enhance the slotless Apple IIc.

Z-RAM is a new kind of board designed for the Apple IIc. It adds several capabilities to the IIc previously available only to Apple IIe owners willing to purchase add-on options.

As its name implies, Z-RAM is a RAM card that can add either 256K or 512K of additional memory to the Apple IIc. What's more, it contains a Z-80 microprocessor that enables the IIc to run the CP/M operating system. CP/M, the first popular operating system ever written for personal computers, has been enhanced over the years and now has thousands of business programs available for it.

We installed the 256K version of Z-RAM in our Apple IIc. The board itself is roughly nine inches long and over three inches wide. At first glance it appears too large for the little IIc. Most of its integrated circuits, or chips, occupy one side of the board, while the Z-80 chip is on the bottom.

Z-RAM's manual contains sufficient instructions and illustrations to make the installation relatively painless. With some trepidation, we removed our IIc's casing (this was the second time we'd attempted this, so it went fairly fast), unplugged the keyboard, and lifted out the disk drive. We pulled out the Apple's 65C02 microprocessor and a neighboring chip called the MMU. Both of these chips were then reinstalled on the Z-RAM board.

In order to complete the connection, we ran a short wire from the Z-RAM card to another chip using a supplied tool and were ready to install the card itself. This was the most unnerving aspect of the en-



Z-RAM

tire installation, since it wasn't easy to see what we were doing. Z-RAM has 80 little pins that must be inserted into the empty 65C02 and MMU sockets. Despite the cramped quarters, all went well, and we were able to reassemble the computer and boot a ProDOS program. It worked, so at least we knew we had our old Apple back.

We soon found out that we had a lot more. Z-RAM is packaged with three software disks. Most of the programs on them are designed to use the board's various capabilities. One of these programs creates a RAM disk. Another modifies *Appleworks* so that Z-RAM can access the extra RAM in the *Appleworks* desktop. We ran this program to make a backup copy of *Appleworks* work with the board and quickly discovered that 12 documents could fit on the desktop at once.

Only later did we try giving the CP/M operating system a whirl. We're not CP/M experts, so all we could really do was boot the supplied version of CP/M called CPAM 4.0B and play with some of the utility programs. According to the vendor, this version of CP/M is nearly 100-percent compatible with most software that runs

under CP/M, including programs that work with the popular CP/M 2.2.

While the manual explains some CP/M basics, most users eventually will purchase at least one CP/M book. Several good ones are listed in the back of the manual.

Product: Z-RAM

Price: \$449 (256K RAM)

Company: Applied Engineering, PO Box 798, Carrollton, Texas 75006, 214-241-6060

Requirements: Apple IIc

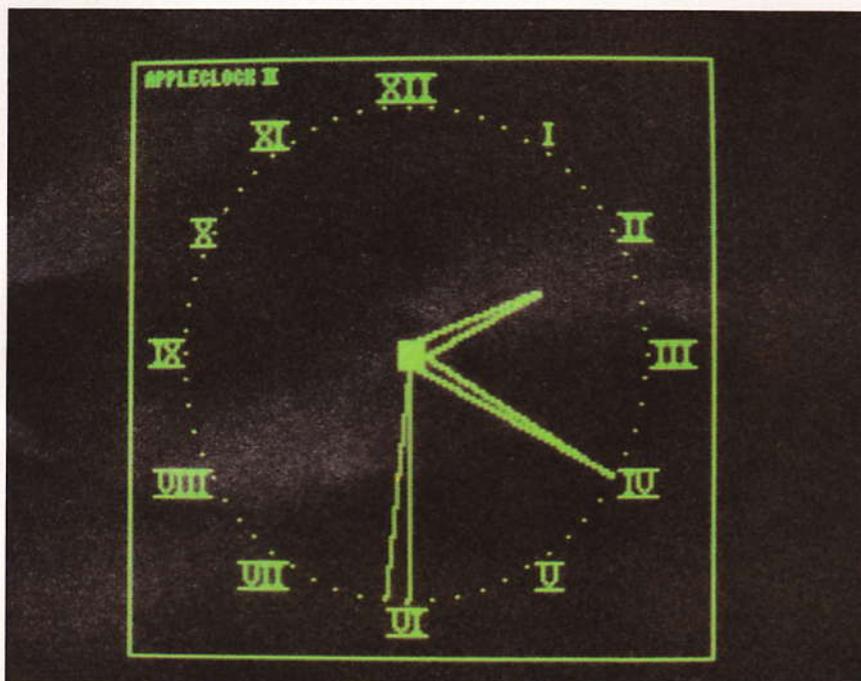
Supports: ProDOS; *Appleworks*

ProClock IIc

Time for the Apple IIc

One of the nice features of ProDOS, the latest operating-system standard for Apple IIc and IIe computers, is that it can automatically date files. Whenever you examine a disk's contents you can see when each program or data file was created or last modified. This is particularly useful in business programs such as accounting, where dating files is important.

Before ProDOS can date anything it needs to be told what day it is. Many pro-



Screen from a clock program supplied with ProClock IIc

grams have you enter this information when you first use them each day. Of these, quite a few can automatically note the date and time from a real-time clock, assuming one is installed in your computer. (*Appleworks* is such a program.)

A real-time clock is simply a battery-powered digital clock that resides somewhere inside the computer.

Therein lies the rub for Apple IIc fans. Unlike the Apple IIe, which has plenty of slots for plug-in cards such as real-time clocks, the Apple IIc has no slots and is not designed for inner expansion. It's essentially a closed computer.

ProClock IIc is the first real-time clock and one of the first expansion boards we've seen for the Apple IIc. It physically occupies a small circuit board that fits inside the IIc's small inner cavity. Since there are no slots for it to use, ProClock IIc actually plugs into an empty chip socket on the motherboard.

The Apple IIc is not made for easy disassembly, and Apple Computer, Inc. would prefer that such matters be left to authorized technicians. Nevertheless, we followed the ProClock IIc installation

instructions as best we could, being especially careful since the early documentation we were using didn't have any illustrations in place.

The first step was to remove the IIc's casing. This is done by initially removing 10 screws from the bottom of the computer. Removing the casing took us longer than expected, since the case uses several plastic snaps that refused to come off easily. Finally, the top let go and we put the keyboard aside in order to get at the underlying circuits.

The 65C02 chip lies right under the keyboard. We easily found and removed it using a special chip puller; a flat-blade screwdriver does the same job. After the chip came out we plugged it back into a corresponding socket on the ProClock IIc board. We then plugged the entire board into the empty 65C02 socket. This step gave us some trouble, since at first the board refused to go in. Eventually, however, it slid into place. We breathed a sigh of relief and put the computer back together again.

Our first test was to set the date and time using a utility program supplied on

disk with ProClock IIc. It worked. Next we tried running *Appleworks*. Sure enough, the date came up automatically at the beginning of the program. We then looked at a few of the other programs supplied with the product. Three of these stood out. One program uses a high-resolution display to turn the Apple's screen into a wall-clock facsimile with a sweeping second hand. Another is a simple job-logging program. The third modifies DOS 3.3 to date files, just like ProDOS.

ProClock IIc is useful enough as a real-time clock, but it also turns the Apple IIc into the equivalent of an intelligent printer interface. It allows the Apple to make screen dumps to many graphics printers, including the Imagewriter, Scribe, and Epson. Using multiple commands, ProClock IIc can make printers churn out regular-size, double-size, or rotated graphics in black and white.

Product: ProClock IIc

Price: \$159

Company: Practical Peripherals, 31245 La Baya Dr., Westlake Village, Calif. 91362, 818-991-8200

Requirements: Apple IIc

Supports: ProDOS; several graphics printers

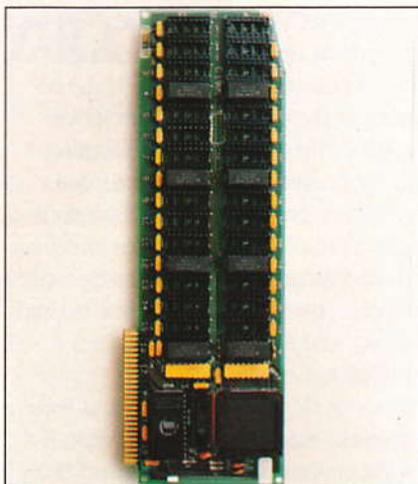
Memory Cards

Apple II Memory Expansion Card

More RAM for Your Apple

The Apple II Memory Expansion Card can increase the memory of an Apple II, II+, or IIe to more than one megabyte. This new RAM card plugs into any standard slot (except slot 3) and is supplied with a standard 256K of memory. According to spokesmen at Apple Computer, Inc., it can be expanded in 256K increments to a full megabyte by adding chips from Apple's 256K Memory Expansion Kit.

Memory Cards



Apple II Memory Expansion Card

With this additional memory, and software designed to take advantage of it, longer word-processing documents, larger spreadsheets, and bigger data bases are possible. (Several programs reviewed in this issue can use the card now.) You can also have faster sorting and quicker recalculations as well as numerous programs and data files in memory at once for fast switching between programs.

Company officials say that the Apple II Memory Expansion Card contains proprietary "firmware" that automatically allows the device to format as a RAM disk under both ProDOS and Pascal 1.3. When used together with the UniDisk 3.5, Apple's new disk drive with an 800K disk capacity, the Apple II Memory Expansion Card greatly expands the capabilities of Apple II computers. It also opens the door for a new generation of sophisticated software.

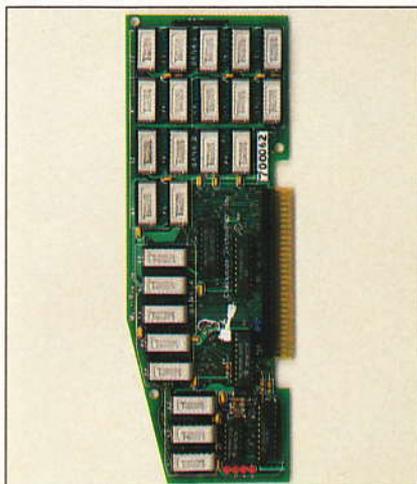
Product: Apple II Memory Expansion Card; Expansion Kit

Price: Price and availability to be announced

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple II, II+, IIe

Supports: *Appleworks* and many other programs



MultiRam IIe

MultiRam IIe

RAM to Spare

MultiRam IIe is an expandable 80-column memory card that installs in the auxiliary center slot of an Apple IIe. Like the standard Apple 80-column card, MultiRam supplies both an 80-column capability and extra memory to convert the IIe into a 128K machine. Unlike a normal memory card, however, MultiRam can take the Apple all the way up to a whopping 768K when extra 64K and 256K RAM chips are installed in its sockets. What's more, the vendor supplies software to help put all of this memory to good use.

MultiRam is available in a number of configurations with differing amounts of RAM, although each can be expanded up to the maximum amount. (Obviously, the more fully populated the card with RAM chips, the more expensive.) Our version had 512K of RAM already installed using modern 256K RAM chips.

Installing MultiRam in the Apple IIe is easy enough. Simply pull out the old 80-column card and insert the new. After we made the switch we couldn't tell any difference with any of our software. In 80-column mode the screen appeared exactly as it had before.

A two-sided disk is supplied that contains a number of interesting and useful

programs. One side contains utilities that make sure the card is functioning properly. After installing the card, we ran one program that takes each RAM chip through an exhaustive memory test. As the program runs, a high-resolution graphics image appears on the screen with pictures showing each chip as it's being tested. Chips that aren't working normally are easily detected.

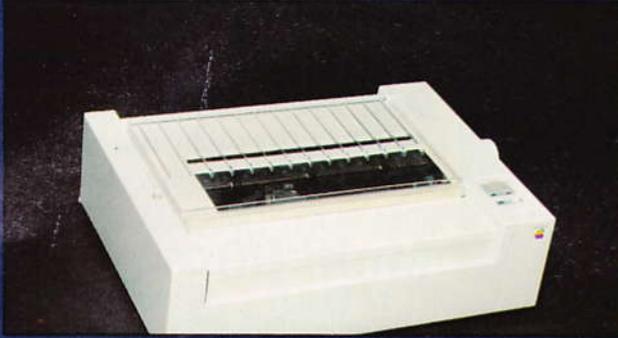
Unfortunately, most available Apple programs written for a standard Apple environment do not automatically support the extra RAM that MultiRam makes available. The programs still work—they just don't "realize" the extra RAM is present. To make them do so takes a software modification. Thankfully, MultiRam comes with a program that modifies *Appleworks* to take advantage of the additional RAM. In our opinion, this feature alone makes MultiRam a good buy.

Since *Appleworks* is a RAM-hungry program, the combination of *Appleworks* and MultiRam is superb. After making the modification we were left with a super *Appleworks*. The entire program loaded into memory at once, thereby eliminating all time-consuming use of the disk, and the desktop packed an incredible 367K. The normal *Appleworks* desktop (i.e., RAM space available for work) is 55K.

Another useful utility allows MultiRam to be configured as a RAM disk. RAM disks behave exactly like ordinary disk drives except files and programs are stored in RAM rather than on disk. Being totally electronic, they're also much faster and vulnerable to losses from power failures. We used our card to set up a ProDOS RAM disk and wound up with a "disk" size of 448K.

According to Checkmate Technology, a number of programs that will support the extra RAM that MultiRam offers are in the works from other vendors. Meanwhile, a 16-bit board is under development that will work with MultiRam to give even more capability. A MultiRam C Card for the Apple IIc is also expected and should be shipping by fall. (Cont. on page 12)

THE RIGHT CONNECTIONS



Printer serial port



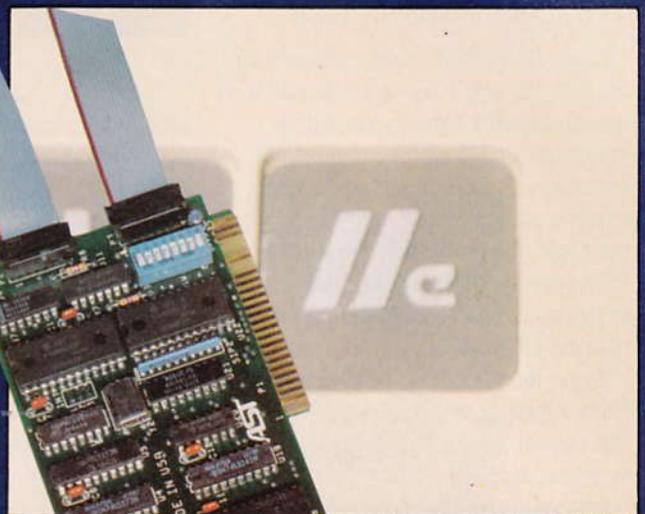
Modem serial port



Clock/Calendar



Software Utilities



Apple IIe compatible

AST's Multi I/O™ is a multifunction card for the Apple IIe™ that does the work of three individual boards. First, the Multi I/O printer serial port gives you the right connection to hook up your ImageWriter™ or a compatible serial printer. Second, Multi I/O provides you with the right connection to communicate with the outside world via the modem/terminal port. And the versatile clock/calendar is the right connection for AppleWorks™ and ProDOS™ providing you with the accurate date and time even when your computer is turned off.

At AST we are consistently providing the right connections to help you get the most out of your personal computer. We set the standard for enhancement products for personal computers by bringing you the type of quality products you expect, but at a very cost effective price.

Apple, Apple IIe, ProDOS, Appleworks, ImageWriter, Lisa, and Macintosh XL are trademarks of Apple Computer, Inc.

Multi I/O, RamStak, and MicroStar are trademarks of AST Research, Inc.

MicroStar™ is the 10 MB hard disk and tape backup (opt.) system that provides the right connection between the Apple IIe and dependable 3.5" Winchester Disk/Cartridge tape mass storage.



RamStak™ is the right connection for expanding the memory capability of your Macintosh XL™ (Lisa™). The card provides additional memory in configurations ranging from 512K to 2.0 MB.

We help Apples™ grow!™

AST
RESEARCH INC.

2121 Alton Avenue, Irvine, CA 92714
(714) 863-1333 Telex 753699 ASTR UR

Circle 2 on Reader Service Card

Memory Cards

Product: MultiRam IIe

Price: \$159 (with 64K installed)

Company: Checkmate Technology, Inc.,
509 S. Rockford Dr., Tempe, Ariz. 85281,
602-966-5802

Requirements: Apple IIe

Supports: Appleworks

Miscellaneous

Echo +

The Apple Speaks for Itself

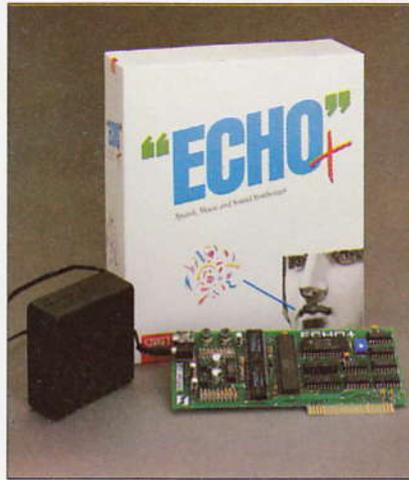
Echo+ is a sound peripheral board for use with the Apple II+ or IIe. It adds a natural-sounding female voice with a vocabulary of 725 words, an unlimited-vocabulary "robotic" male voice, sound effects, and synthesized stereo music to the Apple (the female voice requires a 128K system). This peripheral can be used to jazz up the user's game, education, and business programs.

To get full use out of the system it helps to have some knowledge of BASIC. The manual recommends a user be able to at least save and load a BASIC program.

Besides hardware, Echo+ comes with a double-sided disk that controls speech, music, and sound synthesis on one side and a word editor for the female voice on the other.

The unlimited-vocabulary robotic voice is controlled by Talk commands guided by over 400 pronunciation rules. These rules are applied to whatever text is typed on the screen. We found the system to be quite accurate and flexible, especially considering its many speed, pitch, inflection, volume, and output options.

The robotic voice can be used to create phonemic speech by bypassing the pronunciation rules. Words are built, sound by sound, using phonemes (basic units of speech). The result is natural-sounding, customized speech. Using the different Talk commands you can program the robotic voice to talk slow, fast, or change pitch and volume. In addition,



Echo+

there is a command that pronounces all capitalized letters, such as "Why buy an I-B-M P-C?"

The female voice can be adjusted by using Say commands. You can change the speed, pitch, and volume of the voice. Before the female voice can be used, a list of the words to be spoken must be retrieved from the word-editor side of the program disk and placed into a word list. To use the list for speech you must go into BASIC and use special commands.

Sounds are played and created much the same way the speech functions are, using pitch, volume, and tone commands. If you are familiar with writing music you can write and play up to six different voices or melodies simultaneously using Play commands. Notes can be tailored to fit specific flats, sharps, octaves, lengths, and even the tempo at which a song is played.

Echo+ is compatible with *The Music Construction Set* from Software Arts. Any tunes written with that popular system may be used.

One menu option we found both amusing and educational is a built-in spelling test. The user is asked (by voice) to spell particular words. If correct, a little dance is performed to music by a female cartoon figure.

Product: Echo+

Price: \$149.95

Company: Street Electronics, 1140 Mark Ave., Carpinteria, Calif. 93013,
805-684-4593

Requirements: Apple II+ or IIe; extended 80-column card (for female voice only)

Supports: Several printers; mouse; stereo speakers

Multi I/O

Three-In-One Card

The Apple IIe is a great machine to grow with. Filling those eight empty slots on the inside with accessories, however, can get expensive. A typical user first buys a printer interface card then, perhaps, adds a modem and maybe even a real-time clock.

By combining the above three functions in one, Multi I/O presents a no-nonsense alternative to the high cost of computer expansion. This multifunction board isn't for everyone, but if you're looking for two serial ports (one for a printer and another for a modem), and would like a real-time clock as part of the bargain, then Multi I/O can save you money.

While Multi I/O physically occupies just one slot it requires that two additional slots remain empty in order for all three functions to work. The Apple is fooled into thinking these slots are filled, even though Multi I/O is sending its signals from just one slot.

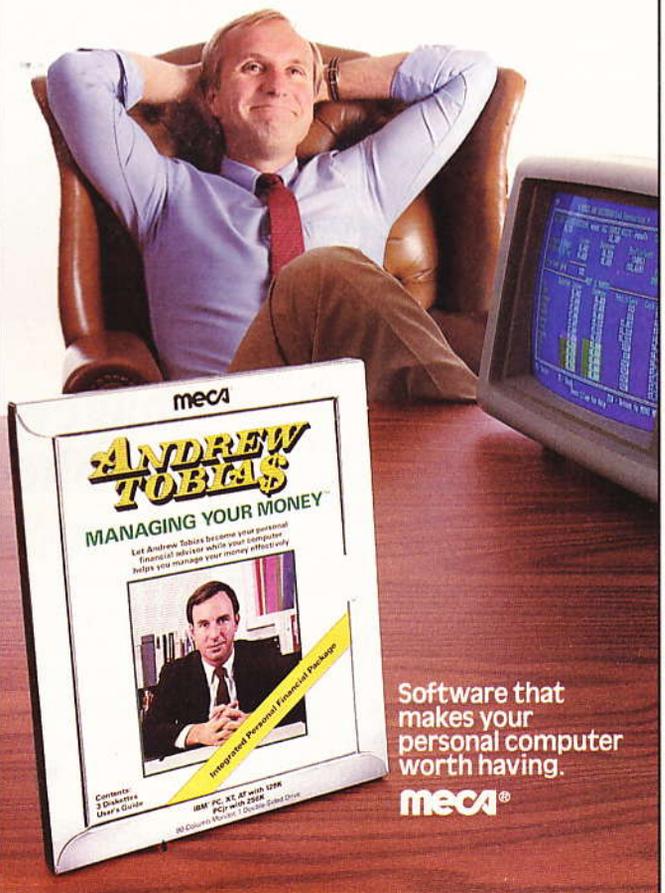
Remember, we said Multi I/O can save you money, not slots. When we installed Multi I/O in slot one, for example, we were careful to leave slots two and seven alone. As it turned out, we weren't using them anyway. If there are conflicts, Multi I/O can be set up so that one or more of its functions are disabled.

Installing Multi I/O is straightforward enough thanks to brief but concise documentation and a utilities disk. The hardware required to add two serial ports on the Apple's back panel is supplied. We were able to complete the installation in minutes, and then use the utilities disk to check our work.

MANAGING YOUR CHECKBOOK?
 MANAGING YOUR BUDGET?
 MANAGING YOUR BILLS?
 MANAGING YOUR CASH FLOW?
 MANAGING YOUR TAXES?
 MANAGING YOUR INSURANCE?
 MANAGING YOUR STOCKS?
 MANAGING YOUR BONDS?
 MANAGING YOUR REAL ESTATE?
 MANAGING YOUR TAX SHELTERS?
 MANAGING YOUR SAVINGS?
 MANAGING YOUR MORTGAGE?
 MANAGING YOUR AUTO LOAN?
 MANAGING YOUR RETIREMENT?
 MANAGING YOUR CALENDAR?
 MANAGING YOUR CHARGE ACCOUNTS?
 MANAGING YOUR CAPITAL GAINS?
 MANAGING YOUR ANNUITIES?
 MANAGING YOUR APPOINTMENTS?
 MANAGING YOUR DIVIDENDS?
 MANAGING YOUR INTEREST?
 MANAGING YOUR RECORDS?
 MANAGING YOUR VALUABLES?
 MANAGING YOUR KEOGH'S?
 MANAGING YOUR IRA'S?



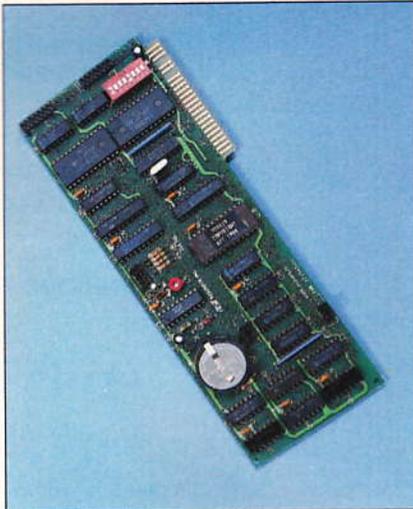
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Software that
 makes your
 personal computer
 worth having.

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Miscellaneous



Multi I/O

The utilities disk consists of a helpful tutorial and several other programs. One of the first that we tried running was a date and time utility. This easy-to-use program allowed us to set the clock's time and date. We then ran another program, called the digital clock, to see if the clock was working. It was. Just to be certain we booted *Appleworks*. Sure enough, the correct date appeared automatically on the opening screen.

Two other programs are used with the serial printer port. To make them work you'll need an Imagewriter printer or compatible. One of these programs allows any ProDOS text file to be printed. The other is a graphics utility that allows a screen image to be printed as either a black-and-white negative or positive. Bear in mind that Multi I/O is not an "intelligent" printer interface card with lots of built-in graphics routines.

A simple telephone-dialer program for testing a modem is also included. Type in a number, press Return, and Multi I/O automatically dials it.

Product: Multi I/O

Price: \$235

Company: AST Research, Inc., 2121 Alton Ave., Irvine, Calif. 92714, 714-863-1333

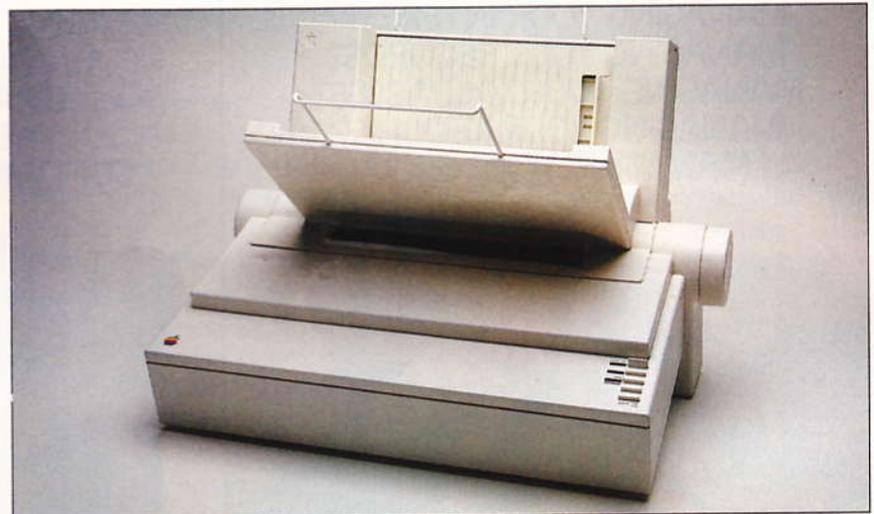
Requirements: Apple IIe; disk drive

Supports: Imagewriter printer or compatible; modem

Outside Additions



Imagewriter II



Sheetfeeder

Imagewriter II and Sheetfeeder

Apple's Latest Classic Printer

The Imagewriter II is the high-performance successor to the original Imagewriter, Apple's most successful printer for both the Apple II and Macintosh families. According to company spokesmen at Apple Computer, Inc., the new printer resembles the original Imagewriter in that it's a dot-matrix printer compatible with all Apple computers. It works with all

software written for its predecessor.

Yet the Imagewriter II is an even more versatile printer than the original. It can print fast drafts, sharp graphics, and can utilize either a medium-speed correspondence mode or a near letter-quality text mode for important documents. It even prints in color when equipped with a color ribbon and color-capable software. (Many of the color graphics programs reviewed in this issue support color printing on the Imagewriter II.)

Apple says that the Imagewriter II incorporates an "open" architecture, which

means it's expandable. When equipped with a 32K Memory Option, for example, a user can do simultaneous computing and printing. There's no need to wait for the printer to finish before using the computer. Another option kit allows the Imagewriter II to be used as a shared resource in AppleTalk networks.

The Imagewriter II Sheetfeeder provides a convenient way to handle all standard office papers such as letterhead and stationery. It replaces the tractor feeder and is completely automatic.

Product: Imagewriter II; Sheetfeeder; 32K Memory Option

Price: To be announced

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple II, II+, IIc, IIe, or Macintosh; interface cable

Supports: All Apple computers

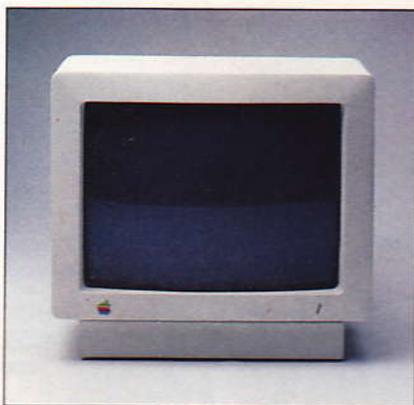
ColorMonitor IIc and IIe

The Best of Both Worlds

The ColorMonitor IIc and ColorMonitor IIe are Apple Computer's latest color displays for the Apple II family. According to Apple spokesmen, the two monitors are nearly identical, with the exception of case styling and a stand included only with the ColorMonitor IIc.

Both units are composite monitors that offer a unique "white only" switch that forces them into a high-resolution, 80-column mode. This means that the ColorMonitor IIc and ColorMonitor IIe can take advantage of the many educational, entertainment, and business graphics software packages that use color. In addition, they can be switched over to monochrome mode when using other packages that work best without color, such as word processing.

Company officials say that both monitors offer a resolution of 560 by 192 pixels when used with the Apple IIe or IIc,



ColorMonitor IIc (top) and IIe

and both plug right into all Apple II computers with no adapter or special card required.

Product: ColorMonitor IIc; ColorMonitor IIe

Price: To be announced

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple IIc, IIe

Supports: All Apple II computers

Apple Personal Modem 300/1200

Full Featured, Low Cost

The Apple Personal Modem 300/1200 is an intelligent modem that offers both 300- and 1200-baud operation in a compact

new style. According to spokesmen at Apple Computer, Inc., any Apple II computer equipped with this modem and communications software will be able to communicate with other computers, access information sources, and use home banking and other financial services.

Since it uses the industry-standard AT command set, the Apple Personal Modem 300/1200 is compatible with most popular communications packages that run on Apple II computers, including Apple Computer's *Access II* program.

Apple's latest modem offering includes the following features: automatic answer, dial, and redial; audio and visual monitoring of the telephone line; and small size and low power consumption. It also mounts directly to a wall electrical outlet or power strip, thereby saving valuable desk space.

To use the modem Apple IIe computers will need a serial interface card and cable. Apple IIc computers require only an interface cable and software.

Product: Apple Personal Modem 300/1200

Price: To be announced

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple II, II+, IIc, IIe; communications software

Supports: Any Apple computer



Apple Personal Modem 300/1200

Outside Additions

Magellan Light Pen System

See the Light

There are other ways of getting information inside a computer besides keyboards and mice. One alternative method is the light pen, a device as conceptually simple to use as the ink variety. Simply place the pen against the screen and proceed to draw, select from menus, or do whatever your software is set up to do. Some people prefer light pens over the mouse, graphics tablets, and joysticks, since pens don't require an artificial mental adjustment from hand to drawing.

The Magellan Light Pen System is a complete light-pen setup for the Apple II. Supplied is the light pen itself, a board that contains many of the graphics routines in ROM, and some graphics software on disk. Installation is easy enough. We just pulled the top off our Apple IIe, inserted the board in slot number seven, and then ran the pen's connecting wire out the back of the computer.

The software is set up to automatically run a graphics program called *Quick-Draw*. Other programs are supplied on the disk as well, including routines for incorporating the light pen in your own BASIC programs. We spent most of our time playing with *Quick-Draw*, a sophisticated drawing program that can be used for virtually any graphics work.

At first glance, *Quick-Draw* resembles many of the other painting programs reviewed in this issue. It has commands for automatically drawing lines, circles, and shapes. Several "brushes" and colors are available as well, along with a Zoom and Fill command. All *Quick-Draw* commands are accessible at the top of the screen. To use one, point the light pen at a command and click the button on the side of the pen.

Quick-Draw excels at precision work. The light pen, together with several commands, can be used to lay down precise points or lines wherever they're needed.



Magellan Light Pen System

We think the program will appeal to architects, draftsmen, and engineers. In fact, several electrical symbols are supplied for use in drawings.

Several text fonts are supplied with *Quick-Draw*. You can type in a string of text characters, and then use the light pen to position it anywhere on the screen.

Perhaps the most powerful *Quick-Draw* feature is windowing. *Quick-Draw* allows you to define a window, or portion of a drawing, and manipulate it to create special effects such as rotation, duplication, inversion, and so forth. We created a drawing of a door in a house, and then used the windowing feature to install the door throughout the building.

The latest version of the Magellan Light Pen System uses the Apple's double high-resolution mode and prints in color on the Scribe printer. It also incorporates more software in ROM. As an option, you can buy a system with the entire *Quick-Draw* program on a ROM chip.

Product: Magellan Light Pen System

Price: \$189.95

Company: Magellan Computer, Inc., 4371 E. 82nd. St., Suite D, Indianapolis, Ind.

46250, 317-842-9138

Requirements: Apple II, II+, IIe; disk drive; monitor (color recommended)

Supports: Apple color printers; other graphics printers; several printer interface cards



System Saver

System Saver

The Computer Cooler

The Apple IIe is a computer built for expansion. While it can easily handle up to eight cards, or options, the Apple IIe is



INTRODUCING:

Westware

THE TEAM

GENERAL ACCOUNTING 1. General Ledger 2. Receivables 3. Payables 4. Payroll 5. Inventory	RETAIL FLORIST ACCOUNTING 1. Handles All Billing 2. Handles Message Card Information 3. Bar Code Reader Available 4. Cash Drawer Capabilities Available	AUTO PARTS ACCOUNTING 1. For Inventories Up To 38,000 Parts 2. Bar Code Reader Available 3. Barcode Printing Also	JOB COSTING SYSTEM 1. For General And Sub-Contractors 2. Consolidated Billing 3. Time-Material Billing
RESTAURANT PAYROLL 1. Handles All Pay Information 2. Handles Tips 3. W-2's and 941's 4. Overtime Reports	CAR RENTAL SYSTEM 1. For Fleets up to 300 Vehicles 2. Fleet Inventory 3. Invoice Printing 4. Depreciation Schedule	POINT OF SALES 1. Cash Drawer Functions 2. Bar Code Reader Available 3. Over 100 Menu Items 4. Fast Checkout	
CERTIFIED PAYROLL 1. For All Contractors Going Government Jobs. 2. Includes All Required Weekly Reporting	VIDEO STORE RENTAL 1. A Complete System For Checking Out Tape Rentals 2. Includes Invoice Printing 3. Bar Code Reader For Checkout	CUSTOM-DESIGNED PROGRAMS 1. For Any Kind Of Small Business 2. Can Be Designed For Your Specific Needs	ELKS CLUB MEMBERSHIP SYSTEM 1. Keeps Complete Information On All Members 2. Keeps Reports For Main Lodge

Whether you're in general accounting, retailing, or small business management, you won't want to be without Westware software's simplicity and practicality.

For many years, Westware's specialty has been developing professional software for the Apple IIe. With a solid reputation in software featuring applications found only in much larger systems, we now invite you to take a look at a powerful team of business programs—programs designed to make

your work instantly more productive: A general accounting program that includes payroll, general ledger, payables, inventory and accounts receivable. A family of vertical market programs with optional bar code reading, billing functions, and information management.

In addition, Westware software is hard disk compatible. We recommend you use hard disk equipment to increase the number of programs and options available to you. For example, with

Corvus hard disk equipment, networking is possible. As a result, we offer custom designed systems. We even offer video tape training which makes learning fast and fun. You'll be able to put your software to work in minutes which means you'll be more productive more quickly.

Examine our full line of business programs. You'll find out why so many companies order from Westware. We're the specialists in high quality business software. Join the team!



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(801) 226-8926



Yes, I would like more information about a Westware program for my business.

Type of Business _____

Name _____

Title _____

Company Name _____

Address _____

City _____ State _____ Zip _____

Circle 4 on Reader Service Card

Outside Additions

susceptible to overheating as more options are added. System Saver is an externally mounted fan that protects your Apple from heat. At the same time, it also provides line surge suppression and filtering of line noise.

According to the manufacturer, the system is easy to install since it attaches to the side of the computer. In this position the fan pulls air across the inside of the case, thereby cooling the Apple.

System Saver includes its own front-mounted on-off switch and two power outlets for connecting external options such as a monitor and modem.

Product: System Saver

Price: \$89.95

Company: Kensington Microware Ltd.,
251 Park Ave. S, New York, N.Y. 10010,
212-475-5200

Requirements: Apple II, II+, IIe

Supports: N/A



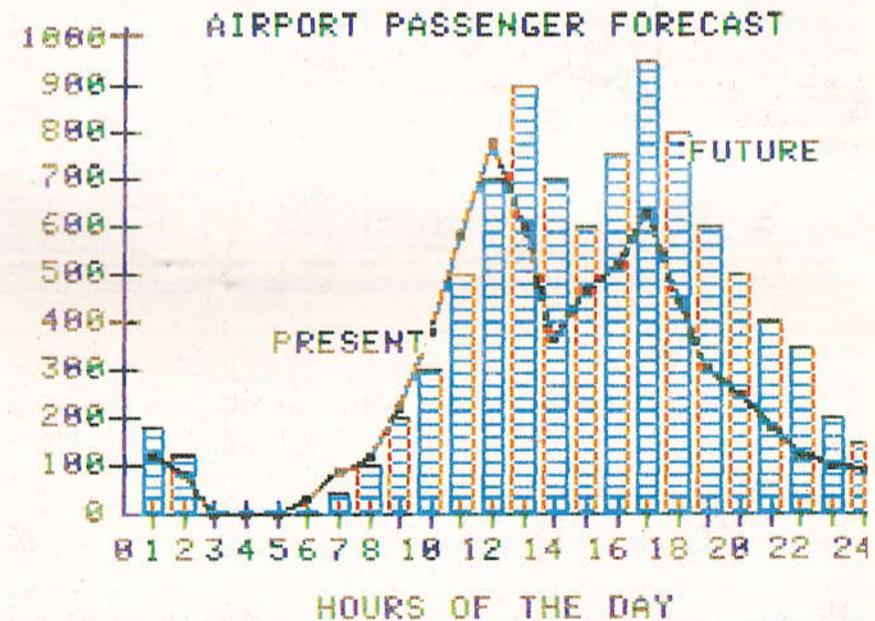
Printer Cards

Print-It!

