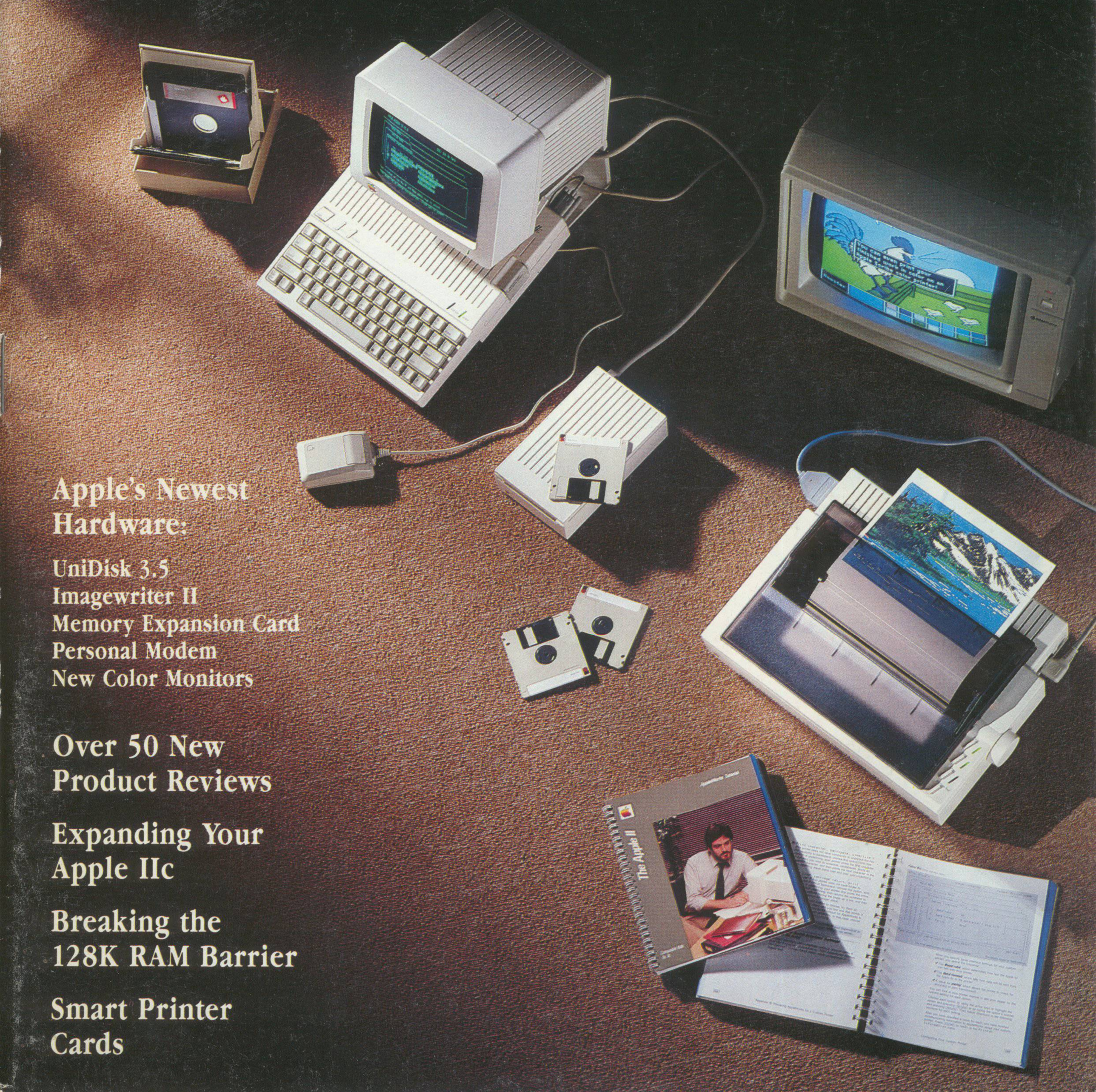
New Hardware, Software, and Peripherals

The Apple II 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.

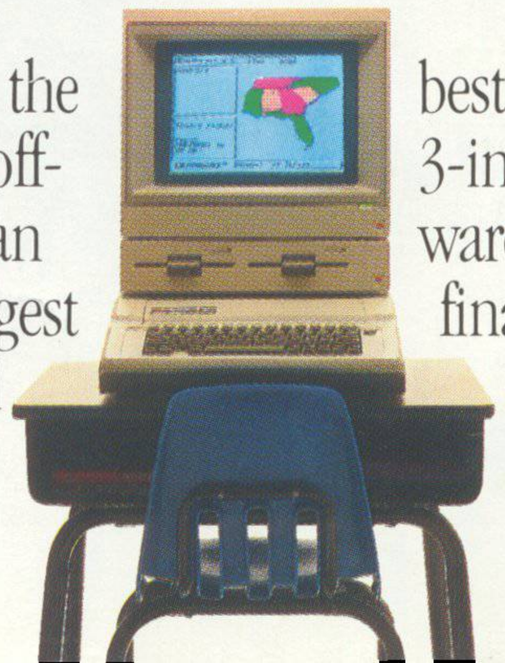
Which is why it makes good sense to buy them an Apple IIc Personal Computer of their very own.

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."

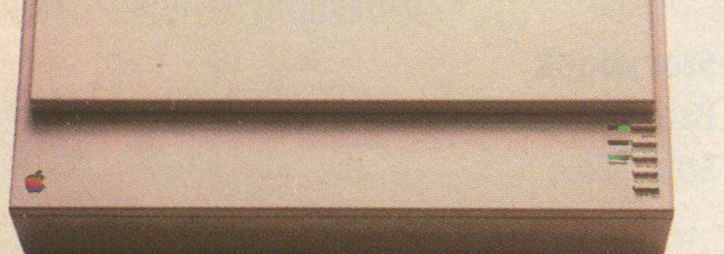
One Apple that won't leave them hungry.

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.

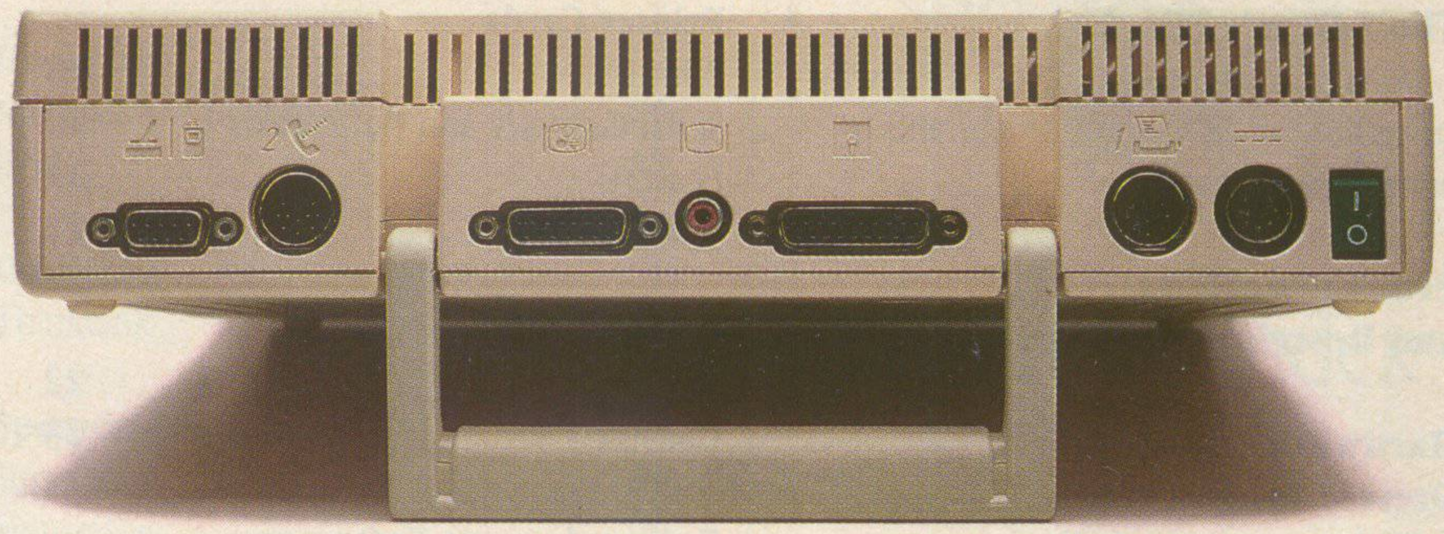
And built-in adaptors for adding accessories, like our new ColorMonitor IIc, ImageWriter™ II printer and the Apple Personal Modem 300/1200.

A feast for their eyes.

The big 14-inch ColorMonitor IIc displays crisp, color graphics 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 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.



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



And speaking of high quality color, introducing ColorMonitor IIc.

Which would all add up to a very impressive list of expandable accessories if it weren't for all the others. Like an AppleMouse. 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.***

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.

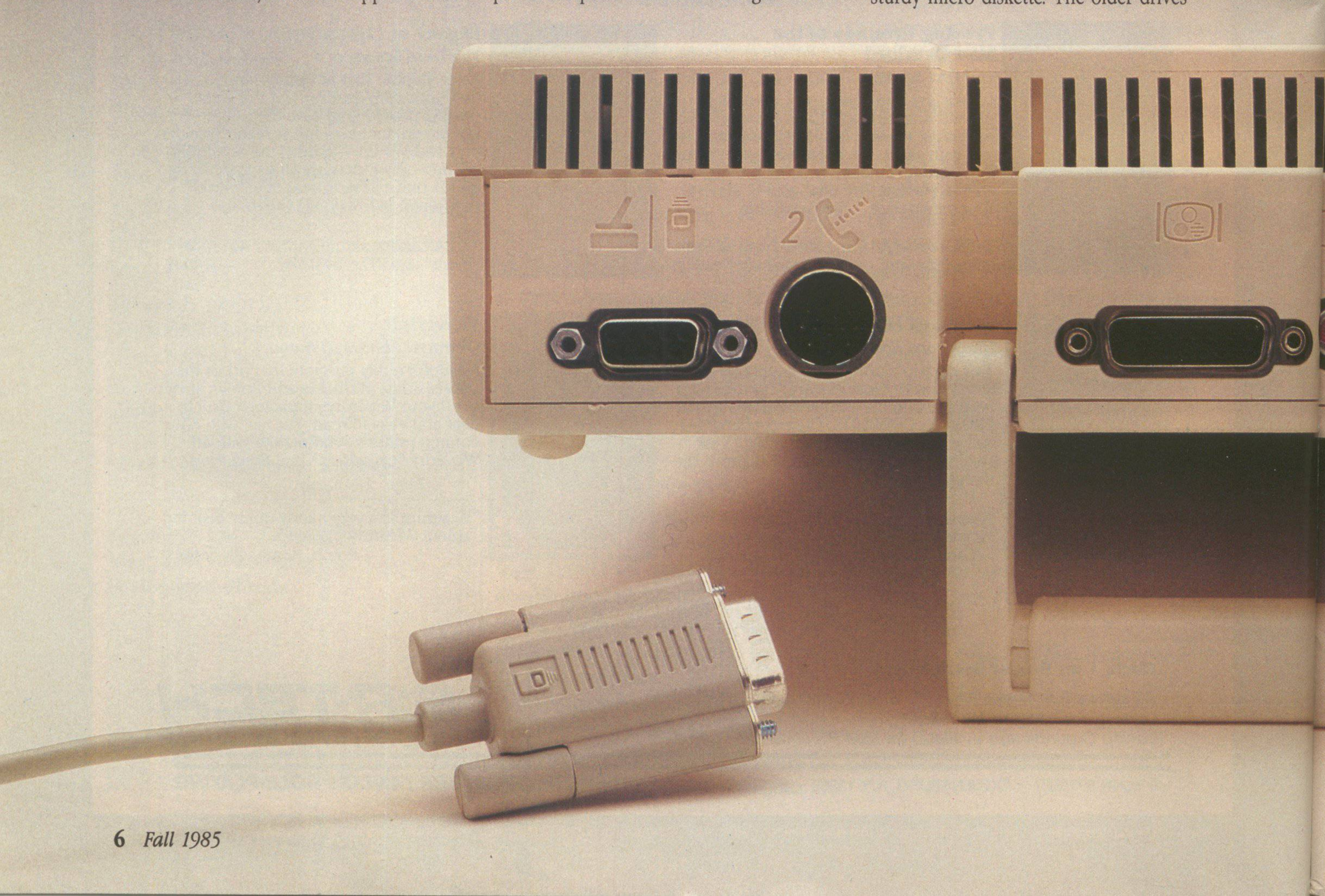
As the following reviews and descriptions demonstrate, the latest Apple IIe and even the "computer-in-a-case" Apple IIc are just as expandable as the original Apples. While the Apple IIc lacks the slots of the IIe it still accepts many outside additions, including a color monitor, modem, and external 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 IIs 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 internal 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

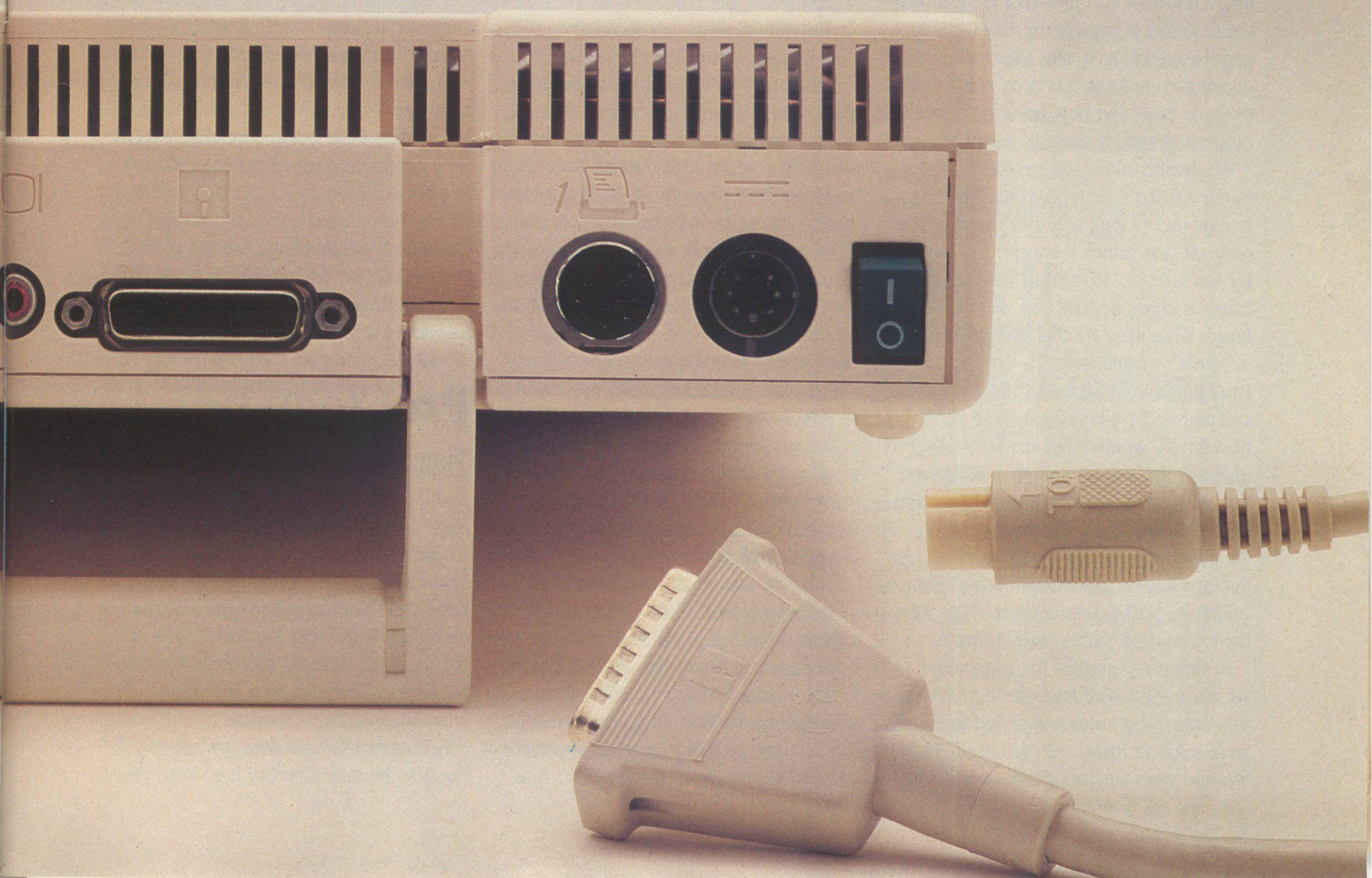
Sooner or later most Apple II users begin to explore computer graphics. Just as inevitably there comes a time when a hard copy of a business graph or drawing is needed. The fastest, cheapest, and most flexible way to get graphics on paper is by using a printer with graphics capabilities. Of the many 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.

