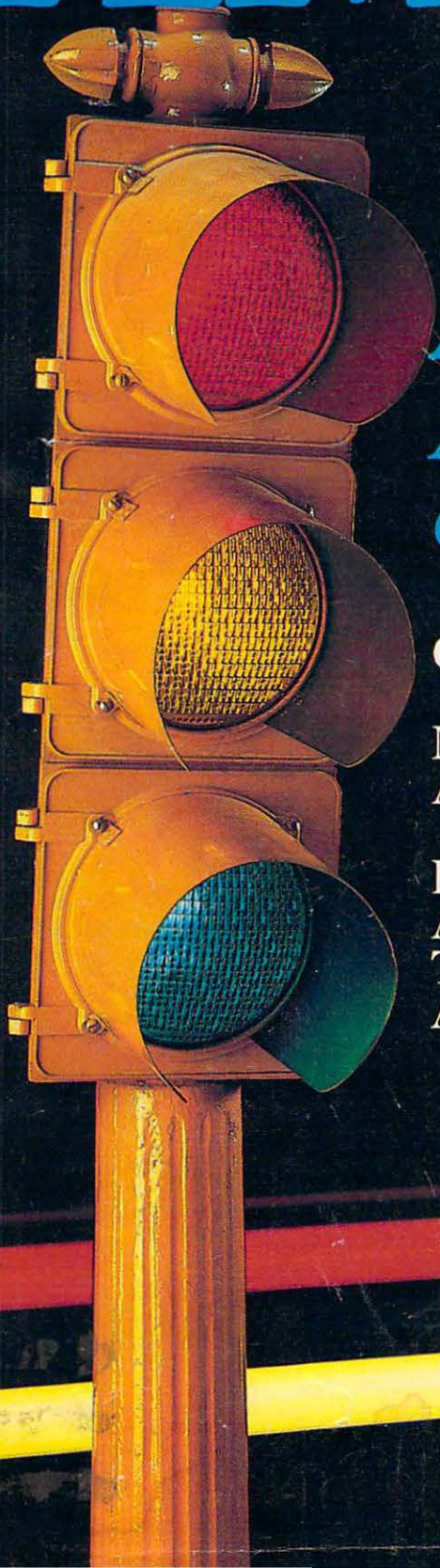
AMIGA

The Buyer's Guide

A Redgate Publication August/September, 1986



AmigaDOS: An Efficient Control System

Color Printing With The Amiga

More Than 250 Amiga Products Listed

Product Reviews: Aprotek Printers; Deluxe Print; The Music Studio; Online!; And More