It Prints Everything

We supposedly live in an age of push-button simplicity, but computer users often find out otherwise. Even seemingly simple operations, such as printing what you see on the screen to paper, can be difficult for ordinary users not prone to programming. Print-It! is an intelligent printer interface card that has all its printing smarts built in. It even has a red button that can be attached to the side of the Apple. When you see something you like on the screen, press the button. Your printer then delivers the screen image in whatever format desired, including color.

We installed Print-It! on an Apple IIe with a color Scribe printer. We placed the card in slot one, the standard location for any printer interface. To test the card's claim that it can print from virtually any program, we ran a painter program called *Dazzle Draw* (reviewed elsewhere in this



Sample printouts using Print-It!

issue) and "painted" some color screen graphics, using a variety of shapes, colors, and sizes. When our masterpiece was complete, we simply pushed the red button supplied with Print-It! The computer then beeped.

According to the instructions, the beep acknowledges that Print-It! has interrupted the program in progress and is waiting for further instructions. At this point, a number of simple key combinations tell it how

to print. For example, typing "C" indicates that you want a color printout, "D" indicates a double-sized image, "E" indicates emphasized print, and so on. We simply typed "C" for color and then Return, and watched our Scribe deliver a perfect hard copy of the screen.

Print-It! supports all the graphics and text modes that an Apple II can produce, including double high-resolution graphics. It also supports most available printers (in-

How to get the most bytes out of your Apple.



Read why Steve Wozniak recommends RamWorks™ expansion cards.

The machine that Woz built is a powerful business computer. AppleWorks gave it a potent 1-2 combination. Now, RamWorks has added the knock out punch. With RamWorks expand the total memory of your IIe up to an incredible 2.5 MEG. Your AppleWorks will no longer be limited by the amount of factory supplied RAM. And you'll be able to perform virtually any application you want with far greater speed and ease.

How AppleWorks works best with RamWorks.

RamWorks plugs into the IIe auxiliary slot and acts just like Apple's extended 80 column card. If you buy a 256K or larger card, AppleWorks will automatically load itself into RamWorks. This dramatically increases AppleWorks' speed because it effectively eliminates time required to access disk Drive 1. Now, switch from word processing to spreadsheet to database management at the speed of light. AppleWorks responds the moment your fingers touch the keyboard.

But AppleWorks has certain internal limits, independent of available memory. Fear not. Only RamWorks removes those limits with a proprietary, easy to operate program that "patches" onto the boot disk in seconds. Only RamWorks increases the maximum number of records available to you from 1,350 to over 5,000. And only RamWorks actually increases the number of lines permitted in the word processing mode.

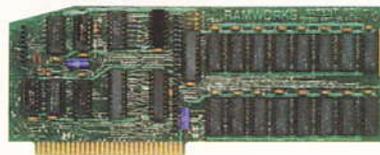
Plus, when you create an AppleWorks file larger than your disk capacity, only RamWorks automatically segments it to the appropriate size. RamWorks then prompts you to insert more disks, so you can save any size file on regular floppies or hard disk.

The most friendly, most expandable card available.

RamWorks is compatible with more off-the-shelf software than any other RAM card. Popular programs like Magic Office System, Flashcalc, The Spread Sheet, Diversi-DOS, Supercalc 3A, Magicalc, etc. (And hardware add-ons like Profile and Sider hard disks.) Fact is, RamWorks is 100% compatible with all software written for the Apple 80 and extended 80 cards. In addition, RamWorks can emulate other RAM cards, so you can use



"I wanted a memory card for my Apple that was fast, easy to use, and very compatible; so I bought RamWorks."



programs written for them without modification.

RamWorks was designed so you could take full advantage of future developments in 16 and 32 bit microprocessors. As your needs grow, so can RamWorks. A handy expansion connector allows the latest and greatest co-processor cards to access RamWorks' memory. And allows you to piggyback another 2 MEG. Clear instructions show you how to plug in more memory.

For only \$129 you can add an RGB option to your RamWorks and get double high resolution color graphics. All with a super sharp brilliance that's unsurpassed in the industry.

More features than you can shake a mouse at.

A word from the Woz should be sufficient. Because there's only one card like RamWorks. Imagine how you will benefit from these features: • 15 DAY MONEY BACK GUARANTEE • Sharp 80 column text (with or without RGB option) • Double high resolution graphics (with or without RGB option) • EXPANDABLE TO 2.5 MEGABYTES • Can use 64K or 256K RAMs in any combination • Adds memory to AppleWorks • Co-processor connector • Accelerates speed of AppleWorks • 100% COMPATIBLE WITH ALL IIe SOFTWARE • RAM disk software available (compatible with Applesoft, PRO-DOS, DOS 3.3 and PASCAL—\$29) • RAM disk available for CP/M (\$29; included with our CP/M card) • RGB color option • Takes only one slot • FIVE-YEAR NO HASSLE WARRANTY.

RamWorks with 64K (\$179); 128K (\$219); 256K (\$249); 512K (\$319); 1 MEG (\$519); 2.5 MEG (\$1599). CALL 214/241-6060 TO ORDER YOUR RamWorks TODAY. (9 a.m. to 11 p.m. 7 Days, or send check or money order to Applied Engineering. MasterCard, Visa and C.O.D. welcome. Texas residents add 5% sales tax. Add \$10.00 outside U.S.)

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Circle 5 on Reader Service Card

Printer Cards

cluding color and black-and-white models) and uses its own built-in intelligence to sense other installed cards, thereby minimizing any conflicts. Both serial and parallel printers are supported.

Another nice feature is that Print-It! won't work its magic unless called upon to do so. Ordinary programs, such as word processors, that have their own print routines remain unaffected.

Although Print-It! is ideal for beginners or anyone who prefers push-button simplicity when printing graphics, it also has lots of programming features. All of its capabilities, for example, are accessible from BASIC programs. It also supports all versions of CP/M and Pascal and can be used when programming in assembly language.

Product: Print-It!

Price: \$199

Company: Texprint, Inc., 220 Reservoir St., Needham Heights, Mass. 02194, 800-255-1510

Requirements: Apple II, II+, IIe; printer

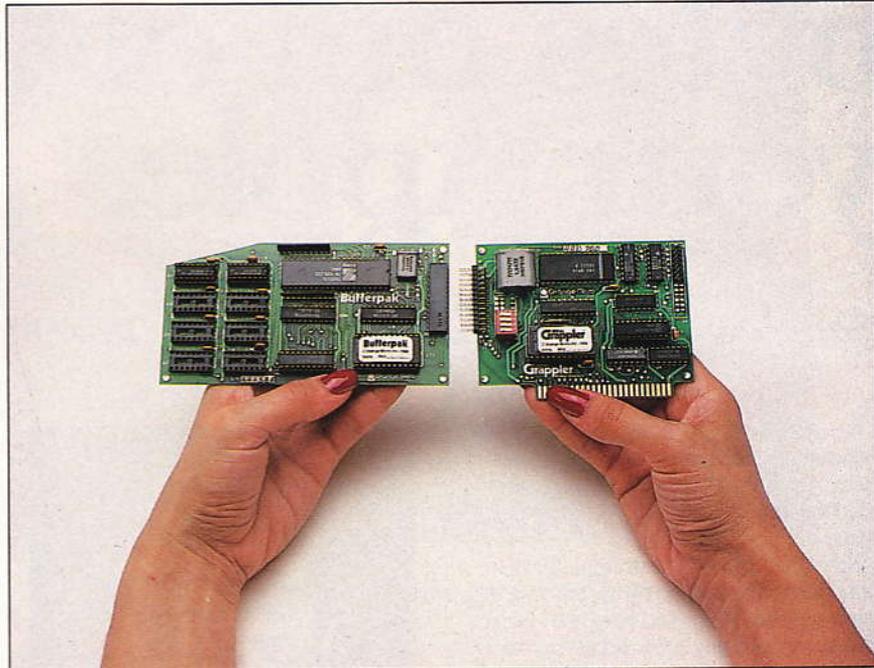
Supports: Apple color printers; many other printers with graphics capabilities

Serial Grappler and Bufferpak

Fast-Track to Serial Graphics

Serial Grappler is an intelligent printer interface card designed to work with Apple Computer's two most popular serial printers: the Imagewriter and Scribe. It offers many text and graphics commands, accessible either through the keyboard or software, that print everything from high-resolution graphics to regular text. It matches all the features of and is fully compatible with Grappler+, Orange Micro's first intelligent interface for parallel printers and now an industry standard.

The card itself is small. It's made up of only nine chips on a compact circuit board. Like most printer interfaces, Serial Grappler should be installed in slot one on the Apple IIe for compatibility with



Serial Grappler and Bufferpak

most programs.

One reason for the card's size is that it's designed to connect at one end with another card called the Bufferpak. The Bufferpak supplies additional memory chips (16K of RAM is standard) that act as a holding tank for data moving between the computer and printer.

Without a print buffer the Apple is usually tied up when printing; no further processing is possible until printing is complete. With the Bufferpak installed, however, regular computing can resume after the buffer "fills up" with data that it, in turn, feeds the printer. We think the Bufferpak is a good idea. Other print buffers reside outside of the computer where they needlessly take up desk space.

Installing Serial Grappler is no different than plugging in Apple's own Super Serial Card. In fact, it's easier since no configuration is required. Simply connect a cable and you're ready to print.

Serial Grappler's documentation is about as straightforward as possible. Written for the nontechnical user, this 28-page brochure quickly summarizes what the

product can do. As with other intelligent printer cards, Serial Grappler can be as "dumb" or "smart" as required. Printer control can be left up to individual software packages, or by using various Control-I keyboard sequences, Serial Grappler can be made to send a wide variety of black-and-white images to the printer. A Control-I-G key combination, for example, delivers a high-resolution dump of a screen graphic to the printer.

In all, over 25 built-in commands are provided for text and graphics. Among them are a double-size graphics option, an emphasized mode, inverse image printing, and a chart-recorder feature for printing a continuous graph on a roll of paper.

Product: Serial Grappler; Bufferpak Option

Price: \$119 (Serial Grappler); \$135 (Bufferpak); \$235 (both products together)

Company: Orange Micro, Inc., 1400 N. Lakeview Ave., Anaheim, Calif. 92807, 714-779-2772

Requirements: Apple II, II+, IIe; Apple Imagewriter or Scribe printer (color printing capabilities are pending)

Printer Cards

customized characters such as corporate logos and insert them while printing.

Plenty of graphics commands are available as well; some similar to other intelligent interface cards, others unique. Pkaso/U can print snapshots of any screen, including text and graphics combinations. It can also rotate images four ways for printing, and can stretch pictures either horizontally or vertically.

Mastering some of Pkaso/U's more impressive features will take some practice and careful reading of its documentation. Among these are "windowing", where any section of the screen is selectively printed, and use of the super high-resolution mode. Since Pkaso/U can produce 16 shades of gray, the quality of these print-outs is limited only by a printer's resolution.

Product: Pkaso/U

Price: \$175

Company: Interactive Structures, Inc., 146 Montgomery Ave., Bala Cynwyd, Pa. 19004, 215-667-1713

Requirements: Apple II, II+, IIe; parallel printer

Supports: Many graphics printers

The AlphaBits II

Intelligent Interface with Pull-Down Menus

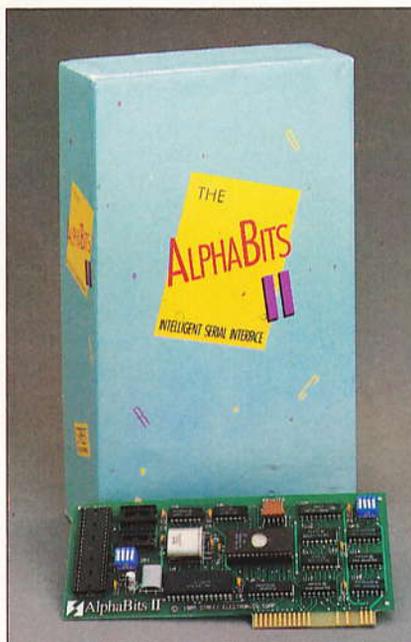
The AlphaBits II functions as both an intelligent interface card for printers and a serial port for modems. As a printer card, the product can handle over 60 built-in, graphic screen-printing and text-formatting commands. A few of its graphics functions mentioned by the vendor include windowing, zoom magnification, double high-resolution screen dumps, and rotation.

Company officials say that The AlphaBits II can also be used as a printer buffer with the addition of optional buffer chips. Up to 64K of buffering is possible, which is equivalent to 20 pages of text.

A unique feature of The AlphaBits II is its built-in pull-down menus. The menus



The AlphaBits II screen shot (top) and packaging



are used for selecting print commands for graphics and text. Text-formatting functions mentioned by the vendor include margins, page length, line length, page titles, page numbers, type style, and emphasized print.

When used as a modem interface The AlphaBits II functions identically to the standard communications port on an Apple IIc.

Product: The AlphaBits II

Price: \$119.95

Company: Street Electronics Corp., 1140 Mark Ave., Carpinteria, Calif. 93013, 805-684-4593

Requirements: Apple IIe; printer

Supports: Several graphics printers; modem

Storage



The Sider

The Sider

Economy Storage

Not too long ago, the high cost of hard-disk storage was something that only a business could afford. Over the past few months, however, prices have been dropping steadily. Now almost anyone with a penchant for mass storage can afford a hard disk.

For some strange reason, the prices of Apple-compatible hard disks bucked this trend until late last year when First Class Peripherals introduced its mail-order, 10-megabyte drive called The Sider. We installed The Sider in an Apple IIe and were quickly won over to this quality product.

The Sider is an attractive external drive than blends in well with the Apple when placed beside it. The drive is approximately 16 inches long and 3½ inches wide, but we expected something much larger when the box arrived in the mail. Its size is deceptive since most of the box is special packaging for protection in transit. Inside are two additional boxes. One contains cables and mounting hardware, an-

other the drive itself.

Setting up the brackets and cables is relatively easy, although the documentation could be more descriptive. The vendor recommends removing all nonessential cards during installation, which we did, leaving only the host adapter card and our floppy-disk controller. This is to avoid any possible compatibility problems. We later reinserted all cards, including a mouse card and a parallel printer card, and everything worked fine.

The Sider is truly a versatile product. If 10 megabytes isn't enough space, for example, you can add another drive using the same host adapter card, bringing the total up to 20 megabytes.

Equally impressive is the fact that The Sider can handle four operating systems. Software is included for formatting under the following: DOS 3.3; CP/M (Microsoft CP/M 2.23 or PCPI CP/M 1.0, 1.5, 1.6, or 2.0 only); Pascal; and ProDOS. The user decides in advance how much of the disk to allocate to each operating system. We formatted most of our drive under ProDOS.

The formatting procedure takes about 20 minutes. During this time and whenever The Sider is running, the noise level seems comparable to an IBM PC's fan. After the drive formats it's time to actually load in the operating-system software. We simply copied our ProDOS utility disk from a floppy over to the hard drive.

Once the operating systems are installed, many applications can also be copied over to The Sider. Some copy-protected programs make this procedure difficult if not impossible.

The Sider is a joy to use. Turn it on first, wait about 30 seconds, then power up the Apple. The Sider boots directly, and after a few seconds the main menu appears. From here you can enter any of the installed operating systems and run a program, run some support utilities, boot the floppy drives, or exit to BASIC. Sound good? It is.

Product: The Sider

Price: \$695



UniDisk 3.5

Company: First Class Peripherals, 3579 Highway 50 E., Carson City, Nev. 89701, 800-538-1307

Requirements: Apple II+, IIe; disk drive
Supports: ProDOS, other operating systems

UniDisk 3.5

The Next-Generation Drive

Apple's new UniDisk 3.5 disk drive provides a new world of data and program storage for the Apple II family. According to Apple Computer, Inc. spokesmen, the drive utilizes 3½-inch floppy disks housed in sturdy plastic shells like those popularized on the Macintosh. The UniDisk 3.5 floppies are double-sided, however, and hold up to 800K of data and programs. This is roughly equivalent to 800 pages of information, or more than five times the current storage capacity of Apple's 5¼-inch UniDisk drive.

Besides having greater storage capacity, the UniDisk 3.5 is fast. Company officials say that data transfers take place at up to twice the speed of the 5¼-inch UniDisk. This means less time is needed while

waiting for programs to load and data files to be accessed.

The UniDisk 3.5 is also compact. One unit takes up less desk space than previous 5¼-inch models. What's more, two UniDisk 3.5 drives can easily be connected together or "daisy chained". All that's required is to plug the second drive into the first.

The new drive may be used as either a "boot drive," a storage device, or both. Boot drives automatically load a program or operating system when the computer is reset or switched on.

The UniDisk 3.5 is compatible with all Apple II computers. A controller card plugs into a slot in all models with the exception of the Apple IIc, which uses the standard external-drive port. Current Apple IIc computers will also require a ROM Add-On Kit, installed by dealers.

Product: UniDisk 3.5; Controller Card; ROM Add-On Kit

Price: To be announced

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple II, II+, IIc, IIe

Supports: All Apple II computers

The Hitchhiker's Guide to the Galaxy

Lost in Space

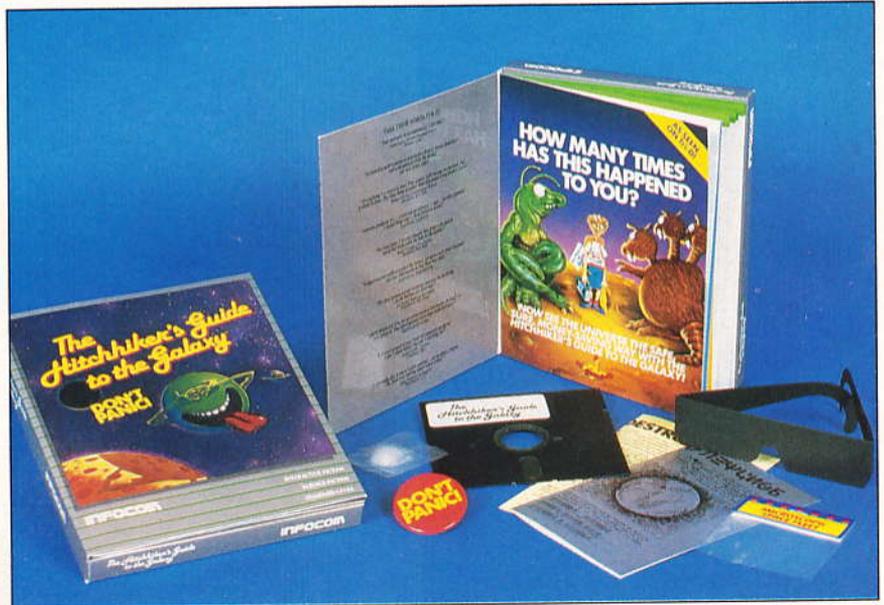
The Hitchhiker's Guide to the Galaxy is the latest in a long string of adventure games (also called interactive fiction) that places the user in a perilous situation from which only wits and luck can lead to escape, fame, and fortune. Based on the novel with the same name, the program allows the user to become Arthur Dent, a docile resident of the town of Cottington. Arthur's cottage is to be destroyed to make room for a highway.

At the same time, the Earth is about to be clobbered by the evil Vagon fleet to make way for a space turnpike. As Arthur, the user will face puzzling situations and dangerous creatures such as the dreaded Ravenous Bugblatter Beast of Traal. The ultimate goal of the program is to solve all the puzzles and reach the end of the game and have fun doing it.

The package comes with a few essential items besides software. These include a small ball of "fluff", a destruct order for Arthur's cottage, peril-sensitive sunglasses, a "Don't Panic!" button, and a microscopic space fleet (don't ask—you'll have to buy the package).

Many of the situations in the game left us baffled and forced us to turn to a hint book, called *InvisiClues*, for help. The booklet is set up to give away as little information as possible. To get a hint for a particular problem, such as finding out if the Pan-Galactic Gargle Blaster is important, the user goes to that section of the hint booklet. All of the hints are invisible and can only be seen after running a yellow marker over them. According to the publisher, the hints will fade again after six months and be gone for good.

Adventure game playing is not for everyone. Still, no other media is able to put the user in the middle of the action,



The Hitchhiker's Guide to the Galaxy

movies included. If you're able to visualize situations as described in books and have yearned to slice monsters and fire phasers yourself, then give interactive fiction a try.

As with other programs from Infocom, *The Hitchhiker's Guide to the Galaxy* can be likened to a superb radio drama. It uses powerful words but no graphics.

Product: *The Hitchhiker's Guide to the Galaxy*

Price: \$39.95

Company: Infocom, Inc., 125 CambridgePark Dr., Cambridge, Mass. 02140, 617-492-6000

Requirements: Apple II, II+, IIc, IIe; disk drive

Proving Grounds of the Mad Overlord and Wiziprint

Lost in a Maze

One of the most absorbing computer games we've played is *Proving Grounds*

of the Mad Overlord. This adventure, the first in a series of three from the vendor, is set in a castle complete with magical items, strange beings, monsters, and a maze, to name a few. The main object of the game is to get out of the maze.

Before starting the adventure you have to create some characters as "alter egos" in the fantasy. These characters are controlled by telling the computer how they should respond to various situations.

Characters are created by giving them skills, abilities, and possessions chosen from a provided list of attributes. You are allowed to use only six characters at a time, although we found that you can store up to 20 characters on a disk. All information pertaining to characters is saved on the scenario disk.

Once we created and equipped our six characters we were ready for the maze. The computer screen displays the maze in three dimensions in its left-hand corner. The bottom of the screen lists the names of the adventure team and also provides some information about each character, such as the number of blows each is able to withstand. The middle section of the screen is for messages and questions that appear when your characters

Express Yourself with Pictures

The Apple II computers are great drawing machines, but you don't have to be an artist to join in the fun. Here's why computer drawing is becoming so popular.

You don't have to be an artist to appreciate the importance of pictures. From the time we spend looking at pictures in magazines to the hours we are glued in front of a TV set, pictures occupy a significant portion of our lives. But what about the time we spend with computers? Not surprisingly, a multitude of drawing programs that allow you to unleash your own "picture potential" are quickly becoming one of the most popular uses for personal computers.

If you like to doodle without getting your fingers messy, illustrate anything from coloring books to magazines, design your own buildings, dabble in interior design, or even plan your own circuit boards, then computer drawing is for you.

The Apple II family is well equipped for drawing. Unlike some computers that require special graphics adapters, the Apple IIc and IIe have built-in color graphics potential, including a very detailed mode called double high-resolution graphics (double hi-res). The Apple Scribe printer and new Imagewriter II add even more capability by allowing pictures to be printed out in color when equipped with compatible software. Many fine drawing programs exist for the Apple II family, including the ones on the following pages.

Painting Products

Perhaps the most popular drawing packages of all fall into the "painting" category. These are programs that simulate

the tools used in painting—brushes, pens, color palettes, and canvas—and allow the user to draw virtually anything imaginable on the screen.

While computers are good at mimicking artist tools they can also produce many artistic effects that would be difficult to achieve without them. Imagine creating a drawing of a tree on the screen. A typical painting program can take the drawing and allow the user to selectively erase branches, cut and paste leaves from the top of the tree to the bottom, and zoom in on the trunk for closer inspection. Mirror and reverse commands even allow entire images to be "flipped" or mirrored for various creative effects.

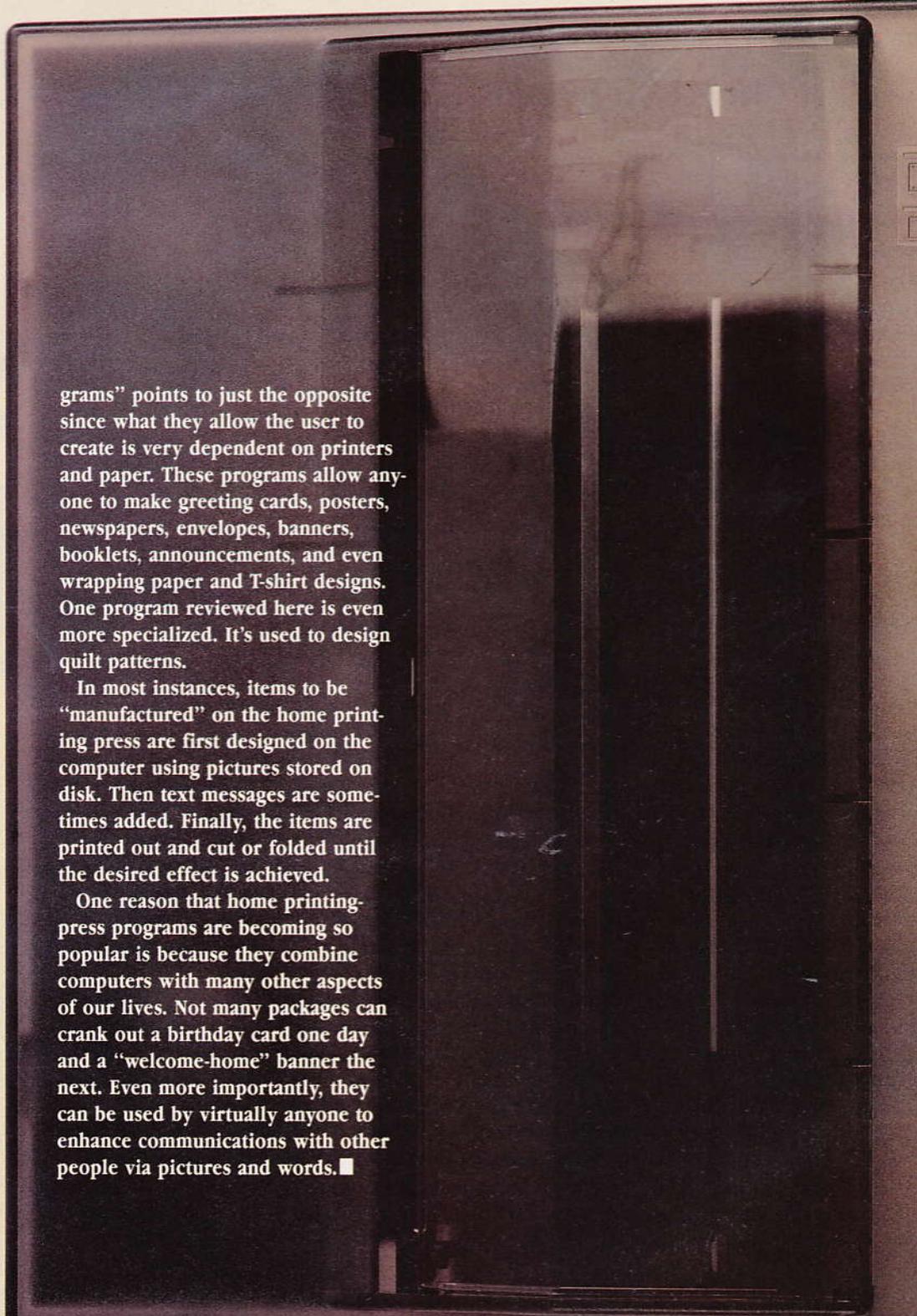
All drawing programs need an input device, a tool that allows the user to place images on the screen. More often than not, painting programs allow the user to select from a menu of several devices that the program supports. These often include the keyboard, a mouse, joystick, light pen, graphics tablet, or Koala Pad, a kind of low-cost graphics tablet popular with children.

Many drawing programs work fine with a mouse, but all input devices have their special niches. A light pen, for example, is ideal for architectural design or for wherever precision work is necessary. Several input devices are explored in the following pages.

Home Printing Press

While creating artwork on a computer screen can be fun and efficient, it's not likely that paper will be obsolete any time soon. In fact, the growing popularity of what we call "home printing-press pro-





grams” points to just the opposite since what they allow the user to create is very dependent on printers and paper. These programs allow anyone to make greeting cards, posters, newspapers, envelopes, banners, booklets, announcements, and even wrapping paper and T-shirt designs. One program reviewed here is even more specialized. It’s used to design quilt patterns.

In most instances, items to be “manufactured” on the home printing press are first designed on the computer using pictures stored on disk. Then text messages are sometimes added. Finally, the items are printed out and cut or folded until the desired effect is achieved.

One reason that home printing-press programs are becoming so popular is because they combine computers with many other aspects of our lives. Not many packages can crank out a birthday card one day and a “welcome-home” banner the next. Even more importantly, they can be used by virtually anyone to enhance communications with other people via pictures and words. ■

line form feed

letter

select

power

Artist Tools

Fontrix

Almost a Typesetter

When the Macintosh first came out, awed spectators were just as impressed with the printer's sharp output as they were with the fancy screen graphics. *Fontrix* recreates the same level of excitement on the Apple II by making your printer perform like you never thought possible. With *Fontrix* you can print posters, signs, letters—anything that's fit to print—using one or more of the typefaces supplied with the program.

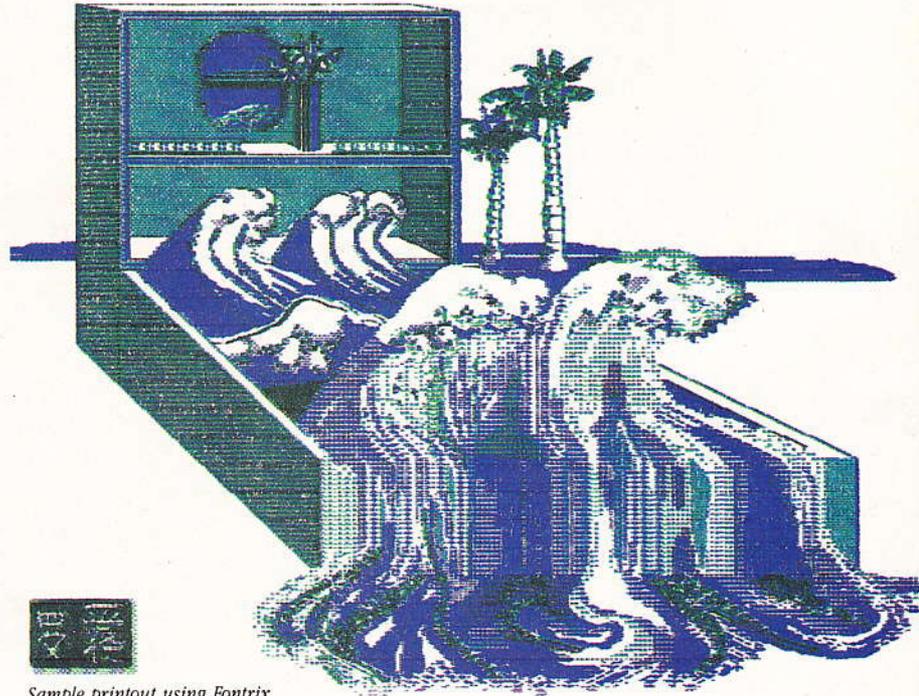
The finished work can almost pass for typeset quality. In fact, the entire *Fontrix* manual, illustrations and all, was set using ordinary dot-matrix printers and *Fontrix*.

But *Fontrix* is more than a typesetting package. With *Fontrix* you can also design maps, diagrams, organizational charts, graphs, schematics, flowcharts, and floor plans. Use color if you like. *Fontrix* includes several "paint" features, such as a zoom-type command for working with individual pixels. The latest version of *Fontrix* even prints in color using Apple's color printers.

The software comes on two disks, one containing the system's menu and the other containing 11 typefaces. There are also dozens of other fonts available on companion disks known as *Fontpaks*; new volumes are published on a regular basis.

We began exploring *Fontrix* by running the supplied demo. It explained one of the program's unique features, its capacity to create larger-than-screen, "virtual-memory" graphics (graphic files that exist mainly on disk), which may be up to 16 times the size of the high-resolution screen.

We then configured our Apple IIc and Scribe printer to run the program by choosing the correct options from a varied list of hardware setups and brands. The program supports a wide range of printers and printer interface cards. It also supports a color monitor, which is what we used.



Sample printout using *Fontrix*

The next few steps were more complicated in that we couldn't just go ahead without having to read the manual. Nevertheless, we soon were able to load one of the program's fonts, called "Script", using the program's Graphic Writer feature. We then simply typed a message on the screen using our brand-new typeface. Later, we played around with trying to create our own font. The results were less than spectacular. However, if you're good, the vendor pays \$100 to anyone devising a font judged good enough to publish.

Fontrix is unique in its typesetting, but it's not the only graphics program around. What's nice is that it's flexible enough to allow you to load graphics from other DOS 3.3 graphics programs. You can then add text, headlines, or incorporate other pictures into larger graphic images.

A *Fontrix* survey conducted last year found that the majority of users were engineers, educators, scientists, and artists. Of course, *Fontrix* isn't limited to these professions' needs. We see it as good enough for just about everyone.

Product: *Fontrix*

Price: \$95

\$25 (*Fontpaks*)

Company: Data Transforms, Inc., 616 Washington St., Denver, Colo. 80203, 303-832-1501

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Apple color printers; many other graphics printers; several printer interface cards; color monitor; mouse, joystick, paddles, graphic tablet

Vpaint Plus

Quality RGB Graphics

Vpaint Plus is for artists or anyone else who regards the Apple IIe as a serious graphics tool. Like many painting programs, *Vpaint Plus* turns the Apple IIe screen into an electronic canvas for drawing. You can choose from a variety of drawing tools, including brushes, colors, circles, arcs, and rectangles.

What sets *Vpaint Plus* apart from other painting programs is its special hardware

**NEW
PRODUCT**



IIC SYSTEM CLOCK

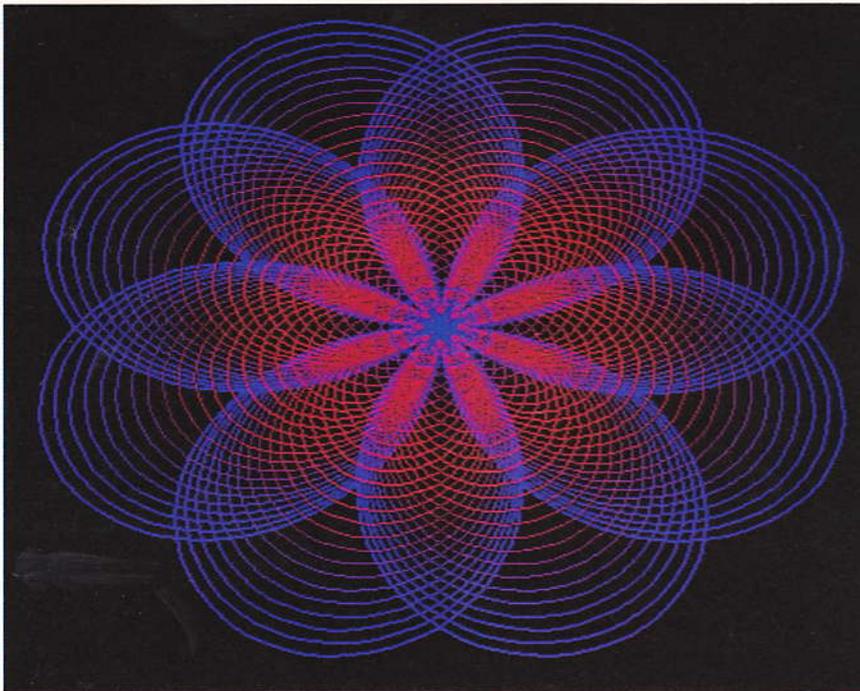
- Fully ProDos compatible
- Automatic time and date stamping
- Easy to use from BASIC
- Battery operated, uses 3 "AA" batteries (will last 1-2 years before simple replacement)
- Date has year, month, date and day of week
- Time has hours, minutes and seconds
- Will time and date stamp AppleWorks files
- Will display time and date on the AppleWorks screen
- Auto access from AppleWorks data-base (just use a time and date field)
- Pass through serial port - The Iic system clock can plug into either the modem or printer serial port, then modem or printer plugs into the clock
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Circle 7 on Reader Service Card

Artist Tools



Vpaint Plus

requirements and corresponding picture quality. The software is designed to operate with an RGB color monitor, a type of computer screen that offers better picture quality or "resolution" than composite monitors but at a higher cost. *Vpaint Plus* provides a screen resolution of 512 by 512 pixels—better than the standard Apple IIe in double high-resolution mode.

Vpaint Plus is also different in that it requires two monitors to operate. Besides the color RGB monitor, a standard monochrome monitor is used for choosing menu commands that affect what's happening on the color screen. The advantage of the two-monitor approach is that the entire color screen is reserved for painting only.

A special board is supplied with *Vpaint Plus* for driving the RGB monitor. We installed this in slot seven on an Apple IIe and then hooked up the cables. Afterwards, we ran the *Vpaint Plus* software and quickly entered a menu where we could choose from a variety of input devices. We chose to use a mouse, although the software also accommodates a

joystick, Koala Pad, or graphics tablet.

We spent some time with *Vpaint Plus* creating abstract freehand drawings. Using the airbrush or any other painting tool is a treat since the system can produce 136 bright, vivid colors on the screen. An optional color palette is available with even more colors to choose from.

Vpaint Plus seems ideal for creating product layouts, advertising storyboards, business graphics, logos, transparencies, and video presentations. For text, 22 fonts are included that can be used in a variety of colors and sizes.

Vpaint Plus has many other capabilities that will appeal to artists. Among them are color mixing and a feature that allows the user to outline a section of the screen. This section may then be positioned elsewhere on the screen as often as desired.

Another useful feature for correcting small errors or polishing a precise drawing is called "Pixel Painting". This zoom option allows an image to be viewed at four magnification levels for selectively erasing or changing the color of any dot.