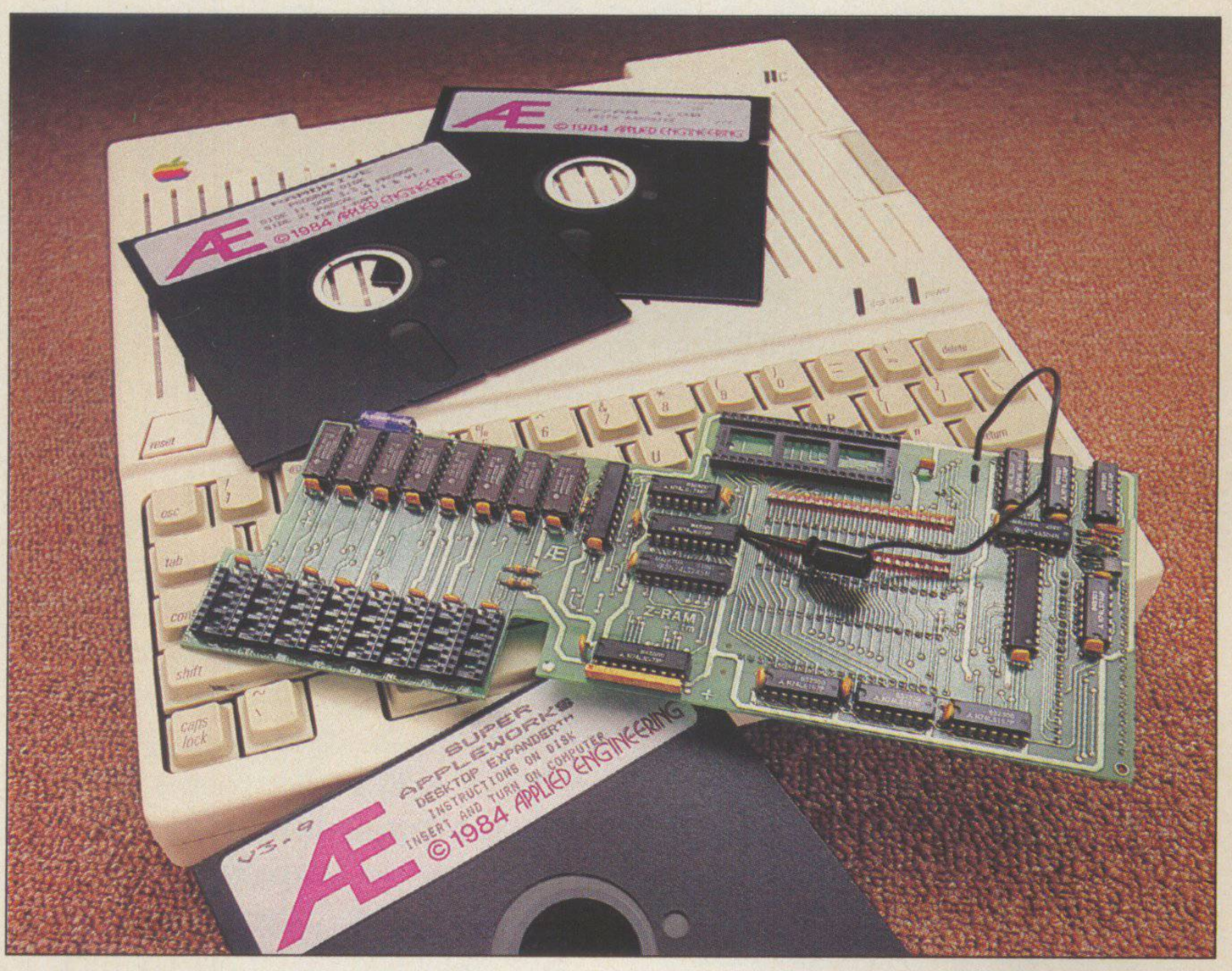
Z-RAM is a new kind of board designed for the Apple IIc. It adds several capabilities to the IIc previously available only to Apple IIe owners willing to purchase add-on options.

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 entire 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.



Z-RAM

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 CP/AM 4.OB 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.

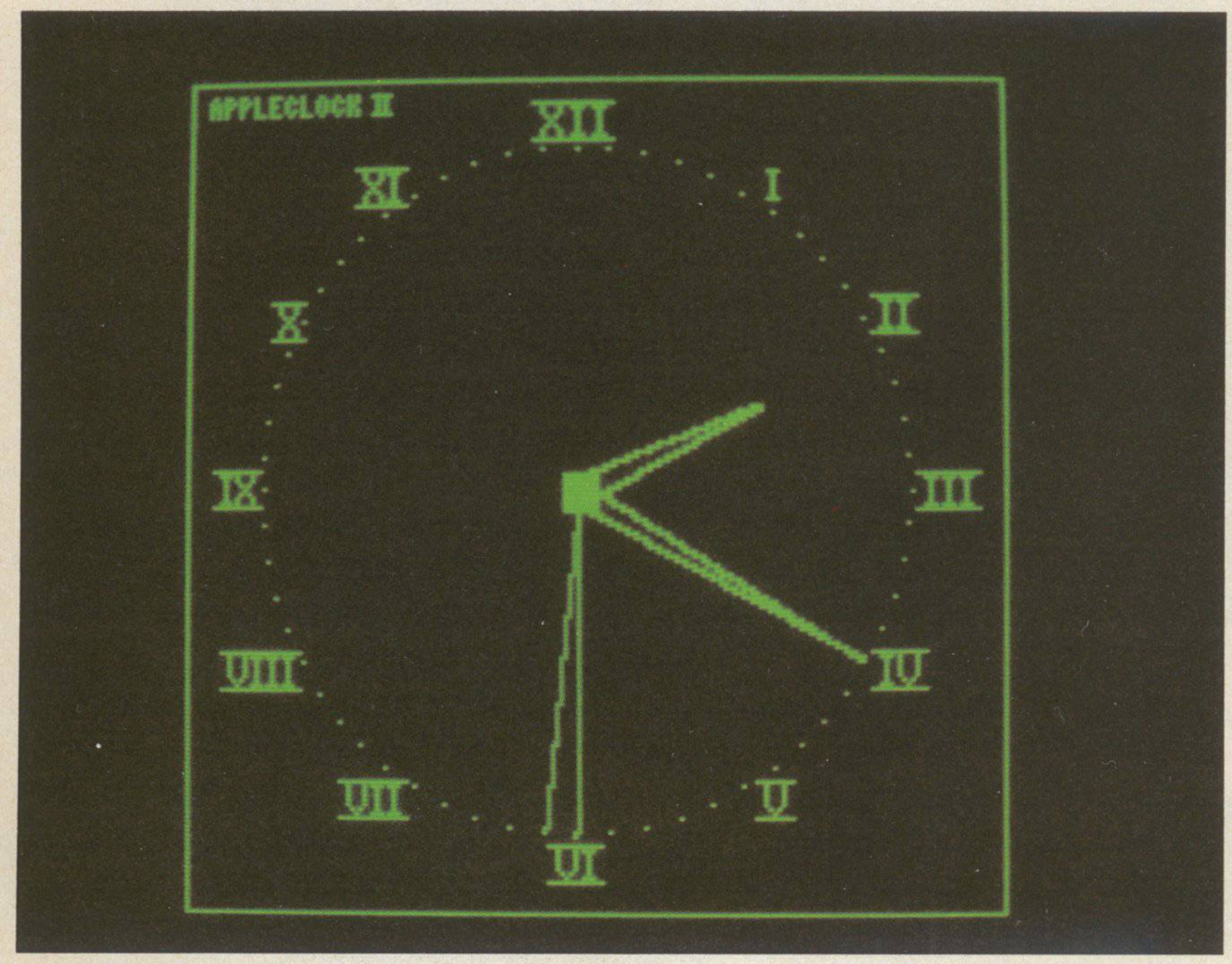
Product: Z-RAM
Price: $449 (256K RAM)
Company: Applied Engineering, PO Box 798, Carrollton, Texas 75006, 214-241-6060
Requirements: Apple IIc
Supports: ProDOS; *Appleworks*

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

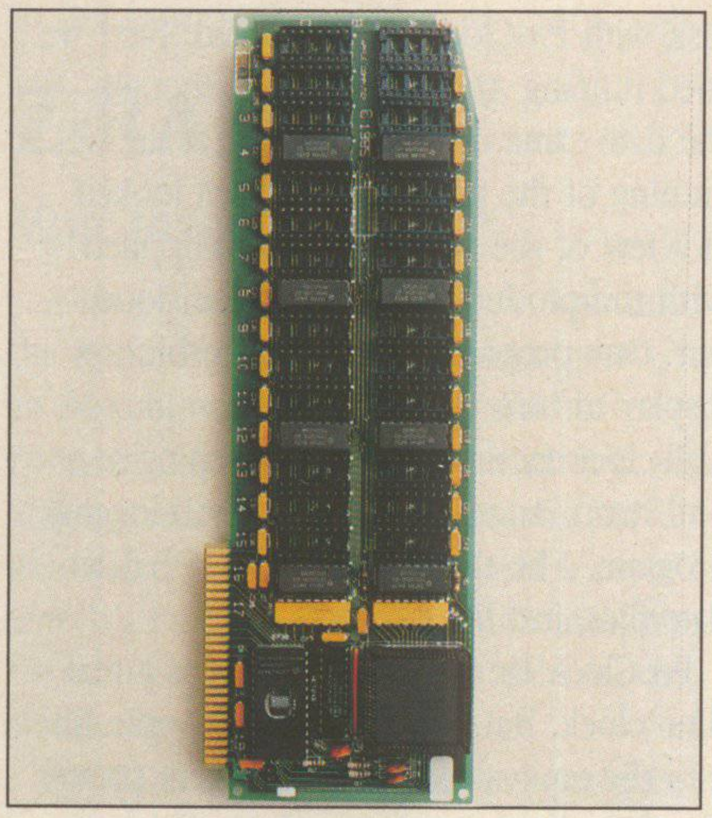
Memory Cards

Apple II Memory Expansion Card

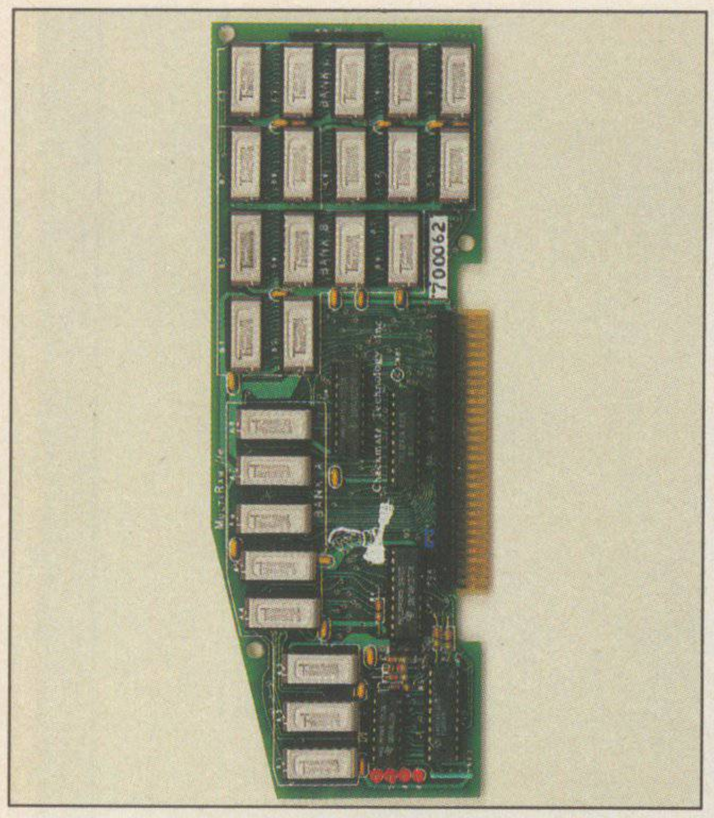
More RAM for Your Apple

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



MultiRam IIe

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

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.

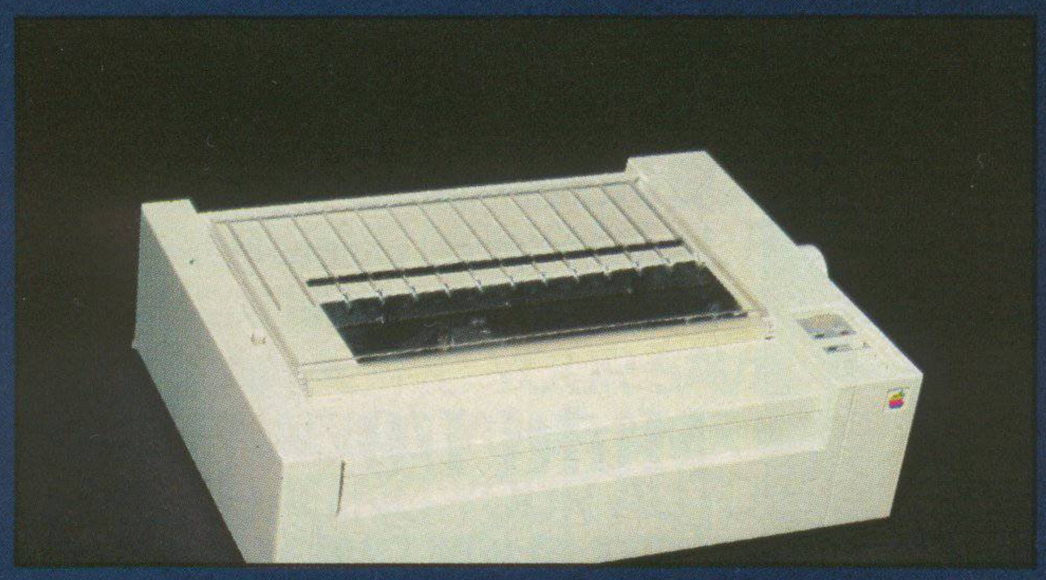
Unfortunately, most available Apple programs written for a standard Apple environment do not automatically support the extra RAM that MultiRam makes available. The programs still work—they just don't "realize" the extra RAM is present. To make them do so takes a software modification. Thankfully, MultiRam 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)*

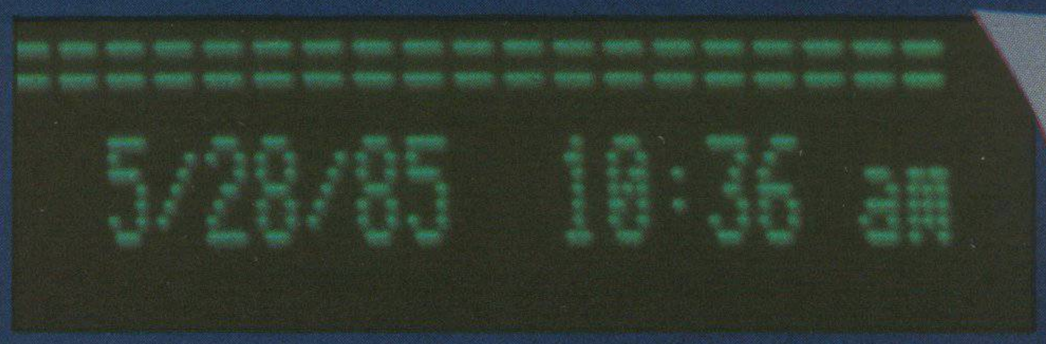
THE RIGHT CONNECTIONS



Printer serial port



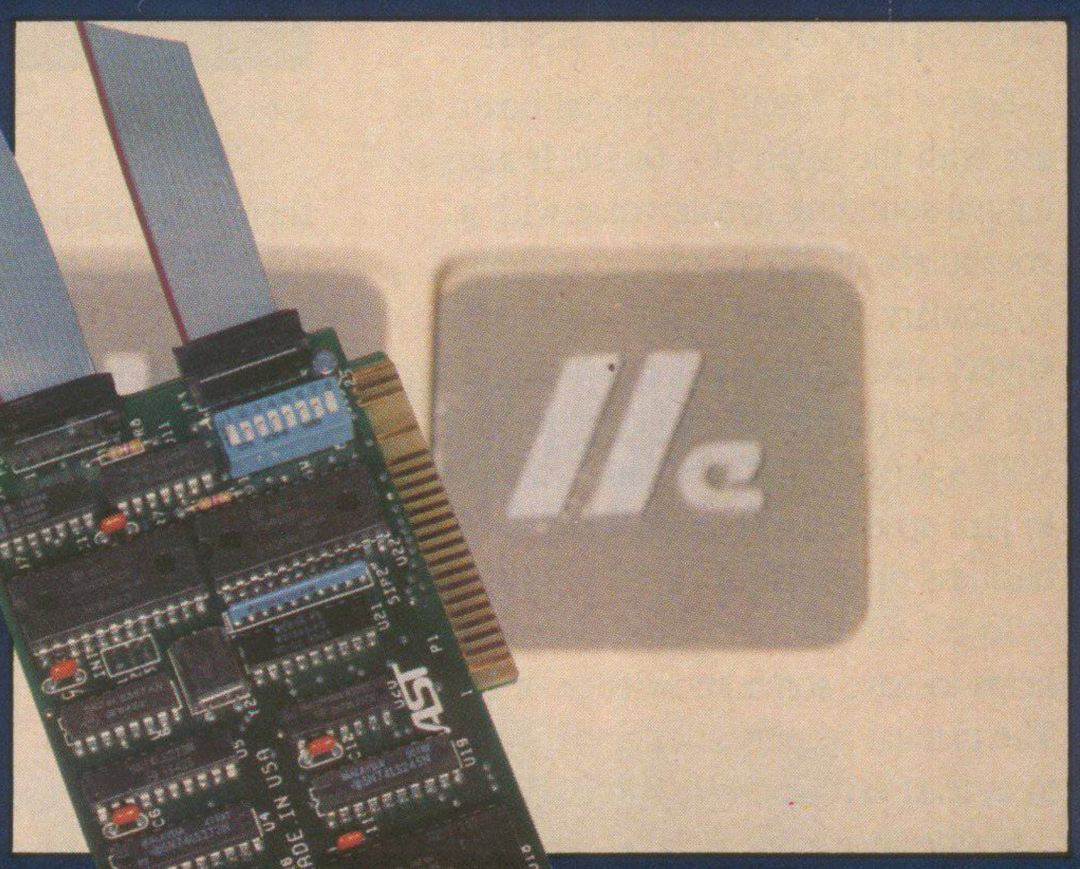
Modem serial port



Clock/Calendar



Software Utilities



Apple IIe compatible

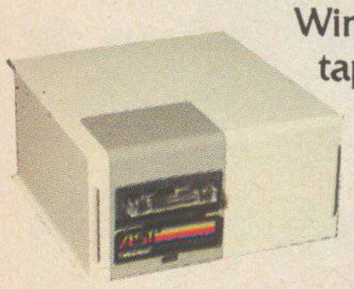
AST's Multi I/O™ is a multifunction card for the Apple IIe™ that does the work of three individual boards. First, the Multi I/O printer serial port gives you the right connection to hook up your ImageWriter™ or a compatible serial printer. Second, Multi I/O provides you with the right connection to communicate 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

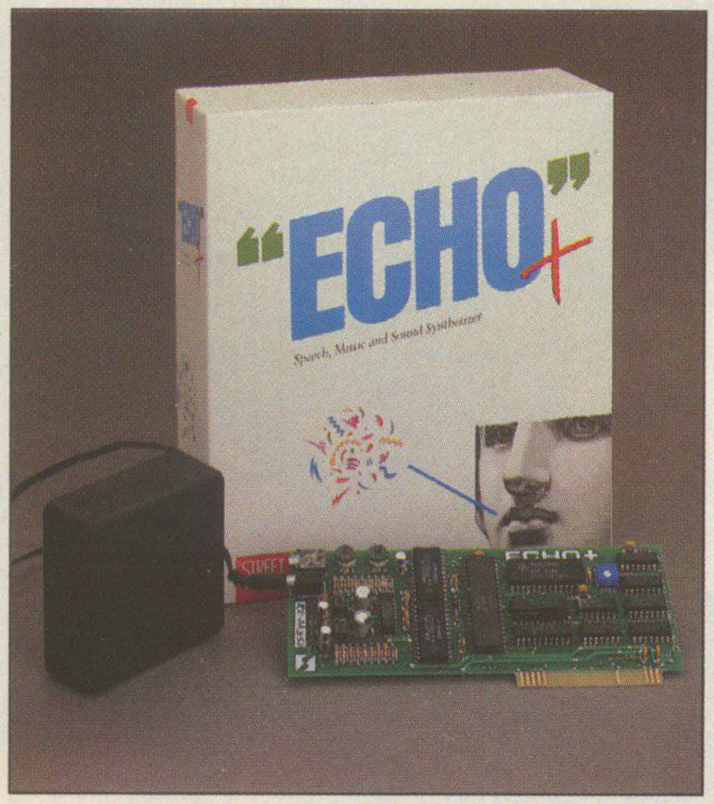
Echo+ is a sound peripheral board for use with the Apple II+ or IIe. It adds a natural-sounding female voice with a vocabulary of 725 words, an unlimited-vocabulary "robotic" male voice, sound effects, and synthesized stereo music to the Apple (the female voice requires a 128K system). This peripheral 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.