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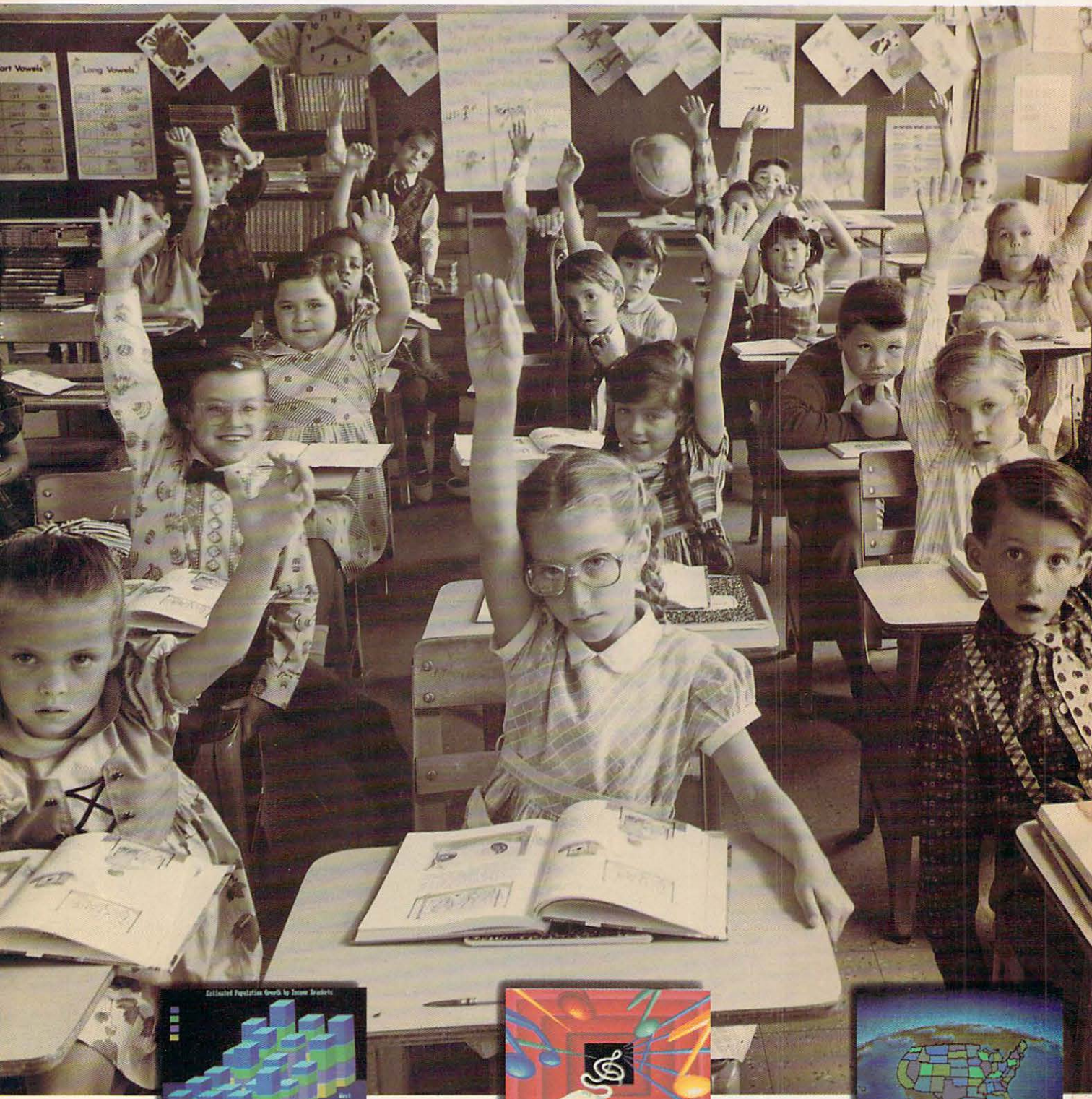

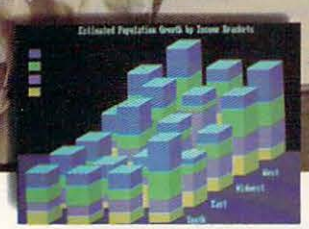

Amiga's 4,096 colors give your business graphics a visible advantage.

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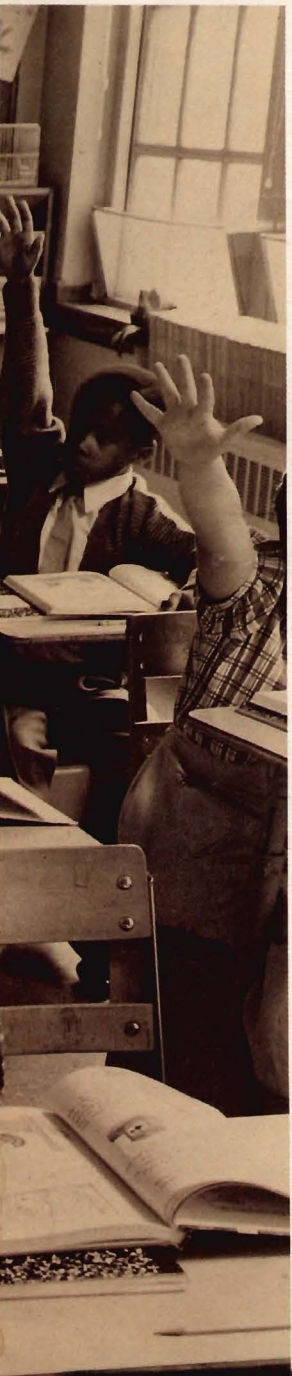
A LOT OF COMPETITION. UNFAIR ADVANTAGE.