Product: *Vpaint Plus*

Price: \$1,599 (For software and board); \$295 (For optional color palette)

Company: Visual Data Enterprises, PO Box 1674, West Covina, Calif. 91793, 818-918-8834

Requirements: Apple IIe; disk drive (second disk drive recommended); monochrome monitor; RGB monitor; input device

Supports: Profile hard-disk drive; Apple color printers; mouse, joystick, Koala Pad, graphics tablet

Education

The Designer's Pencil

For Artistic Programmers

The Designer's Pencil is a graphics program that allows just about anyone to turn the Apple II into an electronic "canvas". Unlike most of the painting programs reviewed in this issue, however, *The Designer's Pencil* doesn't use such familiar tools as a paintbrush, spray-paint can, or mouse for putting graphics on the screen. Rather, it introduces a simple, English-like programming language that the user must learn in order to draw pictures. Once a picture is "programmed", however, you just sit back and watch an automated pencil go to work sketching it in.

The program is made up of two screens. The first screen contains more than 80 graphic and musical commands that may be selected using either the keyboard or a joystick. Commands are used to select such things as background colors, pencil movements, music, and print.

The Designer's Pencil first boots with an impressive demonstration of a solitary pencil quickly sketching pictures on the screen. It continues drawing until the space bar is pressed. This then leads to the programming screen, where we used the arrow keys in lieu of a joystick to select from six commands at the bottom of

DESIGNWARE GROWS WITH YOUR CHILD



The trouble with most educational software is that it doesn't keep up with your child. After a few weeks or months the program offers nothing new and becomes boring. DesignWare educational games, however, are specially designed to offer an unlimited number of interesting possibilities.

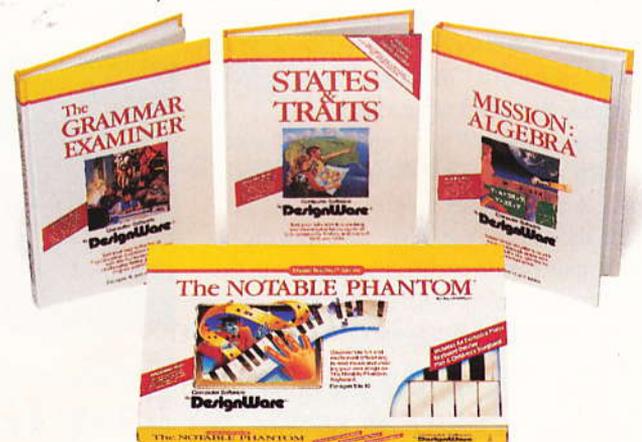
DESIGNWARE PROGRAMS FIT YOUR CHILD PERFECTLY

...because you can change problems or word lists as often as you like, to supplement homework assignments. And DesignWare programs turn your input into challenging interactive games that test both skill and knowledge.

DESIGNWARE PROGRAMS TEACH "CORE" SUBJECTS

DesignWare's unique approach in games like SPELLICOPTER® and CRYPTO CUBE® has earned it "The Parents' Choice Award" and Learning Magazine's "Best Microcomputer Software of the Year." And now fourteen adaptable programs are available to help your child with any subject from math to music to grammar.

Start your child growing with DesignWare today. Visit your local software retailer or write for our free catalog: DesignWare, Inc., Department GI, 185 Berry Street, San Francisco, CA 94107.



DesignWare®
A Britannica Learning Company

DesignWare software runs on Apple II family, IBM PC, PCjr, Commodore 64, Atari and other popular computers. And all DesignWare games come with telephone support and a 90-day warranty against defects.

Education



The Designer's Pencil

the screen: View, Run, Insert, Delete, File, and Clear.

The middle of the programming screen is divided into two sections. The right section lists the programming instructions and the left section is the programming area where you "build" or "create" programs. We found programming *The Designer's Pencil* to be much easier than using a conventional computer language since the language itself is always visible on the screen. You never have to write computer code. Rather, it's a matter of just selecting what commands you want and then deciding where you want them in the program.

We were able to create some elementary drawings, but it will clearly take some practice before reaching the skill level shown in the demos.

The program's 12 demonstrations are impressive. They are clear and colorful, and some are programmed to include sound effects. Among them is a helicopter with a propeller that rotates and makes noise and a picture of Old Glory with the national anthem playing.

Product: *The Designer's Pencil*

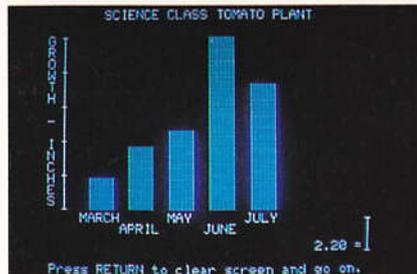
Price: \$39.95

Company: Activision, Inc., PO Box 7286,

Mountain View, Calif. 94039, 415-960-0410

Requirements: Apple IIc, IIe; disk drive

Supports: Apple color printers pending for fall; other graphics printers



Easy Graph

Easy Graph

A Simple Graphics Teacher

Easy Graph is a simple, five-step program for students ages eight and up and computer-novice adults alike. The program teaches how to read, understand, and make graphs. Three kinds of graphs are featured: pictographs, bar graphs, and pie charts.

The four major steps outlined in the program are broken down in the program's only menu. The steps are:

See the Introduction. This menu choice introduces and illustrates three different kinds of graphs that the program uses: pictographs that use pictures or symbols to represent numbers; bar graphs that use solid bars to represent numbers; and pie charts that are used to compare the parts of a whole.

Learn To Use Easy Graph. This choice leads to a tutorial on how the user can make and interpret graphs created while using the software.

Practice Using Easy Graph. This step presents a series of prompts for creating your own graphs. For example, after telling *Easy Graph* what kind of graph you want, you're prompted for the names of items to compare. At first, we couldn't think of anything to compare so we typed a question mark. An example was provided.

Create Your Own Graphs. Everything learned under Practice Using Easy Graph applies here. Simply type in the information to be graphed, and the computer does the graphing for you.

Up to six subjects may be included in a pictograph or bar graph, and eight subjects in a pie chart. The number values for each subject can have 10 digits and subjects cannot exceed eight characters. The graph title can be up to 30 characters long.

There are 20 different symbols to choose from when making pictographs. For example, a dollar symbol might represent \$100 in a pictograph about investments.

After completing a graph, *Easy Graph* allows you to make any changes. You can change a pictograph to a bar graph or a bar graph to a pictograph. Pie charts, however, cannot be switched automatically because they require dividing parts of a whole. Not all bar graphs or pictographs fit this requirement. Also, pictographs and bar graphs can only accommodate six subjects while pie charts can have up to eight.

Once you have the graph the way you like it, print it right away because that's

the only way you can save it.

Product: *Easy Graph*

Price: \$39.95

Company: Grolier Electronic Publishing, Inc., Dept. 333, Sherman Turnpike, Danbury, Conn. 06816, 800-858-8858

Requirements: Apple II, II+, IIc, IIe; disk drive

Support: Apple color printers; other graphics printers; Grappler card

The Electric Crayon

The Apple Coloring Book

The Electric Crayon: ABC and *The Electric Crayon: Fun on the Farm* are two educational coloring-book programs designed for preschool children. Accord-



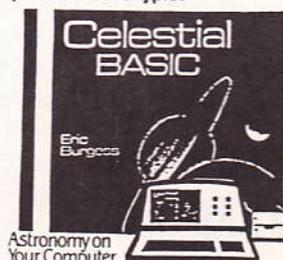
The Electric Crayon: Fun on the Farm

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Education

ing to the vendor, each disk contains 20 to 40 black-and-white illustrations that can be selected and colored in using the Apple IIe and IIc's double high-resolution graphics. The work can be saved to disk, erased and started over, or printed out in black and white or color.

The Electric Crayon: ABC teaches the ABCs by using pictures to present each letter of the alphabet. A child may color the pictures one way, selecting each color from a palette at the bottom of the screen, and then erase them and start over.

The Electric Crayon: Fun on the Farm uses the same drawing tools as *ABC*. The pictures, however, are different. They introduce children to farm animals, machinery, and life-styles of a traditional family farm.

Product: *The Electric Crayon: ABC*, *The Electric Crayon: Fun on the Farm*

Price: \$19.95

Company: Education Publishing Concepts, Inc., PO Box 715, St. Charles, Ill. 60174, 800-323-9459

Requirements: Apple IIc, IIe; disk drive; color monitor

Supports: Apple color printers; other graphics printers

ColorMe

Computer Coloring Fun

Colorme is a drawing and coloring kit for children ages 6 through 10. The package consists of a coloring kit made up of two disks, a handbook, and a picture disk. Additional picture disks are available and sold separately.

According to its vendor, *Colorme* allows children to draw freehand or cut-and-paste predrawn pictures from the picture disk. These drawings may then be printed out in color or in outline form for creating paper coloring books. The vendor also offers a Supply Box option containing adhesive-backed printer paper for stickers, colored printer paper, buttons, cards and



ColorMe screen shot (top) and packaging



envelopes, and a book binder.

Product: *Colorme*

Price: \$29.95 (*Colorme*), \$9.95 (Picture Disks), \$9.95 (Supply Box)

Company: Mindscape, Inc., 3444 Dundee Rd., Northbrook, Ill. 60062, 800-221-9884

Requirements: Apple IIc, IIe; disk drive

Supports: Apple color printers; other graphics printers; color monitor; joystick, Koala Pad

Home Printing Press

The Print Shop

Foolproof Creativity

The Print Shop is for everyone, from those who bemoan their lack of creativity to those who take pride in it. It allows you to design and print greeting cards, signs, banners, stationery, even letterhead. What you won't need is a fancy graphics card or any graphics knowledge to run it.

The Print Shop offers 10 abstract patterns and 50 predrawn symbols such as a turtle, Christmas tree, pumpkin, and a turkey. The selection also includes eight typestyles (e.g., block, stencil, alexia)



The Print Shop

available in solid, outline, or three-dimensional shading. Nine border designs are also available. Among them: lattice, double line, and hearts. If you don't want to use any of the supplied graphics you can draw your own.

Seven choices are available from the main menu. Here you tell *The Print Shop* what you want to print, be it a greeting card, sign, letterhead, or banner. Simply select an option from the list and hit Return.

Here's a rundown of our first day at *The Print Shop*. We went into the greeting-card mode and were given a choice to either select a ready-made "canned card" or design our own. We opted for the personal experience and started designing the front of our card.

First, we were given a list of border designs. After picking one, we had to select a picture for the card's cover. We chose a birthday cake from the 50 pictures available. Next we had to select the graphic size: small, medium, or large. This was followed by various graphic layout options.

We then proceeded to type in our birthday message, which was automatically centered on each line. A wide variety of typestyles are available. After completing the front panel, we were given the same options to finish the inside of the card.

Once the card was designed we were ready to print. *The Print Shop* doesn't save work to disk. The only way to see results is to fire up your printer. We printed a custom birthday card on some bright-yellow printer paper supplied with the program. Also included are some col-

ored envelopes for really colorful mailings.

The original version of *The Print Shop* could only print in black and white. The latest version, however, prints in color as well. Also available now are two add-on programs that supply *The Print Shop* with 120 new graphics selections. Called *The Print Shop Graphics Library*, Disk 1 and Disk 2, each sells for \$24.95.

Product: *The Print Shop*

Price: \$49.95

Company: Broderbund Software, 17 Paul Dr., San Rafael, Calif. 94903, 415-479-1170

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Apple color printers; several other graphics printers; several printer interface cards; color monitor; joystick, Koala Pad

Stickybear Printer

The Paper Products Machine

Stickybear Printer brings the lovable Stickybear characters together into an easy-to-use printing and activity program for the Apple II. According to company spokesmen, children and adults follow simple menus in order to design and print a wide variety of paper products in color or black and white.

Built-in formats let you design storybooks, folding toys, paper airplanes, coloring books, comics, greeting cards, signs, posters, banners, stationery, wrapping paper, and announcements.

Virtually anything designed on screen can be printed out. A large library of backgrounds is available on disk to help with designs, including typefaces, borders, and various illustrations featuring the Stickybear family. Even pictures made with other programs can be used in *Stickybear Printer*. Pictures can be customized by adding type or other illustrations from the program's library.

Product: *Stickybear Printer*



Stickybear Printer

Price: \$39.95

Company: Weekly Reader Family Software, 245 Long Hill Rd., Middletown, Conn. 06457, 203-638-2400

Requirements: Apple II, II+, IIc, IIe; disk drive; printer

Supports: Apple color printers; other graphics printers, including color and black and white; color monitor

The Newsroom and Clip Art Collection

Creative Journalism

The Newsroom is an educational program that schools budding journalists, young and old, in all aspects of newspaper production—from initial copywriting to final makeup and production. Everything you need to design and print your own paper is supplied on the program's two disks.

One of the disks contains "clip art" that can be used for illustrations. If its 600 pic-

tures are not enough, the vendor offers an additional photo disk called the *Clip Art Collection* that contains another 600 illustrations.

A picture menu offers easy access to *The Newsroom's* six major areas of activity. Using either the keyboard, a joystick, or mouse, you can get into the program's photo lab, pressroom, wire-services area, layout room, or simply choose a banner.

We started our paper by designing a banner. The program provides a number of tools for this purpose, each represented by icons on the left side of the screen. These tools allow you to do such things as magnify a portion of the screen, load or save a banner, and select from the library's clip art.

After we perfected a banner we went to the photo lab to "crop" some of the pictures we decided to run. A tool called the camera allowed us to crop a photo of various animals so that only a giraffe remained.

We then went on to the copy desk. Using this tool we were able to write copy for the newspaper, working on one panel at a time. The copy desk isn't a word

ules. The latest version combines these into one package and supports the UniDisk 3.5 and Apple's color printers. It also uses an *Appleworks*-style interface.

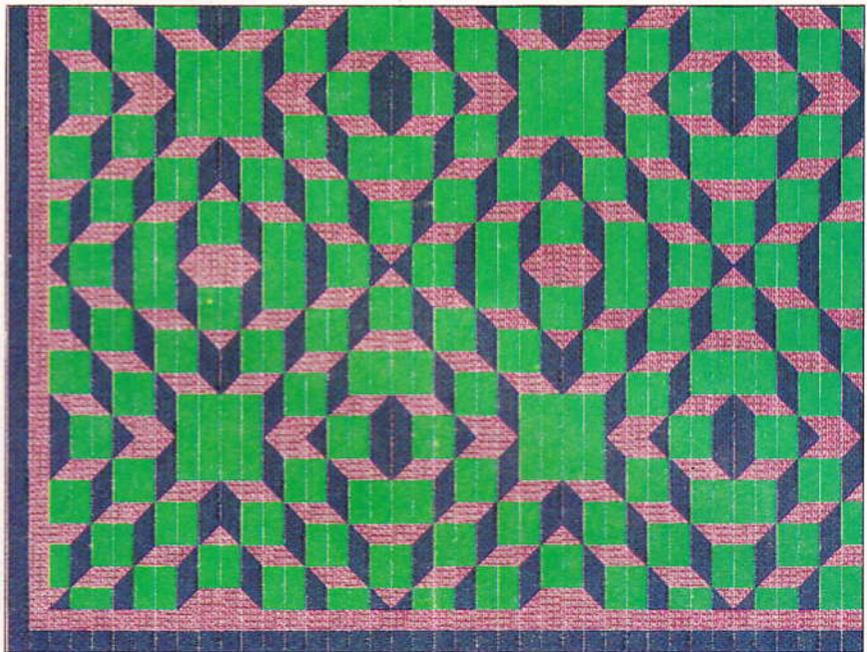
Product: *Design Your Own Home*

Price: \$199

Company: Avant-Garde Publishing Corp.,
37B Commercial Blvd., Novato, Calif.
94947, 415-883-8083

Requirements: Apple II+, IIc, IIe; disk drive; color monitor recommended

Supports: *Appleworks* interface; UniDisk 3.5; Apple color printers; several other printers; mouse, paddles, joystick, graphics pad



Patchworks

Patchworks

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Home Printing Press

Patchworks is here. *Patchworks* turns the 20th century Apple into a tool for creating 19th century patchwork designs, not to mention original and contemporary abstract designs.

Traditional patterns include Bear's Paw, Double Irish Chain, and Log Cabin. The intriguing names of some of the patterns included are explained in an educational and charming section in the manual entitled "The History of Patchwork Quilts in America."

As a sophisticated design tool, *Patchworks* includes functions that allow you to do such things as: rotate, duplicate, mirror, or flip patterns to create numerous block designs on the computer screen; experiment with various borders and lattices, color schemes, and quilt sizes; calculate yardage requirements, number of patches, and dimensions of your quilt; and produce colorful or black-and-white printouts that can serve as handy quilting blueprints.

The uses for *Patchworks* are equally numerous. You can create place mats, pillow covers, skirts, or use the patterns for stained glass or needlepoint. When placed in the right creative hands, the uses for *Patchworks* are unlimited.

We designed an abstract pattern with *Patchworks* and used it as the cover for a greeting card. We didn't spend too much time in the process since the program is full of prompts and fairly easy to follow. In fact, the first menu choice is a program demonstration that shows you how to create basic quilt designs.

While our design turned out to be simple, others can get quite elaborate. Fortunately, *Patchworks* allows you to save your work on disk. You don't have to complete a quilt in one sitting.

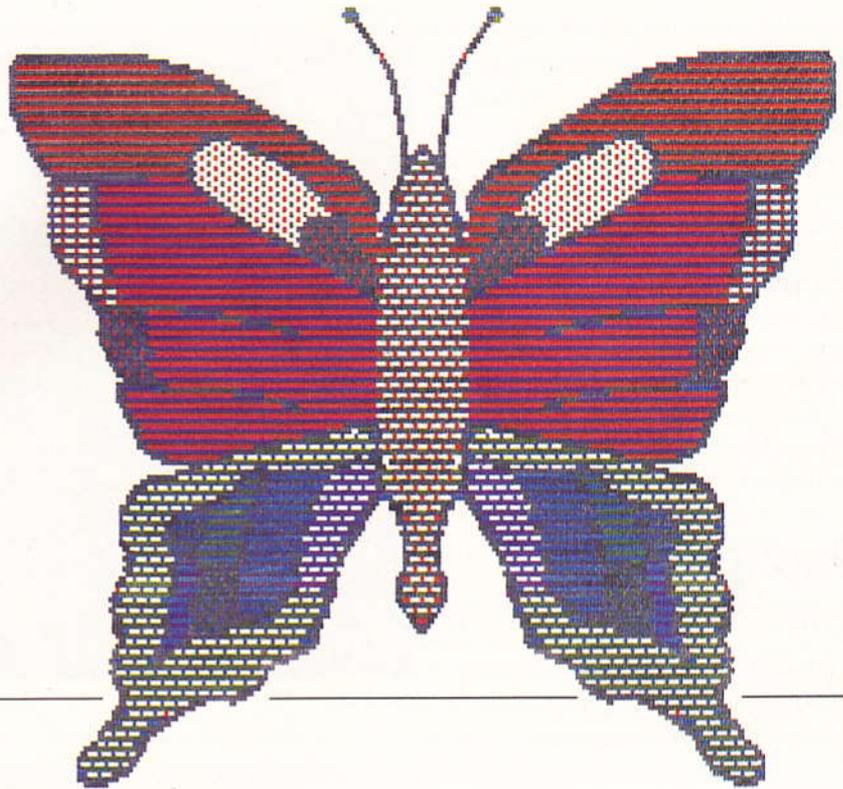
Product: *Patchworks*

Price: \$59.95

Company: Random House, Inc., 201 E. 50th St., New York, N.Y. 10022, 212-751-2600

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Second disk drive; Apple color printers; several other graphics printers; color monitor; joystick, mouse



Sample printout using *Prince*



Prince

Prince

Color from Black-and-White Printers

Prince allows you to make color printouts in minutes using a regular black-and-white printer, ordinary paper, and color ribbons. According to its vendor, *Prince* comes ready to go with four special transfer ribbons and a starter kit of paper, stickers, and cloth. Color printouts produced by *Prince* may be transferred to

any cloth, such as a T-shirt.

The package automatically separates an image on the Apple's computer screen into its component colors. It then prompts the user to insert each ribbon one at a time until a printout is complete. While only four ribbons are used in this process, *Prince* can mix colors to provide prints that match the screen colors.

Prince fully supports a number of popular black-and-white printers, including the Imagewriter, DMP, C.Itoh 8510, Prowriter, and NEC 7023. Several other printers are also supported for all functions with the exception of transfers. These include: the Scribe; Epson MX-100, RX-100, FX-100, and JX-80; several Star Micronics printers; and the Okidata Okimate 20 and other models. Most Data Products printers are also supported.

Company spokesmen say *Prince* is compatible with most graphics programs for the Apple II. This means that most images displayed by the Apple, including double

high-resolution graphics, will work with *Prince*.

Pictures may be cropped, sized in inches, and rotated. A library of ready-to-use art and text fonts is included.

Product: *Prince*

Price: \$69.95

Company: Baudville, 1001 Medical Park Dr. SE, Grand Rapids, Mich. 49506, 616-957-3036

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Several graphics printers; several printer interface cards (including Apple Super Serial and Parallel), Grappler and Grappler+, Pkaso, and Print-It!; color monitor

The Printographer

Low-Cost Graphics Printouts

The Printographer is a graphics printing program that prints pictures from virtually any image on the screen without requiring a special graphics printer card. According to its vendor, all you need is a printer that supports graphics (including Apple's new color printers) and a standard parallel or serial interface card. With *The Printographer* you can print graphs from most graphics programs, pictures from the Koola Tablet, or screens from arcade-style games.

The Printographer offers several features that allow control over the final appearance of printouts. Among those mentioned by the vendor are normal black-on-white printing, inverse printing, color printing for printers that support color, and four separate crop functions. In addition, you can print horizontally, vertically, or two pictures side by side, and add text to pictures using any of 21 type styles.

Several features of *The Printographer* will appeal to programmers. These include a supplied subroutine that may be insert-



The Printographer

ed into any unlocked Applesoft program for automatic program printing. The software may also be used to print pictures from Pilot, Logo, and Pascal programs.

Product: *The Printographer*

Price: \$39.95

Company: Roger Wagner Publishing, Inc., 10761 Woodside Ave., Suite E, PO Box 582, Santee, Calif. 92071, 619-562-3670

Requirements: Apple II, II+, IIc, IIe; disk drive; graphics printer

Supports: Apple color printers; other color and black-and-white graphics printers; color monitor

Triple-Dump

Look Ma, No Hardware

Beginning computer users don't always understand why images that appear on the screen can't automatically be put down on paper. Unfortunately, the relationship between some printers and the Apple II can be vague, making life difficult for those who want printouts of screen graphics.

One way to avoid the problem is to in-

stall a special printer interface card that allows virtually any image to be printed. Yet this solution can cost over \$100 and is useless for the slotless Apple IIc. Is there another way? Introducing *Triple-Dump*, an amazing software solution that will put your dot-matrix printer in the graphics business right away.

Included in the package are the following items: two copies of the software (a ProDOS and a DOS 3.3 version), a poster-size chart of Apple colors and programming tips, a Beagle Bros. sticker, and documentation.

We used the ProDOS version on an Apple IIc and a Scribe printer. Many other printers are supported and are listed on the back of the box. Future versions of *Triple-Dump* will support color printing on certain printers, but our version only printed in black-and-white shades.

Triple-Dump prints images that are stored on disk in normal ProDOS or DOS 3.3 files. Accessing them is easy. First load *Triple-Dump* and then choose "Load Picture" from the main menu. The program then lists every file saved on the disk. After the files are listed simply use the

Home Printing Press



Triple-Dump

arrow keys to select the file you want to work with.

Special effects are selected from the main menu. For example, you can crop a picture, rotate it, indent where the picture will print, and magnify how the picture will appear.

Several sample images are supplied on disk, but most of the real fun is in printing your own pictures, either those created from BASIC programs or from other graphics packages. Any picture saved to disk as a binary file will work and many of the graphics programs reviewed in this magazine are compatible.

Since *Triple-Dump* can print low- and high-resolution images (including double hi-res), a good choice of a graphics program to use along with it is one that works in all of these modes.

More than one program is supplied with *Triple-Dump*. A program called *Bigbanner* is also part of the package. It lets you make large signs using any printer, including daisy-wheel models. Just enter the copy you want printed (such as "Lemonade, 50¢ a Glass") and out comes the sign, printed sideways in big capital letters. You may enter up to 200 characters for each banner.

Product: *Triple-Dump*

Price: \$39.95

Company: Beagle Bros. Micro Software, Inc., 3990 Old Town Ave., San Diego, Calif. 92110, 800-227-3800, ext. 1607

Requirements: Apple II, II+, IIc, IIe; disk drive; graphics printer

Supports: ProDOS; Apple color printers pending; color monitor; mouse, paddles

Painting



Dazzle Draw

Dazzle Draw

The Power of Paint

Dazzle Draw is the closest program we've seen yet to the famous *Macpaint* graphics package for the Macintosh. Like *Macpaint*, *Dazzle Draw* uses pull-down menus, a mouse, and a wide assortment of drawing tools, including a number of paintbrushes and cut-and-paste facilities.

In some ways, however, *Dazzle Draw* even outpays *Macpaint*. For example, it uses the Apple IIe and IIc's double high-resolution graphics in 16 colors and provides a "slide-show" facility for stringing together various images on disk for automatic graphic presentations. It can also print in color.

In addition, *Dazzle Draw* supports more input devices than *Macpaint's* mouse, although we used a mouse and found it a natural choice for this program.

Six options appear on a menu bar at the top of the screen when using *Dazzle Draw*. Each is accessed by positioning the cursor on them and (in our case) clicking the mouse. The six menus include File, Tools, Edit, Goodies, Undo, and a special Help icon.

Help screens are available for every program function. Getting help is simply a matter of clicking on the right icon and choosing from the list of selections that appears on the pull-down menu. We used this at first and were able to bypass the manual. Still, the manual is good and it contains lots of tips and illustrations.

With *Dazzle Draw* you can create pictures using line, shape, brush-stroke, spray-paint, and color-fill controls. Several mirror functions are available for reversing images or splitting the screen in two. A Zoom function can also be used for detail work on specific images. If desired, the screen can be cleared of all menus and options using a scroll bar on the bottom of the screen. You may then work on a full-size "canvas."

One nice feature is the program's excellent use of text. Two fonts, modern and serif, are available for adding text to pictures. While this may not sound like much, the two fonts include styles in plain, italic, and bold and come in three different point sizes. Once text is entered on the screen you can try out various type and point combinations.

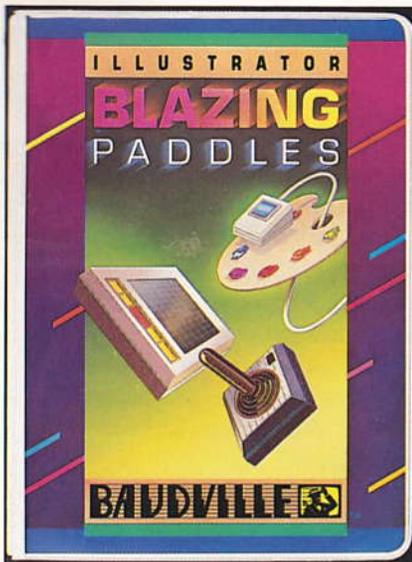
Product: *Dazzle Draw*

Price: \$59.95

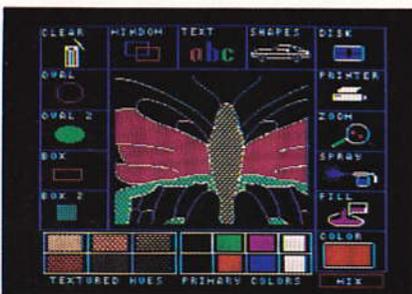
Company: Broderbund Software, 17 Paul Dr., San Rafael, Calif. 94903, 415-479-1170

Requirements: Apple IIc, IIe; disk drive; input device

Supports: Apple color printers; Epson JX-80 color printer; several black-and-white printers; several graphics interface cards; color monitor; mouse, graphics tablet, joystick, Koala Pad



Blazing Paddles packaging (top) and screen



Blazing Paddles

Fast, Efficient, and Fun

Blazing Paddles is part of a new breed of Apple II software inspired by the success of graphics programs on the Apple II's bigger brother, the Macintosh. Unlike any Macintosh software, however, *Blazing Paddles* works with color and accommo-

dates a wide range of input devices, including a mouse, graphics tablet, Koala Pad, joystick, or light pen. We used the Apple mouse for our evaluation, connected to an Apple IIc and a color Scribe printer.

After booting the program the user is asked to select from a list of input devices. The main menu appears next, consisting of 18 pictures, or icons. Each icon represents a drawing tool, including tools for drawing simple lines, boxes (filled and not filled with color), ovals, and writing text anywhere on the screen. A "spray-paint" function is also included, and you can zoom in on specific sections for refinement.

Selecting a particular tool to use is easy. Just move the cursor (a cross-hair setup that looks much like a rifle scope) to the appropriate icon and press the button on your input device. For us that meant the button on the mouse.

What happens next departs somewhat from similar painting programs we've seen. The main menu, replete with its drawing icons, disappears completely. In its place appears a blank screen and cursor. At this point the user can begin filling the screen with graphics using whatever tool has been selected. The Return key calls back the main menu to change tools or colors.

Similar programs, including Apple's *Mousepaint*, place the tool icons down one side of the screen where they're constantly accessible by the user. The advantage to the *Blazing Paddles* approach is that more of the screen is available for graphics, and more tool icons can be presented on a separate screen. The disadvantage is the user has to switch screens whenever changing drawing tools. We found that switching screens became second nature very quickly.

We were impressed by the speed of the cursor and number of drawing tools available. Besides the regular drawing tools, such as circles, lines, and ovals, *Blazing Paddles* offers a library of 12 predrawn images that you can add to your own

drawings. These include a bicycle, tree, house, and various farm animals. Shapes can be transferred to the drawing screen as is, or rotated and flipped for interesting effects.

Once a drawing is complete you may either save it to disk or print the image on any of several supported printers, including Epson, IDS, Gemini, Prism, NEC PC-8023, and the Imagewriter. Children will especially appreciate the ability to print in color. In addition, since *Blazing Paddles* supports eight primary colors and allows two primary colors to be mixed at one time, a wide array of creative effects is possible.

Product: *Blazing Paddles*

Price: \$49.95

Company: Baudville, 1001 Medical Park Dr., SE, Grand Rapids, Mich. 49506, 616-957-3036

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Second disk drive; Apple color printers; other graphics printers; color monitor

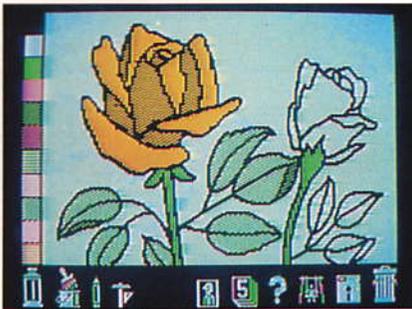
Rainbow Painter

An Electronic Coloring Book

Rainbow Painter was developed primarily for young children ages four and up. Its creators say the program encourages creativity and develops motor skills while children have fun drawing and "painting". Perhaps they're being modest. We adults found *Rainbow Painter* to be an enjoyable break from the many business programs we've used. The only drawback to the system (and a small one at that) is that you use keyboard controls instead of the mouse.

After booting the system a picture menu of 10 categories is shown on a color screen. Each category represents a different "coloring book". For instance, the "sea-animals" book has four "pages" depicting a shark, sea turtle, angel fish, and flying fish. The space bar is used to

Painting



Rainbow Painter

flip through the pages. To the left of the picture is a column of 11 different color palettes, and at the bottom of the picture are nine "work-area" icons. These icons are command functions for such things as selecting different colors and palettes (the program offers over 100), erasing the most recent color used to fill a picture, and saving pictures on disks. One icon, a rabbit in a hat, allows the user to draw lines, boxes, and circles on a blank screen.

To move the icon selection arrow the program utilizes the I-J-K-M cluster of keys on the keyboard: I for up, M for down, J for left, and K for right. The space bar is used for selection.

If none of the available palettes or patterns of colors is desirable a box icon can be selected to create new ones. The user is first shown a "color editor", a tool that takes some getting used to. Once a desirable color is selected or created the user moves the cursor into the picture area and into the specific area to be colored. The user continues this procedure until the entire picture is colored. It can then be saved on disk for future reference.

Future versions of *Rainbow Painter* are scheduled to support various color printers, although our copy did not have this option.

Another program function accessed from the main menu is called "mirrors." After selecting this option a blank screen is displayed along with a grid. The grid enables the user to mirror whatever image is being drawn either vertically, horizontally, or both. It resembles an electronic kaleidoscope.

Product: *Rainbow Painter*

Price: \$34.95

Company: Springboard Software, Inc., 7807 CreekrIDGE Cir., Minneapolis, Minn. 55435, 612-944-3912

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Second disk drive; Apple color printers pending; color monitor; Koala Pad

Perfect Draw

Make Your Own Fonts

Perfect Draw is a "painting program" that allows you to create colorful graphs, charts, and freehand drawings on an Apple II computer screen. As such, it joins a growing number of similar programs appearing on the Apple II that mimic much of the functionality of *Macpaint*, perhaps the premiere painting program for the Macintosh computer.

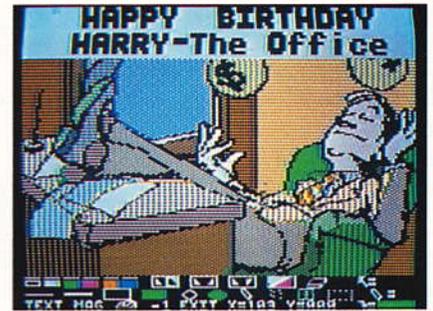
No two programs are alike, however, and *Perfect Draw* has a number of features that separate it from the crowd. Among them are built-in integration with its sister word-processing program, *Perfect Write*, and the ability to create entire character sets, or fonts, for one-of-a-kind text.

The program supports a number of input devices and printers. The input devices are listed after the program is booted, when the user is prompted for a selection. We used our copy with a mouse and found it worked just fine.

Most time spent while using the program is on the drawing board. This screen consists of three rows of icons at the bottom and a blank work space at the middle and top. The icons represent the different drawing tools available, including ink pots for choosing colors, an erasure for deleting portions of pictures, and various geometric shapes. No spray-paint function is available.

To use a tool, simply position a cursor over the desired icon with the mouse (or other input device) and click the button. The tool is activated in whatever location desired by clicking the mouse again.

One feature that may come in handy



Perfect Draw

when doing precision work is the program's constant indication of the cursor's X-Y coordinates. The slightest movement of the mouse is instantly recognized in the lower right-hand corner of the screen as the cursor's coordinates change. This feature, together with a magnify (or zoom) function, can be used to create highly detailed drawings.

Some painting programs we've seen are weak when it comes to text, but not *Perfect Draw*. Four fonts are supplied with the package, but what's really nice is a separate function for creating your own fonts. Once created, fonts may be stored on disk and used at any time.

Perfect Draw is not the most sophisticated painting program around, but it has four factors working in its favor. It's not copy protected, so there should be little trouble making backups or transferring it to a hard disk formatted for DOS 3.3. It's relatively inexpensive for a program of this caliber. It supports Apple's new color printers for colorful paper printouts. And it's the only Apple II painting program we know of specifically designed to work in conjunction with a word-processing package.

Product: *Perfect Draw*

Price: \$50

Company: Thorn EMI Computer Software, Inc., 1881 Langley Ave., Irvine, Calif. 92714, 800-225-8327

Requirements: Apple IIc, IIe; disk drive

Supports: Apple color printers; several other printers; several printer interface cards; color monitor; mouse, joystick, graphics tablet, Koala Pad

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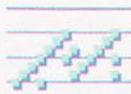
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Computers are for Learning

Computers aren't about to take over the classroom or even the home. Still, they have an important role to play in the learning process of children and adults.

Learning is perhaps the original never-ending story. From the moment we're born to our last breath, learning transcends everything we do. Personal computers and software add an exciting new dimension to learning since they can take us to places we've never been before, introduce new concepts, and help us practice new skills with a patience that only a computer could muster.

The Apple II family has more learning software supporting it than any other computer. If your children use computers in school it's likely they're working with Apples. Excellent color graphics and a sturdy design have contributed to the Apple II's acceptance in educational circles. In fact, most of the programs reviewed in the following section make good use of color, graphics, and sound to enhance the learning process.

Adults First

Learning software is not the domain of any one age group or subject matter, even though most commercial educational packages are directed toward the grade-school level. Part of this disparity may be one of semantics. What qualifies as learning software, anyway? Even a word processor is considered by some a learning package in that you first have to learn how to use it before it can process words. In this context, everyone who uses a computer uses learning software, including children and adults.

Learning how to use computers for everyday work is of growing importance in schools. Some schools are now teaching word processing and spreadsheet design as part of their computer curriculum, in addition to the more standard programming classes. But learning software doesn't have to be intertwined with the nuts and bolts of computing in order to be effective. In fact, most of the programs reviewed in this section don't teach computing at all. They are designed to reinforce the basics, including logic, spelling, math, and reading.

A few learning packages described on the following pages are aimed squarely at the adult user. We've reviewed two behavior-oriented packages in this issue. One helps teach users how to lose weight. The other teaches managers how to better understand the motives of subordinates.

Also included in this section are a few programs intended for teachers. These programs are not learning packages as such, but tools that teachers can employ to help them teach better. Among them are a program for recording grades, an automated test maker, and a program that helps teach reading and writing skills.

It Seems Logical

Computers are themselves driven by logic, so it seems logical that some of the best learning programs around help build logic faculties. The better packages in this category avoid the mindless repetition of drill-and-practice programs by challenging the user to develop problem-solving techniques.