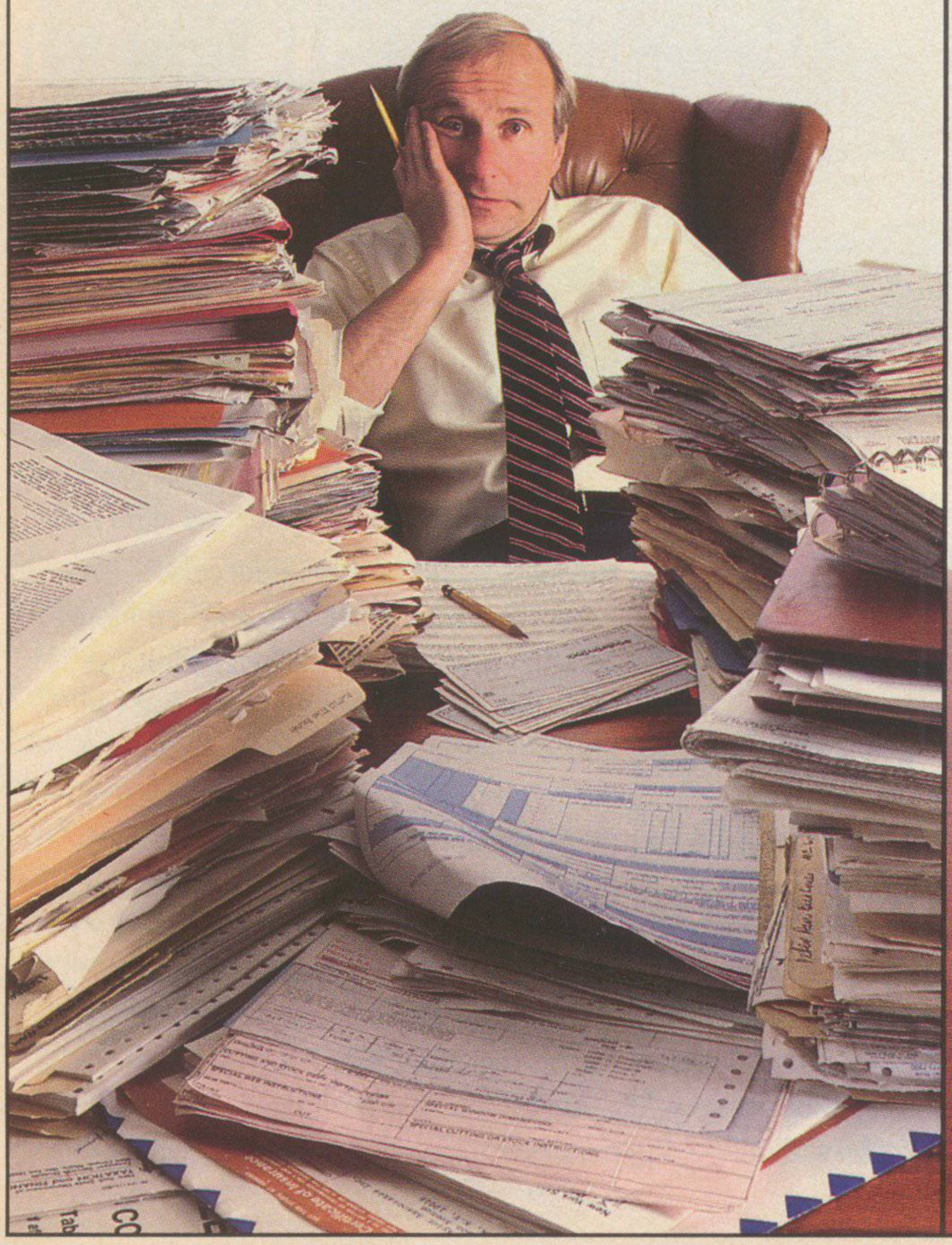
By combining the above three functions in one, Multi I/O presents a no-nonsense alternative to the high cost of computer expansion. This multifunction board isn't for everyone, but if you're looking for two serial ports (one for a printer and another for a modem), and would like a real-time clock as 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?
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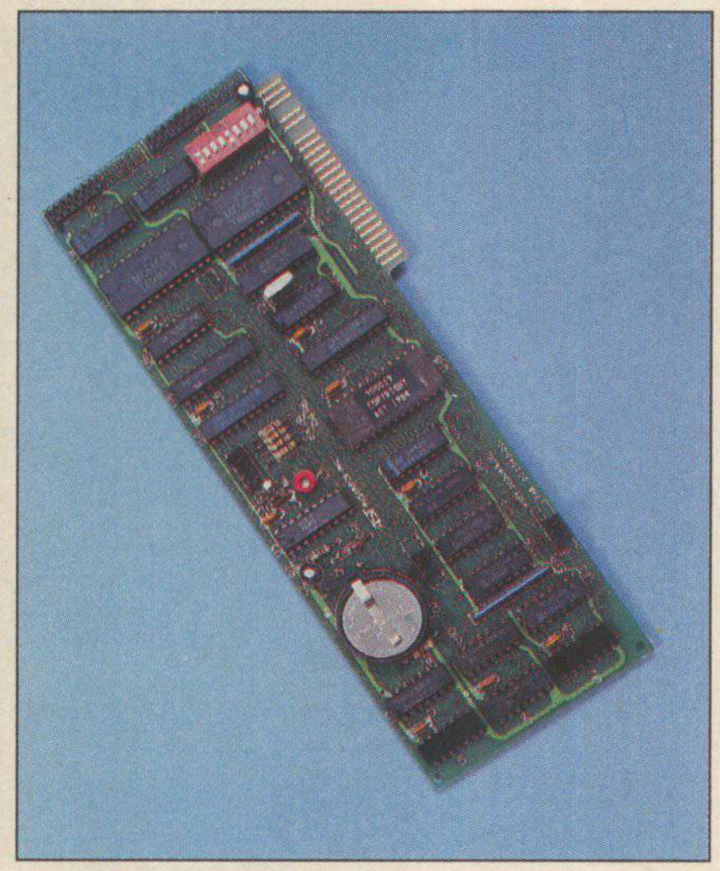
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Circle 3 on Reader Service Card

Miscellaneous



Multi I/O

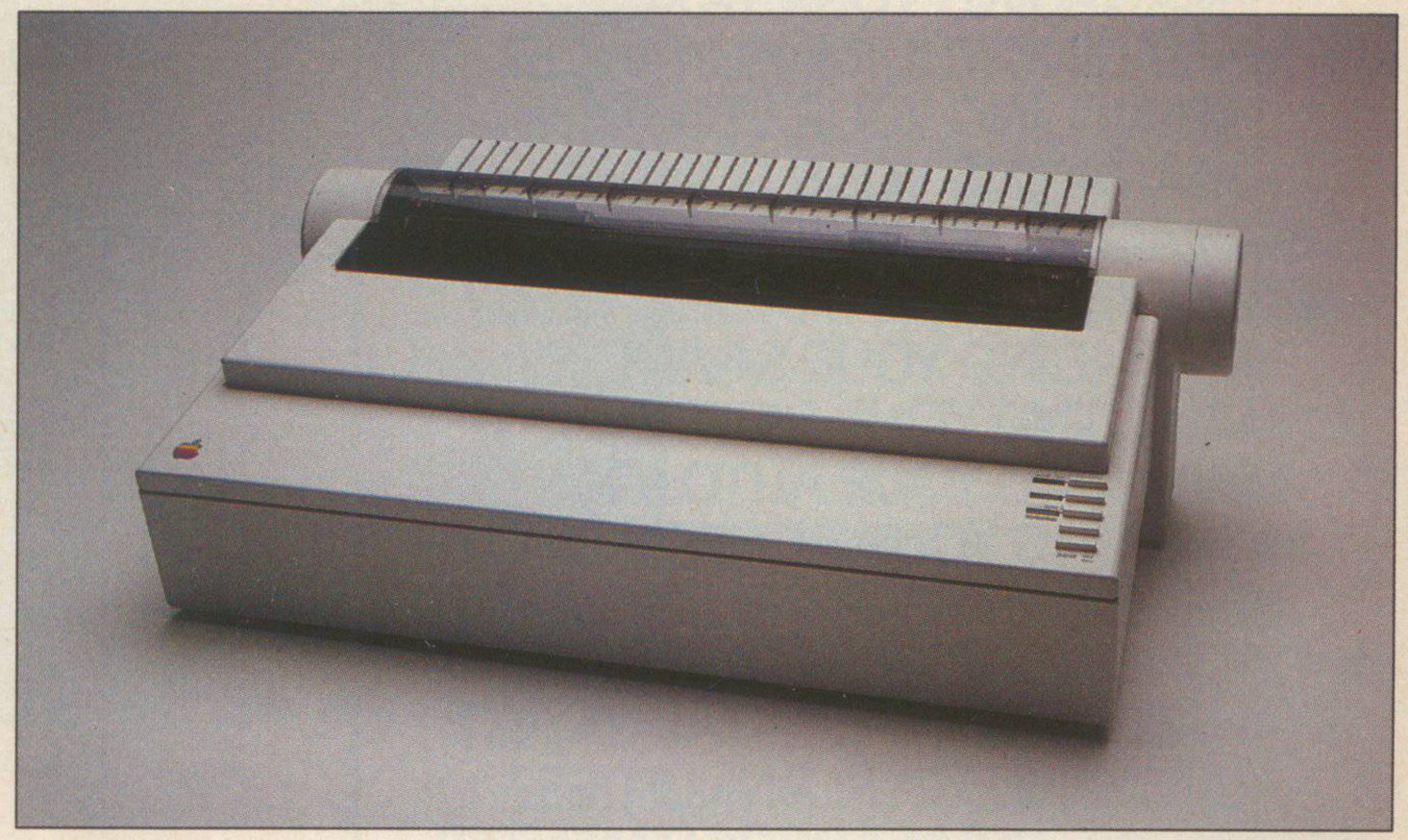
The utilities disk consists of a helpful tutorial and several other programs. One of the first that we tried running was a date and time utility. This easy-to-use program allowed us to set the clock's time and date. We then ran another program, called the digital clock, to see if the clock was working. 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.

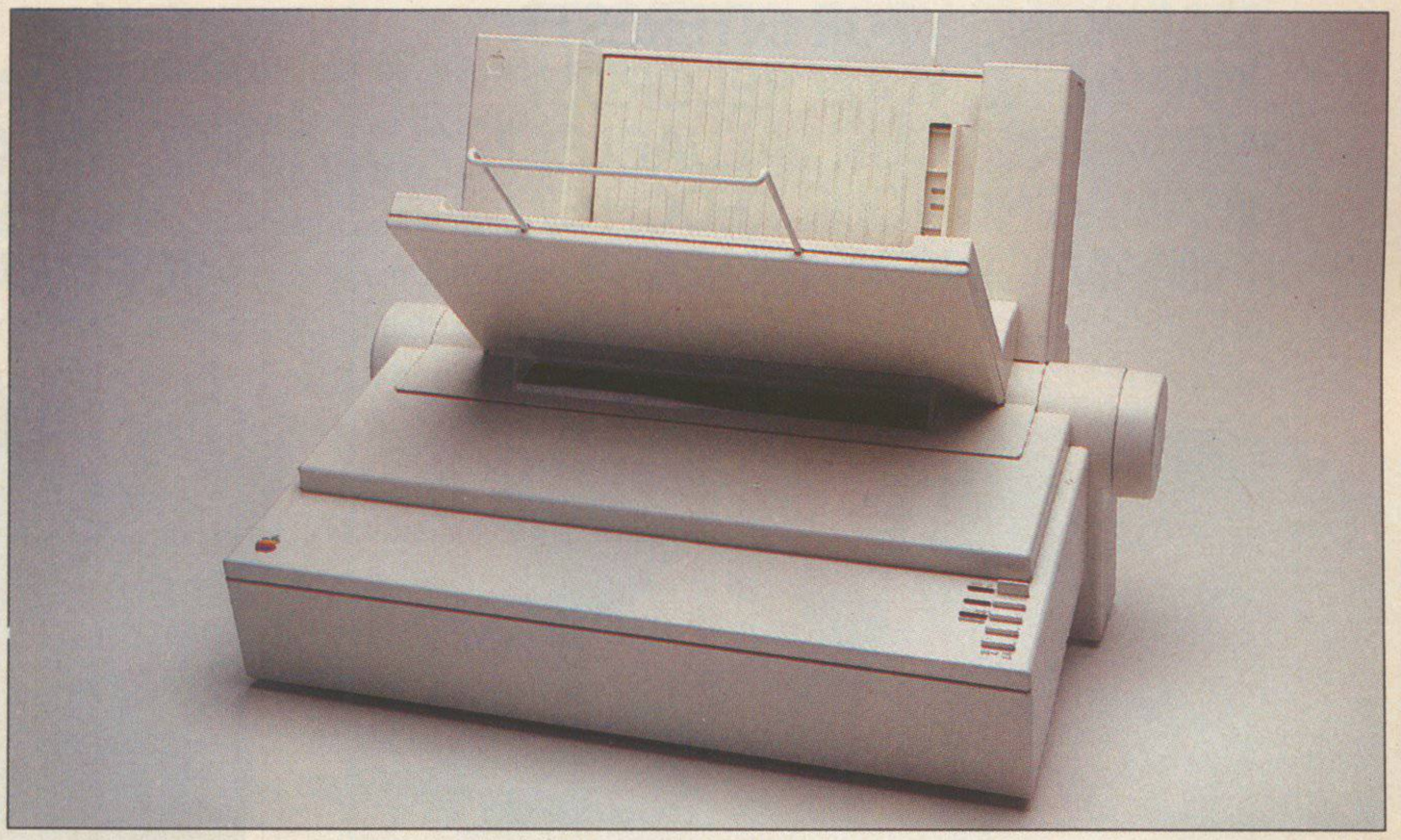
A simple telephone-dialer program for testing a modem is also included. Type in a number, press Return, and Multi I/O automatically dials it.