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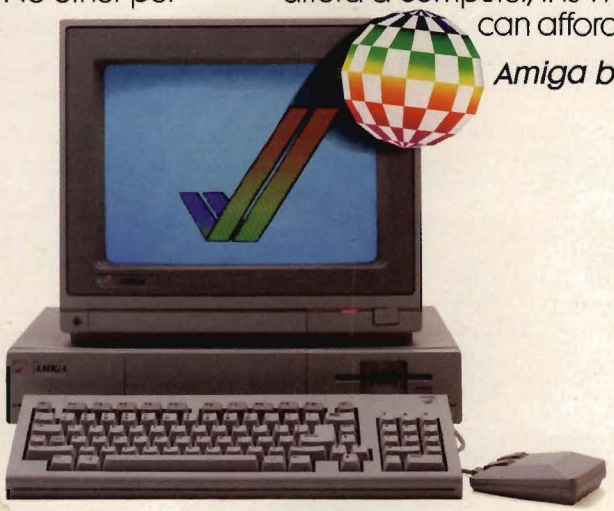

AMIGA GIVES YOU A CREATIVE EDGE.

The Amiga Buyer's Guide

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Advertising Sales: **Warren Langer, Spencer O. Smith,** Warren Langer Associates, 9320 Northwest 2nd St., Coral Springs, Fla. 33065, 305-753-4124
Client Services: **Sandy Van Salisbury** (305-231-6904)

Support Staff: **Betty Clark, Karen K. Lindsey, Tammy Smith**

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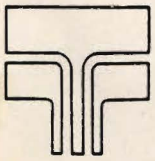

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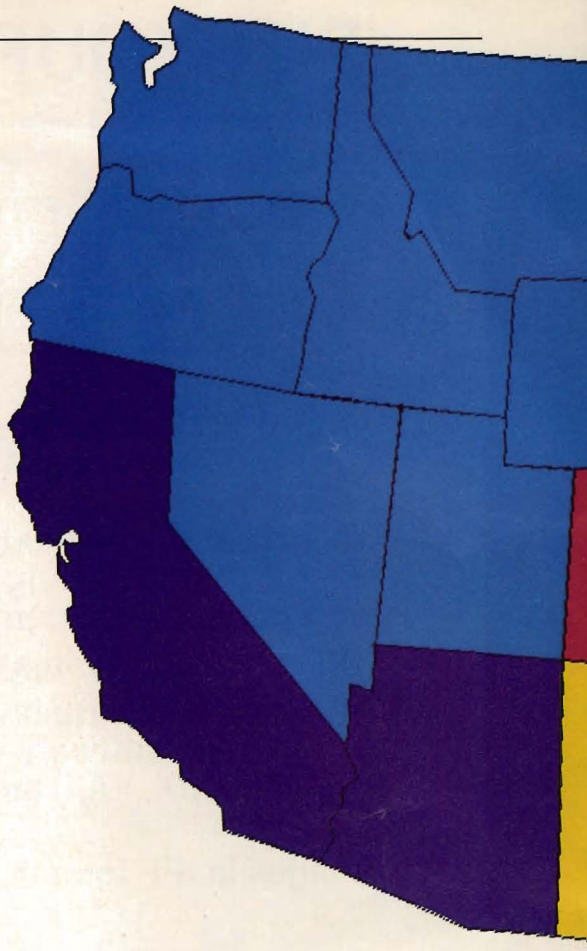
Color Printing

With The Amiga



A wide selection of color printers, plotters, and software is now available.

Your Amiga computer sees the world in color, 4,096 different shades of color to be precise. With the Amiga-compatible printers coming to market, you can transfer this wealth of colors to paper.

While the present selection of color printers for the Amiga is limited, there are enough machines available to satisfy most Amiga owners. The current selection varies in both quality of print and price. Here's a sampling:

• Okimate 20; $149 retail; Okidata; 111 Gaither Dr.; Mt. Laurel, N.J. 08054.

The Okidata Okimate 20 is the lowest-priced dot-matrix color printer available for Amiga users. The Okimate has a 24-element print head that can produce over 100 shades of color with decent graphic definition.

For word processing, the Okimate can print near-letter-quality (NLQ) at a speed of 40 characters per second (cps). For utility uses, the Okimate can print at 80 cps. It has a printing width of 80 columns with standard characters and 136 columns with condensed characters.

The Okimate 20 is packaged with Okimate's *Advance Color Screen Print* program that allows you to control print functions. The printer uses smooth or thermal paper and can also print on acetate transparencies. To run the Okimate, you'll need the Amiga Plug 'N' Print module. It sells separately for $99.

• Okidata 292 and 293; $699 and $899 retail respectively.