Several logic-building programs have

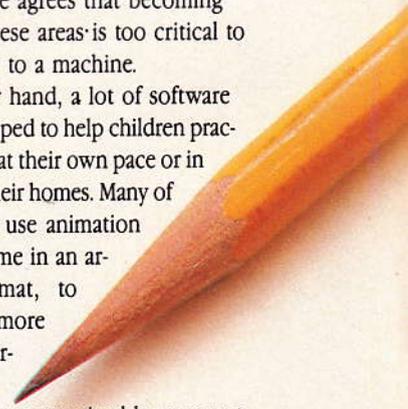
become learning software classics. We review two in this section that are representative of the best in this genre, including a program that enables the user to concoct strange monsters from various chemical combinations and a package that places the user in a puzzling maze populated by dangerous robots.

Numbers and Words

Computers are great at enhancing the learning experience, but they make poor substitutes for teachers, books, and parents. Take the fundamental skills of reading, writing, and arithmetic, for instance. Nearly everyone agrees that becoming proficient in these areas is too critical to entrust entirely to a machine.

On the other hand, a lot of software has been developed to help children practice these skills at their own pace or in the privacy of their homes. Many of these packages use animation or graphics, some in an arcade-style format, to make learning more fun. More importantly, the best packages can be customized by a parent or teacher to conform to the user's level. A spelling program reviewed in this section and several math packages passed this test with flying colors.

A relative newcomer to the world of learning software is something we've categorized as storybook programs. These packages typically immerse the user in a fanciful setting where they may choose from a wide variety of pictures to illus-





trate stories of their own creation. The end result is often a storybook-on-the-screen that sometimes may be printed out like a real storybook. Two interesting storybook programs are reviewed here.

Programming

One of the best ways to learn about computers is to program them. Programming isn't for everyone, but those who do study programming will be rewarded with many skills beyond program development. Among them: logic building, math, and an understanding of how computers work.

Of the many languages available for the Apple II family, Logo is the most popular choice for introducing students to programming. And Pascal seems to be preferred in schools as the best way to teach more advanced students structured programming techniques employed by professional programmers. A powerful new version of Pascal that resembles a similar Pascal found on the Macintosh is described here. ■

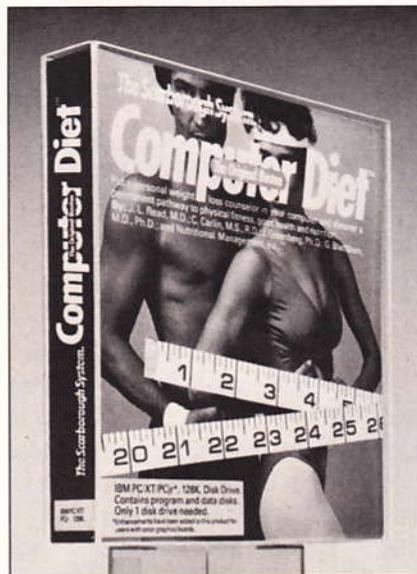
Adult

The Original Boston Computer Diet

Computerized Counselors

Dieting is perhaps the ultimate exercise in self-control. Unfortunately, many would-be dieters among us never happen upon a dieting approach suited to our life-styles. *The Original Boston Computer Diet* may be the answer for those who need help, since it accounts for differences among dieters by allowing users to choose between three unique "counselors" who possess very different computer personalities.

If a stern, no-nonsense approach to a diet is needed a counselor named "Shirley" is available. "George" is firm but



The Original Boston Computer Diet

bending, and "Amy" is known to look the other way if a dieter occasionally indulges in a slice of pie.

These counselors function by using hundreds of questions, observations, and comments connected by branching logic. For example, the counselors will ask the user where he usually eats, what he eats, and at what time he usually eats. These questions lead to advice and suggestions that are based on the user's individual weight-control program.

The user is also given reading assignments on such topics as how to resist eating temptations at social occasions, the dangers of high sodium intake, the relationship between stress and eating, and the importance of help from close friends and family (not to mention computers) while dieting.

A group of "tools" are incorporated into the software to help the counselors plan and monitor the user's progress. One of these tools is the Food Reporting and Meal Planning Guide, in disk and manual form. Using a data base of 700 foods, the guide provides modifiable meal plans, a portion-based calorie budget, nutritional listings, and scheduled appointments with the counselor to report food intake.

In addition, the instruction manual provides important tips and suggestions to pregnant dieters and dieters who suffer with diabetes and hypoglycemia. Instructions are even given on how to take one's own pulse.

The program considers food-intake reporting an important aspect to the success of the diet. The user is told to pay close attention to and keep a record of what is eaten, the environment of each meal, and even the mood of the dieter during the meal. A records disk is provided for this purpose.

As a safety feature if a user is significantly overweight (one of our imaginary test users initially reported that he weighed 453 pounds), the counselors will suggest that the user seek immediate advice from a physician before continuing the program.

Product: *The Original Boston Computer Diet*

Price: \$79.95

Company: Scarborough Systems, Inc., 55 S. Broadway, Tarrytown, N.Y. 10591, 914-332-4545

Requirements: Apple II+, IIc, IIe; disk drive

Supports: UniDisk 3.5

The Management Edge

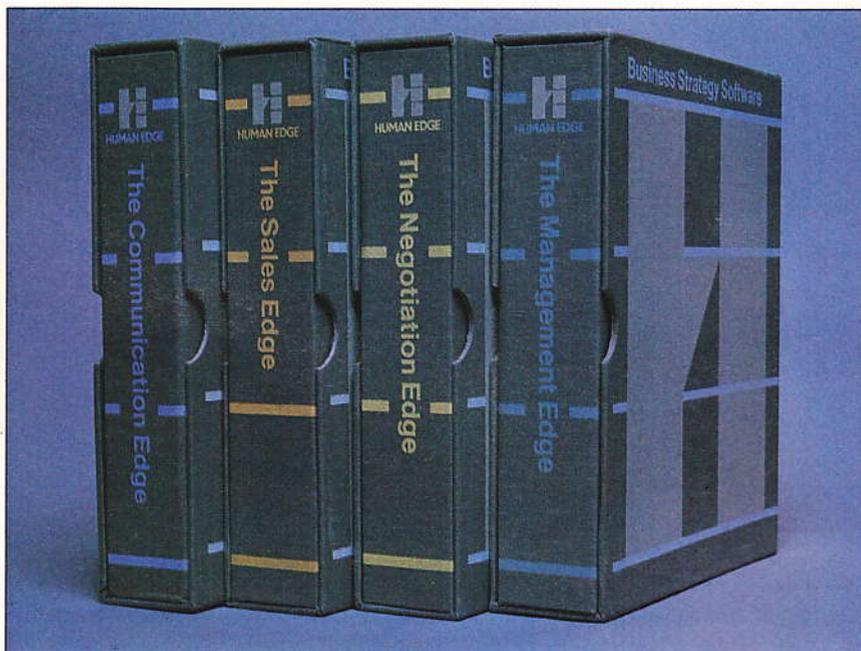
Computerized Counseling

The Management Edge is regarded by some as one of the first commercial packages to draw from expert-systems technology, an emerging field where computers mimic the responses of real human "experts". The expert in this case is a guidance counselor. The program first asks the user a number of questions regarding himself and a subordinate on whom he wants advice. It then prints a report, sometimes as long as 10 pages, telling how the user should proceed in various situations.

Using *The Management Edge* is so easy it hardly requires documentation. The program itself is supplied on three floppy disks in standard 5¼-inch format (a version supporting the UniDisk 3.5 is pending).

When the software is initially used it needs to build a personality profile of the user; later sessions can skip this step. This is done by choosing the "Assessing Yourself" option from the main menu. What follows is a series of 82 statements that you either agree or disagree with. Typical statements include "I enjoy talking at company meetings" and "Being popular at work is important to me."

Next, the user assesses his subordinate by agreeing or disagreeing with a number of descriptions, such as "kind", "sarcastic", and "impulsive". A series of sentences then appears that may be accepted or rejected, including "Most people would



The Management Edge

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Adult

think he (or she) is paid equitably" and "He recently became my subordinate." After these questions are finished *The Management Edge* stores the information received and prepares itself for the report phase. Reports are drawn from a large data base of descriptive phrases, making it necessary to occasionally swap two output disks while a report is being printed.

Reports are conversational and constructed in full English sentences. Unfortunately, they can only be printed and can't be viewed on the screen. They are reminiscent of material in an astrology book, where many statements hit home and a few others are off base. Since these reports can be quite long and occasionally rambling, it's difficult to walk away with a clear course of action firmly in mind. Nevertheless, some of the advice seemed just the ticket for the individuals we considered.

The Management Edge will never replace real human advice, but it does provide a good second (or third) opinion. A wise manager seeks advice from many sources and *The Management Edge* is certainly that.

As for its overall design, the software seems in need of an update. Our version worked only in uppercase and 40-column mode.

Other advisory products from the same company include: *The Sales Edge*, for perfecting sales techniques; *The Negotiation Edge*, for planning a negotiation; *The Communication Edge*, for improving personal communications; and *Mind Prober*, a less serious product priced at \$49.95 that offers advice on getting to know another person.

Product: *The Management Edge*

Price: \$250

Company: Human Edge Software Corp., 2445 Faber Pl., Palo Alto, Calif. 94303, 415-493-1593

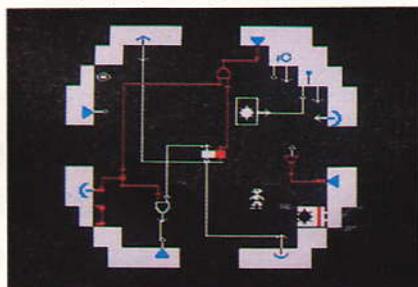
Requirements: Apple II+, IIc, IIe; disk drive; printer

Supports: UniDisk 3.5 pending for fall

Logic



Robot Odyssey I packaging (top) and screen



Robot Odyssey I

A Logical Robotic Adventure

Robot Odyssey I is a fast-paced and challenging program geared for teenagers and young adults. It features a five-level adventure game, a robot construction kit, and on-disk instructions. We found it to be a refreshing challenge far removed from the ubiquitous shoot-em-up arcade games. In fact, we predict that many former arcade enthusiasts burned out on *Zaxxon* and ready for a mental challenge will be happy to switch to *Robot Odyssey I*.

The goal of the program is to help develop problem-solving skills that are the basis for such professions as electrical engineering and digital electronics design. The game begins with a sleeping cartoon-like character who wakes up and suddenly

finds himself falling into Robotropolis, a futuristic underground city populated by robots.

The character's adventure begins when he goes through a long maze. Here he meets some friendly robots that he uses to help escape. The goal is to get back to civilization by going through the increasingly treacherous and difficult five levels of the city. Each level has new obstacles and antagonists that require the player to correctly program his robots in order to escape.

Three detailed tutorials are provided to help the player understand and program the robots. The first is "Robot Anatomy", which enables the player to go inside a robot and modify its electronic system and behavior. The "toolkit" features the tools needed to build and modify robot circuitry. Here you learn about the Boolean logic that drives robots (including AND, OR, NOT, and XOR gates) in order to build more complex circuits. Finally, in "Chip Design", you learn the basics of integrated circuits.

Skills learned in the tutorials transfer to the second part of the program, the Innovation Lab. Here the player designs and builds microchips and robots. The Lab comes complete with a tool kit to use for circuitry and prototype chip design, and experimental robots. The robots designed here may be used in Robotropolis.

Product: *Robot Odyssey I*

Price: \$49.95

Company: The Learning Company, 545 Middle Field Rd., Menlo Park, Calif. 94025, 415-328-5410

Requirements: Apple II, II+, IIc, IIe; disk drive

Supports: UniDisk 3.5; color monitor; joystick, mouse

The Incredible Laboratory

A Monster Bash

If your children watch and enjoy vam-

pire and werewolf movies, turn them loose without trepidation with *The Incredible Laboratory*, an award-winning educational package. The purpose of this program is to help kids learn and practice problem-solving techniques.

By using colorful monsters, some sound effects, a special vaporizing effect, and chemicals that could have been named by witches, *The Incredible Laboratory* can capture a child's attention. Although the program is entertaining, we also found it challenging since note-taking and concentration are required.

The menu has four major choices: novice, apprentice, scientist, and instructions. We began with instructions that briefly describe the game. Here we found out how to start as novices and work ourselves up to scientist, the highest and toughest level. On each level you are given two choices, either to play or challenge.



The Incredible Laboratory

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\$79⁹⁵

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Warning: EDD is sold for the sole purpose of making archival copies ONLY.

Logic

In the play mode a beaker on a Bunsen burner and a list of chemicals appear. The chemicals have arresting names such as goose grease, super acid, fuzzy mold, laser light, and black ice. Choosing chemicals from the list is done by selecting them and hitting Return, after which a check mark appears in front of the chosen chemical. As chemicals are chosen the liquid in the beaker begins to fizz and bubbles rise. When the finished solution is "mixed", the beaker heats, the ingredients vaporize using computer animation, and a monster appears based on the chemical soup.

The challenge mode is similar except three monsters appear after the vaporizing special effects. When we tried this we had to choose which monster was created from the chemicals we selected. After we'd hazard a guess, there were more sound effects and an underline appeared

and moved from one monster to the next. Finally, the correct monster was underlined and the others fizzled out.

The gist of the program is for the child to use cause-and-effect reasoning to figure out what chemicals create which parts of a monster's body. To do well in the program, children are encouraged to take notes and make organized lists, analyze problems, qualify information as necessary, and discover patterns and relationships that reveal order. If your child likes monsters he'll have a ball in *The Incredible Laboratory*.

Product: *The Incredible Laboratory*

Price: \$55

Company: Sunburst Communications, Inc., 39 Washington Ave., Pleasantville, N.Y. 10570, 800-431-1934

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Color monitor

Numbers

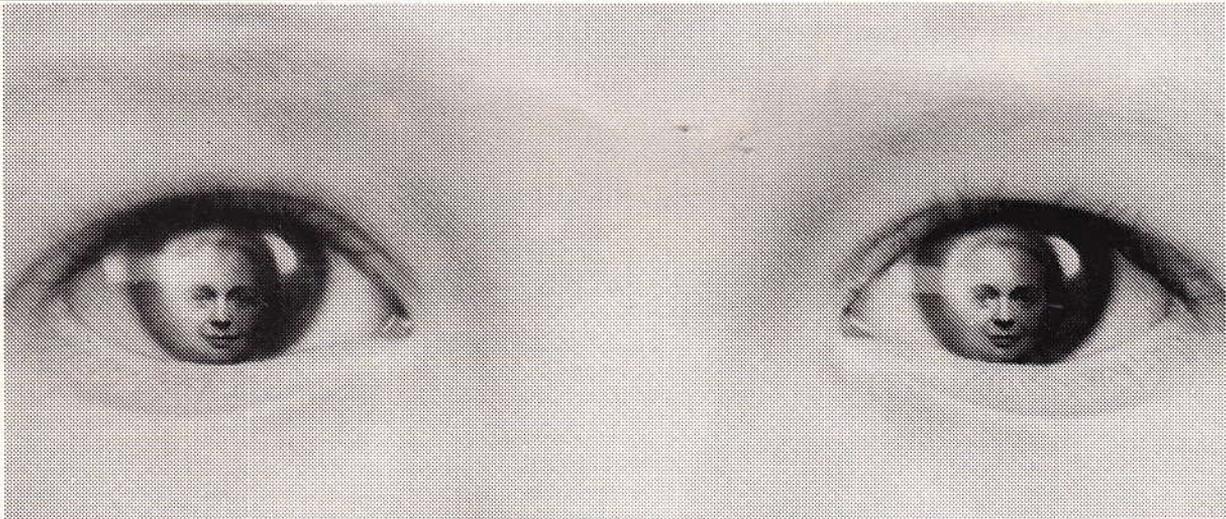
Fractions

Making Fractions Fun

Fractions is designed for children ages eight through 11 who are either gifted or need to improve their math skills. It uses color displays and an animated figure to help focus attention on important components and equations.

A pretest section helps evaluate a student's skill with fractions and then recommends a course of study. The pretest starts with problems that test the student's ability to work with fractional concepts such as numerators and denominators.

There are six learning units that can be selected from the program's main menu. These units teach identification of numerators and denominators as graphic parts of a whole, how to express simplified frac-



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Fractions

tions with different denominators, and how to find the lowest common denominator. The addition, subtraction, multiplication, or division of any two fractions is also explained. Arrow keys are used to move through the "frames" and "pages" of problems.

At the end of each unit the student's score and progress are recorded by the program. A minimum score of 70 is required for passing. A comprehensive post-test may also be taken at this point. Like the pretest, the posttest can be modified to test certain units only.

To do this a parent or teacher uses what is called the "Learning Manager". This feature allows customized problems to be set up for special needs, such as tougher questions for gifted children. We tried making up some sample tests, and found the Learning Manager's menu system quite easy to use.

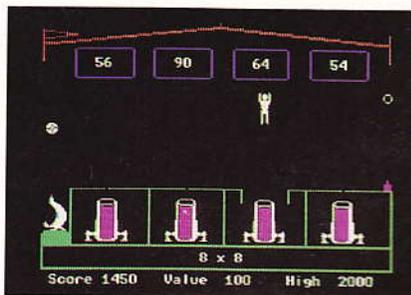
Product: *Fractions*

Price: \$39.95

Company: Eduware Services, Inc., 185 Berry St., San Francisco, Calif. 94107, 415-546-1937

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Color monitor



Math Blaster

Math Blaster

Not Just An Arcade

Math Blaster is an educational program for children in grades one through six that teaches two methods of math problem solving. One method is based on the traditional flash-card system and the other features an arcade game.

The program contains data files of problems in addition, subtraction, multiplica-

tion, division, fractions and decimals, and percents. Each file contains five levels of difficulty corresponding to the appropriate grade level of the user. For example, a fifth grader studying decimals would use levels one or two of that file.

In addition to the problems already in the files, you can create tailored problems. This means much harder and more complex equations can be used. Custom files are stored on a blank, formatted disk.

After selecting a file of problems and the appropriate grade level, the user is asked to choose from four different learning activities. The first, "look and learn", displays each problem and answer to the child for four seconds. The documentation says that display times can be shortened or lengthened using the arrow keys, although we couldn't do this with our program.

The next activity, "build your skill", goes through the same problems again, this time asking for the answers. Correct answers are rewarded with beeps and messages such as "Way to go!", "Congratulations!", "Very good!", and so on. Incorrect answers ask the child to "Try again." After a second incorrect answer the correct one is automatically displayed and the space bar is used to continue. At the end of a file a scoreboard is displayed showing the total time taken to answer each problem and the percentage of correct answers.

We experimented answering a file with all correct answers and then all incorrect ones. All correct answers triggered a wildly flashing "100 PERCENT!" along with the name we used and a little melody of beeps. All incorrect answers simply displayed "Zero percent correct" on the scoreboard. Incorrect answers can be reviewed, however.

Math Blaster's arcade game shows a child an equation at the bottom of the screen. Four possible answers are shown in boxes at the top of the screen. Each game consists of 30 problems. The object is to position a man underneath the correct answer and fire him out of a

Numbers

cannon toward it.

A seal bouncing a ball on his nose is used as a timer. Answers must be given before the ball touches his nose. The game can be played in five speeds, with a top speed that is truly fast.

Product: *Math Blaster*

Price: \$49.95

Company: Davidson & Associates, 6069 Groveoak Pl., Suite #12, Rancho Palo Verde, Calif. 90274, 213-373-0971

Requirements: Apple II+, IIc, IIe; disk drive

Supports: UniDisk 3.5; several printers; color monitor; joystick

Programming

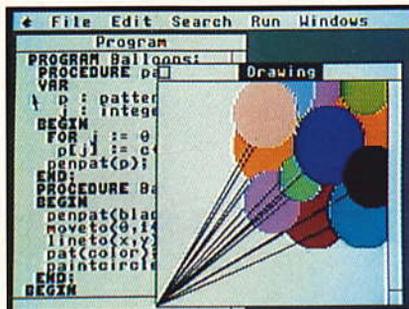
Apple II Instant Pascal

Crash Course in Programming

Apple II Instant Pascal is an interpretive, interactive programming environment designed to simplify learning the Pascal language. According to spokesmen at Apple Computer, Inc., this version of Pascal (unlike many others) gives immediate feedback, speeds up the learning process, and reduces program development time. It is supplied complete with training disks, a one-semester textbook, and pocket reference guide.

Apple II Instant Pascal is the same programming language as *Macintosh Pascal*. Like *Macintosh Pascal*, it uses as many as five overlapping and adjustable windows at a time so that a program can be viewed from several perspectives as it's being executed. With these features, it's easier to isolate and solve program errors.

Each Pascal statement is automatically checked for proper syntax as it's entered. Once code is ready for printing, the software employs "pretty printing", where text is automatically indented to graphically represent a program's logic structure.



Apple II Instant Pascal

While ideal for helping secondary school students prepare for the ETS Advanced Placement Test in Computer Science, it is also useful for anyone who wants to learn Pascal.

Product: *Apple II Instant Pascal*

Price: \$140

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple IIc, IIe; disk drive

Supports: ProDOS; Apple II Memory Expansion Card; color monitor; mouse

Storybook

Bank Street StoryBook

Animated Storytelling

Bank Street Storybook lets children create stories using pictures and text on an Apple II. As such, it joins a growing list of storybook programs. Unlike the others, however, *Bank Street Storybook* can animate pictures by making them appear to move.

The package comes with a double-sided program disk. Side one contains information and commands used to create stories. The flip side is used to save stories and also contains several sample stories.

After loading the program a menu appears on the right side of the screen. From this menu the user can choose com-

mands to create text and draw pictures. In addition to these commands a color palette is displayed that provides 21 color mixtures.

To create the pages of a story, the user can either draw pictures first or type in the text before drawing using a limited word processor. Pages containing just text or a picture without text can also be created. In addition, text can be added to a full-page picture using a window command that opens up a space in the picture. The size and shape of the text window can be varied and placed anywhere on the page.

A "flip" command is used at the end of each page. It uses animation that looks like a real paper page being turned.

The program has two methods of making pictures appear to move. The first is best for animating small, detailed parts of a picture and to create slow animation.

This is accomplished by drawing over white or colored lines and spaces in black, and then redrawing the lines in slightly different positions. All positions are remembered by the program and are "played back" when the new story is read. We found the method to be quite effective in making part of a picture seem to move. With some patience, a very convincing animation sequence can be created.

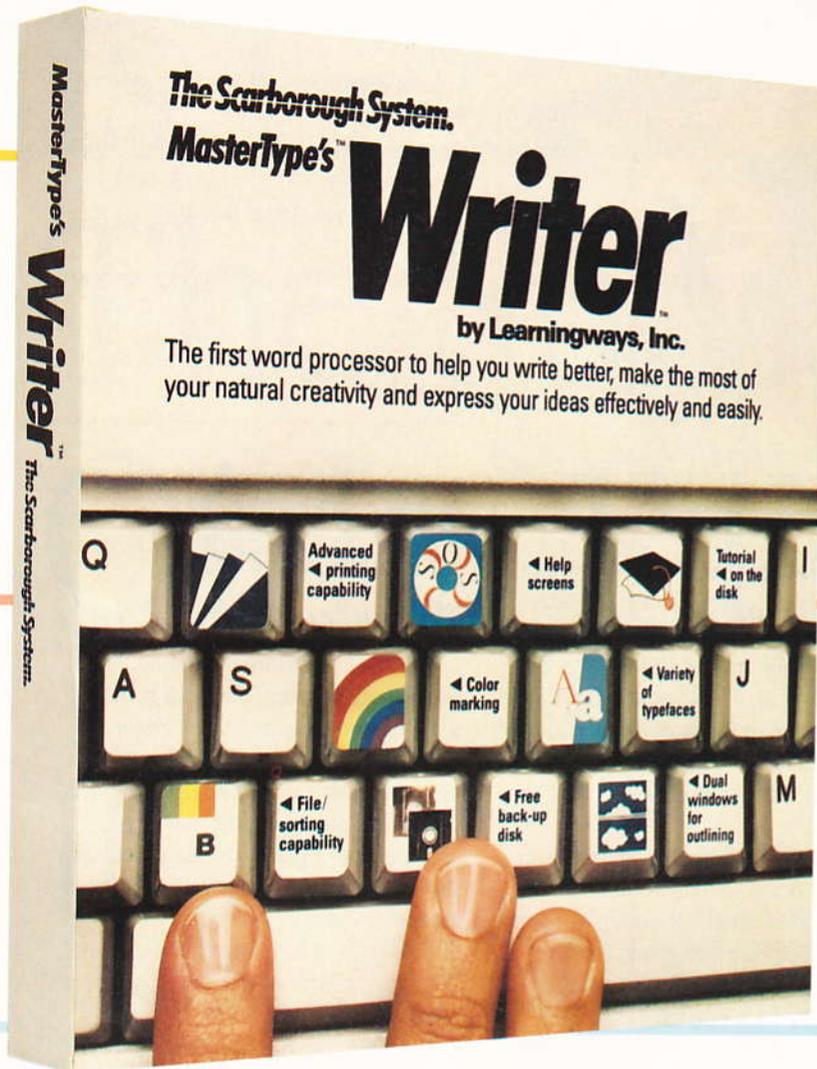
The second method is much easier and still quite effective. It's best used to animate large sections of a drawing. A window is first used to erase a section or all of a drawing. The picture is then redrawn in a different position. This is repeated until the desired effect is achieved.

The animation process requires some practice and patience, but it's worth it when an animated effect is achieved. Very entertaining and complex stories can be created, limited only by the user's imagination.

After a story is complete it can be sent to a printer and assembled in book form or saved on the reverse side of the program disk. Additional disks can also be used to save stories.

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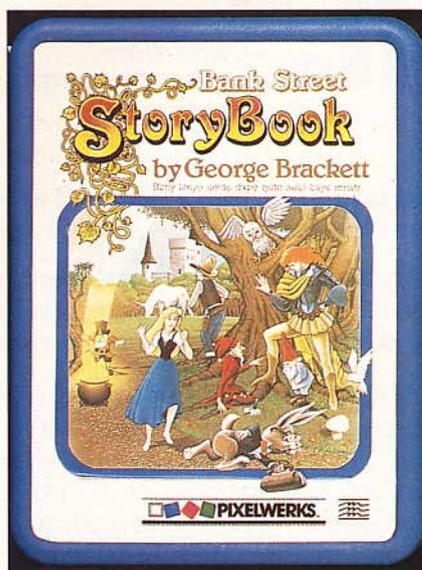
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Storybook



Bank Street StoryBook

The latest version of *Bank Street Storybook* uses several input devices, including a mouse, joystick, and keyboard. In addition, it prints in color and black and white on the Apple Scribe printer. One ribbon produces about 11 pictures.

Product: *Bank Street Storybook*

Price: \$39.95

Company: Mindscape, Inc., 3444 Dundee Rd., Northbrook, Ill. 60062, 312-480-7667

Requirements: Apple II+, IIc, IIe; disk drive

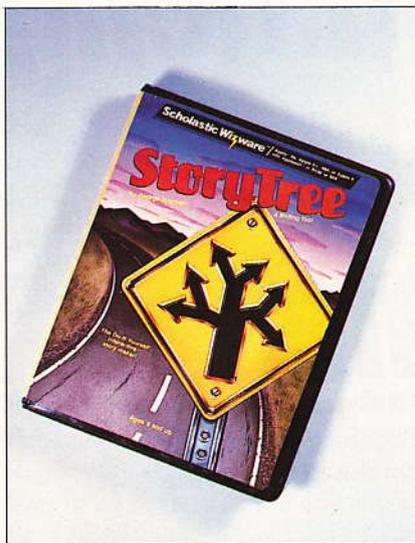
Supports: Apple color printers; color monitor; mouse, joystick, Koala Pad

Story Tree

Create a Fantasy

Story Tree allows children to write stories based on situations that arise when using the package. Just two command functions are needed to accomplish this, choice and chance. These two features can be incorporated into a story at any time and can lead to a wide variety of story lines and endings. The result is each child "writes" his own story based on individual experience.

Besides creating stories, *Story Tree* provides three stories on its program disk



Story Tree

that are ready to read. These stories can be modified or deleted. One is an adventure story titled "The Magic Marigold Mine." The objective of this story is to find a mine full of solid-gold flowers. During the course of the story we noticed the choice feature came up several times. It always provided two courses of action to follow.

While walking through a forest, for example, we heard sounds from behind a bush and were given the option of ignoring the sound or investigating it. We chose to investigate and were promptly "eliminated" by a wild boar. This happened to us twice when we investigated the disturbance. The third time we tried the program's chance feature. What luck, the boar was then friendly and asked us if we would like to see his wonderful collection of wood carvings. Not trusting the boar, we declined and continued our journey to the mine.

To create a story the user chooses the "work-on-a-story" option and then begins the story. Then the user gives the story a name and begins writing.

Each page of a story being written has to be given a name. At first this seems inconvenient, but naming each page allows the user to call up a page or pages

for editing or deletion. We simply used page numbers as names. When finished, stories may be sent to a printer. Data disks will hold six stories of about 200 pages each.

Product: *Story Tree*

Price: \$39.95

Company: Scholastic, Inc., 730 Broadway, New York, N.Y. 10003, 212-505-3567

Requirements: Apple II+, IIc, IIe; one disk drive

Supports: UniDisk 3.5 pending; several printers; color monitor

Teacher

The Graphic Gradebook

The Teacher's Helper

Plenty of programs are around that help school children, but what about something for teachers? *The Graphic Gradebook* automates one of the most time-consuming tasks facing teachers outside of the classroom: the inevitable management of grades. In the process, it also computes the means and averages of grades and allows grade-book statistics to be viewed in colorful bar and pie charts. They may also be printed on Apple's new color printers.

We found *The Graphic Gradebook's* data-entry spreadsheet to be easy to follow. Teachers can enter up to 10 different categories of grades (e.g., tests, papers, and homework) to organize in the program, and assignments can be based on point values other than 100. In addition, grades may be entered as numbers or as letter grades. You can do just about anything with this program that you could with a manual system, except you can change and add data faster.

The program features a "lock" for the grade book to prevent others from looking at or changing grades. This is done in the form of a password that can be

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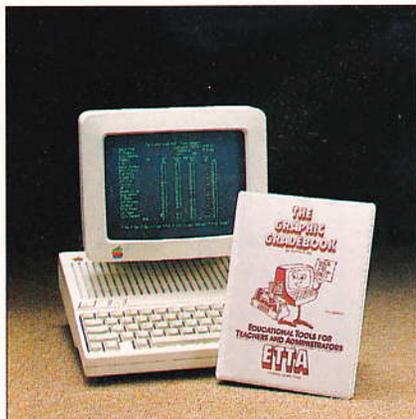
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Teacher



The Graphic Gradebook

changed periodically.

The *Graphic Gradebook* has a number of other features worth noting. First, a class may be alphabetized by student names and grades can be entered by scanning the grade book for particular names. Second, it can track student absences (assuming, of course, the teacher is diligent in entering this information each day).

Finally, *The Graphic Gradebook's* minimum grade values may be changed. For example, if the teacher determines that everything above 95 percent will be an "A" and everything below 65 percent is an "F", each letter grade will automatically adjust to reflect those changes.

Product: *The Graphic Gradebook*

Price: \$59.95

Company: Sterling Swift Publishing Co., 7901 South IH-35, Austin, Texas 78744, 512-282-6840

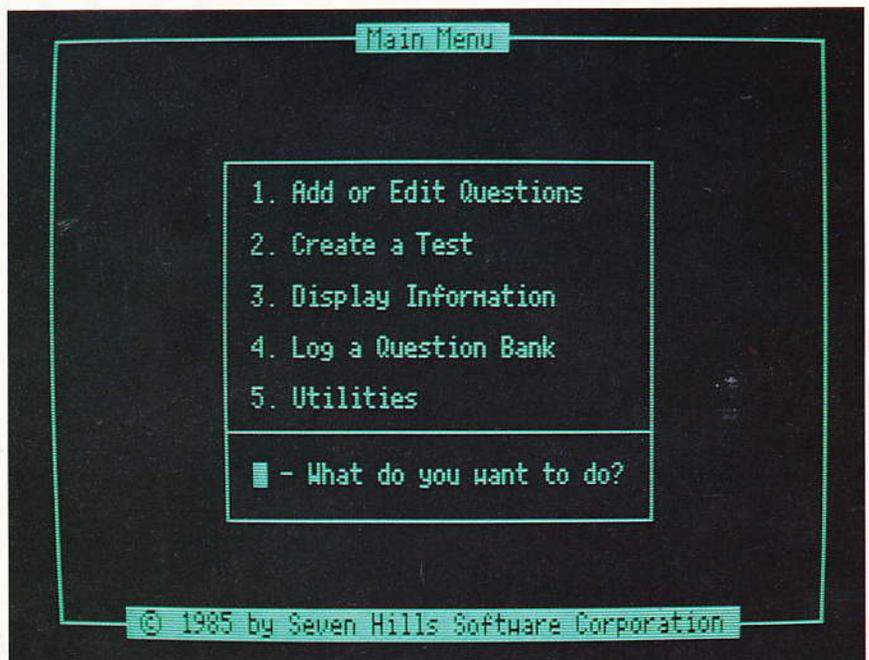
Requirements: Apple II, II+, IIc, IIe; disk drive

Supports: Second disk drive; Apple color printers; color monitor

QuickTests

Test-Making Software

Quicktests is a unique data-base program designed to help teachers select and



QuickTests

print test questions. According to its vendor, the program was designed and tested by teachers and is simple to use.

Quicktests provides a large area on the computer screen where questions may be entered. Hundreds of questions can be entered and stored on either a floppy or hard-disk drive. Once questions are in the data base they may be selected by the teacher, computer, or both.

The program supports question randomization and password protection and comes with a manual and telephone support. Also offered is a 30-day, money-back guarantee, say the spokesmen.

Product: *Quicktests*

Price: \$155

Company: Seven Hills Software Corp., 2310 Oxford Rd., Tallahassee, Fla. 32304, 904-576-9415

Requirements: Apple IIc, IIe; disk drive; graphics printer with downloadable fonts

Supports: ProDOS; second disk drive recommended; UniDisk 3.5; hard-disk drive; Apple II Memory Expansion Card; several printers

Quill

For Teaching Writing

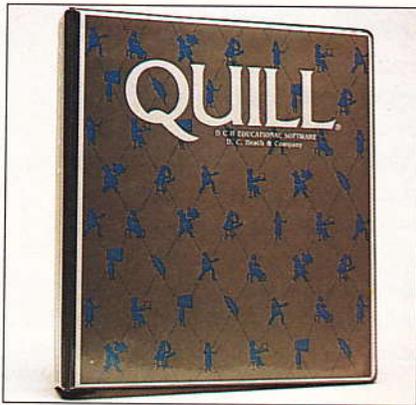
Quill is a computer-based writing program that contains four modules: The Planner, The Library, The Mailbag, and The Writer's Assistant. According to the vendor, the product uses the "writing-process" theory of teaching to motivate students to do more writing, revising, and editing. Developed for students in grades 3 through 12, *Quill* includes a detailed teacher's guide with lesson plans, activities, and management suggestions.

The Planner is used during the prewriting stage of the writing process. It helps students generate and organize ideas and select key points to cover in their writing.

Once a writing topic has been defined The Writer's Assistant is used. This module provides the writing tools used to enter and revise text.

The Library is an information storage system. By making information easily accessible, it encourages students and teachers to share writing samples.

The Mailbag is a message system that



Quill

allows students to communicate by computer. According to spokesmen, this module allows written messages and responses to be sent among users.

Product: *Quill*

Price: \$150

Company: DCH Educational Software, 125 Spring St., Lexington, Mass. 02173, 800-225-1149

Requirements: Apple II+, IIc, IIe; two disk drives; printer

Supports: UniDisk 3.5; several printers

Words

Paint With Words

More Fun than Phonics

Paint With Words is a program designed for children ages four through eight. Using a mouse, keyboard, or joystick children are able to create pictures through word association.

The package contains a master list of 124 primary words. From this list 12 categories have been created containing eight related words. For example, the category farm contains words such as corn, cow, farmer, goat, and pig. Each of these categories can be modified using words from the master list or deleted to create new ones.

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Words



Paint With Words

Nine background scenes are available on which to start the pictures. The background scenes include fields, lakes, streets, and a stream.

After booting the system 12 category key words appear on the screen. They are hills, school, zoo, river, lake, street, rooms, forest, picnic, castle, winter, and farm. After choosing a category the eight related words appear at the bottom of the screen in boxes, along with a box for stopping and choosing other background scenes.

To create a picture the cursor is moved via a mouse or other pointing device to a certain word. Pressing the space bar or clicking the mouse causes that word to blink and "float" to the bottom of the background scene. Words may be positioned by the user to any part of the scene.

When a particular spot has been chosen pressing the space bar or clicking the mouse causes a picture to appear that represents the word. By choosing other words from the category a child can create any variety of scenes while associating the pictures with the words.

The other side of the program disk can be used to save scenes in what's called the "word art show". Seven pictures can be saved this way. These scenes can be sent to a printer, including Apple's color printers, for hard copy.

Product: *Paint With Words*

Price: \$29.95

Company: Minnesota Educational Computing Company (MECC), 3490 Lexington

Ave. W, St. Paul, Minn. 55112, 612-481-3640

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Apple color printers; mouse, joystick; color monitor; Ufonic Voice System

Magic Spells

The Word Castle

Learning to spell is fun with *Magic Spells*, made for children ages six through 12. This spelling game takes place in a colorful castle wall setting, where small windows indicate each word to be spelled. We reviewed one of the first versions of the program, supplied on a standard 5 1/4-inch disk. The latest version for the UniDisk 3.5 (Apple's new high-capacity disk drive), however, adds many more words and various ability levels.

If the player spells a word correctly on the first attempt, a corresponding castle window opens. A short animation then takes place inside the window (for ex-

ample, a saluting king). Players can look forward to several types of animated sequences in the windows and doorways, if they spell enough words correctly.