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

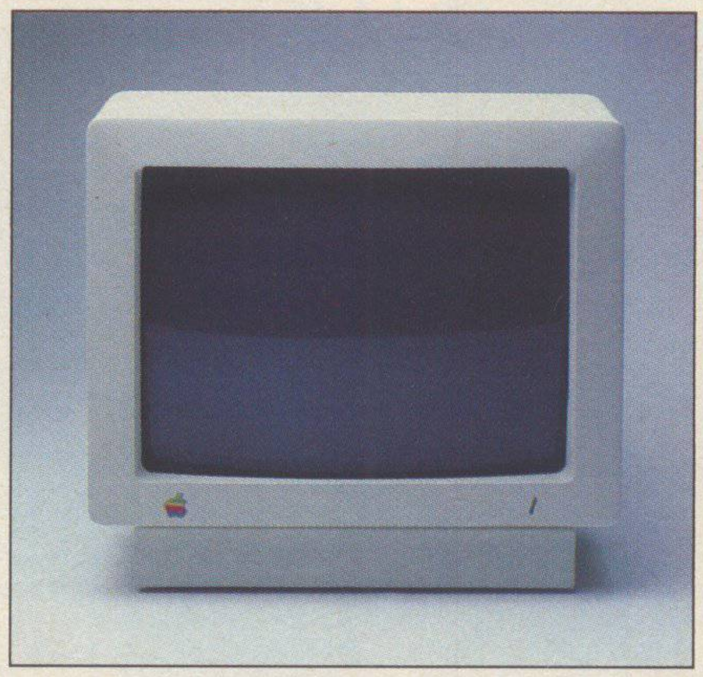
ColorMonitor IIc and IIe

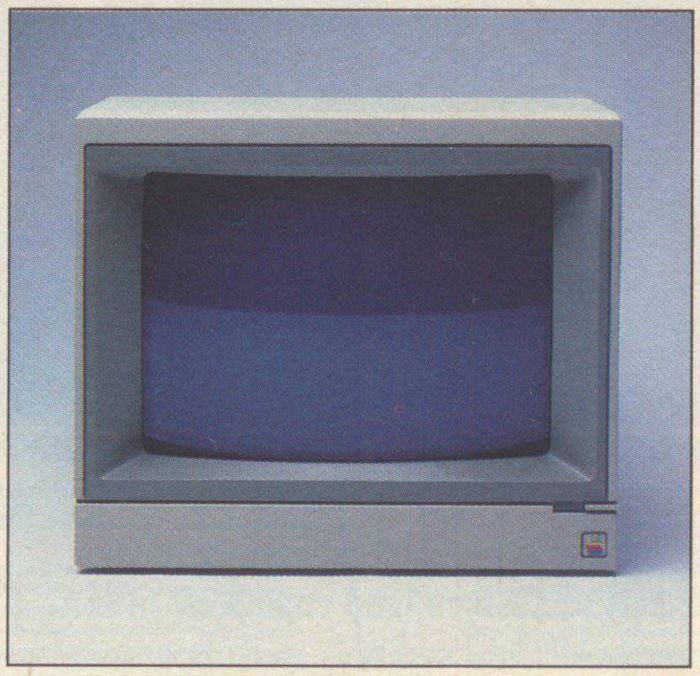
The Best of Both Worlds

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

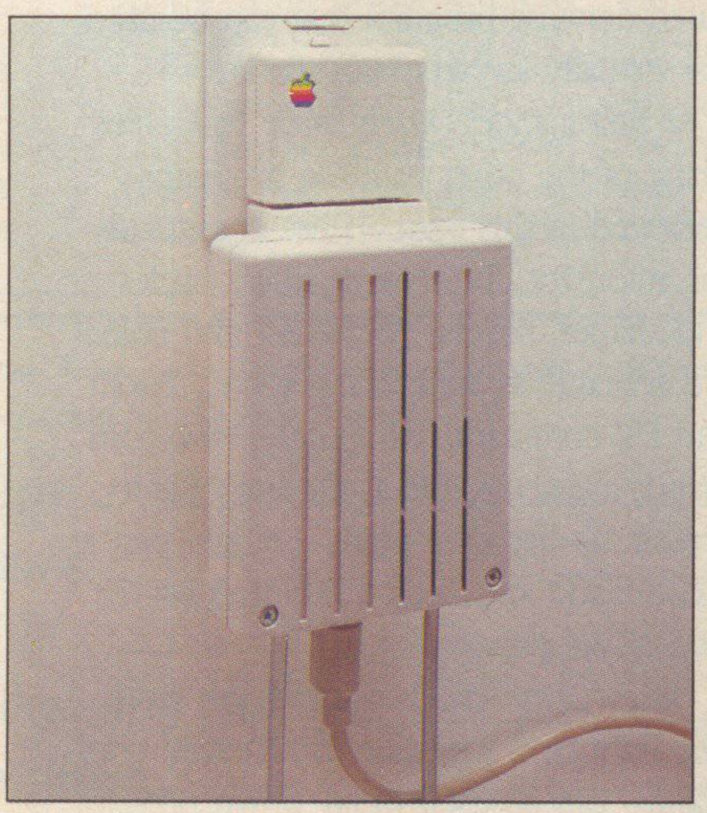
The Apple Personal Modem 300/1200 is an intelligent modem that offers both 300- and 1200-baud operation in a compact new style. According to spokesmen at Apple Computer, Inc., any Apple II computer equipped with this modem and communications software will be able to communicate with other computers, 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

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

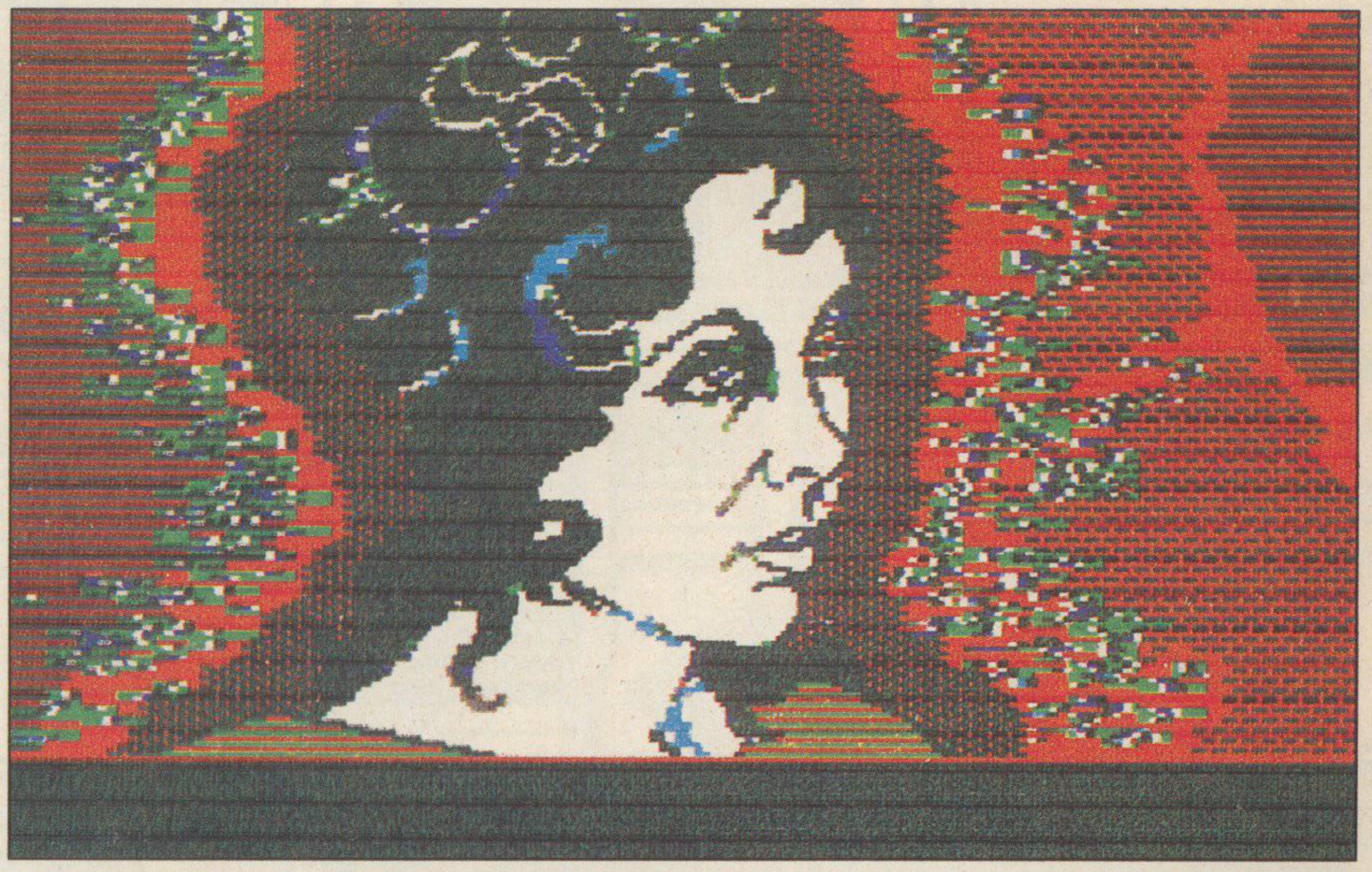
Printer Cards

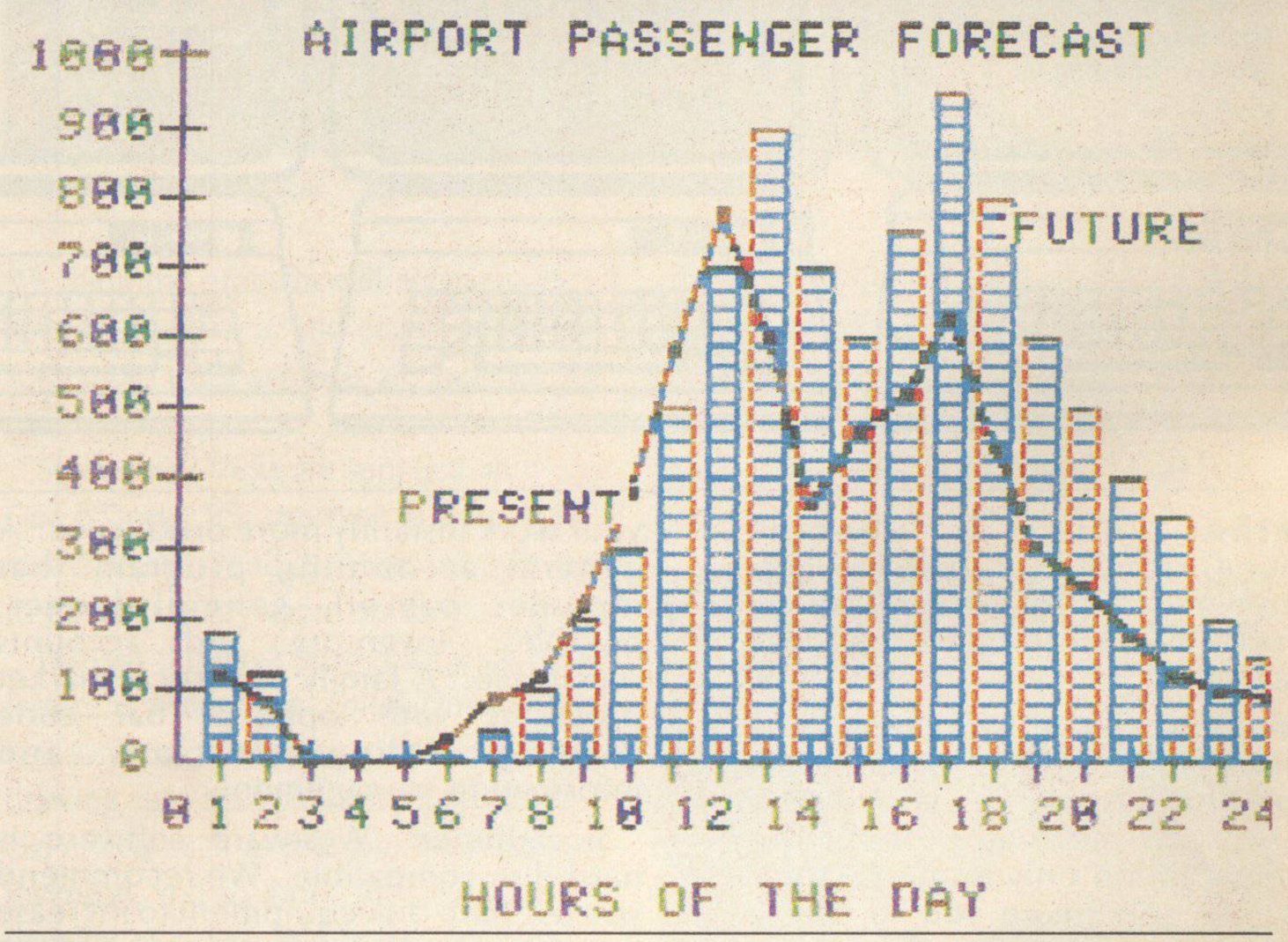
Print-It!

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 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.





Sample printouts using Print-It!

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.

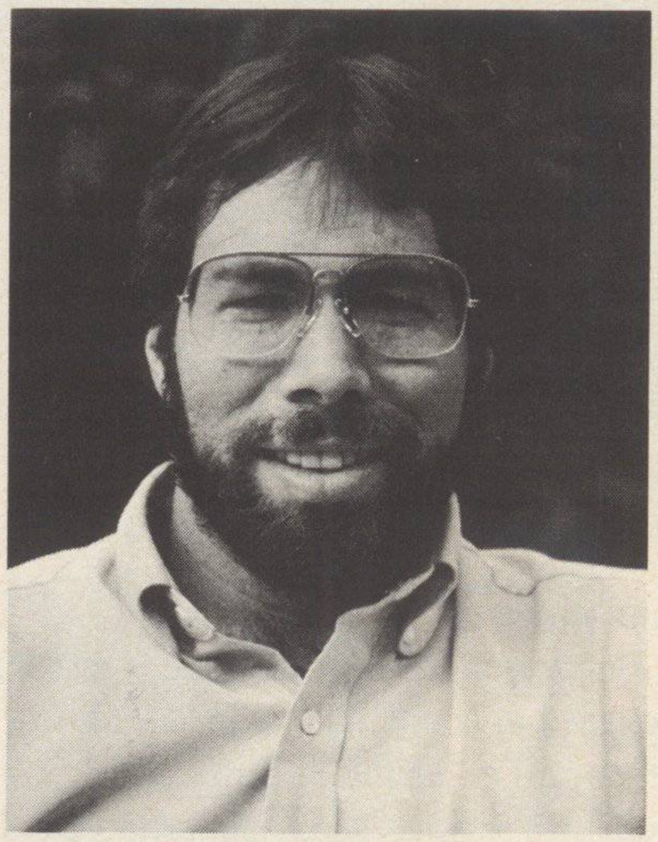
RamWorks plugs into the IIe auxiliary slot and acts just like Apple's extended 80 column card. If you buy a 256K or larger card, AppleWorks will automatically load itself into RamWorks. This dramatically increases AppleWorks' speed because it effectively eliminates time required to access disk Drive 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.

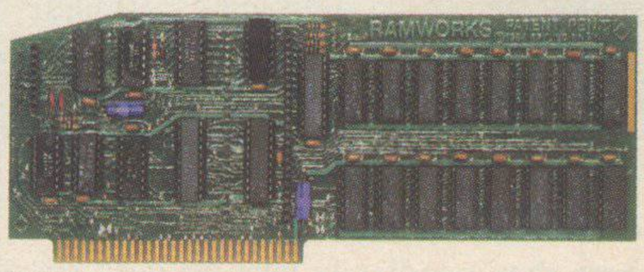
Plus, when you create an AppleWorks file larger than your disk capacity, only RamWorks automatically segments it to the appropriate size. RamWorks then prompts you to insert more disks, so you can save any size file on regular floppies or hard disk.

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 programs written for them without modification.



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



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.

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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 5⅛% sales tax. Add $10.00 outside U.S.)

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Circle 5 on Reader Service Card

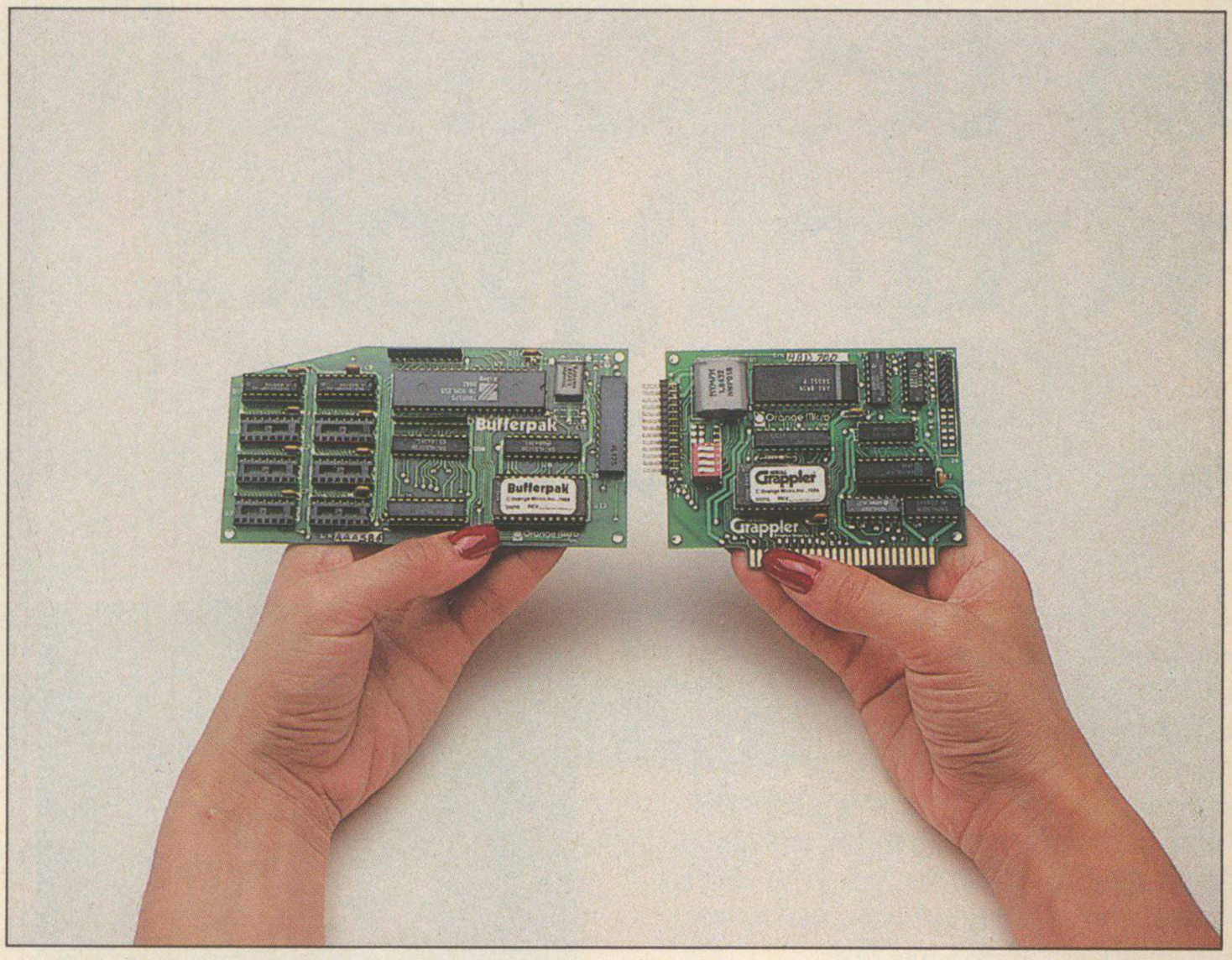
Printer Cards

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

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 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)

Pkaso/U

Parallel Printer Supercharger

Pkaso/U (the "U" stands for universal) is a sophisticated parallel-printer interface card for the Apple II. As such, its mission is to tap all the graphics and text capabilities that too often go unused in many dot-matrix printers. Since Pkaso/U is a parallel card, it won't work with serial printers such as Apple's Scribe and Imagewriter. Nevertheless, most dot matrix printers we've run across *are* parallel, including the Epson printers and many Epson clones.

When installing Pkaso/U, the first step after plugging the card into an empty slot (slot one is recommended) is to run a configuration program supplied on disk. This program tells Pkaso/U what kind of printer is attached so it can tailor itself to a particular configuration.

We used an Apple IIe connected to a Mannesmann Tally 160L printer for this evaluation. This printer, together with over 30 others, was listed on the program's menu. We selected Mannesmann Tally from the menu and then downloaded the information into the card's non-volatile memory, which can "remember" a setting even with the power switched off. This is a nice touch. Other cards either refuse to be tailored for specific printers or use tiny mechanical DIP switches for making this adjustment.