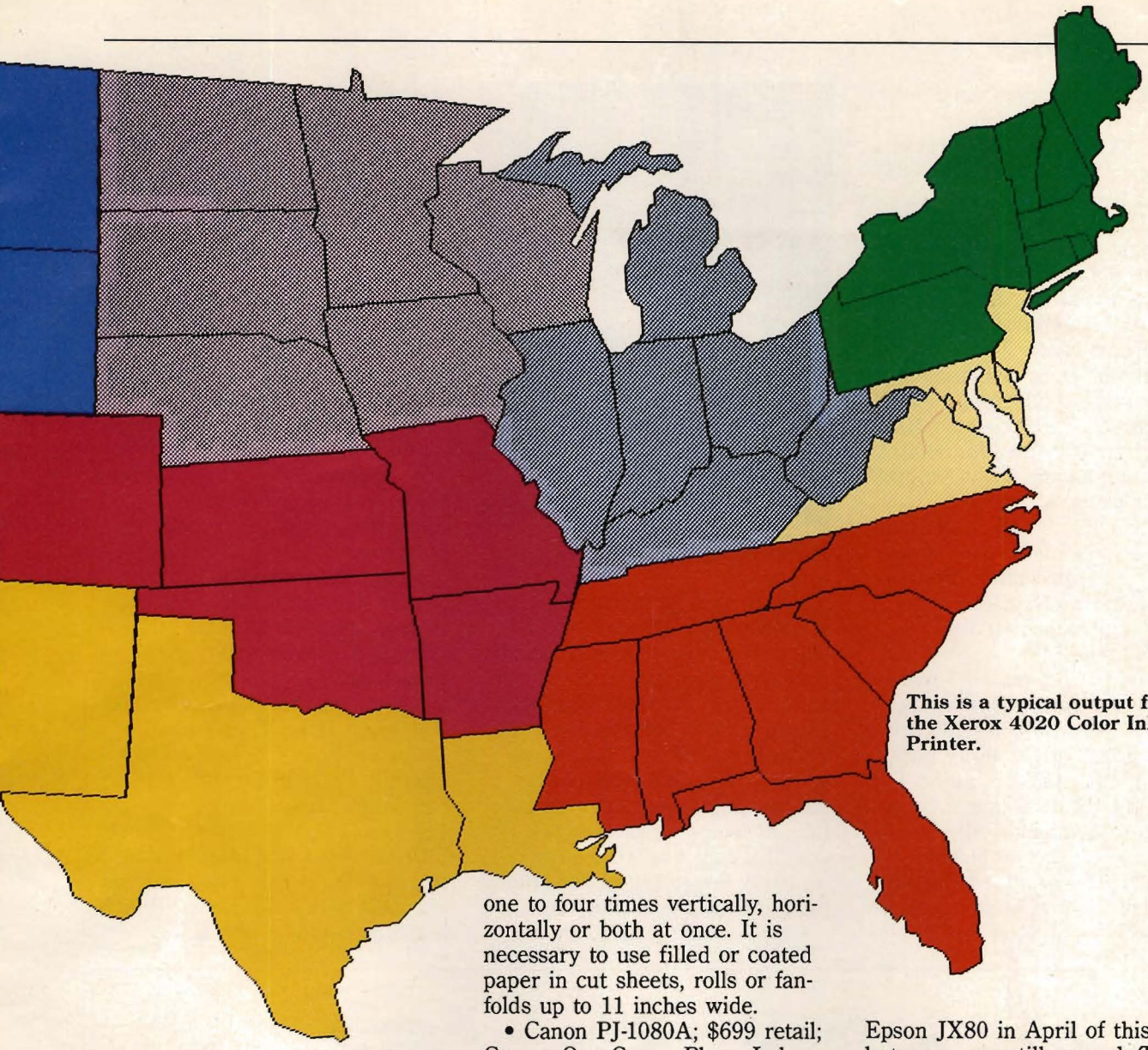
The newest additions to the Okidata line are these two dot-matrix printers. Both printers use an 18-pin printing head for better overall print quality. The 293 has a 15-inch carriage, and the 292 has the standard 11-inch carriage.

Depending on density setting, both machines print anywhere from 5 to 20 inches per second. The 292 and 293 print over 100 colors using four basic color ribbons: black, magenta, cyan and yellow. Both machines use single-sheet or continuous roll paper and have automatic paper-insertion options. The 292 and 293, like the Okimate 20, require a Plug 'N' Print module to interface with the Amiga.