If not, the court jester appears, offering players another chance to spell missed words. If the entire list of words is spelled correctly on the first attempt the castle door transforms into a stage and court members perform a song-and-dance routine. Hints to correct spelling are available at the touch of a key, and a review sequence is always provided for words missed on the first attempt. We only wish that spelling drills had been this much fun when we were kids.

Magic Spells also features an editor, called *Spells Writer*. It allows parents and teachers to modify the existing word lists and create unlimited new lists. This feature is especially powerful in the UniDisk 3.5 environment since thousands of words can be added. The program also has the capability to delete word lists, make backup data disks, and print and review word lists.

Magic Spells is one of the latest programs from The Learning Company, an



Magic Spells

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Words

educational software producer known for its award-winning programs, including *Reader Rabbit* and *Rocky's Boots*, an electronic erector set that builds logic skills in children ages nine and up.

Product: *Magic Spells*

Price: \$40

Company: The Learning Company, 545 Middlefield Rd., Suite 170, Menlo Park, Calif. 94025, 415-328-5410

Requirements: Apple II, II+, IIe, IIc; disk drive

Supports: ProDOS; UniDisk 3.5; several printers; color monitor

Stickybear Spellgrabber

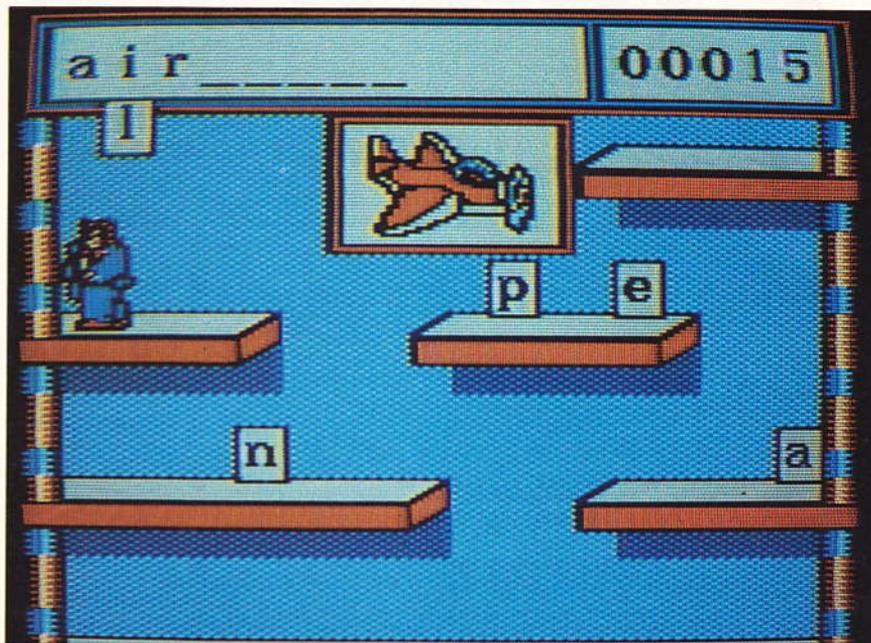
Spelling with Stickybear

Stickybear Spellgrabber is one of the newest programs in the Stickybear educational series. We also think it's among the best. Excellent graphics and entertaining games are provided in this spelling program for children in grades one through four. Children can learn how to spell with the Stickybear character drawing from a reservoir of over 4,000 frequently used words on disk.

Spelling words range from the very simple first-grade level, including "be", "at", "it", and "if", etc. to more difficult words, e.g. "watermelon", "yield", "technology", and "minimum". This progression allows a child to learn new words as he advances in skill or moves ahead to a higher grade.

Three games are provided to serve different learning functions. They are Picture Spell, Word Spell, and a challenging word game called Bear Dunk.

Picture Spell provides a picture of one of the spelling words from the master list. The picture is situated in the center of a maze of shelves. Letters spelling out the word that corresponds to the picture are scattered along the shelves. When the picture of a bee is shown, for example, the letters b-e-e are scatter-



Stickybear Spellgrabber

ed oughout the maze.

Children use a mouse, joystick, or keyboard commands to move Stickybear along the shelves to pick up the letters in their proper sequence. When the letters are picked up they disappear from the maze and appear at the top of the screen. Only words from grades one through three can be used with this game.

Word Spell is similar to Picture Spell but a little more challenging. A word appears briefly on the screen and then its letters are scattered in the maze. Stickybear is moved in the same manner to correctly spell out the word. Word Spell uses words from all four grade levels.

Bear Dunk is similar to the all-time classic word game, Hangman. It can be played with one or two people. The object is to keep Stickybear from being dunked into a tub of water. A number of blank spaces appear at the top of the screen. Children try to guess what letters belong in the blanks.

With each wrong guess a series of platforms holding up Stickybear begin to disappear. If enough wrong guesses are made poor Stickybear plunges into the

tub of water.

Each game is timed and scored. The faster a word is spelled out, the greater the score. If time runs out the word will appear at the top of the screen.

In addition to the word list provided, a list can be created. This allows for more complex words to be used and for a child to concentrate on problem words.

Product: *Stickybear Spellgrabber*

Price: \$39.95

Company: Weekly Reader Family Software, 245 Long Hill Rd., Middletown, Conn. 06457, 203-638-2400

Supports: Color monitor; mouse, joystick

Poetry Express

How's Your Haiku?

Appreciation of poetry is something a lot of us pick up early in life. Since first impressions are lasting, a good teacher can stimulate interest in poetry that lasts for years. We regard *Poetry Express* as a good teacher. It's designed for children and young adults in grades two

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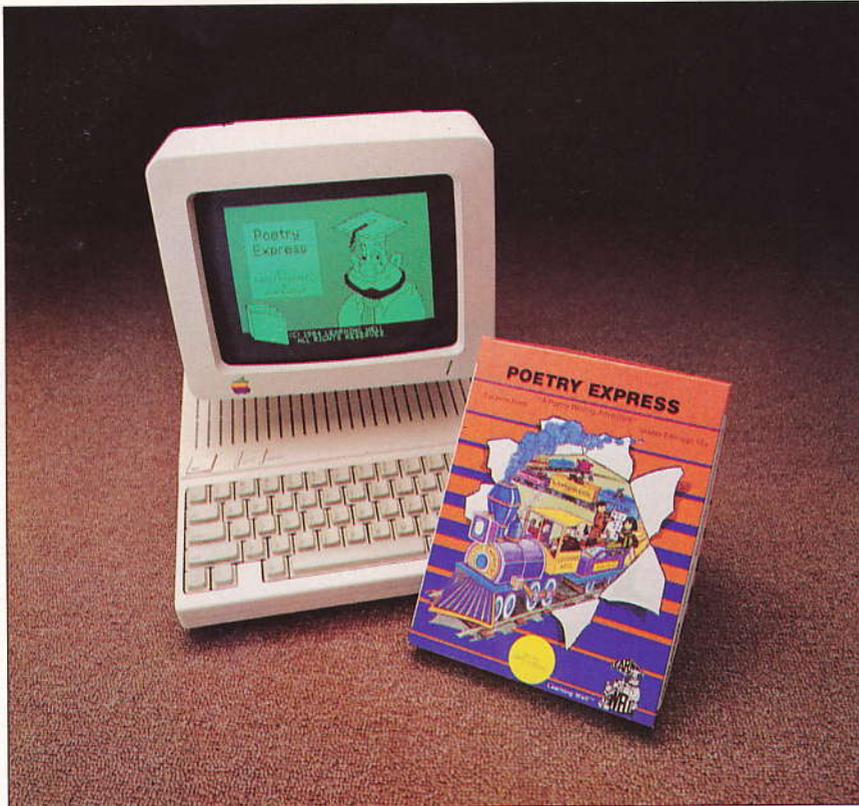
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Words



Poetry Express

through 12 and beyond.

Using screen prompts and menus, *Poetry Express* allows the user to create original poetry in eight distinct styles, some of which we were never told about in grade school. They include diamante, haiku, tanka, cinquain, sijo, lists and litanies, limerick, and rhyme. After booting the system these eight styles appear on the main menu in addition to an option that retrieves saved poems.

After choosing a style you are given an explanation of its origins and the methods and rules that govern the way the style is used. If you choose to write in the haiku style, for example, you are told that the style is Japanese and consists of three lines totaling about 17 syllables. You are also told how many syllables should be on each line and that the poem need not rhyme.

You may read several examples of the style to get a feeling of how the poetry

should "feel". Haiku, the user is told, is usually about nature and refers to a specific season. We found the advice and examples to be very helpful in creating a poem.

When actually writing you are given step-by-step directions and reminders for the particular style in use. If an attempt is made to put more than 17 syllables into a haiku poem, for example, *Poetry Express* automatically displays a reminder that 17 syllables is the norm. If you persist with this artistic license, the program only asks if there are to be any corrections when the poem is finished. At no time did it override our decisions when we purposefully disobeyed the rules of a particular style.

Poetry Express also features a Rhyme-Finder option. Just type the ending of a word to be rhymed (the ending must begin with a vowel), and the program places consonants in front of the ending. After exhausting the alphabet it defaults to vari-

ous pairs of consonants, such as "sc", "th", and "fl". Although some of the words created are not real, many rhyming words can be found this way.

Poems can be edited during the writing process or after they've been saved to disk. A printer option also allows them to be sent to a printer.

Product: *Poetry Express*

Price: \$59.95

Company: Learning Well, 200 S. Service Rd., Roslyn Heights, N.Y. 11577, 800-645-6564

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Several printers

Kidwriter

The Storybook Maker

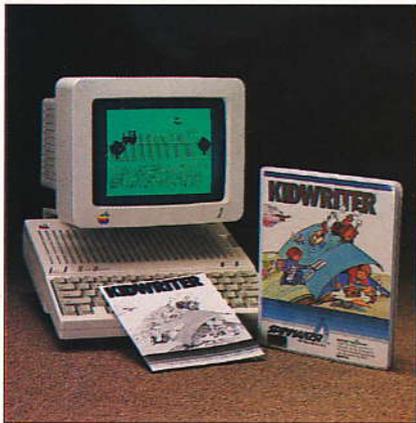
Kidwriter takes the fuss out of storybook making by allowing kids ages six through 10 to create their own colorful "storybooks" on the computer screen.

Kids choose from a wide variety of characters and objects to illustrate their story, which they then write using an elementary word processor. The result is a custom computer storybook complete with pictures and words.

The program starts off with a demonstration of what it can do, set to a cheerful tune. Pressing any key on the keyboard turns off the demo and enters *Kidwriter*. A simple menu then appears listing several available options.

When creating a new story the first step is to select an appropriate background scene from the 10 available. Among the scenes are a stage setting, a bare room in a house, a picture frame, and a view from outer space.

After selecting a scene it's time to fill the setting with any of 99 available pictures. Kids scroll through the list of objects using the "F" (for forward) key and press "P" when they find one they like. The chosen object then appears inside the scene, where it can be moved around using the arrow keys. All pictures can be



Kidwriter

made bigger or smaller and changed in color.

After a scene is filled with pictures the user may write the story. With its built-in word processor, *Kidwriter* allows up to eight lines of text to be added to each

screen. Granted, the word processing is not very sophisticated. Yet we think it's a great way to show children what word processing is all about.

Creating a storybook is simply a matter of stringing together a number of pages containing pictures and text. Storybooks may then be saved on disk for later viewing on the screen. The latest version of *Kidwriter* also allows stories to be printed, color pictures and all, when using the new Apple color printers.

Product: *Kidwriter*

Price: \$29.95

Company: Spinnaker Software, One Kendall Sq., Cambridge, Mass. 02139, 617-494-1200

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Apple color printers; several other printers; color monitor

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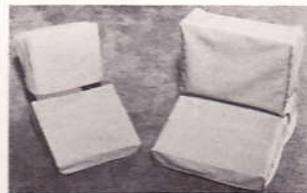


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Over the course of a lifetime the average worker will make a lot of money. Managing that money is a big job, but luckily a computer can help.

Some of the highest-paid professionals on Wall Street are sought after not for their personal wealth, but for their ability to manage other people's money. Managing money effectively is just as important as making it, but how many people study their own financial situation as closely as professional money managers watch money for clients? Unfortunately, the answer is a small minority. The reasons for this range from a lack of time to a misunderstanding of what money management is all about.

Computers can help. When coupled with the right software, an Apple IIc or IIe can be used to manage your stock portfolio, prepare your taxes, track your net worth, plan for life insurance, and predict retirement income. At the same time, many personal finance programs can remove the mystery from numbers by displaying information in charts and graphs.

Personal finance software has come a long way from the days when it could do little more than balance a checkbook. Many programs help track cash flow by organizing savings and expenses into accounts, much as a full-fledged accounting package might do. Credit-card expenses can be recorded in one account, for ex-

ample, with bank savings deposits, medical bills, and college-tuition payments recorded in other accounts.

Since many personal finance programs are integrated, keeping track of what money goes where is not nearly as complicated as it used to be. A check written to the doctor's office, for example, could be entered into the program so that a medical-bills account is updated at the same time as a personal checking account. Most programs allow either account to be viewed individually or, perhaps, together. Others will warn you when a certain account goes under or over budget.

Many of the programs reviewed in this section can reveal trends and potential trouble spots through reports. Reports can show you where you stand financially at any one time, such as after making a mortgage payment on your home. Furthermore, you can use these same capabilities to make what-if assumptions. What will happen to the family budget if we spend \$7,000 next month on a boat? Again, a computer can help.

The latest personal finance programs provide financial advice as well as keep records. These programs can study your total financial picture, take into account such factors as the rate of inflation and taxes, and then suggest possible insurance policies or other financial strategies that are appropriate to your situation. Few vendors suggest that these programs can substitute for professional advice. Still, many users appreciate the unbiased advice that their software delivers, and are always free to obtain further information.

Specialized Financial Software

A number of personal finance programs occupy niches that might be considered subsets of more general financial software. Among these are two programs reviewed here designed specifically for income tax preparation and portfolio management. One program automates Form 1040 from the IRS and 21 other forms that transfer data to it. The other allows you to download stock quotes from an on-line database and then integrate this information into your own computerized portfolio.

No personal finance program can work without regular input on the user's behalf. Yet, when the amount of time and money that such programs can ultimately save is considered, they are justification enough for a personal-computer investment. ■

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Quicken

strained your patience and memory trying to find a check written months ago? With this feature *Quicken* searches for any check on the basis of the possible dates it was written, by payee, or by any words included in a memo. For instance, if you want to review all checks written for utilities, and you've included the words "utility" or "utilities" in your memos, then *Quicken* can be told to find all checks containing "util."

Balancing your checkbook is also a breeze. First mark all cleared checks in the register. Then type in the ending balance from your bank statement. *Quicken* then tells you if there's a problem and offers advice as to how the problem may be resolved. All in all, *Quicken* is one home financial package even cynics will love.

Product: *Quicken*

Price: \$79

Company: Intuit, PO Box 50787, Palo Alto, Calif. 94303, 415-322-0590

Requirements: Apple IIc, IIe; disk drive; printer

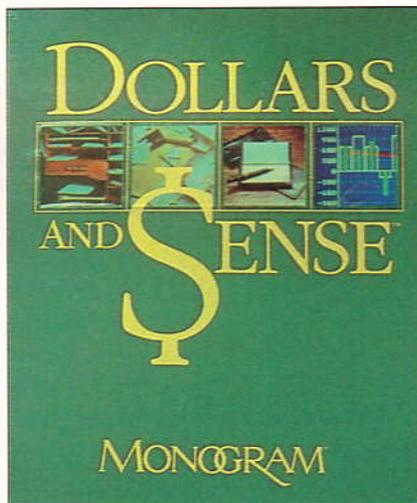
Supports: *Appleworks* interface; second disk drive recommended; UniDisk 3.5 pending; Apple II Memory Expansion Card pending

Dollars and Sense

Sensible Money Management

You've received a raise, your pet stocks are performing nicely, last week's garage sale was a hit, and you still can't save any money. Sound familiar? It's the same syndrome that strikes everyone from General Motors to your next-door neighbor. You've got to make a budget and stick to it, because a budget will help you know where to make adjustments when next month's medical bills go through the same roof that last month needed replacing.

The problem for most folks is organization. Most of us throw receipts into a shoe box that often lies hidden until tax



Dollars and Sense

time. *Dollars and Sense* can take that same information, and, with a little disciplined help from you each month, turn it into a flexible and adjustable financial road map. What's more, with regular use, *Dollars and Sense* will save you considerable time with your taxes.

Dollars and Sense can manage a home budget or keep the books for a small business. In fact, three different charts of accounts are included (the user may also design his own): household, business, and

another designed strictly for tax preparation. This means that a single user can keep several account disks to manage everything from the local charity to his own estate.

A separate tax program called *Forecast*, that works either stand alone or with data from *Dollars and Sense*, is also available. It automatically performs most tax calculations, including dividends, interest, and capital gains, and sells for \$49.95.

Dollars and Sense is not for the individual who wants little more than a balanced checkbook, although it can handle this chore and print checks to boot. Rather, it provides a way to carefully track where the user's money goes. It does so by organizing cash flow into accounts that are defined by the user at the onset of the program. For example, up to 120 accounts can be set up for such everyday items as a Personal Checking account, Credit Union, Home Mortgage, Groceries, and so on. You can get a list of accounts anytime by pressing Control-N.

One of the best ways to use *Dollars and Sense* to manage a budget is to compare actual account expenditures with budgeted amounts. The program makes this easy since information may be presented in graph form. Color bar and distribution graphs can instantly show on the screen what's over and under budget so adjustments may be made to various accounts. This feature is perfect for what-if analysis of where money is spent. For example, the question "What would happen if we spend \$200 on drapes next month instead of \$400?" can quickly be answered.

Dollars and Sense is equally strong with reports. You can get an instant year-to-date update for every account, and find out immediately how much you've been spending for utilities, entertainment, car payments, and so on.

As with any program of this caliber, *Dollars and Sense* will take careful planning to get running. Once done, a little monthly discipline on the user's part will forever answer the eternal question,

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"Where did the money go?"

Product: *Dollars and Sense*

Price: \$100 (Apple II+, IIe); \$119.95 (IIc)

Company: Monogram, 8295 S. La Cienega Blvd., Inglewood, Calif. 90301, 213-215-0529

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Second drive recommended; UniDisk 3.5; several printers; color monitor

Financial Cookbook

Money Managing Recipes

When was the last time you tried to figure out which bank *really* had the best IRA or which car dealer offered the lowest monthly payments? Answering such everyday financial questions is what *Financial Cookbook* is all about.

The program helps you determine how much payments will be, how long it will take to save a certain amount, how long it will last, and so on. It contains 32 topics, referred to as recipes, that include "Understanding Your Marginal Tax Rate", "An IRA's Future Value", "Variable Rate and Payment Mortgages", "Refinancing Your Home", and "A Loan's Interest Rate", to name a few.

Before using the program you have to state a problem. One we came up with was, "How much would we have in five years if we started putting \$500 a month in a savings account?" We went over the different recipes to see which of the 32 would help us. Recipe three, "Monthly Savings Deposit", sounded like the correct choice. We moved the highlight to recipe three and hit Return.

After the recipe came up, we were able to find an ingredient that best matched our problem: "Finds what regular monthly savings deposits earn over time." Underneath this sentence was a small list of factors involved in answering our ques-



Financial Cookbook

tion. Next to this list we entered numbers reflecting monthly deposit amounts, number of years, interest rate earned, compounding periods, marginal tax rate, and inflation rate.

The answers were then computed and a table of figures appeared showing, from year one to year five, what our interest, tax paid, balance, and buying power would be. The numbers originally entered can be changed at any time (for example, to check out a higher interest rate) and the results will be recomputed.

The manual is basic and straightforward. It defines the purpose of each recipe, describes how it works, and gives examples of what kind of answer and table to expect. A technical appendix with definitions and fundamental formulas used in the program is included, as is a glossary that defines financial terms.

Product: *Financial Cookbook*

Price: \$50

Company: Electronic Arts, 2755 Campus Dr., San Mateo, Calif. 94403, 415-571-7171

Requirements: Apple II, II+, IIc, IIe; disk drive

Supports: Mouse

Personal Money Matters

Bargain Budgeting

Personal Money Matters is an affordable, versatile package that provides financial planning and record keeping on three

disks: *Budget Master*, *The Organizer*, and *Loan Calculations*. Designed with the novice user in mind, each program clearly indicates what information to enter, shows where to enter it, and prints well-organized reports for easy reference.

Budget Master balances bank and credit accounts, sets spending priorities, and records expenditures. Up to three check-book account entries can be monitored. The program lets you keep track of all income and expenses and compares budgeted amounts. Up to 30 income and expense categories may be included. This is adequate for most home accounting purposes, but probably not sufficient for business use.

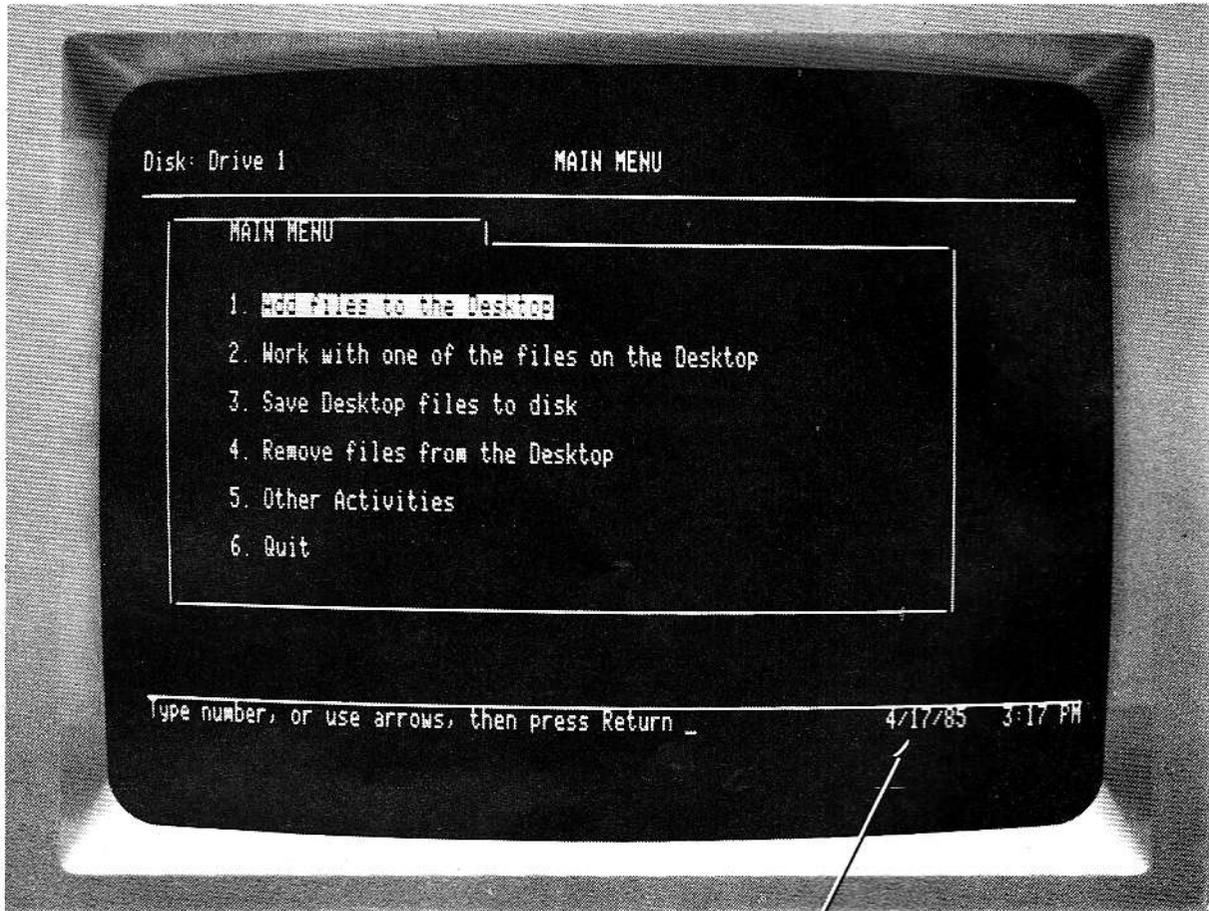
A handy what-if option shows how additional income or expenses might affect a budget without altering the original budget. Graphic displays allow you to forecast long-term trends.

The Organizer is a convenient filing system for recording vital information about financial assets, legal affairs, and possessions. You can file away important data on personal belongings, such as purchase prices and serial numbers, and then retrieve any of it using key-word searches. A follow-up option may also be used as a tickler file to keep you posted on maturity dates, birthdays, and so on. In addition, *The Organizer* can keep track of securities, real estate, and IRA/Keogh investments. Screen prompts help you create, update, search for, and print the information.

Loan Calculations is actually a number of separate programs useful for making good borrowing and investment decisions. From a menu selection you can quickly calculate loan payments, principal, interest rates, and payoffs. You can compute an amortization schedule, analyze savings and investment opportunities, calculate the value of an IRA, or determine retirement income needs.

The friendliest aspect of the program is its consistent screen commands. On the other hand, the three separate disks are

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Personal Money Matters

not as tightly integrated as they could be. For anyone on a tight budget, however, *Personal Money Matters* is hard to beat.

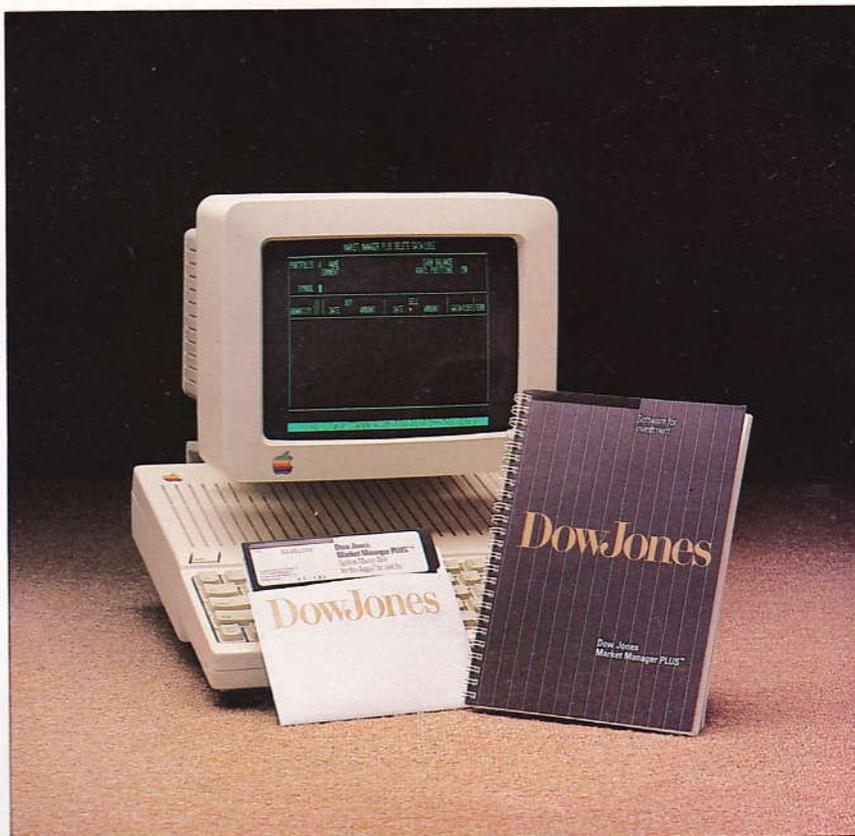
Product: *Personal Money Matters*

Price: \$49.95

Company: Avant-Garde Publishing Corp., 37B Commercial Blvd., Novato, Calif. 94947, 415-883-8083

Requirements: Apple II+, IIe, IIc; disk drive

Supports: Second disk drive; several printers



Market Manager Plus

Market Manager Plus

Computerizing Your Portfolio

One of the problems faced by anyone dabbling in securities is portfolio management. Too often, it's a messy affair. How many investors can tell you exactly what their portfolios are worth without spending hours in front of a mound of papers and a calculator?

Market Manager Plus can instantly tell you the value of up to 26 portfolios with up to 150 open tax lots. Moreover, it keeps records and prints useful reports for special occasions such as tax time. It does all this by incorporating elements of a communications program that automatically downloads information from the Dow Jones News Retrieval service, together with a customized file manager specifically targeted at portfolio management.

The communications aspect of *Market Manager Plus* is not required for ordinary record-keeping purposes, and using this feature will require a modem and a Dow Jones account. (Dow Jones offers an on-line data-base service that charges an hourly rate for telephone connection time, plus extra fees for accessing certain data bases.) One hour of free time on Dow Jones is provided with the program, however, and using some of the software's more advanced features will require periodic usage of this data-base service.

Market Manager Plus is a menu-driven system. The master menu lists the options available: Communications, Portfolio Maintenance, Report Generation, Security Pricing, and Utilities. Any of these choices brings up another menu listing more possible selections. If you can't remember which menu leads where simply press Escape at the master menu. A "menu map"

appears listing all options available at once.

First-time users will normally select the Portfolio Maintenance menu, where they may begin entering their portfolio information. The program needs to know each security's name, symbol, date bought/sold, dividend, quantity purchased, price per share, commission, and security type. Types of securities include stocks, bonds, options, mutual funds, treasury issues, and cash equivalents.

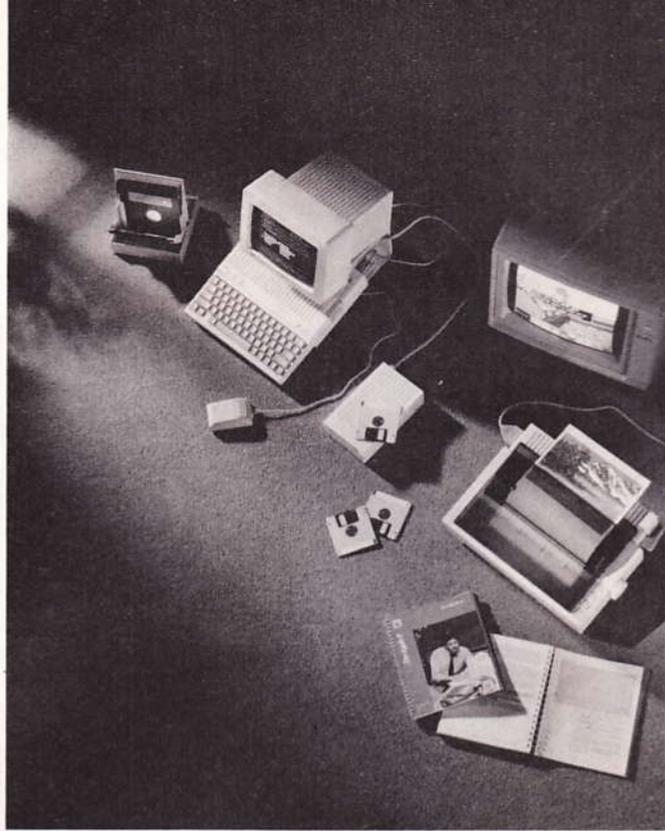
One interesting feature is the program's Price Alert option. You can enter in advance a stock's upper and lower price limits that you're willing to tolerate. Whenever the program discovers that this barrier is broken, such as when you're logged onto Dow Jones receiving price quotes, an advisory appears warning you of the situation. The advisory may be viewed on the screen or printed. While

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Apple II
The Review

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List up to three of your favorite Apple II programs. Also mention vendor.	61	62	63	64	65	66	67	68	69	70
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The Apple II Review is the only Apple-related magazine devoted specifically to product reviews and descriptions. The next issue is underway and will contain more new pro-

duct reviews, helpful features, and Apple II news. A special "classics" section will make this issue a one-stop shopping guide to the best of new and older Apple II products. It will be a must for anyone considering a software or hardware purchase in the weeks ahead.

The Winter 1985 edition of *The Apple II Review* will be out in December, 1985—just in time to help readers make Christmas buying decisions. For advertising information call

Joe Weibel, Tim Carney, or Sandy Engelhardt at Redgate Publishing Company, 305-231-6904.

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Software That Helps You Work Smarter

If your daily activities include working with numbers or words, chances are good there's some off-the-shelf software that can make you more productive.

We know from firsthand experience that computers can make us more productive. It's measured somewhat fleetingly in the enhanced quality of the words we write, the accuracy of information we store, or improvements in our budget projections. Defining just what productivity *means* is a little more difficult. For purposes of this section, we've loosely interpreted productivity software to mean any package with the potential to significantly increase the amount of work performed each day by a typical office staffer working with numbers and words.

This admittedly imperfect definition covers a lot of ground, including word processing, filing, accounting, spreadsheets, communications, and business graphics. As a result, "Productivity Software" is the largest section in this magazine and probably the most important.

While productivity software is commonly used in offices it's by no means restricted to this setting. In fact, productivity software can be just as effective at home after hours as it is working the nine-to-five grind. If there are any "home" or "business" productivity packages that need to be differentiated we don't know about them.

There is one caveat that needs to be mentioned before introducing the software categories that follow. One of the most "productive" software packages on many Apple II-family computers is *Appleworks*, an integrated product from Apple Computer, Inc. that happens to be out-selling everything else in the industry. *Appleworks* accessory products are appearing that add even more functions to this popular program. Given the importance of *Appleworks*, we've decided to create a special category just for it in this magazine. That category immediately follows this section.

The Importance of Hardware

Ever since the advent of *Visicalc* on the Apple II, the first spreadsheet program to appear on a personal computer, the Apple II family has been associated with productivity software. A good reason for this is the Apple's versatility and hardware expandability.

Many of the new productivity packages reviewed in this section take advantage of the latest features in Apple II hardware and software, including increased mass storage, use of the Scribe and Imagewriter II color printers, and support of the Apple II Memory Expansion Card. A number of programs also support *Catalyst*, a new desktop environment described here in detail.

Word-Processing Software

By some accounts, more than half of all personal computers in use today are dedicated to word processing. Even users with many other applications typically spend a good portion of their time processing

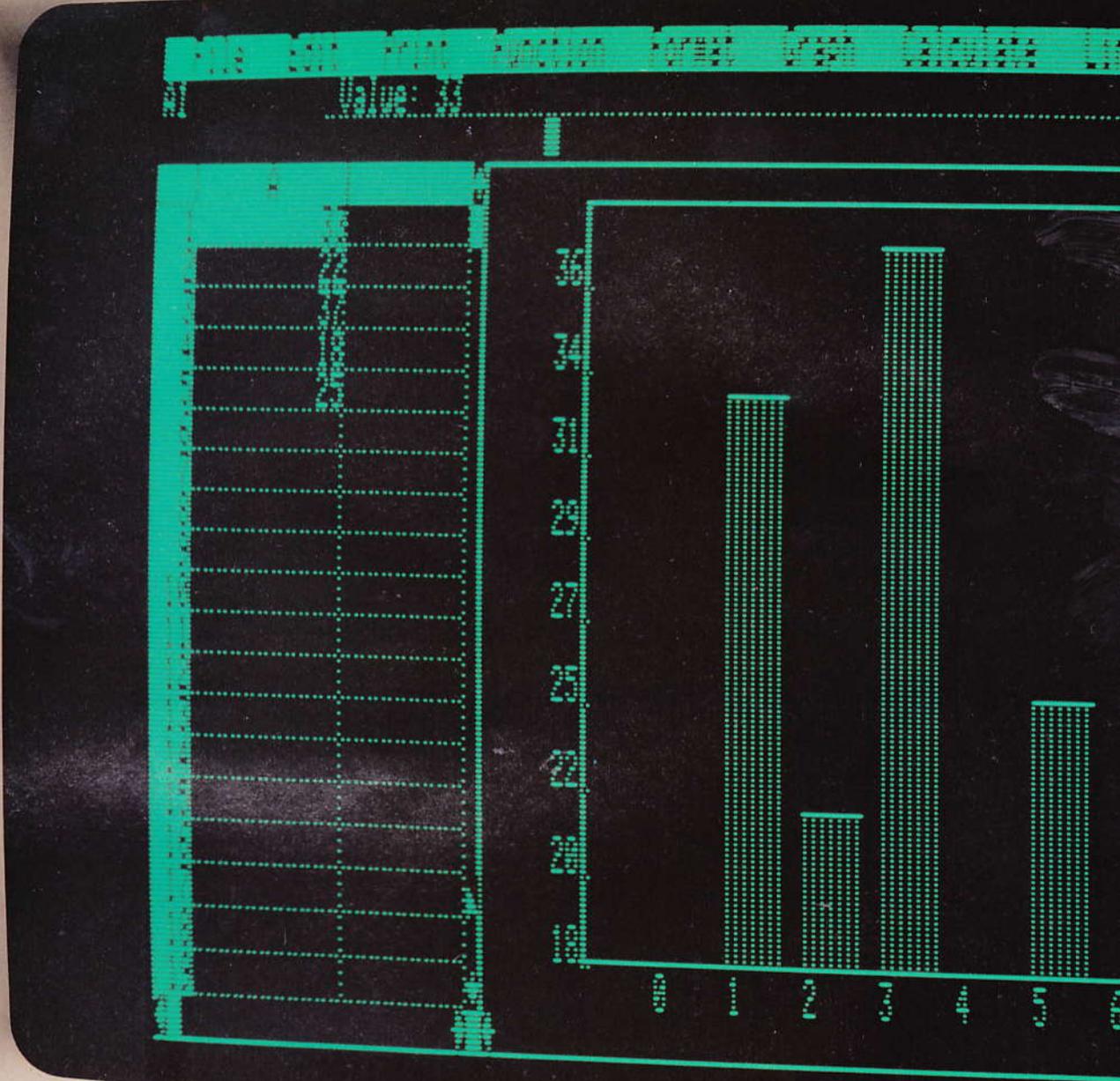
words. For this reason it makes sense to invest in a quality word-processing package that meets all of your requirements.

There are dozens of competent word-processing packages available for Apple II computers. The ones reviewed here or described on the following pages are either new and sport a number of interesting features, such as use of the mouse and windowing, or are proven and powerful packages. A few others are really word-processing components within integrated programs.