Several demonstration programs are supplied on the disk. These show how Pkaso/U can be applied to both text and graphics applications.

Pkaso/U is probably regarded by most as an intelligent graphics card, but we think its text capabilities are equally impressive. With Pkaso/U, for example, you can use one consistent language to make your printer produce, in a single word-processing document, all of the character sizes you know it's capable of producing but may not have bothered with before.

In addition, Pkaso/U has extra memory for downloading alternate character sets. Using this feature, it's possible to create

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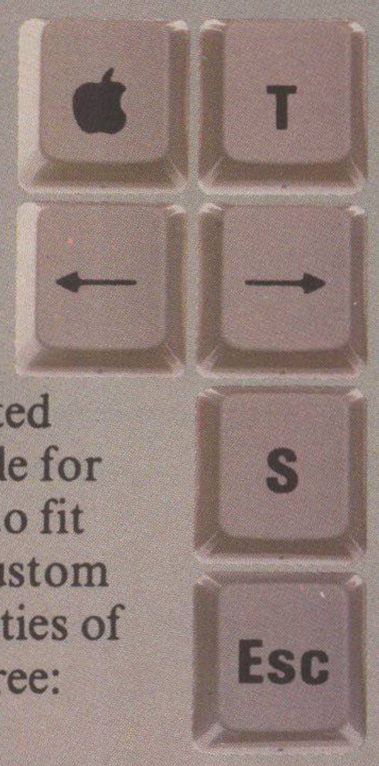
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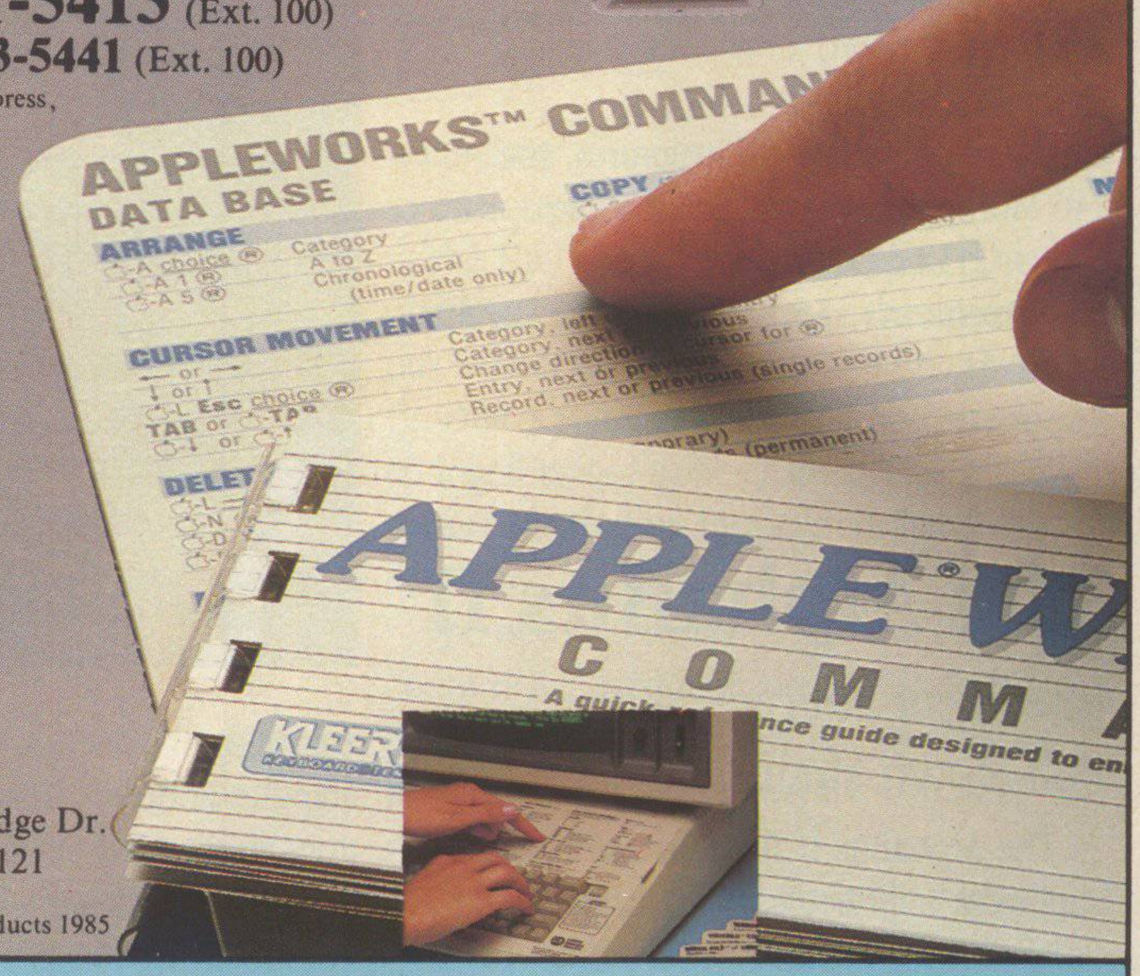
or write to:



TAB (SAMPLE COMMAND)
⌘-T ⇄ S Esc Set at cursor

TAB
1. Locate desired heading.

SET AT CURSOR
2. Locate alphabetized explanation of operation you wish to perform.
3. Press ⌘ and **T** keys at same time.
4. ⇄ is underlined example of appropriate user input; press ← or → to location of desired tab setting.
5. Press **S** key.
6. Press **Esc** key to execute command.



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■ $32.95
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	APPLE WORKS	APPLEWRITER II	APPLEWRITER II/QUICKFILE	APPLEWRITER II/VISICALC	CALCSTAR	DBASE II	DBASE III	DO-IT-YOURSELF BLANKS	EASYWRITER II	FRAMEWORK	LOTUS 1-2-3	MULTIMATE	MULTIPLAN	PC/MS DOS 2.10	PERFECT CALC	PERFECT WRITER	PFS: SERIES	QUICKFILE	SCREENWRITER II	SUPERCALC 2	SUPERCALC 3	SYMPHONY	VISICALC	VISICALC IV	VOLKSWRITER DELUXE	WORDPERFECT 4.0	WORDSTAR	WORD
IBM STYLE A*						○							●		●	●				●			●	●		●		●
IBM STYLE A/B**					●	○	○	▲	●	■	○	●	●	●	●	●	●				■				●	●	●	●
KAYPRO					●	●		▲							●	●											●	
APPLE II+		●		○		○		▲															●				●	
APPLE //e	●	●	○	○		○		▲				●					●	●	●				●				●	
HEWLETT-PACKARD								▲			○																●	
BOOKLET	△	△					●	•		○	●	△									○							△

*IBM Style A
**IBM Style A/B
IBM-PC/XT and Compaq only
IBM-PC/XT, Compaq, Columbia, Corona, Zenith 150/160 PC, AT&T PC 6300, ITT-Xtra PC, Kaypro 16, Panasonic Sr. Partner, Sanyo MBC-555, Leading Edge, Olivetti, Sperry-PC, Logical L-XT, North Star Dimension, IMP, Ivy, Prontu, Tava, Silicon Valley Micro and most other IBM Compatible or Key Tronics 5150 keyboards

7/85

Circle 6 on Reader Service Card

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 printouts 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

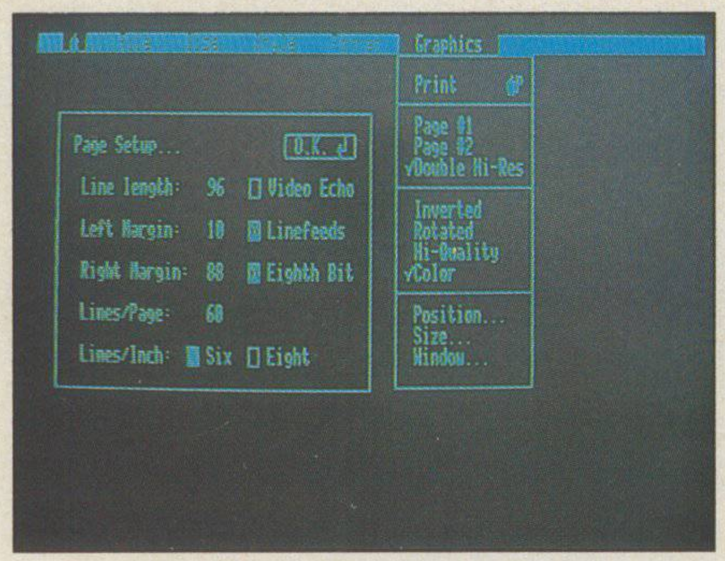
The AlphaBits II

Intelligent Interface with Pull-Down Menus

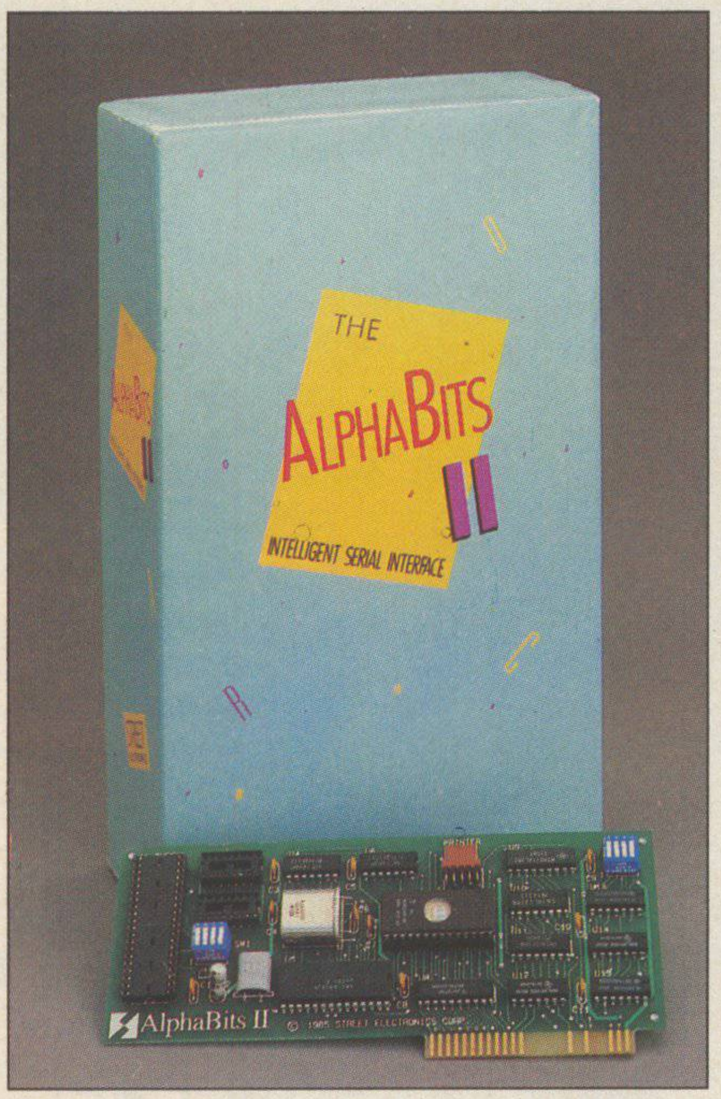
The AlphaBits II functions as both an intelligent interface card for printers and a serial port for modems. As a printer card, the product can handle over 60 built-in, graphic screen-printing and text-formatting commands. A few of its graphics functions mentioned by the vendor include windowing, zoom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

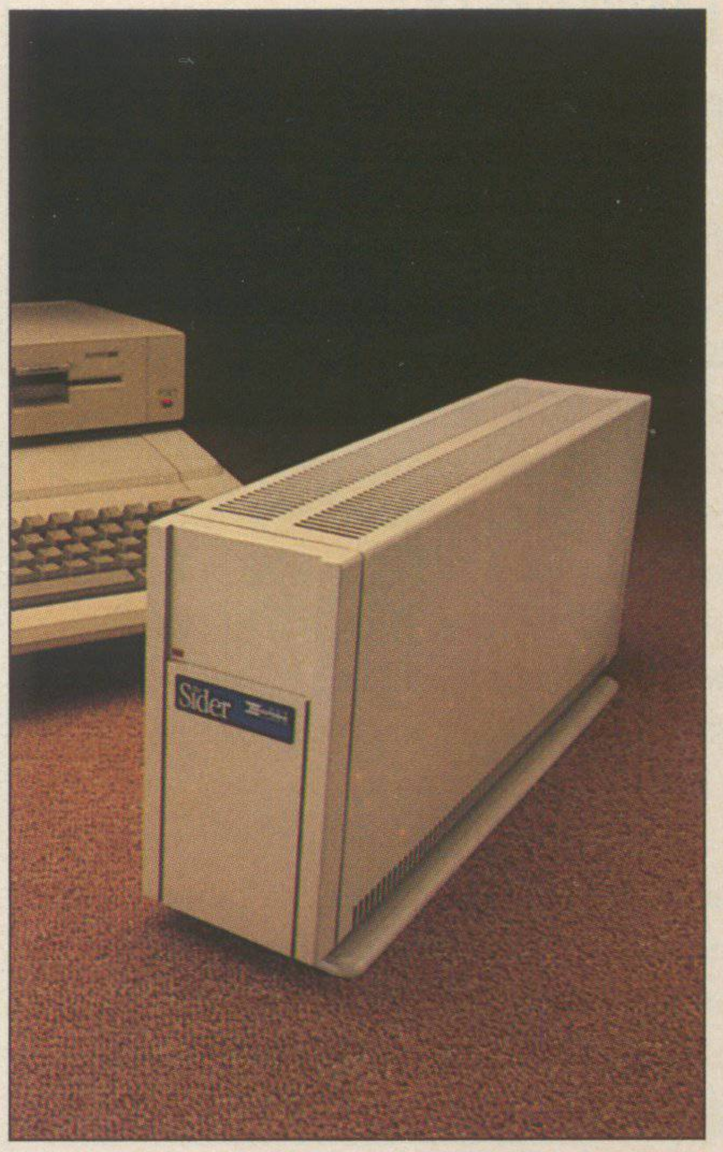


are used for selecting print commands for graphics and text. Text-formatting functions mentioned by the vendor include margins, page length, line length, page titles, page numbers, type style, and emphasized print.

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.

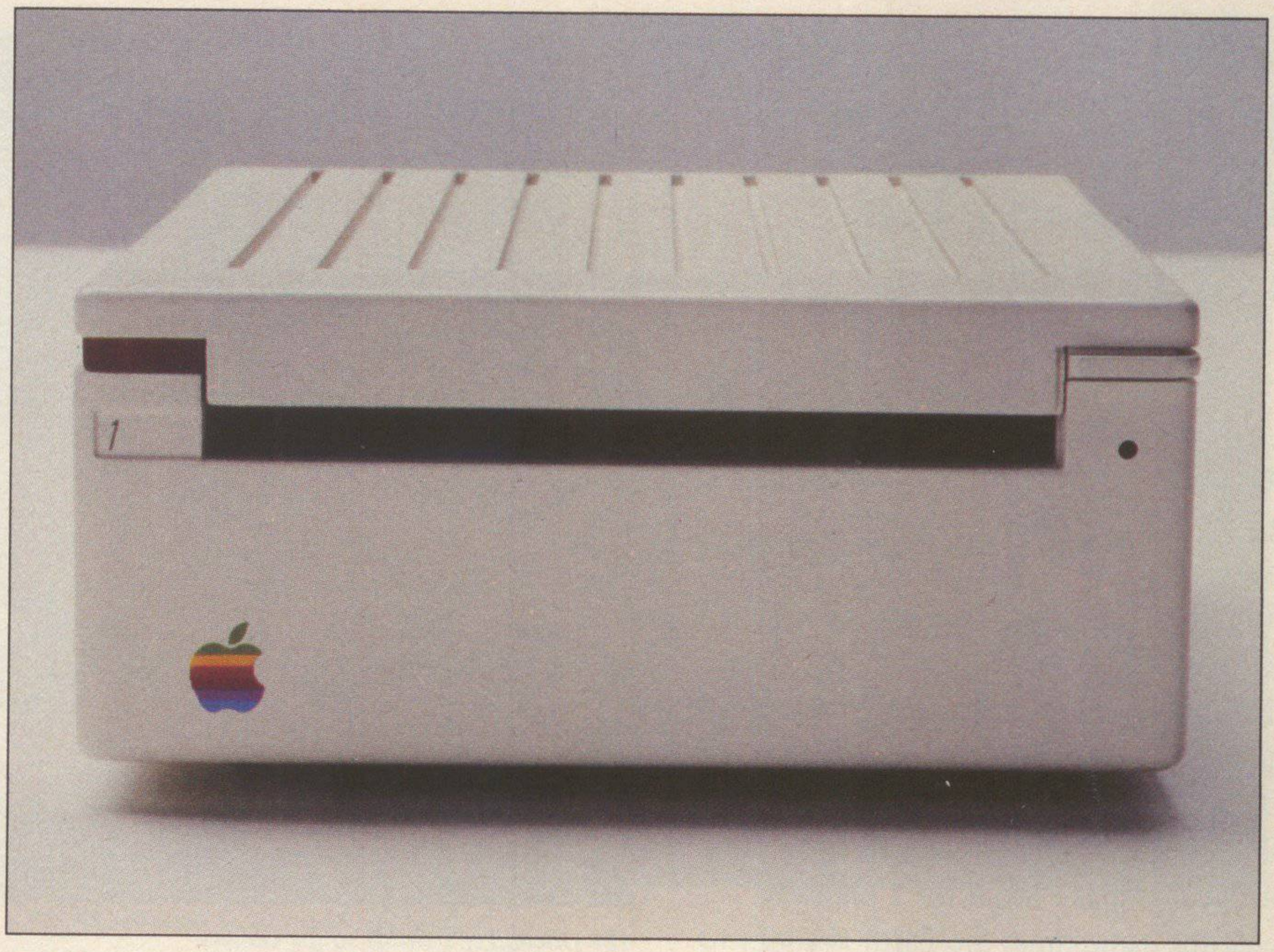
Equally impressive is the fact that The Sider can handle four operating systems. Software is included for formatting under the following: DOS 3.3; CP/M (Microsoft CP/M 2.23 or PCPI CP/M 1.0, 1.5, 1.6, or 2.0 only); Pascal; and ProDOS. The user decides in advance how much of the disk to allocate to each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



The Hitchhiker's Guide to the Galaxy

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

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.

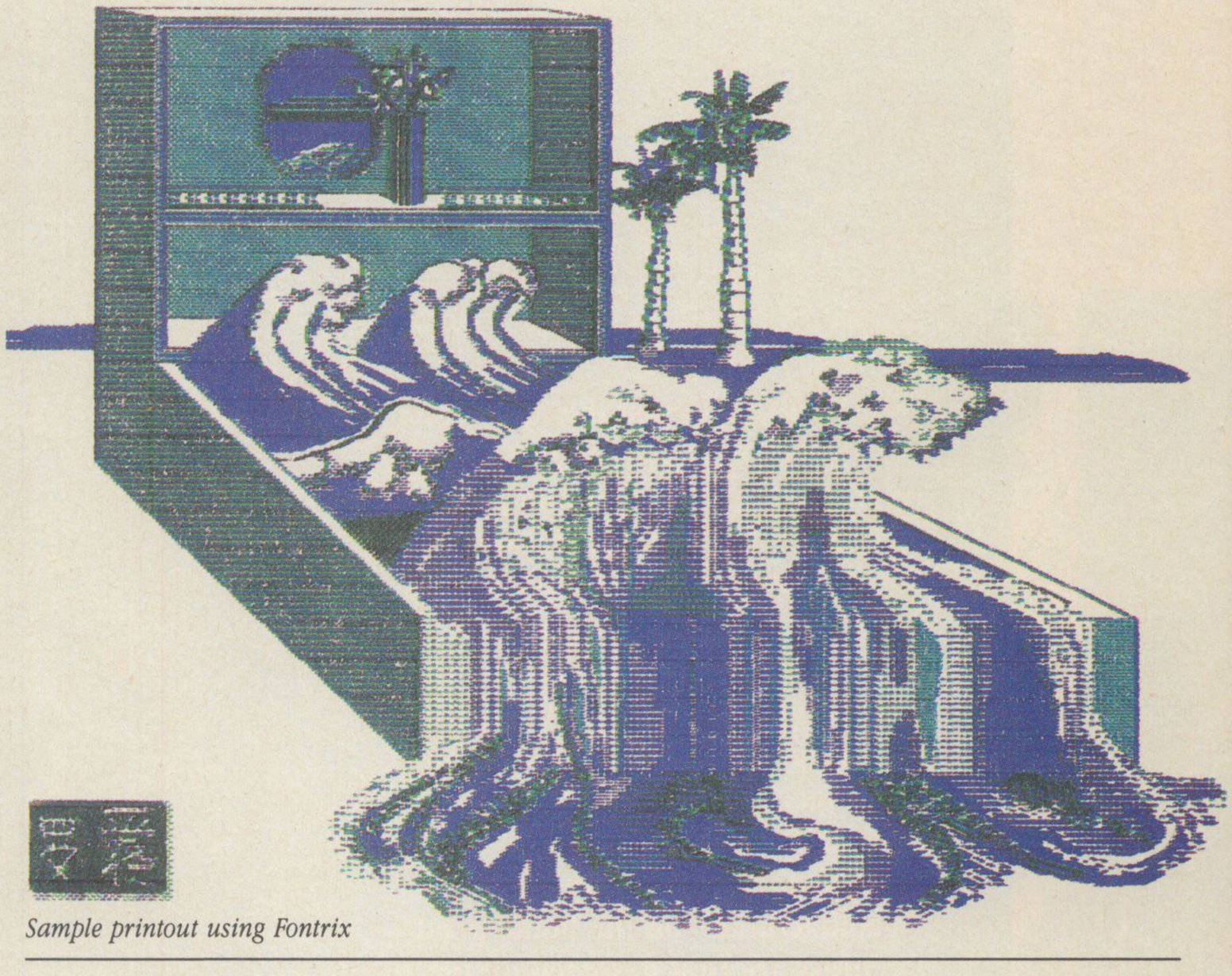
The finished work can almost pass for typeset quality. In fact, the entire *Fontrix* manual, illustrations and all, was set using ordinary dot-matrix printers and *Fontrix*.

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

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 envelopes, and a book binder.





ColorMe screen shot (top) and packaging

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

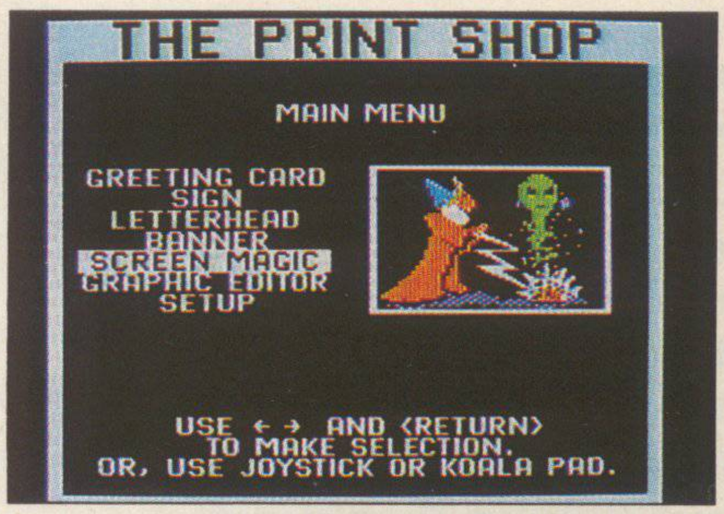
Home Printing Press

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.

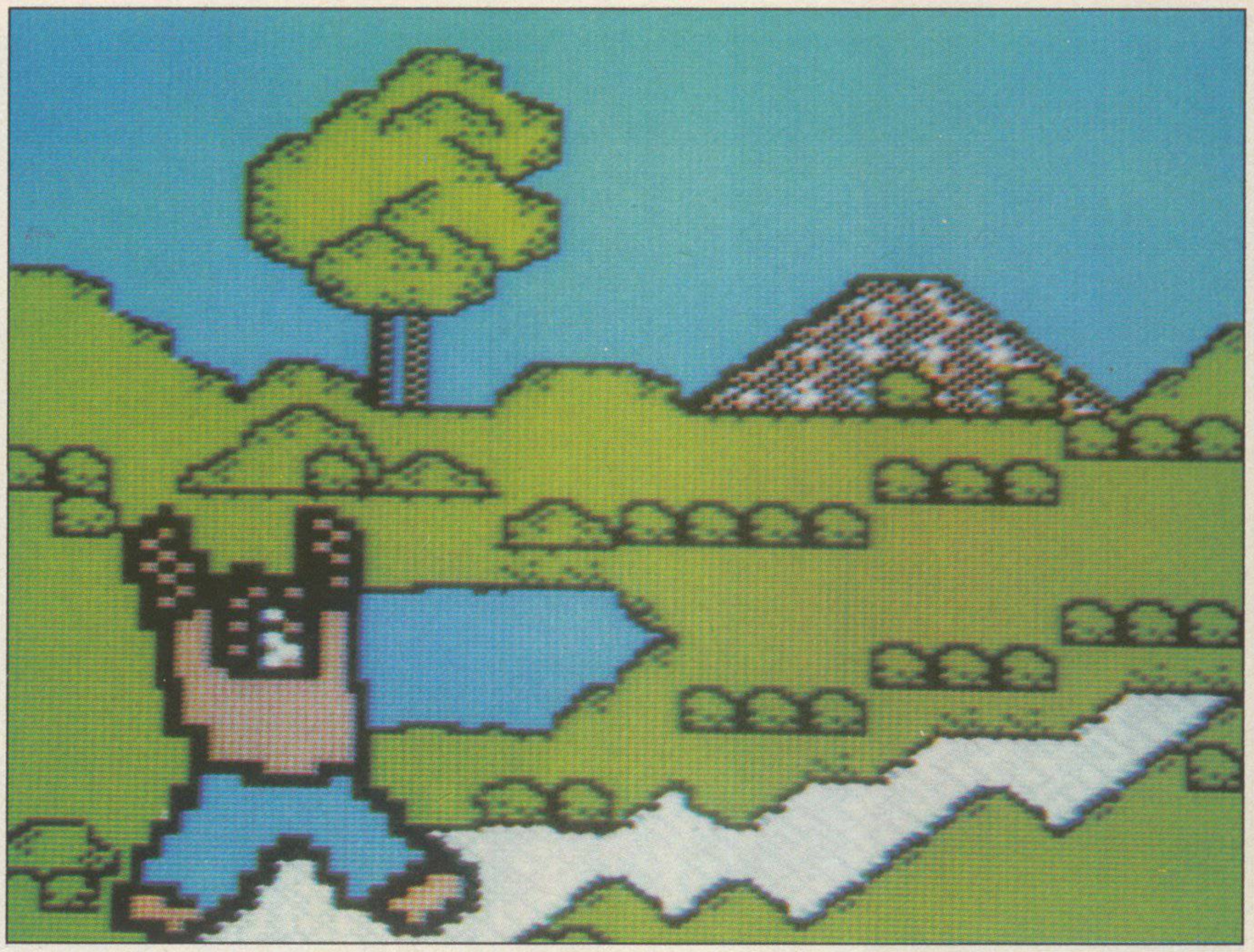
We then proceeded to type in our birthday message, which was automatically centered on each line. A wide variety of typestyles are available. After completing the front panel, we were given the same options to finish the inside of the card.

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

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*
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 pictures 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

Home Printing Press


THE
The Cat Chronicle
Volume 6 Number 10
TABBY CAT ISSUE

BRAVE TABBY SAVES MASTER FROM MEAN AND VICIOUS SQUIRREL

Last summer when Glen, the proud tabby of Opie Dokie, first spotted the mean squirrel lumbering through the branches of the old oak tree, he knew that his master was in grave danger. Opie argued that the little squirrel meant no harm, but Glen knew otherwise. So thinking only of his master's safety, he enrolled in a judo class. This allowed him to learn the mysterious eastern secrets of self-defense. Armed with knowledge, Glen waited until the squirrel was asleep and then punched him. The mean squirrel packed up and left.

TABBY CAT KITTENS

Tabby cat kittens are among the cutest of pets. Not only are they warm and cuddly, but they also have few of the negatives going for them that other cats have. Tabby cats need little attention, as they seem to know from birth how to use the cat box, how to use a can opener, how to get food, how to open cupboards and refrigerators, how to forge the master's signature on checks for food, and how to look innocent.

DIAGRAM OF A TABBY CAT

6 MONTHS OLD
Big Ears
Short Tail
Fuzzy Chest
The Cat Box Foot
The Tabby kitten loves to chase bugs, sleep, play, sleep, climb things, sleep, chase their tails, and

THE TABBY CAT DIET

The tabby cat like most cats is quite a finicky eater. It will only eat the following types of food: fresh beef, fresh fish, turkey, chicken, ham, cornish hen, hot dogs, lutefisk, pepperoni pizza, escargot in garlic sauce, robins, braised tripe, quail omelet, beetles, anything on the master's plate, clams on the half shell, er..... and of course mice in any way available.

CAT FACT #18

Though an older cat may appear to be fat and lazy, don't let this appearance fool you, it is fat and lazy!

The Newsroom

processor, but it does have a few features (such as "Oops") that allow you to back up and start over.

Once finished with the copy we went to the layout work area. In this final step before printing, we arranged each panel so that everything fit together and placed the banner at the top. We even got fancy and skewed some text around photos.

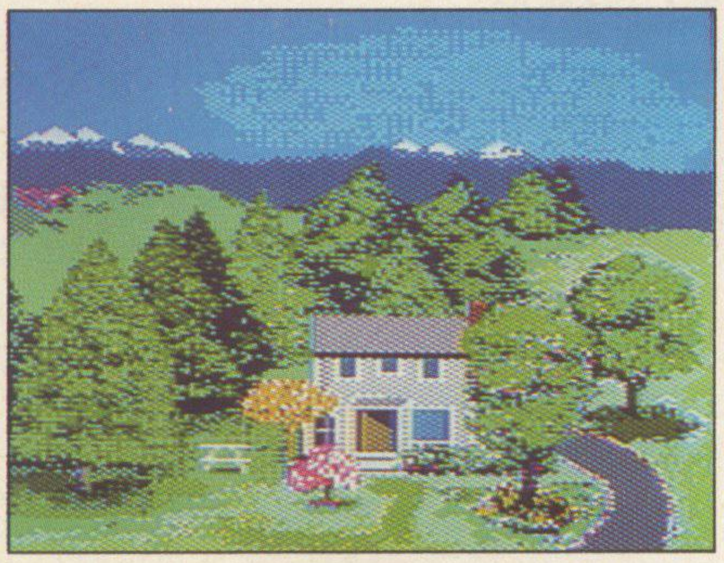
We then printed the paper using a Scribe printer and a black-and-white ribbon. (Another print option allows only selected parts of the newspaper to be printed, including the page, panel, banner, or photo.) Everything printed out in newspaper style just like *The Wall Street Journal* (well, almost).

The Newsroom supports more than 30 different graphics printers. A "Change Setup" option is included in case no supplied setups match your equipment.

The completed work can be transmitted by modem over phone lines, although we didn't test this option. This can be done through the wire-service program feature. If the person at the other end is also equipped with *The Newsroom*—even if they're using the program on an IBM PCjr. or Commodore 64—they will be able to further customize the newspaper by adding their own copy, cropping photos, and so on.

Besides containing instructions on program operation, *The Newsroom*'s manual is a good primer on what newspaper staffers do, including investigative reporting, interview strategies and techniques, research resources, and basic news writing. It also includes a list of newspaper jargon and proofreader symbols.

Product: *The Newsroom*
Price: $49.95 (*The Newsroom*), $29.95 (*Clip Art Collection, Volume 1*)
Company: Springboard Software, Inc., 7807 Creekridge Cir., Minneapolis, Minn. 55435, 612-944-3912
Requirements: Apple II+, IIe, IIc; disk drive
Supports: Apple color printers pending; several other graphics printers; joystick, mouse



Design Your Own Home

Design Your Own Home

Do-It-Yourself Architecture

The do-it-yourself craze has caught up with the home-computer revolution. Programs that help you write your own will, diagnose a baby's sore throat, and fix your car are appearing. Add to this list *Design Your Own Home,* a program that can be used to create a total picture of the floor plans, interior furnishings, and landscaping of a particular project.

While it won't transform you overnight into the next Frank Lloyd Wright, the software is relatively easy to use and leads you step by step in all aspects of home design—from where to place bedroom closets to locating a shade tree in the back yard.

The architectural-design part of the program can be used with the keyboard, mouse, paddles, or joystick. It lets you create floor plans, top views, and side views of buildings on the screen and send these plans to disk or printer. Each plan may be custom labeled by the user for clarity. In all, 126 different floor plans and architectural detail shapes are provided. These can be rotated for viewing at different angles.

All lengths, diagonals, and angles are automatically calculated, as are conversions from feet to meters.

The interior-design part of the program lets you create interior designs by first entering room dimensions. As designs progress you can rearrange furniture and other decorations to see what works best.

This flexible package accommodates most everyone's interior-design ambitions. Objects that can be placed in the living room include light fixtures, plants, sofa sections, windows, desks, chairs, a baby grand piano, and even a burning fireplace. A one-key command is used to add or remove furniture in a room. By pressing the key a second time the object can be rotated.

Once furniture is in place it may be colored by choosing from a palette of colors on the screen. Different sizes—small, medium, large, and huge—can also be assigned to particular objects.

Design Your Own Home is also great for anyone contemplating outdoor home improvements. We counted icons for over 20 different kinds of shrubs such as Irish and Japanese yew, honeysuckle, privet, pussy willow, rhododendron, and barberry. There are over 40 types of trees including willow, cedar atlas, Austrian pine, and palm.

Older versions of *Design Your Own Home* (including the version we tested) divide the package into three separate mod-

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

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 Koala 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 inserted 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 install 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.

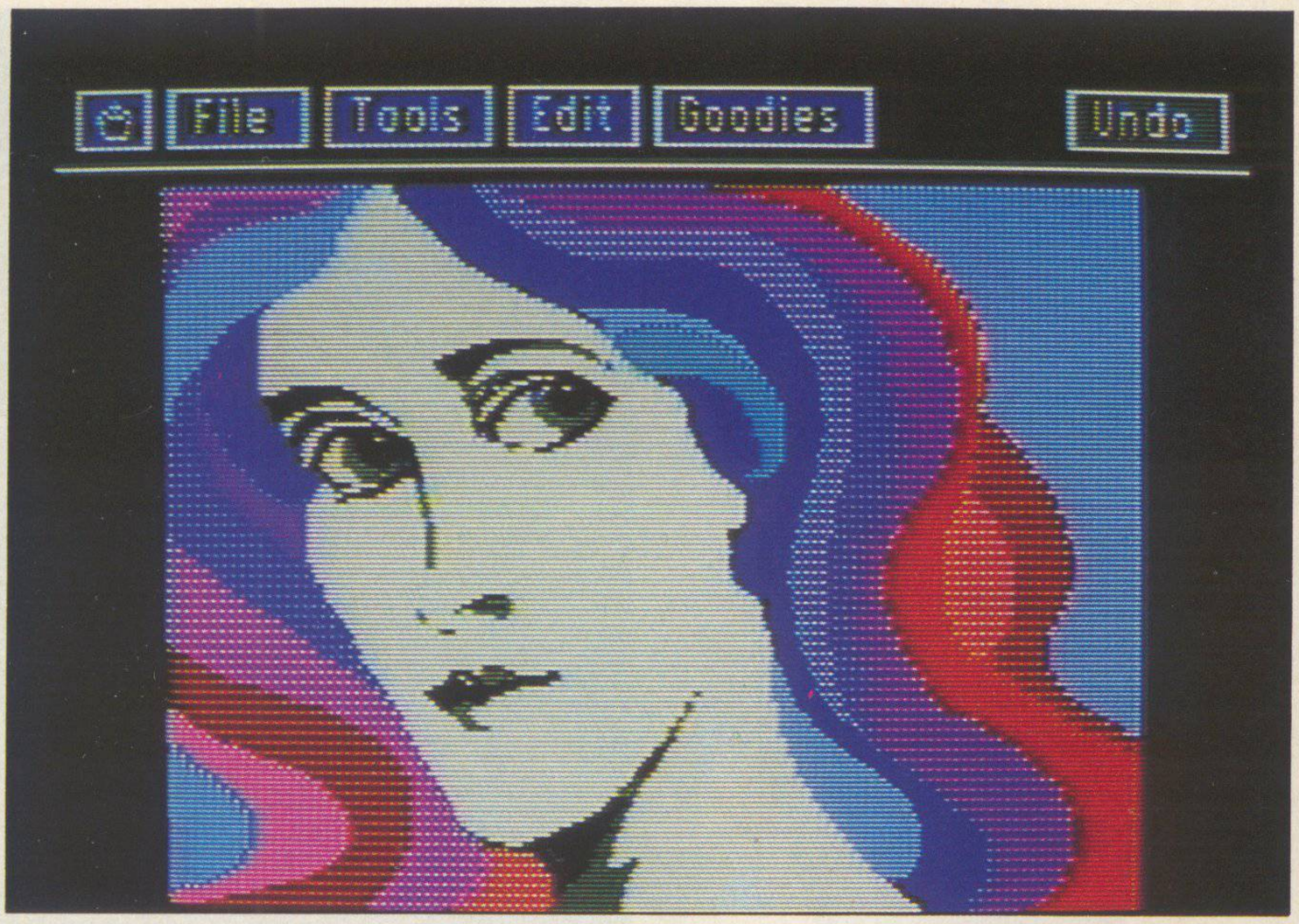
Several sample images are supplied on disk, but most of the real fun is in printing your own pictures, either those created from BASIC programs or from other graphics packages. Any picture saved to disk as a binary file will work and many of the graphics programs reviewed in this magazine are compatible.