Integrated software packages usually combine word processing with a number of other common office requirements, including spreadsheet analysis, file management, and, occasionally, business graphics. A number of integrated packages are reviewed separately in this section under the "Integrated Software" heading.

Spreadsheet Software

If word processing is the most popular productivity software category around then surely spreadsheets are close runners-up. Spreadsheets make it possible to analyze data normally displayed in rows or columns, including departmental budgets, profit-and-loss statements, and income projections. The spreadsheet



phenomenon originated on the Apple II, so it seems fitting that a new spreadsheet generation is dawning on the latest Apple IIc and IIe computers.

Many of the spreadsheets reviewed in this section utilize new capabilities available only on the Apple IIc and IIe computers. These features include use of pull-down menus and the mouse and double high-resolution graphics for crisp graphics displays. Another spreadsheet program reviewed here foregoes use of the mouse but has a few other pleasant surprises. Suffice it to say that this program is a power-packed spreadsheet that turns the Apple II into an analytical tool equal to, or better than, most other personal computers.

Filing Software

Another popular productivity software category explored in the following pages is file-management software, a catchall phrase for packages that help organize information. File-management programs are available in many shapes and sizes, from Rolodex-like card catalogs to full-blown data-base management systems (DBMSs) sophisticated enough to run an entire business.

In this section we examine five file-management packages. One employs a Macintosh-like interface for easy filing and reporting. Another duplicates on the computer screen business forms that look and work just like their paper equivalents. Of the remaining three packages, one makes full use of the ProDOS operating system for some interesting effects, the second provides extreme ease of use, while the third introduces the concept of specialization in file-management software.

No productivity section would be complete without including accounting software. Computers free accountants and small businessmen from the drudgery of accounting, giving them time to study how their businesses are run and to plan new strategies. Several excellent accounting packages are available for the Apple II

family. The one examined here is a relatively new package with a brand-new, *Appleworks*-style user interface.

Desktop Software

One of the newest software categories to debut on Apple II computers is "desktop" programs or accessories. These packages utilize the Apple II's latest capabilities to use pull-down menus, double high-resolution graphics, and windows in order to offer the same easy-to-use operation as popularized on the Macintosh computer. Just like the Macintosh, both of the products reviewed here work best with a mouse.

Ultimately, desktop programs will help pave the way for a united software environment where many Apple II packages operate in the same, consistent manner. *Catalyst*, a universal environment reviewed in the following pages, already has a number of packages lined up that support its desktop features, some of them reviewed in this magazine.

Even with limited support from other applications, desktop packages often offer a number of useful features in their own right. Among the features available with *Pinpoint* are a calculator and calendar instantly available with one or two keystrokes or a click of the mouse.

Both *Catalyst* and *Pinpoint* are so new that we were only able to examine preliminary versions. Still, we're impressed with what this productivity category forecasts for the months ahead.

Etcetera

We've included a number of other kinds of software under the productivity-software roof, including a popular communications package, a unique outline generator, and a utility package that diagnoses problems with computers. By themselves, each of these productivity packages is as different as the keyboard and mice. Yet, when viewed as a whole, a pattern emerges that speaks well for the

entire Apple II family.

No other personal computer offers such a rich selection of productivity software in addition to a vast library of educational, entertainment, and drawing programs. ■

Accounting

BusinessWorks

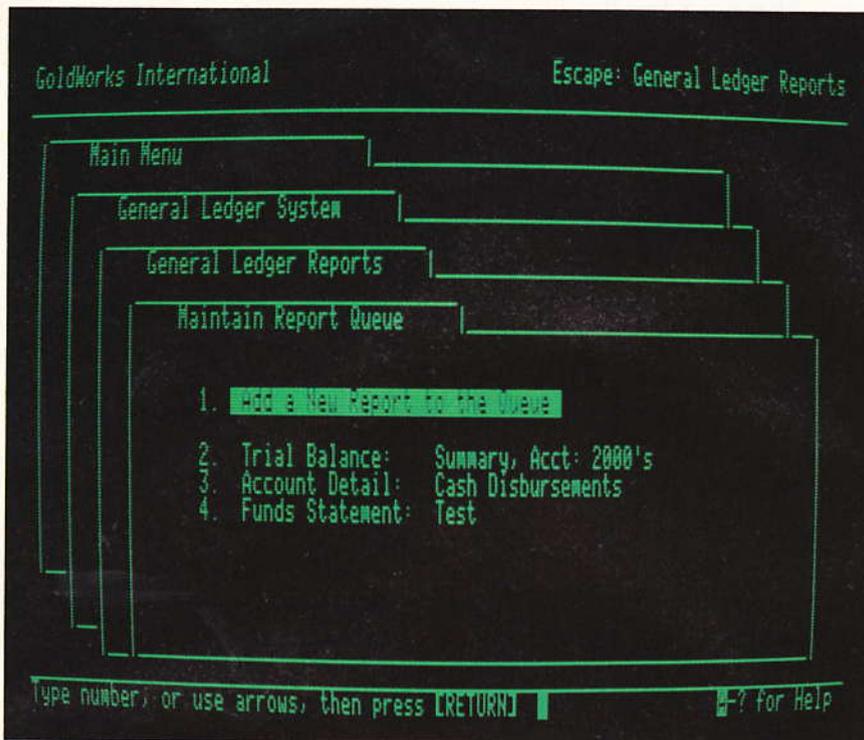
It's All Business

Businessworks is a complete, double-entry accounting system consisting of general ledger, accounts payable, accounts receivable, inventory, and payroll modules. The modules can be used individually or be fully integrated with the general ledger. A system-manager module, which includes a mailing-labels program, is required when using any of the modules.

Businessworks differs from other accounting programs via its *Appleworks*-style user interface and full support of the new Apple II environment. Much like *Appleworks*, *Businessworks* uses overlapping file cards and includes Help messages for explaining each system prompt. It can also send financial information to *Appleworks* spreadsheet and data-base files. Data is entered in response to prompts as they appear on the bottom of the screen, and windows containing customer information are available at any time.

The software is tailored for use on two UniDisk 3.5 high-capacity drives or on a ProDOS-compatible hard-disk drive. When used with the new UniDisk 3.5 drives in this way, *Businessworks* can provide most of the advantages of hard-disk storage for the reasonable price of an Apple II system.

Businessworks provides all the features we have come to expect from today's small-business accounting programs. For instance, the general ledger can maintain up to 500 user-defined accounts with



BusinessWorks

support for recurring journal entries. Financial reports include budget versus actual income statements, comparative statements, and a source and use-of-funds statement.

The system maintains 13-month, history-of-account balances and allows posting to previous months within the current fiscal year. Up-to-the-minute financial statements can be produced to increase management efficiency.

Accounts receivable can track information for up to 1,000 customers. The system provides on-screen review of customer credit status as well as detailed analysis of past-due bills. Customers can be set up on either an open-item or balance-forward basis. Sales recorded in accounts receivable will decrease stock on hand if both accounts receivable and inventory control are being used.

Automatic transaction posting is also supported when the general ledger is used. Further, accounts receivable information can be password protected to prevent unauthorized entry to the system.

The accounts payable system can handle detailed information for up to 1,000 vendors. Checks can be produced automatically as well as manually. Accounts payable supports check voiding, partial payments, debit and credit memos, and checkbook reconciliation.

Inventory control maintains information on up to 1,000 inventory items. Such information includes year-to-date issues, receipts, and adjustments. Inventory can be set up using one of four available costing methods: standard costing, average costing, LIFO, or FIFO.

The Payroll system tracks vital statistics on up to 300 employees. Current federal and state tax tables for all states are provided as well as a provision for generating printed and handwritten checks. The program handles both cash and charged tips and will calculate appropriate FICA deductions.

We found the documentation to be well organized and useful. Not only is the program sufficiently explained, but the user gets an introduction to basic accounting

principles as they apply to each module. Context-sensitive help screens are also provided as a guide to understanding the sometimes complex operation of the program.

Product: *Businessworks*

Price: \$95 (System Manager), \$445 (Payroll), \$395 (All other modules)

Company: Manzanita Software Systems, One SierraGate Plaza, Suite 200-A, Roseville, Calif. 95678, 916-781-3880

Requirements: Apple IIe, IIc; two disk drives

Supports: ProDOS; *Appleworks* interface; UniDisk 3.5; hard-disk drive; several printers

Communications

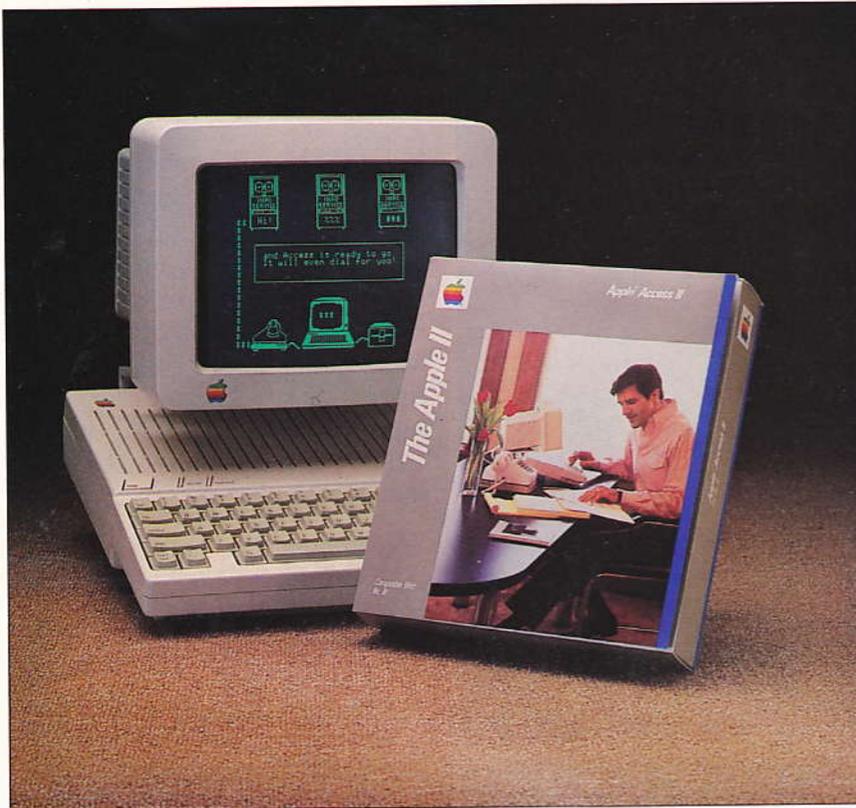
Apple Access II

The Great Communicator

Apple Access II is a telecommunications package that transforms an Apple IIc or IIe into an intelligent terminal that can communicate with other computer systems. When used with a modem and standard telephone lines, it can connect an Apple to electronic "bulletin boards" or on-line data-base services such as CompuServe and Dow Jones/News Retrieval service. We used the package for over a month and were impressed with its many capabilities.

While *Apple Access II* is packed with features that help make telecommunications easier and more effective, it never seems to overwhelm the user with details. One reason for this is its *Appleworks*-style user interface that breaks the program down into logical file-card menus. Just like *Appleworks*, *Apple Access II* uses the Escape key for moving to underlying menus. It also uses a number of easily remembered Open Apple commands. Open Apple P, for example, automatically prints whatever is on the screen during a communications session.

Communications



Apple Access II

The program's main menu is an uncluttered file card with eight options to choose from. Among these are "Dial a Service", "Transmit a File", "Utilities", and "Set Up Communications". The first time we ran *Apple Access II* we decided to store some of the numbers we frequently call in order to avoid reentering them each time we used the system. This is done by selecting "Set Up Communications" on the main menu.

After the Set Up menu appeared in an overlapping file card we chose option six, "Enter Auto Dial Numbers", and were given another file card for storing up to nine numbers. We entered a few numbers and specified that we wanted touch-tone dialing.

Not all computer systems communicate in the same way, so *Apple Access II* provides a lot of leeway for making adjustments. Some of the bulletin boards we use, for example, only communicate at

300 baud, while others use 1200 baud. What's really nice about this package is that it can "remember" exactly how it should respond after a configuration is set up and working. Once you've got the telephone number entered, figured out what baud rate the computer at the other end uses, and set a few other options, you can choose "Save the Current Access Configuration" from the Set Up menu. Thereafter, dialing a number is just a matter of making a few menu choices.

Apple Access II can receive and send files to and from other computers. Received files are eventually stored on disk in the standard ProDOS format, where the user specifies both a volume name and file name. Virtually any ProDOS files may be transmitted, including Applesoft programs, graphics, and *Appleworks* files.

For really important file transfers, *Apple Access II* can utilize the Christensen error-

checking protocol (also known as XMODEM). This protocol checks to see that everything is received exactly the way it was transmitted. If an error crops up, which sometimes happens over noisy phone lines, the "bad" portion of the file is retransmitted until it's correctly received. The Christensen protocol is a de facto standard on many bulletin boards, and we're glad to see it included in *Apple Access II*.

While this software can be up and working in minutes, *Apple Access II* also has many features that tempt further exploration. It can, for example, emulate a VT-52 terminal in addition to the more standard TTY and ANSI terminal settings. It can also be customized with command files. These are special instructions that can be used to automate lengthy log-on procedures to on-line data-base services. Several command files are supplied with the program. Others may be created by anyone willing to study the special, built-in programming language that handles this chore.

Product: *Apple Access II*

Price: \$75

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple IIc, IIe; disk drive; modem

Supports: ProDOS; *Appleworks* interface; second disk drive; UniDisk 3.5; Profile hard-disk drive; several printers

Desktop

Catalyst

Almost a Macintosh

Catalyst, version 3.0, is a unique program that perhaps forecasts the Apple II's new Macintosh-like environment better than any other. In a nutshell, *Catalyst* is an applications selector, or environment, that allows you to move all your ProDOS programs onto a single high-capacity drive

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Improved Version**

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with a complete**



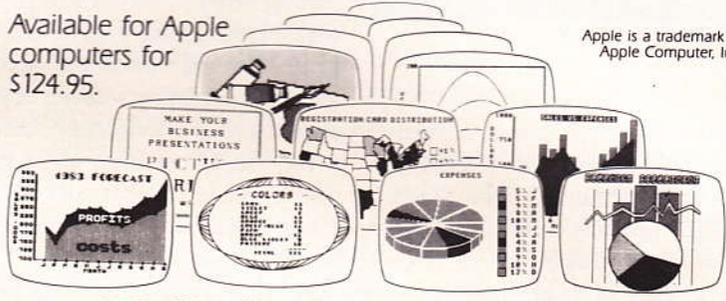
Graphics Department™

Some software packages only do charts, others only do lettering, or only "slide" showing. The menu-driven Graphics Department program combines all of these and more into one package.

Build any type of graph; add titles and other lettering; draw ellipses, points, lines, rectangles; "paint" in 100 colors; present a "slide show" and manage your library of picture data. This new updated version of the Graphics Department can even produce area charts and 3-D pie charts, has more fonts and prints on most printers. It does it all!

Available for Apple computers for \$124.95.

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Circle 28 on Reader Service Card

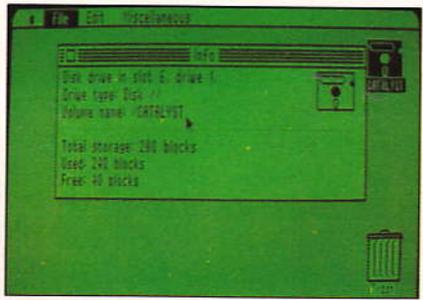
such as a hard disk or Apple's new UniDisk 3.5. *Catalyst* then becomes the "desktop" from which other applications are shuffled on and off by simply pointing and clicking the mouse. It even allows many copy-protected programs to be moved to a single drive.

What initially stands out is the *Catalyst* user interface. Take a good look at the Macintosh. Note the pull-down menus, click-on windows, trash-can icon, calculator, and puzzle. Now imagine this same environment on an Apple IIe or IIc, using the II's double high-resolution graphics, and you'll begin to understand what *Catalyst* is all about.

We were able to review an early alpha copy of *Catalyst*. At this stage the program was still missing a few features. Scroll bars, for example—the area surrounding windows that control scrolling and window sizing with a mouse—were not working, and the calculator desktop accessory was limited to two-function math. Still, the program was working well enough for its vendor to "seed" many other software developers, who are now making their programs compatible with *Catalyst*.

After booting *Catalyst* a small wrist-watch icon appears as the program is loading. The screen then fills with a menu bar at the top and icons representing each disk drive connected to the Apple. Double-clicking the mouse on these icons opens a window displaying more icons representing everything stored on these drives. When the mouse is again double-clicked on one of these program icons, the program runs just as if it had been booted individually.

Catalyst will work without a mouse, but we can't imagine using it this way. Too much depends upon moving the cursor quickly about the screen. The mouse is used to select windows and drag them around for positioning. It's also used for everyday housekeeping functions such as filing. To remove programs from a disk just select the appropriate icon with the mouse and drag it into the trash.



Catalyst

One of the most exciting things about *Catalyst* is that it presents a single, uniform environment you can return to after running a program. Most programs simply force you to reboot when exiting, or leave you stranded in BASIC. With *Catalyst* you'll be able to return to *Catalyst* and select another program to run without rebooting or switching the computer off and on.

We used *Catalyst* on an Apple IIc with two standard disk drives and a mouse and it worked fine. It's easy to see that it will work even better on an Apple IIe equipped with a UniDisk 3.5 and the new

Apple II Memory Expansion Card, which *Catalyst* also supports. According to the vendor, *Catalyst* can automatically move compatible programs from disk to the new memory card, thereby radically improving performance.

Product: *Catalyst*

Price: \$149

Company: Quark, Inc., 2525 W. Evans, Suite 220, Denver, Colo. 80219, 800-543-7711

Requirements: Apple IIc, IIe; two disk drives recommended

Supports: ProDOS; UniDisk 3.5; hard-disk drive; Apple II Memory Expansion Card; other ProDOS and *Catalyst*-compatible programs

Pinpoint

Always Available

Just when most folks are convinced that major software categories have been defined, along comes something new that nobody can do without. Last year's sur-

Desktop



Pinpoint

prise hit on the IBM PC was an inexpensive desktop accessory called *Sidekick* from Borland International. *Sidekick* raced to the top of the sales charts by providing what few realized they even needed—a simple calculator, notepad, phone dialer, and calendar available from any application at the press of a key.

Until recently, the Apple II world was without a *Sidekick* equivalent. Now, however, there's *Pinpoint*, a new program that duplicates many *Sidekick* functions while adding a few of its own. We were able to review a "pre-Alpha" release of the program. As such, its functions were still incomplete and a few bugs were left to iron out. Nevertheless, it has all the makings of a great package.

The commercial version of *Pinpoint* will work with many ProDOS packages, although our review copy could only use *Appleworks*. After loading *Appleworks* and any files onto the desktop the *Pinpoint* disk is placed in the second drive. As an alternative, the program may be loaded from a hard-disk drive. The best way to use *Pinpoint*, however, is to load the entire program into RAM using an Apple II Memory Expansion Card.

Once loaded, *Pinpoint* allows normal *Appleworks* functions to be performed but with a significant twist. When the Closed Apple C key sequence is pressed, up pops an "Accessories" menu on the screen. From here, any desktop accessory function may be accessed using the arrow keys while *Appleworks* waits in suspended animation.

Our version of the program had the

following accessories working: a notepad; calendar; calculator; and autodialer. Production versions will have these functions and more, plus the capability for users to add their own accessories.

Accessing the notepad, as with the other accessories, is done by highlighting Notepad on the Accessory menu. After pressing Return, a few seconds go by while *Pinpoint* loads from the second drive. A notepad window then appears on the screen overlaying whatever *Appleworks* function is temporarily abandoned.

The notepad uses many of the same Open Apple key combinations as *Appleworks*. Notes may be filed away at any time by pressing the Escape key.

The ability to jot down notes while working in *Appleworks* may sound redundant. After all, *Appleworks* is an integrated program with its own built-in word processor. *Pinpoint*, however, allows quick notes to be taken without the hassle of creating a new document. What's more, notes may be interchanged later with *Appleworks* documents.

Other accessories are equally easy to use. The calendar brings up a window containing a chart of the entire month where daily messages can be recorded. The calculator provides a simple on-screen calculator for Apple II users jealous of their Macintosh friends. And the autodialer can automatically dial any telephone number on the screen, saving the user the trouble of dialing. This function is even smart enough to know the difference between a long-distance and local call.

Pinpoint really works best on the "new" Apple IIs, especially those with RAM to spare. It runs on a stock Apple IIe or IIc, but it takes longer to load from standard drives and some of its functions are limited (e.g., the notepad bottoms out at 32 lines on a 128K Apple II). Even on a more modest Apple II, however, we can think of many situations where we wouldn't want to be without *Pinpoint*.

Product: *Pinpoint*

Price: \$69.95

Company: Pinpoint Publishing, Inc., PO Box 13323, Oakland, Calif. 94661, 415-530-1726

Requirements: Apple IIc, IIe; two disk drives

Supports: ProDOS; *Appleworks* interface; UniDisk 3.5; Profile hard-disk drive; Apple II Memory Expansion Card

Filing

PFS:FILE and PFS:REPORT

The Classics Revisited

PFS:File and its companion reporting option, *PFS:Report*, are two important products in the popular PFS family from Software Publishing Corp. In terms of copies sold, *PFS:File* is one of the most popular computerized filing systems of all time, with versions now available for several computer models.

PFS:File originated on the Apple II. Now that the Apple II is being outfitted with a number of exciting new options, including the UniDisk 3.5 and Apple II Memory Expansion Card, it seems fitting that new ProDOS versions of *PFS:File* and *PFS:Report* are here to take advantage of these features.

What makes *PFS:File* so popular is that it's both easy to use and does nearly everything that most people need in a file manager. There are other programs around with more bells and whistles, but they usually are tougher to deal with. We have office staffers around using *PFS:File* who otherwise wouldn't get near a computer.

In *PFS:File* all information is organized in electronic forms that are designed right on the computer screen. A simple name-and-address form, for example, can be created by typing the following field names wherever they look best on the screen: Name, Address, City, State, and Zip



PFS:FILE and PFS:REPORT

Code. Forms can get a lot larger than this. In fact, a single form can hold up to 31 pages of information.

Once a form is created, adding information to it is easy enough. Just select "Add" from the main menu. Up comes the form that was previously designed. Now just fill in the blanks with information, using the Tab key to move from field to field. If you find yourself typing the same information over and over—say, "Atlanta" in the City field—PFS:File can "memorize" this information with a single keystroke. Another keystroke retrieves it whenever it's needed.

Retrieving information is also based on forms. Records are searched and sorted based upon the information entered into an empty form. If, for instance, you need every record containing a certain zip code simply enter that number in the appropriate field and PFS:File quickly finds those records for you. This information may be viewed on the screen or printed out.

PFS:File can handle full-item matches, partial matches, numeric-range matches (e.g., "give me all part numbers under 100"), and "not" matches.

While PFS:File can retrieve and print in-

formation from any record and is ideal for generating simple reports such as mailing labels, PFS:Report has more sophisticated reporting capabilities. Perhaps the most significant of these are tabular reports that can show many records at a glance. Data can be sorted alphabetically or numerically, and totals, averages, counts, and other calculations may be added. PFS:Report automatically formats reports with centered titles, column-width adjustments, page numbers, and so on.

The new ProDOS version of PFS:Report adds several nice features to these software classics. The "what's new" list for PFS:File includes the ability to read Appleworks and ASCII data-base files, a search and update feature for alphabetic ranges, and the ability to insert data into PFS:Plan spreadsheets. Meanwhile, the latest version of PFS:Report can now produce reports in ASCII format for use in other programs and can also be used with PFS:Write to add data tables to documents.

The PFS family of products can be used individually or with one another. PFS:File, for example, can be used with PFS:Graph to create visual representations of data or with PFS:Write to create form letters.

Product: PFS:File; PFS:Report

Price: \$125 (PFS:File); \$125 (PFS:Report)

Company: Software Publishing Corp., 1901 Landings Dr., Mountain View, Calif. 94043, 415-962-8910

Requirements: Apple IIc, IIe; disk drive

Supports: ProDOS; UniDisk 3.5 (3½-inch disk supplied); Profile hard-disk drive; Apple II Memory Expansion Card; several printers

Profiler

A ProDOS Professional

Operating systems usually remain invisible to computer users who don't meddle in such things as programming and systems integration. For the majority of us who spend our time word processing,

filing, and just plain using applications software, operating system issues rarely come up.

Nevertheless, when Apple Computer switched its emphasis last year from DOS 3.3 to ProDOS, compatibility conflicts began to ripple throughout the Apple II user community. Perhaps the most common problem is when a favorite package written in one operating system—for instance, a word processor—is unable to share information with another product written in something else.

Now that ProDOS is firmly established as the operating system of choice, more packages are appearing that take advantage of its capabilities. Among them is Profiler, one of the first ProDOS-based file managers on the market and also one of the least expensive. While Profiler won't solve your ProDOS to DOS 3.3 incompatibility woes, it does work well with many other ProDOS programs on the market, including the ProDOS-based Apple Writer II (a built-in mail-merge feature is included).

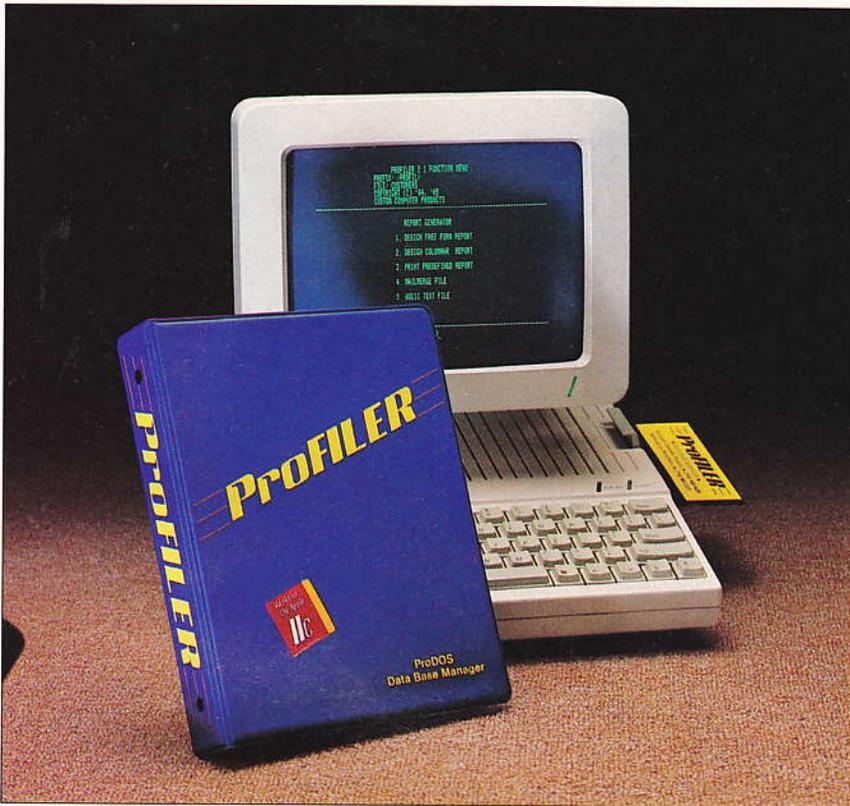
Profiler is an easy-to-use system, but that alone doesn't set it apart from the crowd. What does are its many features, which are uncommon in a file manager in this price range. Setting up file forms, for example, is a snap. Simply position the cursor wherever you want fields on the screen (such as Name, Telephone Number, and so on), press a key, and you're ready for the next field.

Records containing up to 16 screens of information may be created. Depending on record size, up to 1,500 records can be stored on floppy disks, and up to 65,000 records on hard disks supporting ProDOS. The program is not copy protected.

When creating forms, Profiler allows you to specify up to three fields to be used for indexing. The program searches and sorts a data base on these fields, so important fields such as zip-code numbers are usually indexed.

Records may be browsed one by one, or specific records matching search criteria—such as all last names of

Filing



Profiler

“Smith”—may be searched. *Profiler* also supports wild card searches. This means that you can find records based on partial information, such as all records that contain “Inc.” in a “Company” field.

We particularly liked *Profiler*’s report generator. Two report styles are available: free-form and columnar. Free-form reports are extremely flexible and allow the user to place any information contained in the fields anywhere on paper. Reports may also be saved for later use, which is nice for common “reports” like mailing labels.

Columnar reports draw information from the same records and place it in columns, a notable feature for reports dealing with numbers. Speaking of numbers, *Profiler* also supports a wide range of mathematical operations in report formats for determining totals, averages, and so on.

We liked *Profiler* and think it will solve most everyday data-filing tasks. Its only

apparent weakness is a lack of error checking within fields—for example, the capability to disallow an alphabetic character within a number field. Otherwise, *Profiler* is a real professional.

Product: *Profiler*

Price: \$89.95

Company: PM Software, 19731 Providence Ln., PO Box 1788, Huntington Beach, Calif. 92647, 714-963-2221

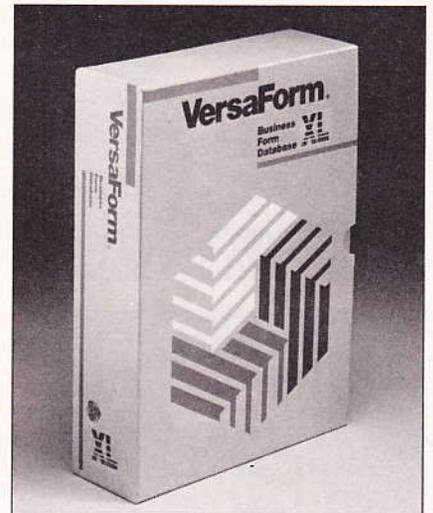
Requirements: Apple II+, IIc, IIe; disk drive

Supports: ProDOS; second disk drive recommended; UniDisk 3.5; hard-disk drive; several printers; 80-column Videx card

VersaForm

No More Paper

Versaform is an easy to use file-management system designed for those



VersaForm

making the transition from a paper to an electronic filing system. Most file managers group similar information into categories called records, which are then filled in with data to create electronic files. *Versaform* is no exception to this practice, although in this case records are called “forms” and they appear on the screen much as they might in paper form.

Versaform is a large program for the Apple II, and is supplied on three double-sided floppy disks in standard 5¼-inch format (a version supporting the UniDisk 3.5 is pending.) Two disks perform filing, copying/printing, reporting, and form design. Another is used as a tutorial.

Before filing begins *Versaform* must be told whether to design a new form or to change an existing form to fit a new format. This is easily done through the Form Design menu. We created a sample file of software vendors, with contact information such as names, addresses, and phone numbers, by selecting the Design a New Form function.

Two of the best features of *Versaform* are its “plain-English” error messages and Help screens. After designing our practice form *Versaform* checked our entry line by line and then politely pointed out problem areas with clear English messages. Other programs might deliver cryptic er-

ror codes or simply not work; not *Versaform*. The program seems designed for businessmen who don't spend much time with manuals.

We were impressed with *Versaform's* sophisticated error-checking routines, a feature almost unheard of for under \$100. Using this option a field containing "Customer Number" can be defined so only numbers—not alphabetic characters—are entered. Or a Zip Code field may be set up so that a minimum of five numbers are entered. As with most *Versaform* functions, adding error checking is simply a matter of following a menu.

Creating reports is another fill-in-the-blanks process. Totaling, subtotaling, and sorting data contained in records is simple. It's also easy to create mailing labels, a function sometimes sold as an add-on with other products.

An entire small business can be automated using *Versaform* as it comes out of the box. Applied Software Technology, however, can make the job easier by supplying add-on modules, or templates, that work with *Versaform* to simplify record creation for such everyday tasks as invoicing, purchase orders, cash receipts, expenses, and mailing lists.

Versaform is a powerful and easy-to-use system at a bargain-basement price. A possible drawback to consider, depending upon your needs, is that *Versaform* uses the p-System operating system, which sometimes leads to compatibility problems with other programs. It's also a large program. Users confined to two 5¼-inch disk drives may become annoyed with shuffling disks.

Product: *Versaform*
Price: \$69

Company: Applied Software Technology, 1350 Dell Ave., Suite #206, Campbell, Calif. 95008, 408-370-2662

Requirements: Apple II, II+, IIc, IIe; two or more disk drives

Supports: UniDisk 3.5 pending; several printers

BOOKENDS

The Reference Management System

Bookends is a data-base system specially designed for reference management. According to the vendor, anyone who references articles found in business magazines, newspapers, and technical journals, including academics who keep track of references for research purposes, will find

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- 9 software programmable full scale ranges, any of the 16 channels can have any range at any time. Under program control, you can select any of the following ranges: ± 10 volts, $\pm 5V$, $\pm 2.5V$, $\pm 1.0V$, $\pm 500MV$, $\pm 250MV$, $\pm 100MV$, $\pm 50MV$, or $\pm 25MV$.
- Very fast conversion (25 micro seconds).
- Analog input resistance greater than 1,000,000 ohms.
- Laser-trimmed scaling resistors.
- Low power consumption through the use of CMOS devices.
- The user connector has +12 and -12 volts on it so you can power your sensors.
- Only elementary programming is required to use the A/D.
- The entire system is on one standard size plug in card that fits neatly inside the Apple.
- System includes sample programs on disk.

PRICE \$319

A few applications may include the monitoring of ● flow ● temperature ● humidity ● wind speed ● wind direction ● light intensity ● pressure ● RPM ● soil moisture and many more.

A/D & D/A

A/D & D/A Features:

- Single PC card
- 8 channels A/D
- 8 channels D/A
- Superfast conversion time
- Very easy programming
- Many analog ranges
- Manual contains sample applications

A/D SPECIFICATIONS

- 0.3% accuracy
- On-board memory
- Fast conversion (.078 MS per channel)
- A/D process totally transparent to Apple (looks like memory)
- User programmable input ranges are 0 to 10 volts, 0 to 5, -5 to +5, -2.5 to +2.5, -5 to 0, -10 to 0.

The A/D process takes place on a continuous, channel sequencing basis. Data is automatically transferred to its proper location in the on-board RAM. No A/D converter could be easier to use.

D/A SPECIFICATIONS

- 0.3% accuracy
- On-board memory
- On-board output buffer amps can drive 5 MA
- D/A process is totally transparent to the Apple (just poke the data)
- Fast conversion (.003 MS per channel)
- User programmable output ranges are 0 to 5 volts and 0 to 10 volts

The D/A section contains 8 digital to analog converters, with output buffer amplifiers and all interface logic on a single card. On-card latches are provided for each of the eight D/A converters. No D/A converter could be easier to use. The on-board amplifiers are laser-trimmed during manufacture, thereby eliminating any requirement for off-set nulling.

PRICE \$199

SIGNAL CONDITIONER

Our 8 channel signal conditioner is designed for use with both our A/D converters. This board incorporates 8 F.E.T. op-amps, which allow almost any gain or offset. For example, an input signal that varies from 2.00 to 2.15 volts or a signal that varies from 0 to 50 mV can easily be converted to 0-10V output for the A/D.

The signal conditioner's outputs are on a high quality 16 pin gold I.C. socket that matches the one on the A/D's so a simple ribbon cable connects the two. The signal conditioner can be powered by your Apple or from an external supply.

FEATURES

- 4.5" square for standard card cage and 4 mounting holes for standard mounting. The signal conditioner does not plug into the Apple, it can be located up to 1/2 mile away from the A/D.
- 22 pin .156 spacing edge card input connector (extra connectors are easily available i.e. Radio Shack).
- Large bread board area.
- Full detailed schematic included.

PRICE \$79

I/O 32

- Provides 4, 8-Bit programmable I/O Ports
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- All I/O lines are TTL (0-5 volt) compatible
- Your inputs can be anything from high speed logic to simple switches
- Programming is made very easy by powerful on-board firmware
- The I/O 32 is your best choice for any control application

The I/O manual includes many programs for inputs and outputs.

Some applications include:

Burglar alarm, direction sensing, use with relays to turn on lights, sound buzzers, start motors, control tape recorders and printers, use with digital joystick.

PRICE \$89

Please see our other full page ad in this magazine for information on Applied Engineering's Timemaster Clock Card and other products for the Apple. Our boards are far superior to most of the consumer electronics made today. All I.C.'s are in high quality sockets with mil-spec. components used throughout. P.C. boards are glass-epoxy with gold contacts. Made in America to be the best in the world. All products compatible with Apple II and IIe.

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Filing



BOOKENDS

Bookends of use. Besides storing author names and titles *Bookends* also tracks the following in its electronic card catalog: journal name, volume, page number, date, publisher, editor, location, key words, and abstracts up to 760 characters each.

To use *Bookends*, first enter descriptive information about the articles and assign key words to identify major topics. Later, when it's time to retrieve information, *Bookends* provides powerful search routines to find what you want. Searches are fast, since the program is written in assembly language, and can use the author's name, key words, and portions of titles. An alphabetized list of authors and key words is available at any time.

Bookends can also generate professional-looking bibliographies, say company spokesmen. Custom-designed printouts that conform to strict standards, such as those required by medical journals, are easily produced.

Several versions of *Bookends* are available. *Bookends ProDOS* and *Bookends Extended* both use the ProDOS operating system, although the Extended version has additional features and may be used on a hard-disk drive. A DOS 3.3 version is also available.

Product: *Bookends*

Price: \$124 (*Bookends ProDOS*); \$149.95 (*Bookends Extended*)

Company: Sensible Software, Inc., 210 S. Woodward, Suite 229, Birmingham, Mich. 48011, 313-258-5566

Requirements: Apple II+, IIc, IIe; disk drive; printer recommended

Supports: ProDOS; UniDisk 3.5; hard-disk drive (*Bookends Extended*); several printers

Integrated



Magic Office System

Magic Office System

The Integrated Apple

Most integrated packages that combine several programs in one do so by sacrificing power. Such is the trade-off for the returned benefits of ease of use, the ability to easily swap data between programs, and low cost when compared to the purchase price of stand-alone packages.