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 outpaints *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.

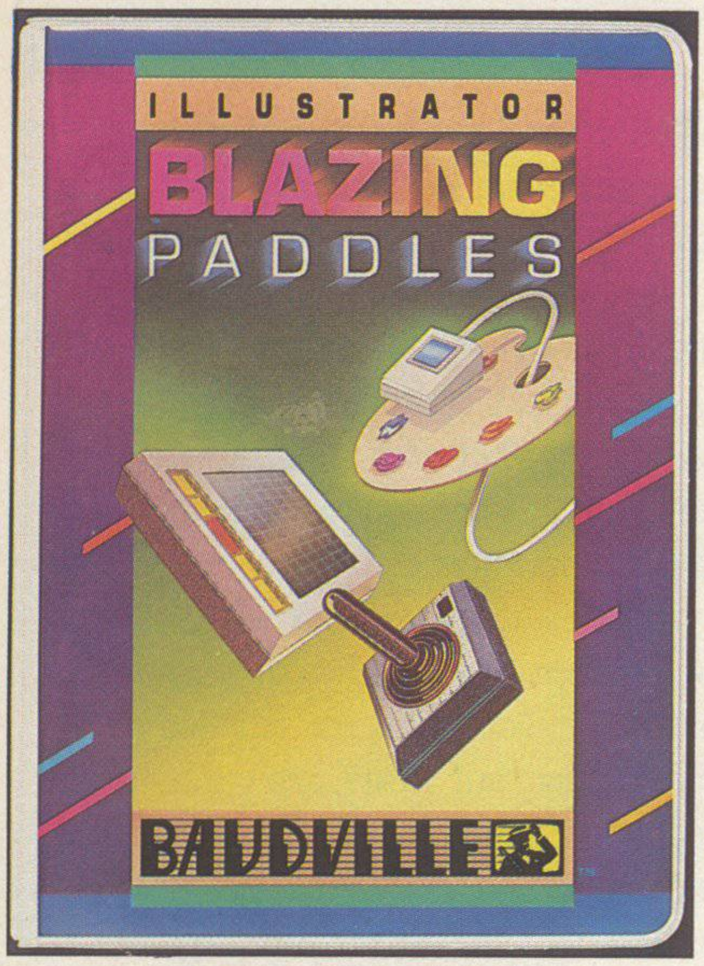
Help screens are available for every program function. Getting help is simply a matter of clicking on the right icon and choosing from the list of selections that appears on the pull-down menu. We used this at first and were able to bypass the manual. Still, the manual is good and it contains lots of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

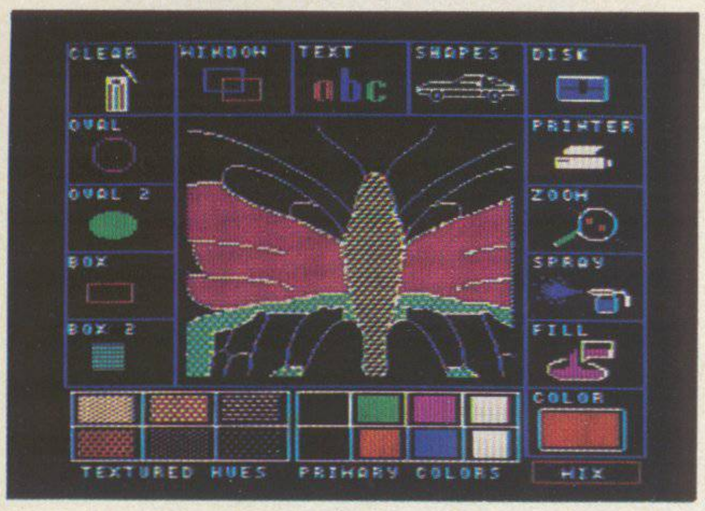
One nice feature is the program's excellent use of text. Two fonts, modern and serif, are available for adding text to pictures. While this may not sound like much, the two fonts include styles in plain, italic, and bold and come in three different point sizes. Once text is entered on the screen you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

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 Verdes, Calif. 90274, 213-373-0971
Requirements: Apple II+, IIc, IIe; disk drive
Supports: UniDisk 3.5; several printers; color monitor; joystick

Programming

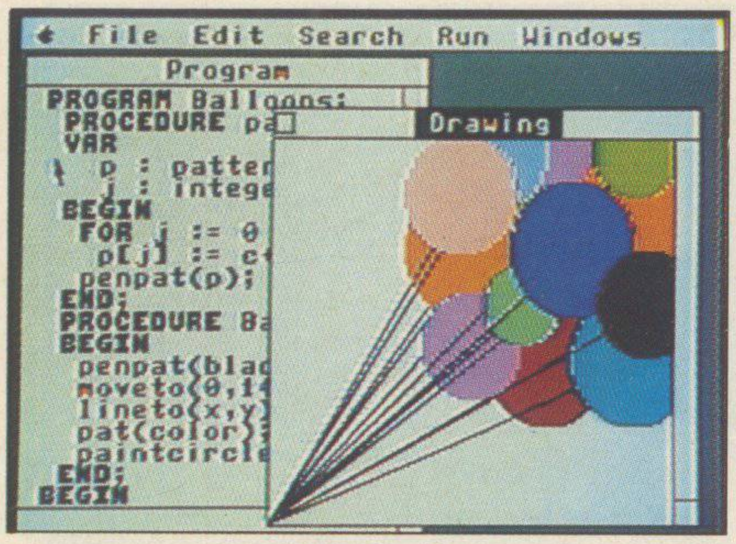
Apple II Instant Pascal

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 commands 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.

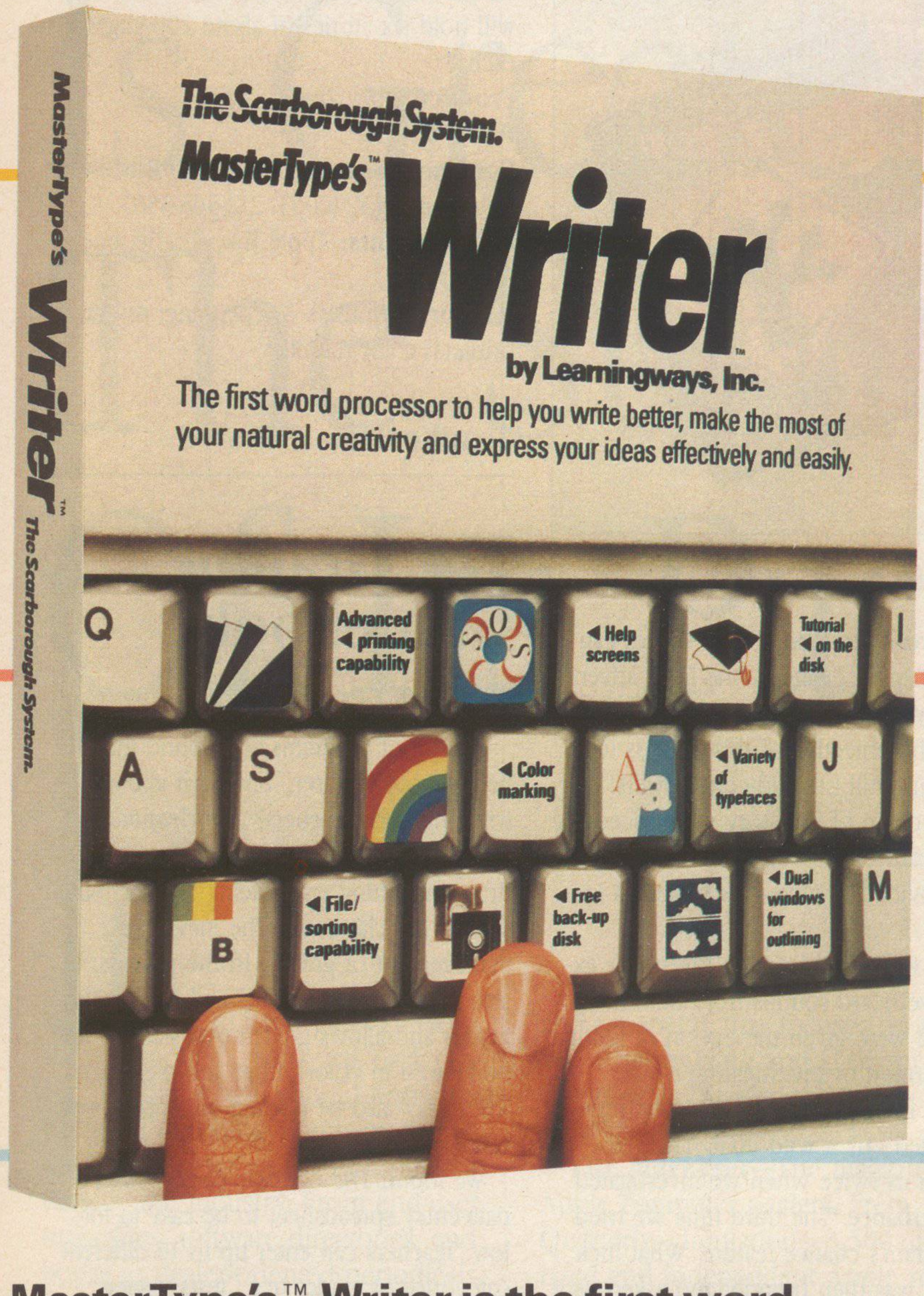
This is accomplished by drawing over white or colored lines and spaces in black, and then redrawing the lines in slightly different positions. All positions are remembered by the program and are "played back" when the new story is read. We found the method to be quite effective in making part of a picture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

"...makes turning ideas into text a delight." —Classroom Computer Learning



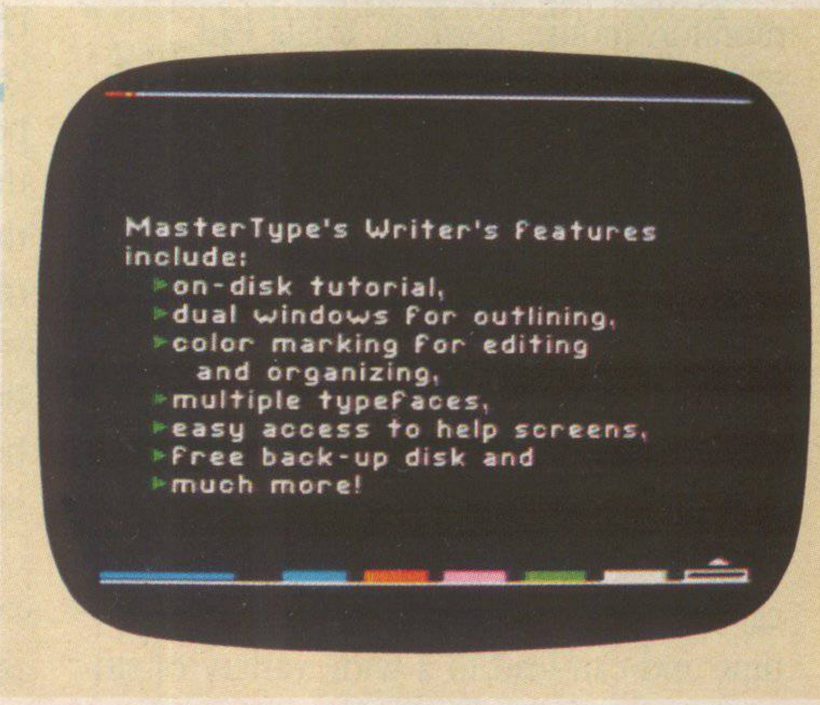
"Head and shoulders above Bank Street Writer." *—Learning Lab*

"It's an exciting new word processor with great power, despite its ease of use." *—Publishers Weekly*

MasterType's Writer offers new features and ease of use that set it apart from every other comparably-priced word processor. Each and every feature has one overriding purpose: to help you express your ideas clearly and persuasively.

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MasterType's™ Writer is the first word processing program that actually helps you write better—to be more productive at home, succeed at school, get ahead at work.

Available for Apple II Family, Commodore 64/128. Atari 800XL/130XE coming soon.

The Scarborough System.

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Whether you're hunting for sunken treasure, or charting your latest sales projections, you need effective graphics tools. And when it's time to use your printer, you need the GRAPPLER to put what's on your screen onto paper. The GRAPPLER will connect your computer with most popular printers, and provide several useful printing enhancements. The GRAPPLER intelligent printer interface. Quick, easy and effective.

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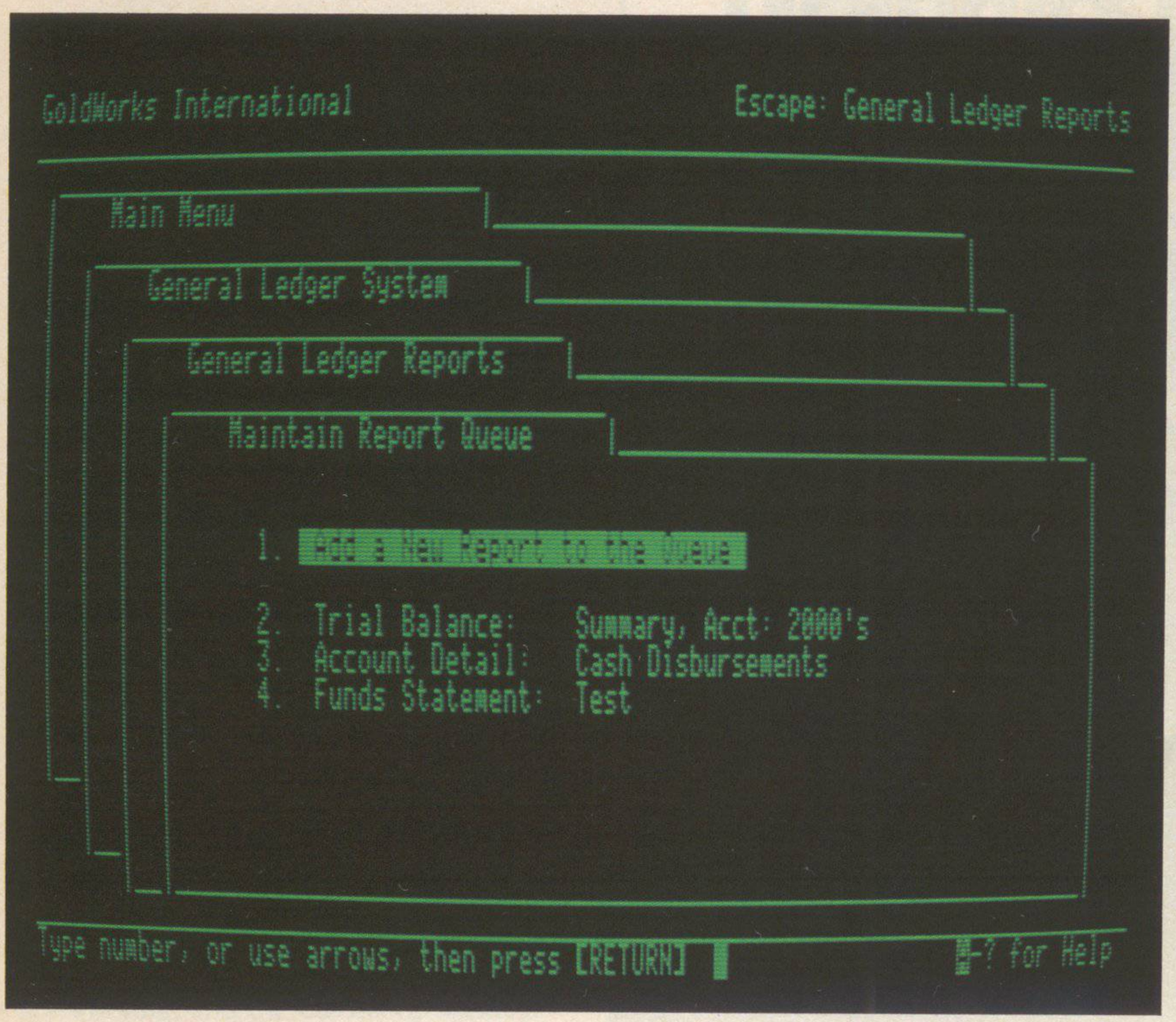
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Circle 21 on Reader Service Card



nge Micro, Inc., 1985

Grappler® C Now Available For The Apple® IIc



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 Commmunications" 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

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 wristwatch 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.

NEW Improved Version

Replace that graphic "artist" with a complete



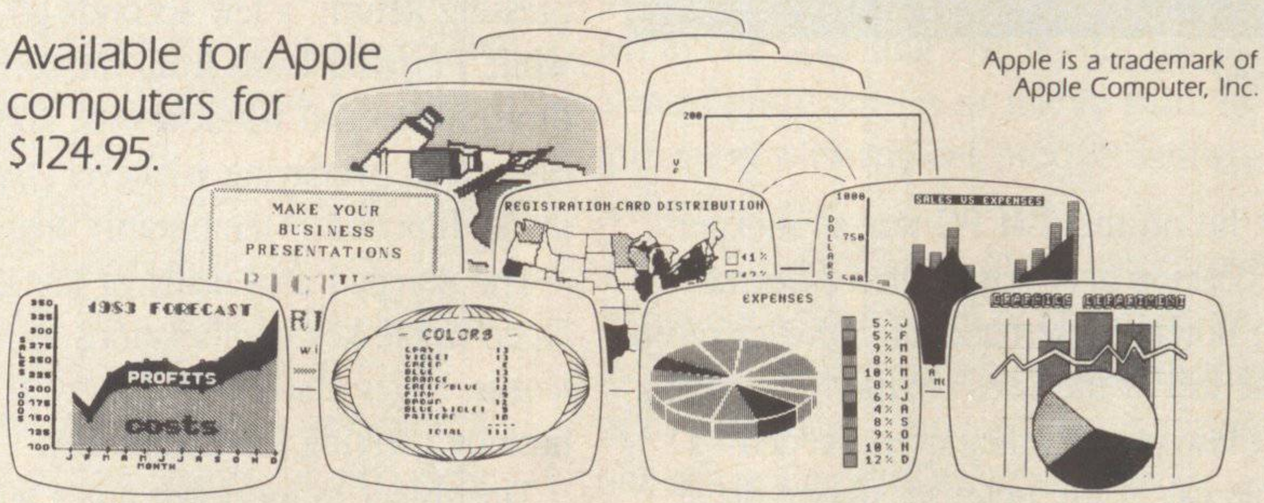
Graphics Department™

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.

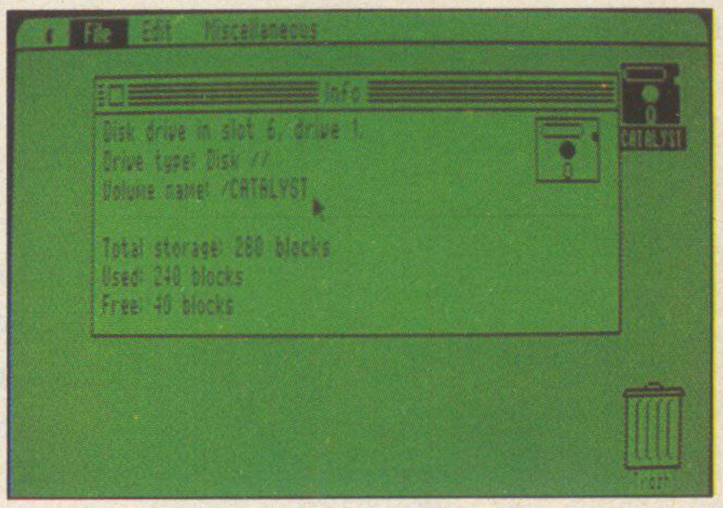
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Circle 28 on Reader Service Card



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.

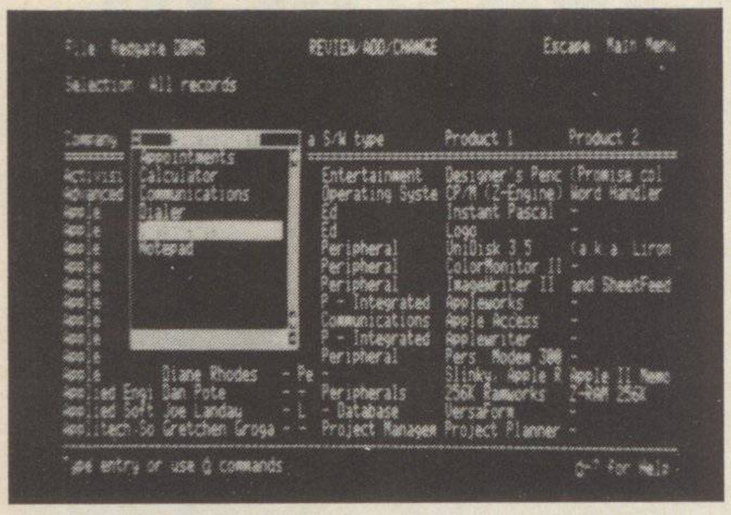
Product: *Catalyst*
Price: $149
Company: Quark, Inc., 2525 W. Evans, Suite 220, Denver, Colo. 80219, 800-543-7711
Requirements: Apple IIc, IIe; two disk drives recommended
Supports: ProDOS; UniDisk 3.5; hard-disk drive; Apple II Memory Expansion Card; other ProDOS and *Catalyst*-compatible programs

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

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

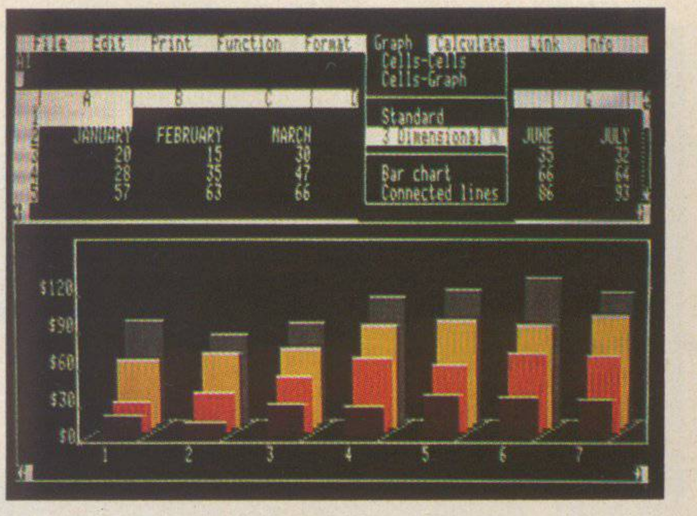
One of the first software smash hits for the Apple II was a spreadsheet program called *Visicalc*. To this day, many claim that *Visicalc* provided a needed solution not available anywhere else and was one of the best excuses for buying an Apple. Yet *Visicalc* was not perfect. Its more obvious shortcomings 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, formatting 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.



Mouse Calc

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

Spreadsheet

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 serial and parallel printers



Master Diagnostics

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 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 getting 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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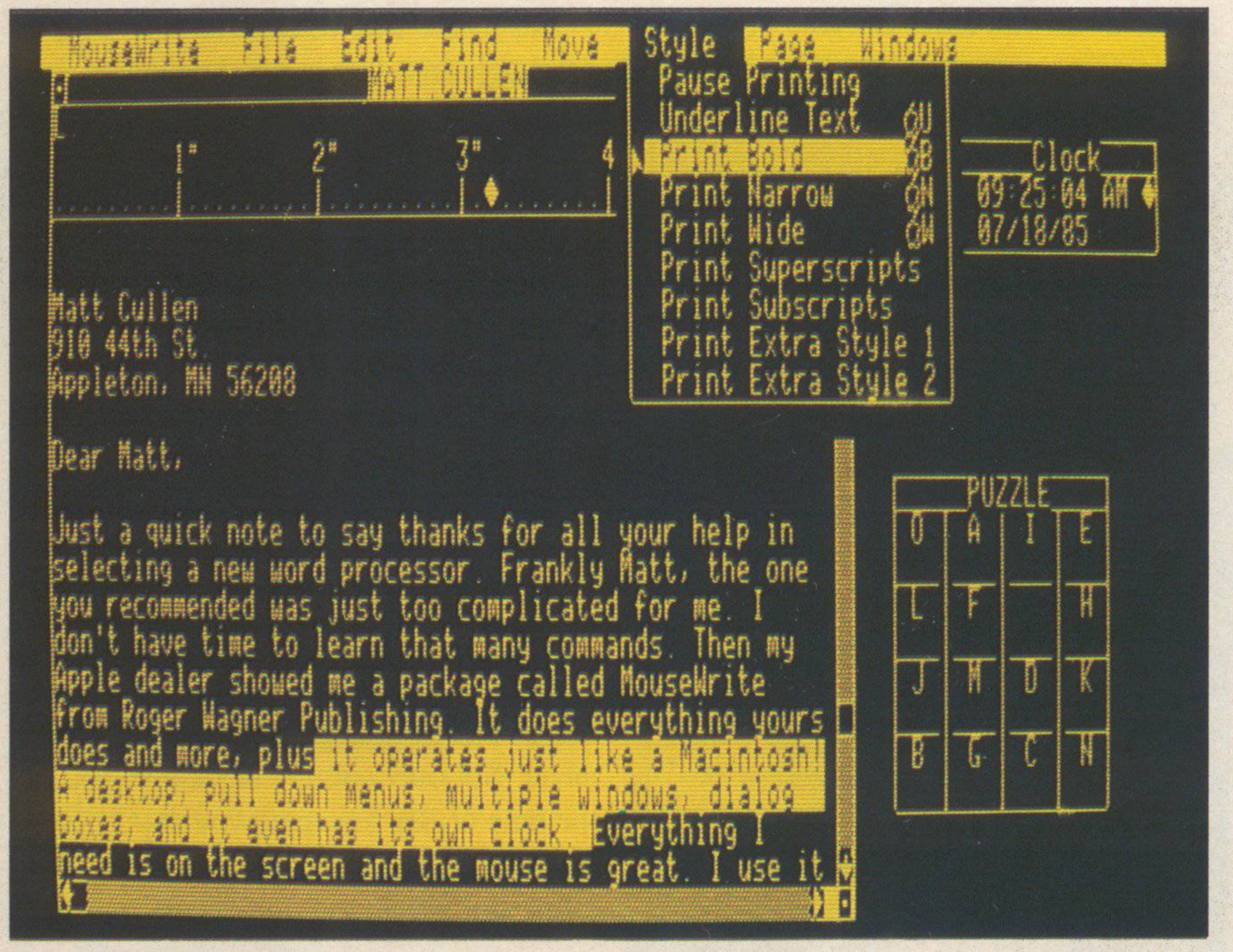
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Word Processing



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

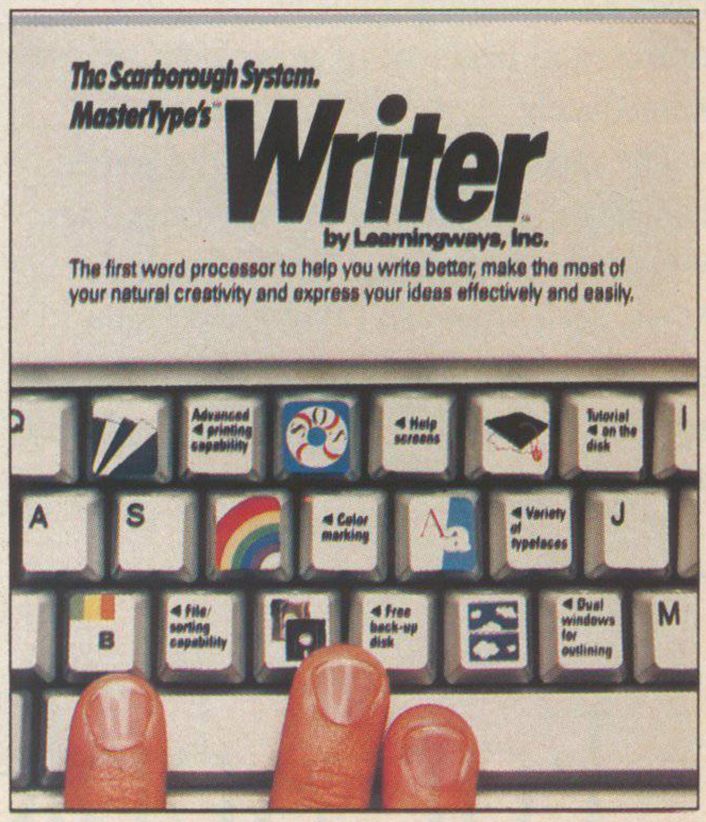
The Power of Words

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

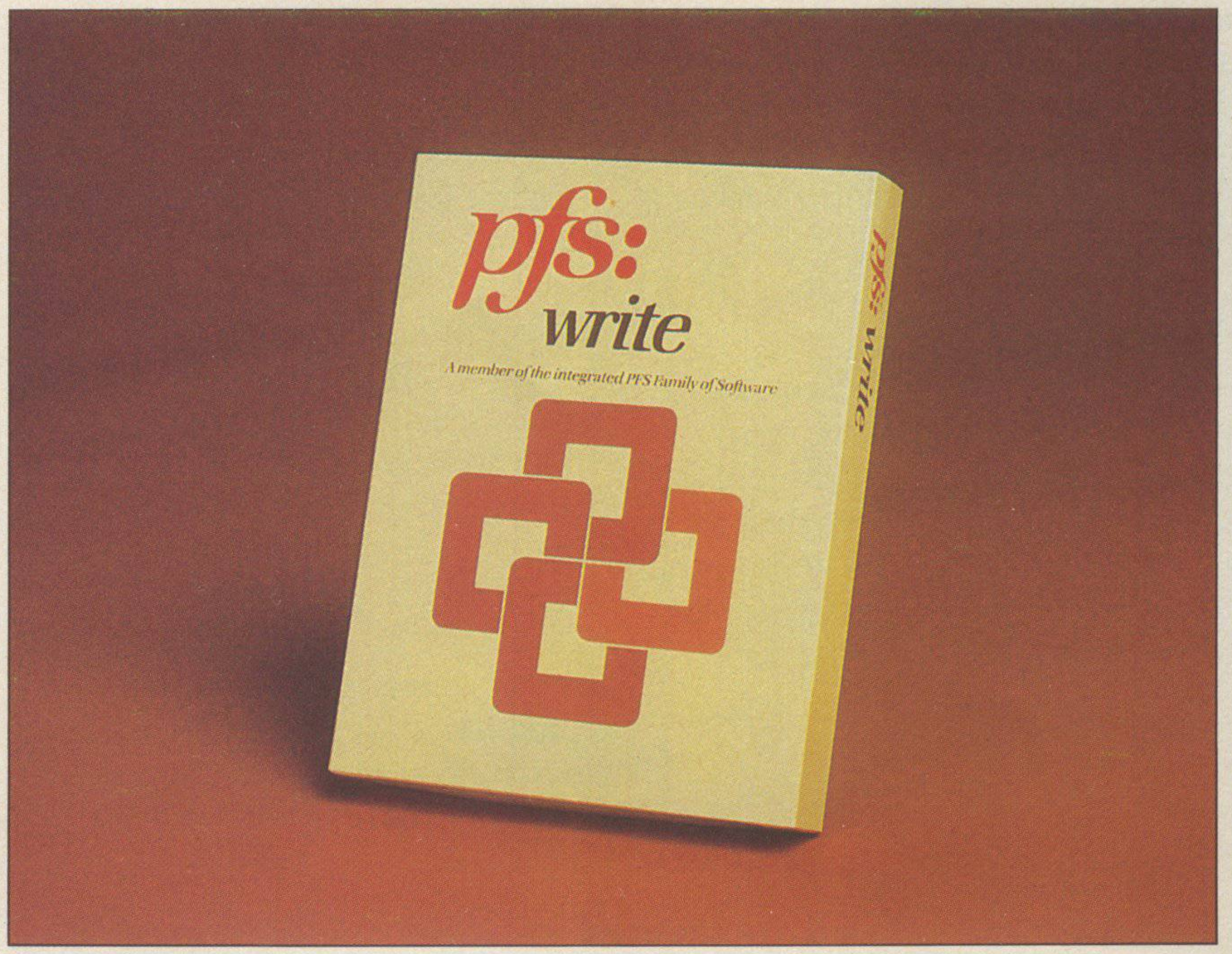
PFS:Write is a word-processing package that's as easy to use as a typewriter, but far more powerful. According to Software Publishing Corp., it's ideal for beginners or anyone who prefers simplicity over the complexities of other word processors. With *PFS:Write* you can draft, edit, and revise documents 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.

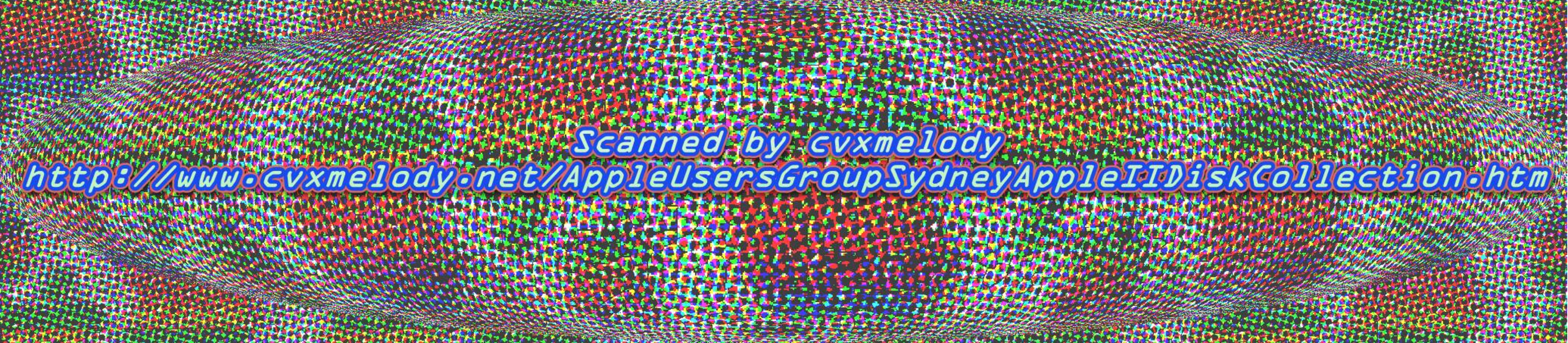
Product: *PFS:Write*
Price: $125
Company: Software Publishing Corp., 1901 Landings Dr., Mountain View, Calif. 94043, 415-962-8910
Requirements: Apple IIc, IIe; disk drive; printer
Supports: ProDOS; UniDisk 3.5 (3½-inch disk supplied); Profile hard-disk drive; Apple II Memory Expansion Card; Apple color printers (for *PFS:Graph* charts); several other printers



PFS:WRITE

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