The *Magic Office System*, while not immune to this rule, certainly resists it. This

integrated package, which runs on the Apple II+, IIc, and IIe, combines a proven word processor with a spelling checker, strong spreadsheet, and business graphics.

True to its name, the *Magic Office System* uses an office filing-cabinet metaphor to combine each of its office-like functions in one. After booting the program disk two filing-cabinet icons appear on the screen: one representing drive A, the other drive B. To see what's inside each filing cabinet the user simply presses Return, and the cabinet "opens" to display a series of overlapping file folders, each

clearly labeled as to its content.

Word processing is probably the most serious application in most offices, and *Magic Office System* doesn't disappoint in this regard. Its word processor is based on the vendor's *Magic Window* package, one of the first Apple II-based word processors and now, after many updates, one of the strongest. *The Magic Office System's* word processor does take some time to get used to, however, since it uses many Open Apple key combinations on the Apple IIe and IIc. Control-Shift key sequences on the Apple II+ take even more time to master.

The spelling checker is a nice addition since other integrated packages (*Appleworks* included) leave it out. While its dictionary only contains 14,000 words, the program does allow for new ones to be added by the user. Misspelled words are presented in context.

Anyone familiar with the venerable *Visicalc* program can get right to work using the *Magic Office System's* spreadsheet. The spreadsheet is not a *Visicalc* clone, however, even though it does use the familiar "I" key to access all commands. Rather, the *Magic Office System* surpasses *Visicalc* with such additions as adjustable column widths, hidden and protected cells, and larger spreadsheets. Our copy even included a template for checkbook balancing.

We especially liked the business graphics module. It's designed to easily accept spreadsheet data; in fact, a portion of a spreadsheet can be viewed with a corresponding bar or pie chart at the same time. The graphics are displayed in color on a color monitor, and may be merged with the word processor using the program's clipboard feature.

As we mentioned earlier, all integrated programs have their trade-offs. What's missing with the *Magic Office System* is a data base or file-management function and good documentation (the supplied manual lacks an index). The program is also based on DOS 3.3, which could be a problem if you're updating your applications or hard disk to ProDOS. Otherwise, if your office revolves around word processing and spreadsheets, then maybe the *Magic Office System* is for you.

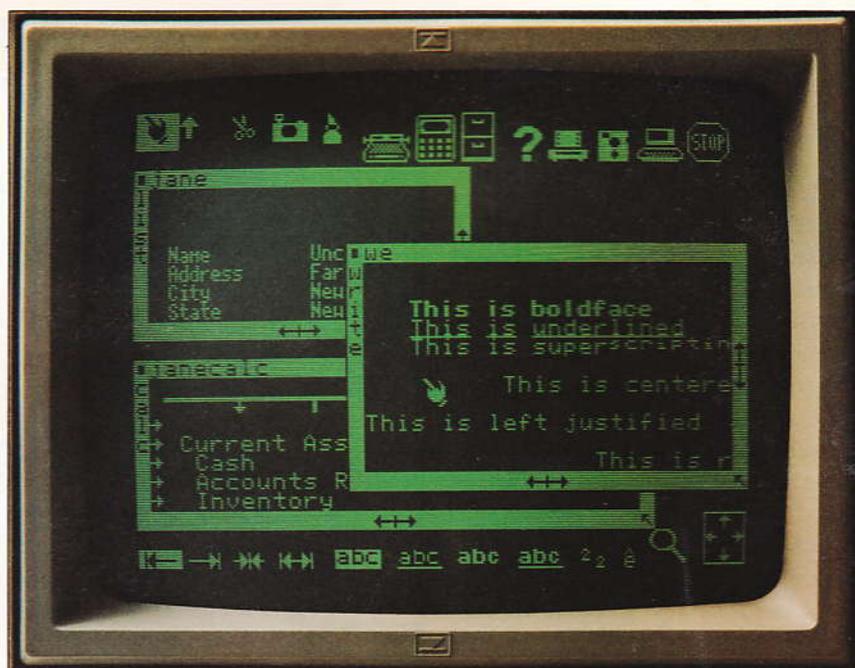
Product: *Magic Office System*

Price: \$250

Company: Artsci, 5547 Satsuma Ave., North Hollywood, Calif. 91601, 818-985-2922

Requirements: Apple II+, IIc, IIe; two disk drives

Supports: UniDisk 3.5; hard-disk drive; several printers; color monitor (for graphics only)



Jane

Jane

Integration with Icons

Jane is an integrated word-processing, spreadsheet, and file-management package that replaces keyboard command words with icons, or pictures, representing different functions. The package was developed to simplify keyboard commands for novices and regular users alike, but we found *Jane's* constant use of icons to be awkward at times. To its credit *Jane* runs on any computer in the Apple II family with at least 64K of memory and is priced below much of its competition.

The program utilizes three color-coded disks: gray, for the system itself; black, for saving information; and a yellow Help disk.

After booting the system the user is shown 13 icons at the top of the screen representing *Jane's* major functions. They are:

- A hand used as a pointer to select icons or type text.
- An arrow used to insert text, numbers,

or equations into existing documents.

- Scissors used for deleting unwanted information.
- A camera for copying text or numbers from one place to another.
- A paste jar to put back information that has been cut or copied.
- A typewriter for writing text.
- A calculator for calling up the spreadsheet.
- A filing cabinet for filing away information.
- A "?" symbol to ask for help about any icon.
- A printer for printing commands.
- A disk for listing all recorded files.
- A computer for adjusting text size, speed of the mouse, sound, and type of printer used.
- A stop sign for quitting.

Using a mouse or other pointing device you place the pointing-hand icon at the desired function. If, for example, you want to recall or create a file the pointing hand is moved to the filing-cabinet icon.

While using the word processor, or *Janewrite*, we experienced some difficulty

Integrated

manipulating the icons for inserting and deleting words and letters. The icons themselves tend to block out individual letters. The same is true for the spreadsheet. Sometimes we found ourselves returning to keyboard commands to insert and delete individual letters and numbers.

Janewrite can create documents in boldface text, and superscripts, subscripts, and foreign accents are all displayed on the screen. *Janewrite* provides all normal functions such as justifying text, moving text, editing, cutting, and copying text.

Janecalc, Jane's spreadsheet calculator, also works with pictures and symbols. You can create budgets, projections, and organize financial records. In addition to standard mathematical operations *Janecalc* will calculate sums, average maximum and minimum figures, and count the total number of entries for any given column or row.

Janelist, a personal filing system, can create lists of any kind. Besides providing standard file formats (one for assembling an address book and another for compiling a business directory) the program also provides a format for creating lists. It will also print mailing labels.

Product: *Jane*

Price: \$125

Company: Arktronics Corp., PO Box 4190, Ann Arbor, Mich. 48106, 313-769-7253

Requirements: Apple II+, IIc, IIe; two disk drives recommended

Supports: Apple color printers pending; several other printers; mouse, joystick, Koala Pad

Outlining

Thinktank

New Look at Outlines

Nearly everyone uses outlines of some form, even though they may not resemble



Thinktank

your fourth-grade teacher's strict style with Roman numerals and tidy Arabic subheads. Writers use them for article organization. Businessmen use them to prepare reports, update project plans, and make presentations. They're even used around the house for organizing such everyday events as picnics or grocery lists.

Thinktank takes the outlining concept and automates it in a whole new way. It was the first such program, or "idea processor", to appear on a computer and is still probably the best. *Thinktank* automatically structures your thoughts into an organized outline format, and then makes it simple to revise as new information enters the picture.

One of the biggest headaches with traditional outlines is revisions. Just when you thought everything was in place, along comes another idea that won't squeeze into your nice paper format. The only solution is to start all over again.

With *Thinktank*, however, changes are easy. Most thoughts can be entered at random on the computer screen. The user knows that changes can be made later, much as a word processor enables changes to text. *Thinktank* is not a word processor, however, it does have limited word-processing capabilities for changing text entered into its outline format.

After booting *Thinktank* you may begin working with an existing outline or start a new one. At first glance these outlines look similar to the ones we all learned to hate in grade school, except the Roman numerals are gone. In their place *Thinktank* uses the "+" sign to indicate headlines that have additional information stored "beneath" them (even though this information at first is invisible). Primary headlines are flush left on the screen. Subsidiary headlines, or lower levels, appear further inward.

Most large outlines will never fit on the

screen at once, so *Thinktank* allows outlines to be expanded or contracted. An outline set up to organize a neighborhood party on the beach, for example, could have the following headlines: Prepare the Car, Pre-cooked Items to Bring, and Necessary Cooking Utensils.

If the "Prepare the Car" headline is expanded *Thinktank* would display additional information under this heading: buy gas, check oil, check air pressure, and clean out the trunk. Each headline may be further expanded until the entire outline is exposed. The arrow keys will then scroll up and down throughout the outline.

For those who know their way around *Thinktank*, short key commands can quickly make the program perform. Those less certain of their actions can still use *Thinktank*, however, by accessing a com-

mand menu with the "I" key. From this menu you can expand and contract headlines, move and delete headlines, edit paragraphs created beneath headlines, print outlines, and even export outlines for use in another program, such as a full-fledged word processor.

Flexibility is a *Thinktank* trademark, but it does have one limitation. Paragraphs (i.e., blocks of text) are limited to 2,048 characters. Even this problem can be resolved by creating additional headlines when space becomes a problem or by exporting the outline into a word processor for further refinement.

Product: *Thinktank*

Price: \$150

Company: Living Videotext, Inc., 2432 Charleston Rd., Mountain View, Calif. 94043, 415-964-6300

Requirements: Apple II+ version avail-

able; Apple IIc, IIe; two disk drives
Supports: Hard-disk drive; printer

Spreadsheet

Supercalc 3a

For Power Users

It's hard for some people to take the Apple IIc seriously, especially business users lovesick over *Lotus 1-2-3* and their PC. Such impressions are understandable. After all, the IIc is little larger than a desktop calculator and looks too cute to be a real business machine. As is often the case, impressions can be misleading.

Supercalc 3a runs just fine on an Apple IIc and it's one of the most powerful spreadsheets we've used on any computer.

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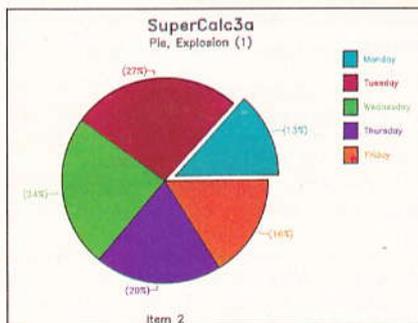
"We turn Apples into gold, with a little alchemy and lots of engineering."

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Spreadsheet



Supercalc 3a



Sample plotter output using Supercalc 3a

Customized to run on an Apple IIc or enhanced IIe, *Supercalc 3a* is packed with enough features to satisfy the most power-hungry user and simple enough for the novice to get going in 10 minutes.

Supercalc 3a is more than a spreadsheet. Other functions include business graphics and file management. While it may sound like that's a lot to learn, the program includes an excellent built-in help feature and some of the best

documentation around.

Supercalc 3a includes a number of helpful utilities that are options with most other spreadsheets. Among them is the *Sideways* program for printing wide reports horizontally, and transfer programs for moving data between other programs such as *Appleworks*, *Visicalc*, and versions of *Supercalc* that run on the IBM PC.

The program's trademark is its built-in spreadsheet functions. Over 50 are included, more than any other spreadsheet we've seen for the Apple II. Among the mathematical functions are Count, Maximum, Minimum, and Pi. Financial functions include Net Present Value, Future Value, and Present Value. Even a Calendar and Today function are included for entering and referencing dates in cells.

Anyone comfortable with other spreadsheets will feel immediately at home in *Supercalc 3a*. Commands are entered using the familiar "/" key and the first letter of the function desired. (If you can't

remember what the letters mean, a question mark brings up the appropriate Help screen.) Pressing "A", for example, sorts cells in ascending or descending order. "B" blanks out a cell, "I" inserts empty rows or columns, and so on.

We were impressed with how easy it is to draw graphs. Just a few keystrokes moves you into the graphing function. Tell the program which cells you want graphed, insert the separate Graph disk in the drive, and choose what graph style you want. The program can handle eight graph types including bar and pie charts. Our Apple IIc took a few seconds to complete a sample pie chart, but we just sat back and enjoyed the show.

The final chart is sharp and impressive. If you've got a color printer or plotter (*Supercalc 3a* supports Apple's color printers), you can also get hard copy in color.

While it also features a spreadsheet-like data base (with interesting features of its own such as a dictionary sort), *Supercalc 3a* won't replace a dedicated file-management program for large data bases. As a premiere spreadsheet, however, *Supercalc 3a* will be hard to outgrow.

The program is not copy protected, may easily be set up on a hard disk, and now supports the UniDisk 3.5 and Apple II Memory Expansion Card.

Product: *Supercalc 3a*

Price: \$195

Company: Sorcim/IUS Micro Software, 2195 Fortune Dr., San Jose, Calif. 95131, 408-942-1727

Requirements: Apple IIc, IIe; disk drive

Supports: ProDOS; second disk drive recommended; UniDisk 3.5; hard-disk drive; Apple II Memory Expansion Card; Apple color printers; several other printers; color monitor; several color plotters

Mouse Calc

Almost a Macintosh

One of the first software smash hits for

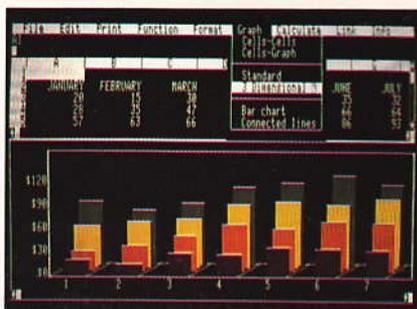
the Apple II was a spreadsheet program called *Visicalc*. To this day, many claim that *Visicalc* provided a needed solution not available anywhere else and was one of the best excuses for buying an Apple. Yet *Visicalc* was not perfect. Its more obvious shortcomings were a lack of help screens and overreliance on single-letter commands. If you forgot what they meant, you pulled out the manual.

Mouse Calc, a spreadsheet program developed in France, is part of a new generation of Apple II software that's much easier to use than *Visicalc* and other spreadsheets. Like *Visicalc*, *Mouse Calc* presents the user with a grid of cells that may be filled in with numbers and text. Formulas may then be entered to prepare business or household budgets, sales forecasts, income and expense records, or any other document that requires repeated calculations.

Unlike *Visicalc* and other spreadsheet programs, however, *Mouse Calc* makes heavy use of the mouse and pull-down menus normally found only on more expensive computers such as the Macintosh. Just point to cells, click the mouse, and go. We found it a pleasure to use and rarely referred to the documentation.

An integrated color graphics capability also distinguishes *Mouse Calc* from other spreadsheets. It allows a spreadsheet and corresponding graph to appear simultaneously on the screen. First, use the mouse to highlight the numbers from the spreadsheet to graph. Next, select Graph from a menu bar that remains on the screen the entire time the program is used. A pull-down menu appears with the available graphing options. Bar charts, both standard and three-dimensional, look clear and crisp. Pie charts are not available.

By using the mouse to select various choices from the menu bar the user can put *Mouse Calc* through its paces. For example, when File is selected, a menu bar appears with further options for saving the spreadsheet, reading a text file, for-



Mouse Calc

matting a disk, and so on. Other menu-bar selections include Edit (for inserting rows and columns, undoing commands, etc.), Print (for printing an entire spreadsheet or sections of one), Info (for help messages), and Link (for linking program files with other packages). *Mouse Calc* can read files created with *Visicalc*, *Appleworks*, or any program that utilizes the DIF format.

The Format pull-down menu reveals a number of ways to change the appearance of text and values on the screen. Numbers and text can be left or right justified in a cell, or a cell can be filled with a particular number or letter by pointing to the desired one and clicking the mouse. Incidentally, we found that the cursor responded to mouse movements in a uniform and smooth manner.

Mouse Calc is the first in a family of mouse-based programs from International Solutions, Inc. Two other programs are now, or soon will be, available: *Mouse Write*, an integrated word-processing and communications program, and *Mouse Budget*, a program for planning a family budget.

Product: *Mouse Calc*

Price: \$150

Company: International Solutions, Inc., 910 W. Maude Ave., Sunnyvale, Calif. 94086, 408-773-0443

Requirements: Apple IIc, IIe; disk drive; mouse

Supports: Second disk drive recommended; UniDisk 3.5 pending; Apple color printers pending; several other printers; color monitor



PFS:PLAN

PFS:PLAN

Plain-English Spreadsheet

PFS:Plan is an easy-to-use spreadsheet that allows managers to develop budgets, forecasts, and other financial models on the computer screen. Once a spreadsheet is designed any entry or cell can be changed to reflect new values for what-if analysis.

One of *PFS:Plan*'s nicest features is that you can create formulas using English words such as "Monthly Budget" rather than more cryptic descriptions such as "D6-E7". Other noteworthy features include column widths that adjust automatically, on-line help, and a target function that enables you to establish goals and help determine what numbers are needed to reach those goals. An on-line calculator is also included.

Information from separate work sheets can be combined into a single "master" spreadsheet. Work sheets may be printed out with formulas and values for audit and reference purposes.

PFS:Plan is integrated with other programs in the PFS family of products. *PFS:Plan* data can be used to create charts in *PFS:Graph*, and *PFS:File* data may be analyzed in a *PFS:Plan* spreadsheet. In addition, *PFS:Plan* spreadsheets may be merged into *PFS:Write* documents. Spreadsheets initially created with *Appleworks* or *Flashcalc* may also be used.

Product: *PFS:Plan*

Price: \$125

Company: Software Publishing Corp.,

Spreadsheet

1901 Landings Dr., Mountain View, Calif.
94043, 415-962-8910

Requirements: Apple IIc, IIe; disk drive
Supports: ProDOS; UniDisk 3.5 (3 1/2-inch disk supplied); Profile hard-disk drive; Apple II Memory Expansion Card; several serial and parallel printers

Utility

Master Diagnostics

Health Care for Computers

Computers are usually reliable enough, but every now and then something goes wrong that ultimately leads to the repair shop. Sometimes the trip is necessary. Other times it isn't and can be avoided with either a home fix or a little routine maintenance.

Master Diagnostics offers your computer a complete physical exam that you can run at home to pinpoint problems or make adjustments. The documentation also includes plenty of advice and tips on how to keep your Apple running smoothly.

We used an Apple IIe version of *Master Diagnostics*, although other versions are available for the IIc and II+. Running the program is fairly self-explanatory. From the main menu, seven choices are available to test the Apple in various ways. They include a test that examines each ROM chip on the motherboard, an 80-column card test, a RAM chip test for all 128K on the IIe, a disk drive analyzer, a mouse scaling test, and routines that check out your monitor and allow for adjustment. Another test can examine most cards that are plugged into the Apple, including those that the program at first doesn't recognize.

Master Diagnostics is good at finding the source of trouble and then recommending what to do about it. The RAM



Master Diagnostics

test, for example, can be set to cycle through each RAM chip sequentially. If a potential problem is found, individual chips can be isolated and tested by themselves until more errors are detected.

The one test that's apt to get the most use is the disk-drive analyzer. Disk drives are mechanical devices and susceptible to read and write errors, especially when routine maintenance is ignored. *Master Diagnostics* checks head alignment, positioner backlash, and disk clamping, and then shows you how to make adjustments.

Users of *Master Diagnostics* will have to determine what they can repair themselves and what's best left up to a technician. Soldering components on the motherboard or even pulling chips out of their sockets is not for the faint of heart. But don't let that stop you from keeping your Apple healthy, because the program usually warns you when you may be get-

ting in over your head.

Product: *Master Diagnostics*

Price: \$65 (\$75 with head-cleaning kit)

Company: Nikrom Technical Products, Inc., 176 Fort Pond Rd., Shirley, Mass. 01464, 800-835-2246

Requirements: Apple II+, IIc, IIe; disk drive

Supports: Second disk drive

Word Processing

MouseWrite

More Than a Mouse

Mousewrite is a mouse-based word processor that transforms an Apple IIe or IIc into a word processor reminiscent of *Macwrite* on the Macintosh. The opening screen of the program—"A Macintosh for

your Apple II"—reminds the user that the resemblance is not coincidental. *Mousewrite* uses many of the easy-to-use conventions now famous on the Macintosh, including a menu bar, dialogue boxes, and windows. It also throws in a few unique features rarely seen in a standard word-processing package, including a diagnosis of a document's reading level.

What we like most about *Mousewrite* is its speed and Macintosh-style user interface. You can jump right in, try a few moves, and begin word processing almost immediately.

The menu bar at the top of the screen contains the major *Mousewrite* categories, which are Mousewrite, File, Edit, Find, Move, Style, Page, and Windows. Using the mouse you can point to any of these selections, click the button, and then view all the options available in a pull-down

menu. Under the Move category, for example, you can move to the beginning or end of the text.

One of the most-repeated criticisms of mouse-based software is that the mouse can become a handicap in situations where the keyboard works better, such as deleting single characters. *Mousewrite* avoids this trap by making alternative keyboard moves available in just about every instance. Arrow keys, for example, work just as well as the mouse when positioning the cursor. (Even the Macintosh can't use arrow keys; it doesn't have any.)

Some of *Mousewrite's* capabilities are truly impressive. One of the most dazzling—and we think useful—features is its windowing function. *Mousewrite* allows you to have more than one window containing a document open at any time.

This means that you can have an original rough draft in one window while making changes in another.

Mousewrite needs to have all documents in main memory, or RAM, at once. This naturally limits the creation of very large documents that exceed the computer's memory. The alternative is to break up longer documents into smaller chunks, or to use a disk-based word processor.

How else does *Mousewrite* resemble the Macintosh? Well, choose MouseWrite from the menu bar and you can see other evidence as to its heritage. For example, an on-screen clock is accessible by clicking the Clock selection from the pull-down menu. Not only will the clock give you the time of day, assuming your Apple is equipped with a ProDOS-compatible clock, but it will also time-stamp your

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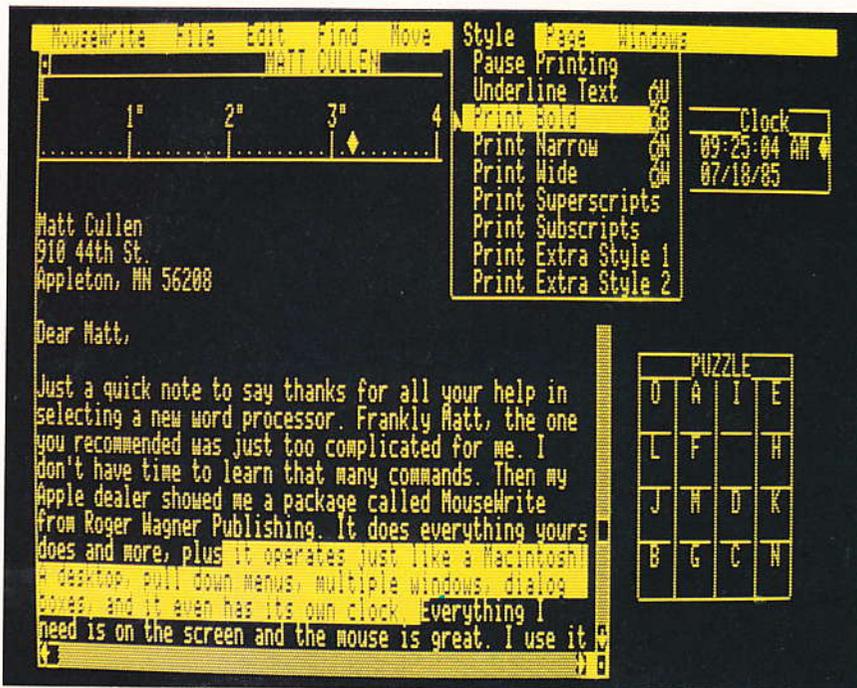
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Word Processing



MouseWrite

files when you save them. In addition, a little on-screen puzzle is available for relieving writers' block.

Product: Mousewrite

Price: \$124.95

Company: Roger Wagner Publishing, Inc., 10761 Woodside Ave. #E, Santee, Calif. 92071, 619-562-3670

Requirements: Apple IIc or Enhanced Apple IIe; disk drive; mouse recommended

Supports: ProDOS; second disk drive; UniDisk 3.5; hard-disk drive; several printers

Apple Writer II

The Power of Words

Apple Writer II, version 2.0, is the latest incarnation of Apple Computer's popular word-processing package. According to company spokesmen, *Apple Writer II* incorporates many sophisticated word-processing features that make it suitable for home and business use. Besides such standard functions as word wrap, search

and replace, and automatic insertion of headers and footers, *Apple Writer II* can communicate with other computers over telephone lines when used with a modem.

Many *Apple Writer II* screen functions are accomplished using the Closed Apple and Open Apple keys in combination with other keys. Pressing the Closed Apple key together with the left arrow key, for example, moves the cursor one word to the left. Many other formatting functions can be added when a document is printed. These are done with embedded printer commands. Examples cited by Apple officials include left and right justification and making centered paragraphs and bullets.

Many routine word-processing tasks, including writing form letters and doing calculations, can be automated using *Apple Writer II*'s built-in Word Processing Language, or WPL. WPL saves all word-processing commands in a file for later execution of a task. A separate book describing WPL is supplied with the program, along with a user's manual and

disk-based tutorial.

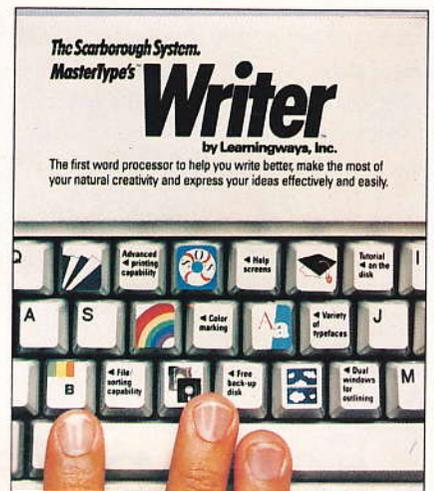
Product: *Apple Writer II*

Price: \$149

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple IIc, IIe; disk drive

Supports: ProDOS; second disk drive recommended; UniDisk 3.5; Profile hard-disk drive; several printers



MasterType's Writer

MasterType's Writer

A Family Word Processor

MasterType's Writer is an easy-to-use word processing package that works well with a color monitor. If you're looking for a single word processor for the entire family this might be a good choice, although it's not really designed for business use.

Besides the usual basic functions of erase, delete, and copy, the program also provides a few new twists that we haven't seen together in other word processors. Among them are dual windows, color highlighting for text filtering, a variety of typefaces to work with on the screen, and a simple filing function. This allows you to create, sort, and integrate addresses

into letters or footnotes.

The software comes with a program disk, which consists of all writing tools and a story disk. The story disk contains a step-by-step tutorial and writing samples that can be used for practice.

We decided to look first at the tutorial on the story disk. Here we learned about the "magic key", a macro key that enables you to push just one key to repeat the same sequence over and over again. For example, suppose you use the name "Herbert Humphrey Huckleberry III" in your story. Instead of retyping the name throughout the story, all you need to do is push the magic key and the name automatically appears.

One of the more interesting concepts is the program's dual windows. These allow the screen to be divided in two, thereby creating two writing areas, each of which may be separately saved on disk. We later experimented with dual windows by creating an outline in one window while writing corresponding text in the other, and were able to move text between windows.

A special capability of *Mastertype's Writer* is the variety of typefaces that can be used, including large, small, or script. You can even create your own fonts. Large type naturally limits the number of words that can fit on the screen at one time, so this feature won't be used much for intensive word processing. For children or people with poor eyesight, however, it can be a real plus.

The latest version of *Mastertype's Writer* supports the new Apple color printers. Using the color highlighting function sections of text can be colored on the screen in various hues and then printed out on paper the same way.

Product: *Mastertype's Writer*

Price: \$79.95

Company: Scarborough Systems, Inc., 55 S. Broadway, Tarrytown, N.Y. 10591, 914-332-4545

Requirements: Apple IIc, IIe; disk drive

Supports: ProDOS; second disk drive; UniDisk 3.5; Apple color printers; several other printers; color monitor

PFS:WRITE

Computerized Typewriter

PFS:Write is a word-processing package that's as easy to use as a typewriter, but far more powerful. According to Software Publishing Corp., it's ideal for beginners or anyone who prefers simplicity over the complexities of other word processors. With *PFS:Write* you can draft, edit, and revise documents on the computer screen, and then print them out to your specifications.

Major program functions are selected from a main menu. To create a new document, for example, you select this function from the menu and begin typing on a screen resembling a standard sheet of paper.

Company officials say that with *PFS:Write* you can always see how your finished document will look when printed. Page length and margin adjustments, headings, and footings may all be changed

with just a few keystrokes. Other editing features include boldfacing and underlining on screen, block editing, search and replace for words and phrases, and mail merge.

PFS:Write may be used with other programs in the PFS family. It can personalize form letters using addresses stored in a *PFS:File* data base, incorporate *PFS:Report* and *PFS:Plan* data tables and work sheets in documents, and print *PFS:Graph* charts in documents. The latest ProDOS version of *PFS:Write* can also import data from *Appleworks* and ASCII files.

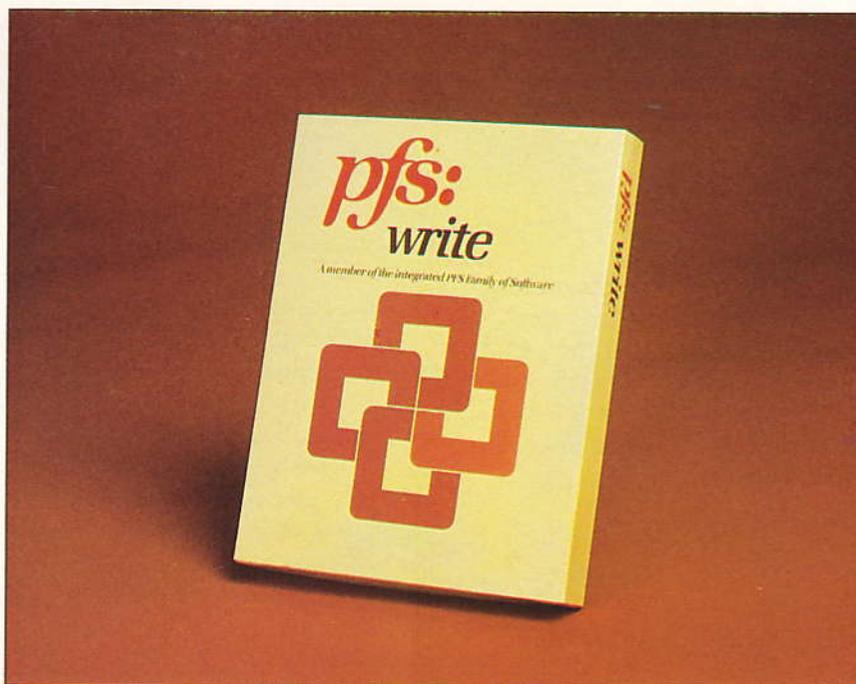
Product: *PFS:Write*

Price: \$125

Company: Software Publishing Corp., 1901 Landings Dr., Mountain View, Calif. 94043, 415-962-8910

Requirements: Apple IIc, IIe; disk drive; printer

Supports: ProDOS; UniDisk 3.5 (3½-inch disk supplied); Profile hard-disk drive; Apple II Memory Expansion Card; Apple color printers (for *PFS:Graph* charts); several other printers



PFS:WRITE

AppleWorks—The Product and the Industry

Apple's integrated package is so good that it may be all the business software you'll ever need. On the other hand, it's comforting to know that many accessory programs are available to add features that *Appleworks* lacks.

You know a software package is good when it spawns an entire subindustry of accessory products. *Appleworks*, the best-selling integrated program from Apple Computer, Inc., is such a package. By combining in one easy-to-use bundle the three functions most wanted in a personal computer—word processing, spreadsheet, and data-base management—*Appleworks* has climbed to the top of several best-sellers lists.

As the product continues to grow in popularity, a growing number of accessories are surfacing that add everything from business graphics to more memory to the *Appleworks* trio.

Several add-on products appear on the following pages. Besides accepting *Appleworks* data most of these accessories look and perform like *Appleworks*, often using the same file-card menu structure and similar keystrokes. This makes it easy for the *Appleworks* user to put new software to work right away.

A Jack-of-All-Trades

By itself, *Appleworks* can handle a respectable number of word-processing tasks, generate a spreadsheet comparable to many other spreadsheet programs on the market, and produce a wide variety of reports from its data-base and spreadsheet functions. Even more impressive is that

Appleworks integrates these functions through its clipboard, making it simple to cut and paste information from one module to another.

Even if you never use the clipboard, *Appleworks* makes access to information stored in word-processing documents, data-base files, and spreadsheets just a few keystrokes away. It's able to do this by employing the desktop concept.

Imagine several word-processing documents and spreadsheet files as paper file folders piled on your desk. Each may be opened, examined, closed, and even thrown into the wastebasket. Now imagine their electronic equivalents as files on an *Appleworks* desktop. *Appleworks* can handle up to 12 open files of any kind on its desktop at once. If you want to close one and open another, simply press Open Apple Q (Q for quit working with the current file) and a small window appears on the screen listing each file on the desktop.

You may then select one of these files. When you're ready to return to the previous file, press Open Apple Q again, select the original file from the list of what's on the desktop, and you'll be returned to exactly where you left off.

With this level of integration *Appleworks* becomes a software jack-of-all-trades. Consider the following scenario: It's morning at a typical office equipped with an Apple IIc. On today's agenda are five letters that must be written and a departmental budget for November that's due to the boss by afternoon. As these activities are going on, it's expected that customers will be regularly phoning in with orders.

To help handle all of this business *Appleworks* is first loaded into the computer, followed by seven files on the desktop. These files include drafts of the five letters started the day before, a preliminary spreadsheet budget, and a customer data base containing such information as Customer Name, Company, and Quantity Ordered.

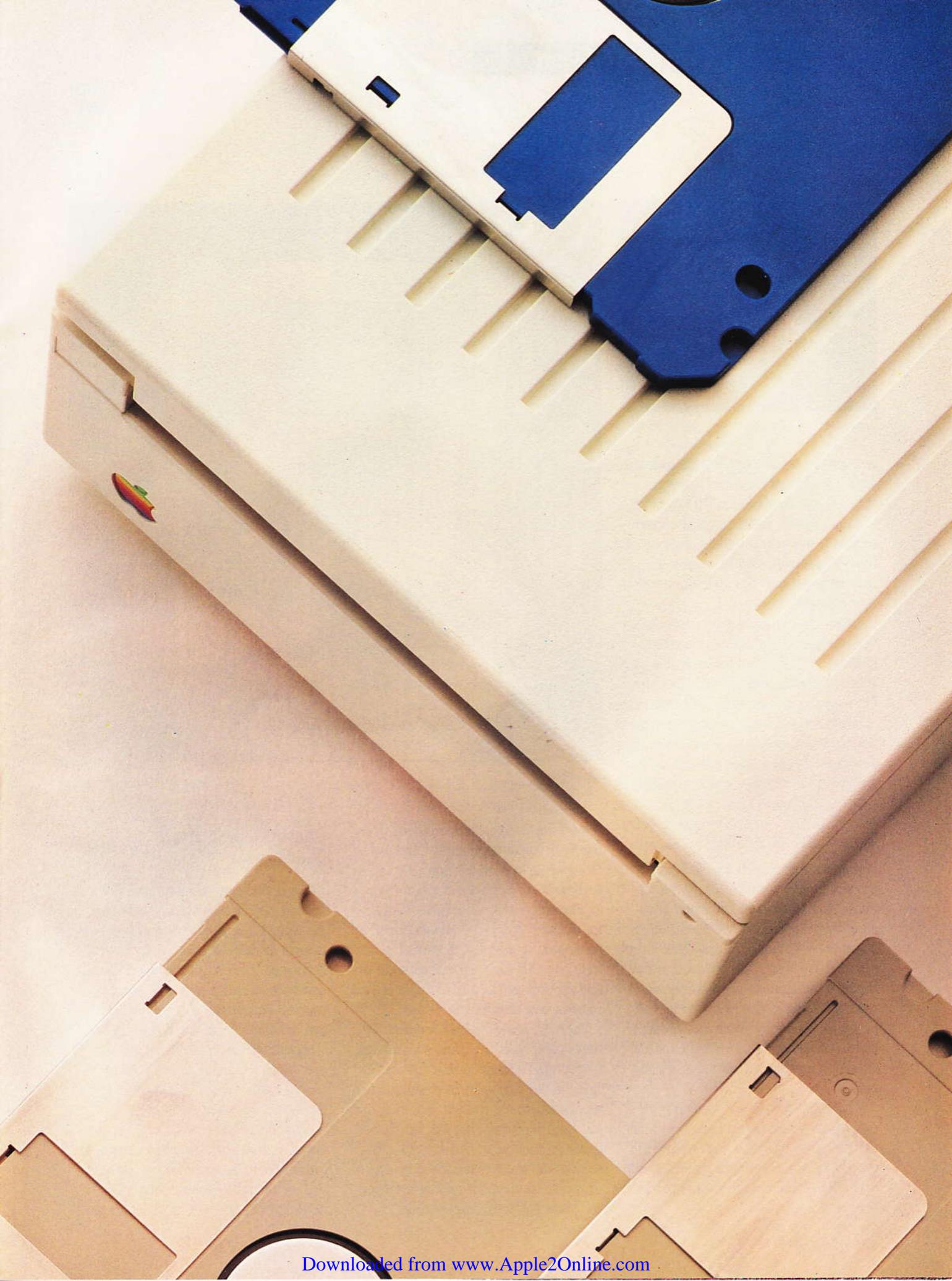
Now *Appleworks* is ready for the day's agenda. You may decide to begin first with one of the letters using the word-processing function. While working on this task the phone rings and a customer wants to place an order.

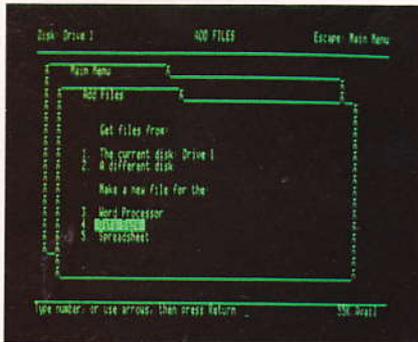
With *Appleworks* the customer file is already on the desktop. You can quickly move into the data-base function, take care of the telephone business, and then just as quickly return to word processing when you get off the phone. Similarly, you can switch over to the departmental budget throughout the day whenever the need arises.

Perhaps a new way to save on phone bills occurs to you when talking to a customer on long distance. With *Appleworks* you can examine your budget idea in the spreadsheet and then return to the customer file or write some more letters.

A Bigger Desktop

Appleworks keeps files on its desktop by storing them in main memory, or RAM. This means that the number of files open at any one time is restricted by the





AppleWorks

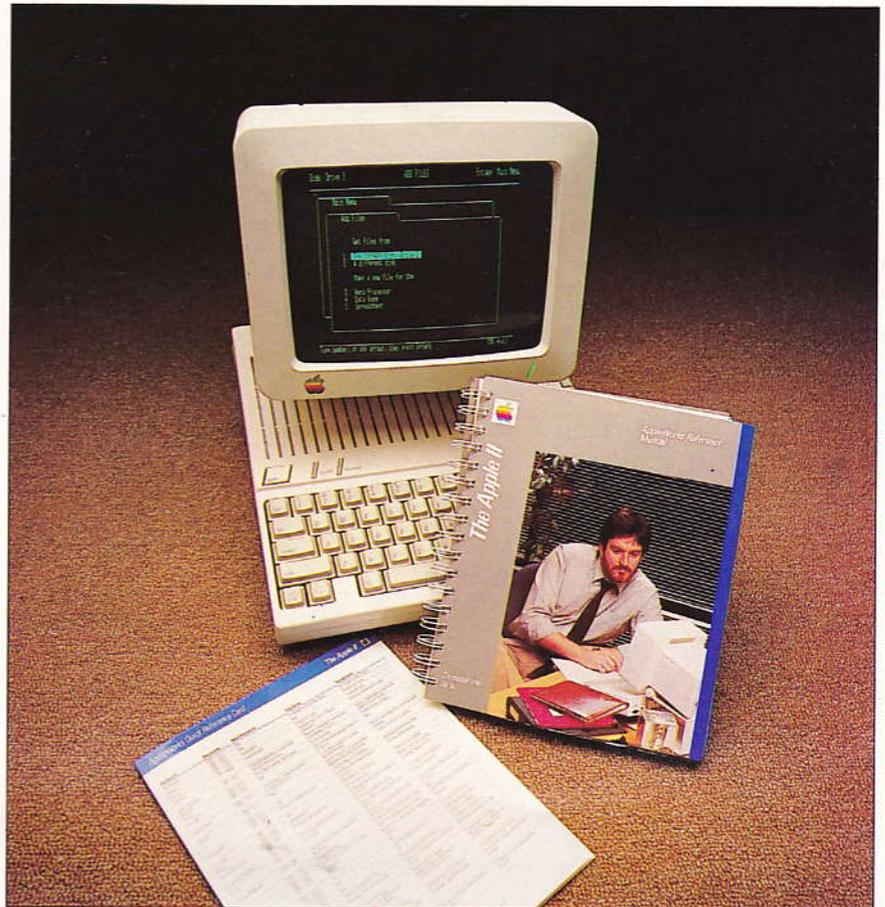
amount of RAM available. On a standard 128K Apple IIc or IIe with *Appleworks* already loaded there's 55K of RAM left over for desktop files. For short documents such as letters or memos, this is plenty of room to accommodate the maximum number of 12 open files that *Appleworks* can work with.

Larger files will naturally consume more desktop space and therefore limit the number of files that can be open. For situations in which a larger desktop is called for, a number of accessory RAM cards are available that can boost the *Appleworks* desktop to over 300K and more. Some of these hardware accessory items are reviewed in the hardware section of this issue.

The Word Processor

More computers are used for word processing than anything else, so it's fortunate that *Appleworks* has a very good word-processing module. While it can't match every feature of a stand-alone word processor, such as *Apple Writer II*, it can handle most common word-processing tasks, including letters, memos, and proposals. Word-processing files are limited to a maximum of 2,250 single-spaced lines, or approximately 28 pages of information.

Where *Appleworks* really excels is in ease of use. Its word processor is so intuitive that anyone familiar with word processing will feel comfortable using it in only a few minutes; others may need an hour or so.



AppleWorks

Most functions are accomplished by using Open Apple commands, where the Open Apple keys on the Apple IIc and IIe keyboards are pressed at the same time as another key. Saving documents to disk, for instance, is done by pressing Open Apple S. Moving information is done by selecting text to move with Open Apple M. And copying text, as you may have guessed by now, is done with Open Apple C.

There are some business features that *Appleworks* lacks, including a mail-merge function for creating form letters and a spell-checking component. Several accessory programs are available, however, that add these features to *Appleworks*. Two spell-checking programs reviewed in this section can take files produced by *Appleworks*, check them for spelling accuracy, and allow corrections to be made.

The Data Base and Spreadsheet

The *Appleworks* data-base manager is not suitable for creating extremely large data bases since all information is stored in main memory at once. As far as we're concerned, however, that's its only serious drawback. With the data-base manager, data can be rearranged, sorted, searched, and printed in about any way imaginable.

Should the data-base size restriction ever become a problem, one product reviewed in this section can import *Appleworks* files and allow them to grow to become much larger on disk. Other programs reviewed here either add graphics capabilities to data-base and spreadsheet files, or extend *Appleworks* reporting capabilities by allowing more report for-

mats to be defined.

The *Appleworks* spreadsheet won't break any size records since it's restricted to 30 columns by 200 rows, or 6,000 cells. It also lacks a few of the more esoteric, built-in financial commands found in stand-alone products.

On the other hand, the *Appleworks* spreadsheet offers many of the same Open Apple commands found throughout the program. Furthermore, spreadsheet data can be cut and pasted to the word processor, or data-base files can be imported into the spreadsheet file for further processing. The spreadsheet even has a few nice touches of its own, including the zoom command. When you press Open Apple Z in a spreadsheet you can "zoom in" on a spreadsheet and view each formula within its respective cell. This is a useful feature when trying to figure out how a particular spreadsheet works. ■

Product: *Appleworks*

Price: \$250

Company: Apple Computer, Inc., 20525 Mariani Ave., Cupertino, Calif. 95014, 408-996-1010

Requirements: Apple IIc, IIe; disk drive

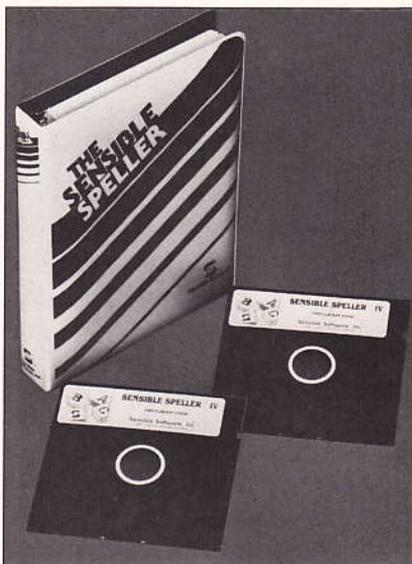
Supports: ProDOS; *Appleworks* interface; second disk drive recommended; UniDisk 3.5; Profile hard-disk drive; Apple II Memory Expansion Card; several printers

Sensible Speller

No More Typos

Sensible Speller is a spell-checking program that helps users find and correct misspelled words and typos. For our evaluation we used a ProDOS version of *Sensible Speller* to proof documents created with *Appleworks*, but the program also supports *Word Juggler*, *Apple Writer*, and many other word processors.

In addition to finding spelling mistakes, *Sensible Speller* also counts the number of words in a document. This is a handy fea-



Sensible Speller

ture when used with *Appleworks*, which doesn't have this function.

Sensible Speller uses a list of 80,000 words gathered from the Concise Edition of the *Random House Dictionary*. Most other Apple II-based dictionaries we've seen have much smaller dictionaries, probably due to the standard Apple's relatively small disk-drive capacity.

Sensible Speller gets around this problem by using both sides of a single 5 1/4-inch disk. The latest dictionary uses the new UniDisk 3.5 disk drive and fits entirely on one disk.

One side of the dictionary disk contains a list of 43,000 frequently used words. A supplementary dictionary on the flip side contains less frequently used words.

We used *Sensible Speller* to check the rough drafts of this and several other articles in this magazine. Here's how the process works: documents finished in word processing are saved on disk in the normal fashion. Next, *Sensible Speller* is loaded and run like any other program. We loaded the program into drive one and then proceeded through its main menu, where you can check words, add or delete words from the dictionary, and list words from the dictionary.

When doing a spell check, *Sensible*

Speller's main program disk and the dictionary disk occupy both disk drives on a two-drive system. It "remembers" your document by loading the entire article into main memory or RAM. It then checks every word in the document against its main dictionary. How fast is it? This review took about 64 seconds to spell check using the main dictionary.

All words not found in the dictionary, or "suspect" words, are shown to the user in list form. At the user's discretion the program will show each word in context. For example, if "scissors" had been misspelled in the text it might be shown on the screen like this: "...then use the scisors to cut the fabric..."

The user then asks *Sensible Speller* to follow one of several options. Correctly spelled but unfamiliar words such as proper names can be "ignored" or added to the dictionary if they are used frequently. Approximately 10,000 words can be added to each side of the dictionary in this way. In addition, customized dictionaries can be created containing only user-specified words. Using additional disks, there is no limit to the number of words in a custom dictionary.

For actual misspelled words the user can ask for suggested correct spellings. For example, we asked for suggested spellings of the word "familiarize". The program suggested "familiarize", "familiarized", "familiarizing", and so on. Most misspelled words can be corrected in this way. The user then replaces the incorrect word with the right spelling until all mistakes are corrected.

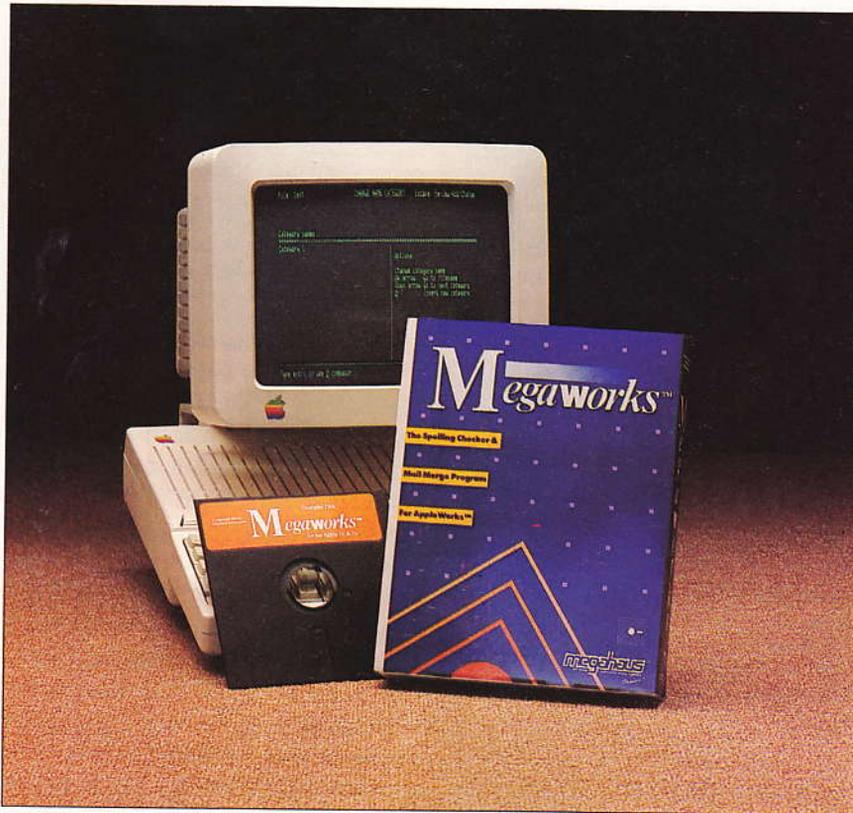
Product: *Sensible Speller*

Price: \$125

Company: Sensible Software, Inc., 210 S. Woodward, Suite 229, Birmingham, Mich. 48011, 313-258-5566

Requirements: Apple II+, IIc, IIe; disk drive

Supports: ProDOS; *Appleworks* interface pending; *Appleworks*; UniDisk 3.5; hard-disk drive; Apple II Memory Expansion Card.



MegaWorks

MegaWorks

More Work from AppleWorks

Appleworks is a powerful and versatile program, but there are business needs beyond its built-in word processor, data base, and spreadsheet. *Megaworks* is a new "*Appleworks* enhancer" that offers two key business functions *Appleworks* lacks: a mail-merge facility and an electronic dictionary.

Each *Megaworks* feature works in tandem with documents and data bases first created with *Appleworks*. Not surprisingly, *Megaworks* itself looks and feels like *Appleworks*. It uses the same overlapping file cards that Apple's best-selling, integrated program made famous.

A mail-merge program makes form letters and mass mailings possible by merging separately stored address information with a single form letter. With *Megaworks*

you can use mailing lists created from either an *Appleworks* word processor or data-base file. We decided to adapt an existing data base of company and contact information and let *Megaworks* merge it with a sample form letter created under *Appleworks* word processing.

All our preparatory work took place in *Appleworks*. First, we customized our existing data base by eliminating all information not related to the mass mailing. Once finished, we were left with a data base containing only a contact's Name, Company, Address, City and State, and Zip Code. We then changed the name of each field into a format that *Megaworks* could understand.

Using the report feature of *Appleworks*, we then copied a report containing our mailing list information to the clipboard. This step is necessary so that reports can be "pasted" into a standard *Appleworks* word processing document. We named

our resulting document "Mailword".

We then created another word-processing document called "Letter" for the form letter itself, leaving a few simple codes in place so *Megaworks* could tell where to place the merged information. We were then ready to run *Megaworks*, the simplest part of the entire procedure.

The program first asks you to select the name of the letter to be merged from a directory listing. After that it prompts for the name of the list to merge. We answered "Mailword" and "Letter" respectively, and then relaxed while the program "wrote" letters one by one until reaching the end of our list.

The mail-merge facility adds a needed function to *Appleworks*, but we think the dictionary will be used even more. Simply select the "Check Spelling" option from the main menu, choose a word processing document in an *Appleworks*-style overlapping menu, and then insert a separate dictionary diskette. *Megaworks* counts the total number of words, tells you the number of misspelled words it detects from its 50,000-word data base, and then shows you each misspelling in context.

One hitch is that *Megaworks* won't suggest possible correct spellings for misspelled words. It only tells you whether a particular word is in its dictionary. On the plus side, you may add up to 10,000 additional words to the dictionary.

Product: *Megaworks*

Price: \$125

Company: Megahaus Corp., 5703 Oberlin Dr., San Diego, Calif. 92121, 619-450-1230

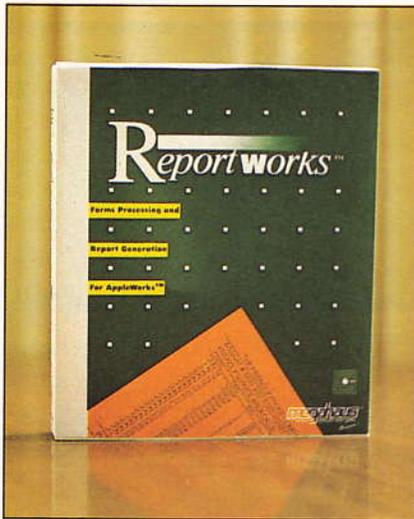
Requirements: Apple IIc, IIe; disk drive; *Appleworks*

Supports: ProDOS pending; *Appleworks* interface; second disk drive; UniDisk 3.5; hard-disk drive; *Catalyst*

ReportWorks

The Report Generator

Reportworks adds several report generation capabilities to data-base and spread-



ReportWorks

sheet files created with *Appleworks*. According to the vendor, *Reportworks* uses *Appleworks*-like commands to format, sort, and perform mathematical operations on information stored in *Appleworks* files. Once data is imported into *Reportworks* it can be presented in several formats, including tables and lists.

A key feature of *Reportworks* is its ability to pull information from one or more *Appleworks* files. If information is being imported from a data-base file, for example, *Reportworks* first brings up the field names from that file. The user then selects which fields he wants to use in the report and the program automatically designs a report layout.

Spreadsheet reports are made much the same way. The program first displays the names of rows and columns from a spreadsheet, and then the user selects the rows and columns he wishes to report. Afterwards, say company spokesmen, *Reportworks* designs a suitable report layout.

Product: *Reportworks*

Price: \$125

Company: Megahaus Corp., 5703 Oberlin Dr., San Diego, Calif. 92121, 619-450-1230

Requirements: Apple IIc, IIe; disk drive

Supports: ProDOS; *Appleworks* interface; *Catalyst*; second disk drive; UniDisk 3.5; hard-disk drive; several printers

GraphWorks

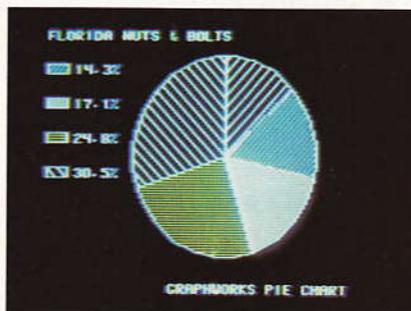
The Graphics Touch

One of the nicest features of *Appleworks* is its easy-to-use interface. Most users find the desktop metaphor and overlapping file cards a pleasure to work with, so Apple is encouraging other vendors to adopt the *Appleworks* interface in their own programs. *Graphworks* is one such package that follows this prescription so precisely it's sometimes hard to remember which program you're using—*Graphworks* or *Appleworks*.

Graphworks adds graphics capabilities to *Appleworks*, which has no graphing features of its own. Graphs are based upon data contained in *Appleworks* spreadsheets. If, for example, you want *Graphworks* to make a bar chart showing next year's sales projections for red wicker chairs on a month-by-month basis, your spreadsheet will need to contain one row or column of numbers reflecting sales for each month and a corresponding row or column containing names for the months of the year.

Once a spreadsheet is ready to graph you simply exit *Appleworks* and enter *Graphworks*. For users with two disk drives the spreadsheet data disk can stay in drive two while *Graphworks* is booted from drive one.

The main menu comes up in an *Appleworks*-style file card. Like *Appleworks*, *Graphworks* has options for adding new files to the desktop, working



GraphWorks

with a desktop file, removing files from the desktop, and other activities.

Only spreadsheet files are allowed on the desktop. They appear on the screen exactly as they did in *Appleworks*, only now the mission is to graph data. *Graphworks* needs to know what data to graph or, more specifically, what ranges of data to work with. The program can accommodate six data ranges, A through F.

Simply press A to tell *Graphworks* the first range you want to graph. The program then highlights this block of data on the screen. If you can't remember what key to press, a Help feature is available.

Entering legends is done by highlighting information on the spreadsheet in the same way. This gives *Graphworks* enough information to create a graph, but it still needs to be told what kind of graph to make. Pie, bar, stacked bar, and line charts are available. *Graphworks* can plot a total of 24 data points in a bar graph, stacked bar, and pie graph and a total of 52 data points (with six ranges) in a line graph.

Making graphs couldn't be easier. Just type G in spreadsheet mode, and then watch as the spreadsheet disappears and a graph appears. Press T if you want to add a title and you're given a cursor that can be placed anywhere on the screen for typing text. The only disappointment is that just one type style is available, and it's all uppercase.

Graphworks can print black-and-white charts in two sizes and supports a wide range of Apple-compatible printers, including the Scribe and Imagewriter.

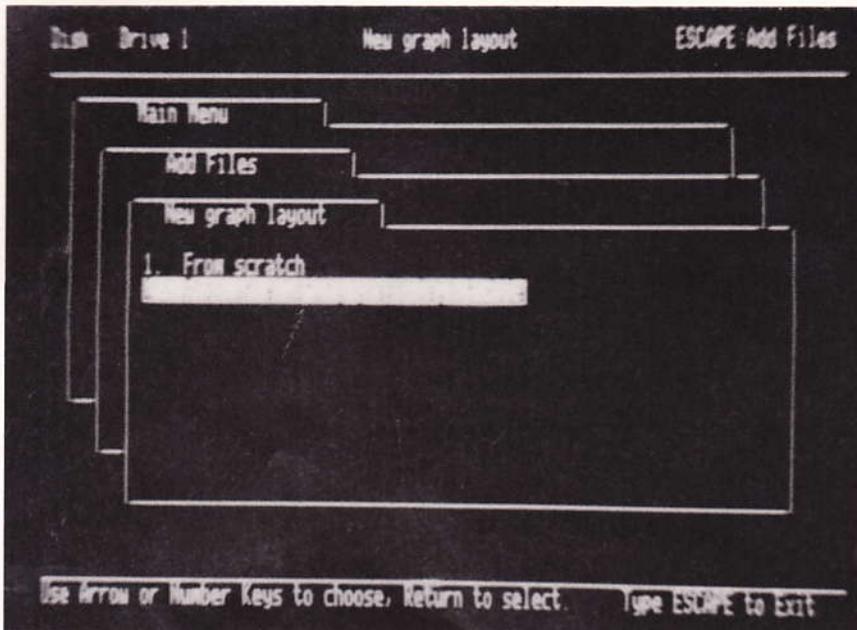
Product: *Graphworks*

Price: \$79.95

Company: PBI Software, 1155B-H Chess Dr., Foster City, Calif. 94404, 415-349-8765

Requirements: Apple IIc, IIe; disk drive; *Appleworks*

Supports: ProDOS; *Appleworks* interface; second disk drive; several black-and-white graphics printers



PROPLOT

PROPLOT

Precision Plotting

Proplot is an interactive, color plotting package that uses an *Appleworks*-style file-card menu structure. According to the vendor, *Proplot* can create plots on the screen using the Apple IIc or IIe's double high-resolution graphics or a printer using information transferred direct from an *Appleworks* spreadsheet. As an alternative, data may be input manually from the keyboard using either standard decimal or scientific notation.

Company officials say that plots are quickly and easily made by answering simple, descriptive questions telling *Proplot* how the graph should appear. The software accommodates as many X-Y data sets and labels as desired on the screen. Furthermore, several overlapping plots may be plotted in sequence. If a plot doesn't appear to be correct, it can be altered quickly using the program's data editor.

Proplot is not copy protected, so you can make backup copies or install it on a hard-disk drive. Provisions are also includ-

ed for including *Proplot* in your own Pascal programs.

Product: *Proplot*

Price: \$29.95

Company: Thunder Software, PO Box 31501, Houston, Texas 77231, 713-728-5501

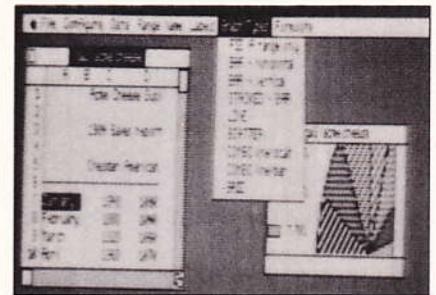
Requirements: Apple IIc, IIe; disk drive
Supports: ProDOS; *Appleworks* interface; second disk drive; UniDisk 3.5; hard-disk drive; Apple color printers; other graphics printers using a Grappler+ card; color monitor

Visualizer

Color Business Graphics

Visualizer is a color business graphics package that graphs data files from several spreadsheet programs, including *Appleworks*, *Visicalc*, *Multiplan*, *Magicalc*, *Magic Office*, and *Flasbcalc*. According to the vendor, it can also graph any spreadsheet saved under the DIF format. Each program function is accessed from pull-down menus using either a mouse or the keyboard.

Visualizer allows revision of data from



Visualizer

spreadsheets. In addition, a separate spreadsheet for graphing may be created from within the program. The software supports X-Y configurations, several calculations (including sum, regression, averaging, means, and standard deviation), and 10 different kinds of graphs.

The vendor's spokesmen say *Visualizer*'s displays use double high-resolution graphics in 16 colors or monochrome. Graphs may be printed in color using Apple or Epson color printers.

Product: *Visualizer*

Price: \$99.95

Company: PBI Software, 1155B-H Chess Dr., Foster City, Calif. 94404, 415-349-8765

Requirements: Apple IIc, IIe; disk drive
Supports: ProDOS; *Appleworks*; second disk drive; Apple color printers; Epson JX 80 color printer; other graphics printers; color monitor; mouse

Dossier

Appleworks Data-Base Extender

One of the potential shortfalls of *Appleworks* is its limited data-base capacity. While the *Appleworks* data-base function is easy to use, it runs into a brick wall when a data-base file exceeds available memory. This limits *Appleworks* to smaller files that will never grow to over 800 records or so on a standard 128K Apple.

Unlike *Appleworks*, *Dossier* stores its data-base files on disk, not RAM. What's more, *Dossier* is able to convert files

created under *Appleworks* and *PFS:File* for its own use. This means that records can be started under *Appleworks*. When they grow too large for that program to handle they can be moved over to *Dossier* for further expansion.

Dossier is a different breed of data-base program for the Apple II. We received a review copy of *Dossier* early in the product's development. Although many features were not functional, we were able to get a good feel for *Dossier's* user interface. Much like Quark's *Catalyst* program selector, *Dossier* utilizes a Macintosh-like environment with pull-down menus, double high-resolution graphics, multiple windows, and the mouse.

A number of desktop accessories are also included such as calculator, clock, and puzzle. Not surprisingly, *Dossier* is fully compatible with *Catalyst*.

One of the features still not implemented on our copy was record selection. By all indications, however, selecting records for printed reports or viewing on the screen will be a breeze. One of the menu-bar selections is Records, which contains the following options in a pull-down



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Chances are you are already equipped to use Sensible Speller right now because it is compatible with AppleWorks and virtually all other Apple word processors.* It can run on all Apple IIc, IIe, II+, and Apple-compatible computers and is now available at your dealer for \$125 in either the "IV" or ProDOS version.

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*Sensible Speller ProDOS works with the following word processors, AppleWriter-ProDOS version, AppleWorks (Apple Computer, Inc.), Format II Enhanced-ProDOS (Kensington Microvare), and others. Sensible Speller IV works with DOS 3.2 and DOS 3.3: AppleWriter (Apple Computers, Inc.), Bank Street Writer (Brodebund), Format II (Kensington Microvare), HomeWord & Screen Writer (Senta On-Line, Inc.), PFS:WRITE (Software Publishing, Inc.), Word Handler (Silicon Valley Systems), CP/M-Wordstar (Digital Research Corp.-Micropro International), and others. Owners of trademarks indicated in parentheses: Black's Law Dictionary (West Publishing, Inc.), Stedman's Medical Dictionary (Waverly Press, Inc.).
†Note: CP/M, Pascal, PFS:WRITE and Word Handler versions do not suggest correct spelling of words or allow immediate correction of misspellings.

Circle 34 on Reader Service Card

menu: Select Records, Select All Records, Arrange Records, and so on.

We were able to view a sample demo report on the screen. One of the interesting things we could do with this report was change the size of the fonts. When a

smaller font size was used more information could fit on the screen.

Besides sheer data-base size, *Dossier* also has the edge on *Appleworks* in the reports department. Up to 16 different reports may be defined for each data base (*Appleworks* permits eight) and the report formats are more flexible. Reports can be set up in a columnar format, a mailing-label format, or a format that allows category fields to appear anywhere on a form.

If a printed report is not satisfactory then Page Setup can be selected from the File pull-down menu. This option allows changes to be made in the margins, to page length, lines per inch, and so forth.

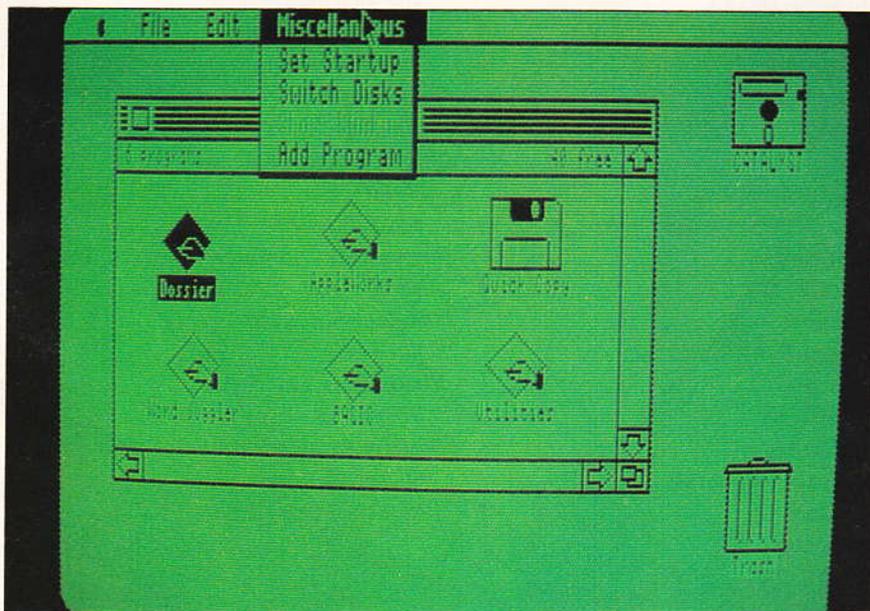
Product: *Dossier*

Price: \$129

Company: Quark, Inc., 2525 W. Evans, Suite 220, Denver, Colo. 80219, 800-543-7711

Requirements: Apple IIc, IIe; disk drive; mouse

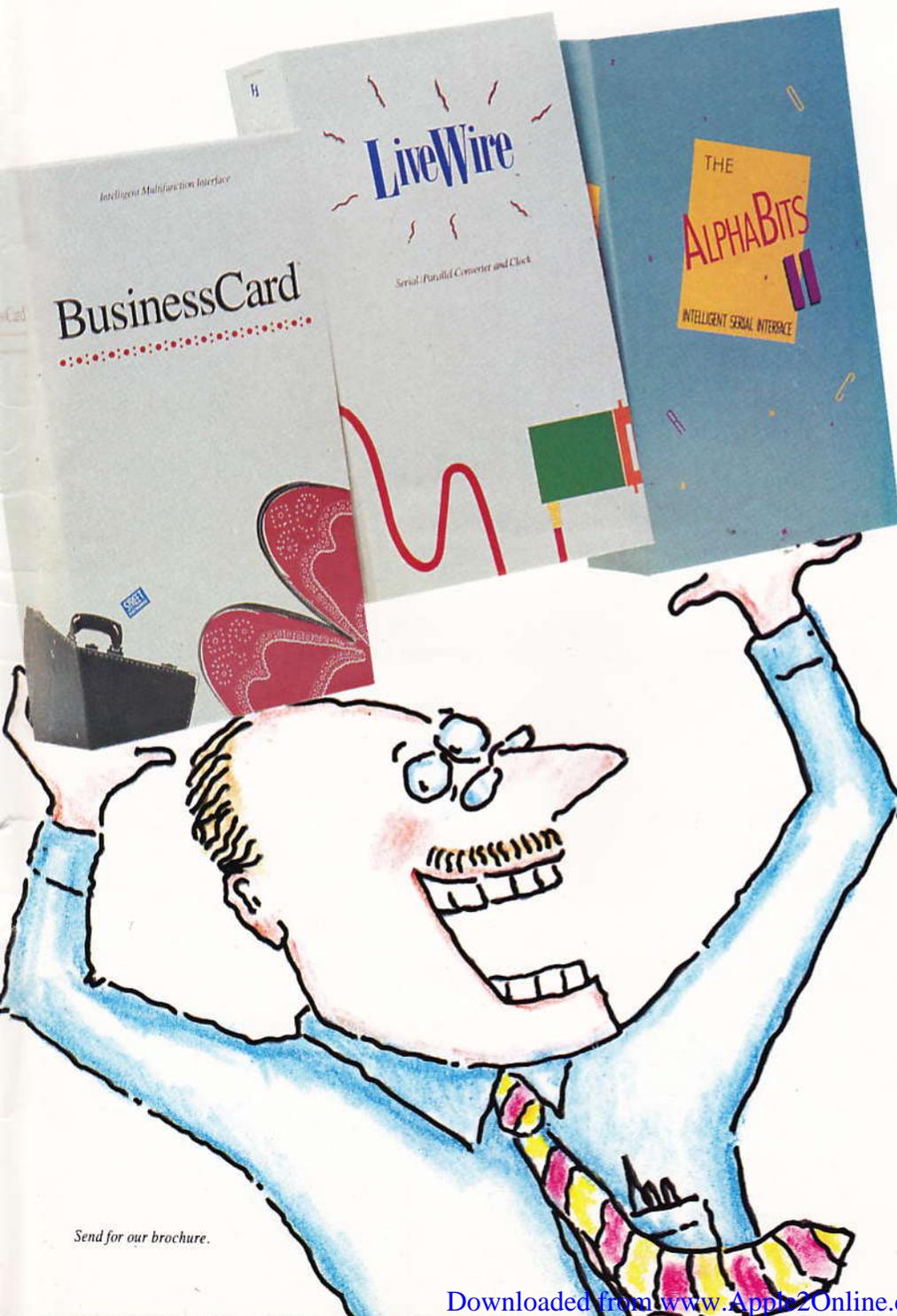
Supports: ProDOS; UniDisk 3.5; hard-disk drive; Apple II Memory Expansion Card; *Catalyst*



Dossier

Street Smarts

Now using your Apple® IIe and IIc with printers and modems is easier than ever before. With Street Electronics' new smart Apple interfaces, "Macintosh™ -like" pull-down menus are used to activate an assortment of over 60 commands. These include double hi-res screen dump, image magnification and windowing, and selecting text style and size. The BusinessCard and AlphaBits are fully compatible with Apple's new color ImageWriter™ II and Apple Personal Modem.



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Apple IIe multifunction card

- ▶ Printer port
- ▶ Modem port
- ▶ Clock/calendar with battery back-up
- ▶ 64K buffer option
- ▶ Built-in color graphics/text printing commands
- ▶ Suggested retail \$219.95

LiveWire™

Apple IIc interface with clock

- ▶ Connects a parallel printer to the Apple IIc
- ▶ Built in clock calendar with battery back-up
- ▶ Includes color graphics/text printing software
- ▶ No power supply needed
- ▶ Suggested retail \$99.95

AlphaBits II™

Intelligent Apple IIe interface

- ▶ Over 60 built-in hi-res color graphics and text commands
- ▶ Compatible with all popular printers and modems
- ▶ 64K print buffer option
- ▶ Works with Apple software
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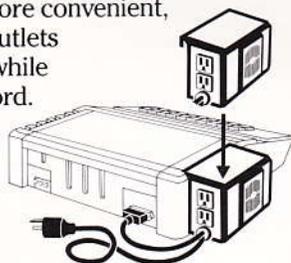
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MORE THAN 1/4 MILLION APPLE II'S SAVED

SYSTEM SAVER® from Kensington Microware quietly protects more than 1/4 million Apple® II's every day. Often referred to as "the piece Apple forgot," System Saver's unique combination of features have made it the most versatile, most convenient, best selling accessory ever made for the Apple.

System Saver organizes your power needs.

To make your Apple system more convenient, System Saver provides extra outlets for your monitor and printer, while replacing the Apple's power cord. One front-mounted power switch controls your whole system.



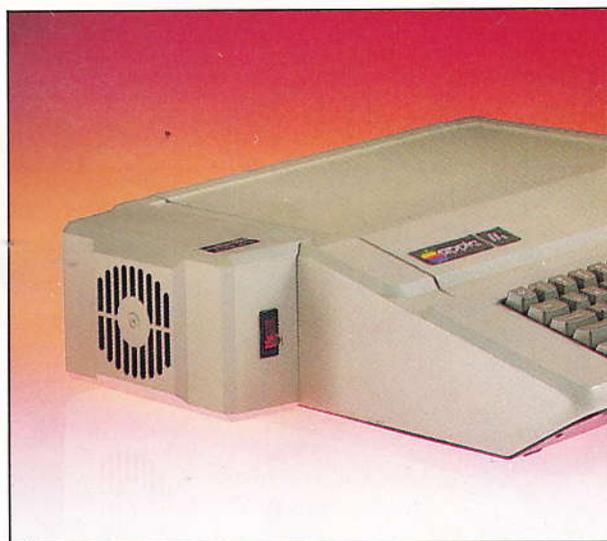
System Saver solves power line problems.

Impurities in the power supply cause 70-90% of all microcomputer malfunctions. Line noise can be interpreted as data, confusing your Apple and causing annoying system errors. Power surges and spikes can do costly damage to your computer's delicate circuitry.

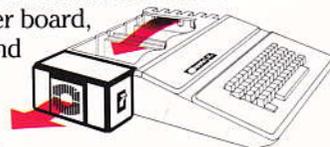
System Saver clips surges and spikes at a safe level and filters out line noise. It makes your Apple more accurate, more efficient and more reliable.

System Saver keeps your Apple cool.

Peripheral cards added to your Apple not only generate heat, they block any natural air flow through the computer. The resulting high temperature conditions can potentially shorten the lives of both your Apple and your peripheral cards.



System Saver's quiet fan draws a breath of fresh air across the Apple's mother board, over the power supply and out the side ventilation slots at the rate of 17 cubic feet per minute.



More than 1/4 million Apple owners think of System Saver as the piece Apple forgot. And 1/4 million well-protected Apples agree. Available at your local dealer. For more information, contact Kensington Microware, 251 Park Avenue South, NY, NY 10010, (212) 475-5200
Telex: 467383 KML NY.