• The Juki 5510 Dot Matrix; $648 retail; Juki; 20437 S. Western Ave.; Torrance, Calif. 90501; 800-325-6134.

The Juki 5510 provides high-quality reproduction at an affordable price. The Juki is capable of printing in 10 different fonts at two different speeds: near-letter-quality at 30 cps, and draft quality at a speedy 180 cps. It is also capable of logic seeking and bi-directional printing.

The Juki's buffer has 3K worth of memory and is expandable to 15K, and the printer uses both friction and tractor feeds for cut-sheet and continuous roll paper. The Juki can handle complex Amiga graphics with relative ease, printing them crisply and cleanly.



This is a typical output from the Xerox 4020 Color Ink Jet Printer.

• Xerox 4020 Ink Jet Printer; $1,495 retail; Xerox; 101 Continental Blvd.; El Segundo, Calif. 90245.

The Xerox 4020 is unquestionably the finest color printer for the Amiga computer. Its $1,500 price tag is well justified.

The Xerox 4020 has the ability to produce over 4,000 shades of color. It can print at two speeds: a standard 40 cps, or 120 by 120 dots per inch (dpi); and the enhanced 20 cps, which is 240 by 120 dpi.

The Xerox's enhanced resolution and wide range of colors combine to produce truly spectacular graphics. The Xerox offers five full character sets and a choice of 14 languages. Furthermore, text may be altered from one to four times vertically, horizontally or both at once. It is necessary to use filled or coated paper in cut sheets, rolls or fanfolds up to 11 inches wide.

• Canon PJ-1080A; $699 retail; Canon; One Canon Plaza; Lake Success, Long Island, N.Y. 11042.

The Canon PJ-1080A Color Ink-Jet Printer is a seven-color machine capable of printing at high speed. It features a noise level under 50 decibels (dB).

The PJ-1080A prints on single-sheet and continuous roll paper. It can also print on acetate transparencies. Each of the printer's color ink cartridges has a printing capacity of 3.2 million characters. The Canon machine prints 640 dots per line in hard-copy mode and 560 dots per line in graphics mode. It prints at a speed of 37 cps.

• Epson JX80 Dot Matrix; $399 retail; Epson; 2780 Lomita Blvd.; Torrance, Calif. 90505; 800-421-5426.

Epson stopped production of the Epson JX80 in April of this year, but some are still around. The Epson uses a four-color ribbon that prints in black, yellow, magneta or cyan. Colors such as violet, orange and green can be produced by having the printer overprint the four basic colors. A black ribbon can be substituted for the multicolor ribbon for word processing.

The JX80 features proportional spacing, tractor and friction feeds and a standard parallel communication interface.

Two fonts are built in: elite (12 characters per inch) and pica (10 characters per inch). Epson users have the option of downloading special fonts from the Amiga into the JX's memory. JX80 users may also alter print styles in a variety of ways. Type can be compressed, expanded, set in italic, underlined

and put in superscripts and subscripts.

• Panasonic 1080; $399 retail; Panasonic; Secaucus, N.J. 07094; 201-392-4644.

The Panasonic 1080 is a printer with color capabilities. Technically, however, it's not a color printer. With the Panasonic 1080 you can print in black, brown, red or blue, but there's a catch. The 1080 can use only one color ribbon at a time, making color graphics a difficult chore. The Panasonic 1080 is still a great printer for doing charts, graphs and less complicated color pictures.

• NEC CP2 and CP3; $860 and $1,160 approximate retail respectively; NEC Information Systems, Inc.; 1414 Massachusetts Ave.; Boxborough, Mass. 01719; 617-264-8000.

The NEC CP2 and CP3 will be available for Amiga owners. Both these printers use the JX80 driver, but print with a clarity not found in most JX80 printers. The CP2 and CP3 both have four-color ribbons that automatically blend color, or color can be blended manually. The printers print at speeds of 216 cps in standard mode; 65 cps in letter-quality

The Okimate 20 from Okidata

mode. In their graphics mode, the machines print between 60 to 360 dpi, depending on density setting.

Okay, you've selected a printer and removed it from its box. Now all you need is some software that will test its abilities. Luckily, several software manufacturers are designing programs that take full advantage of the Amiga's graphics chip and wide array of colors. A few of the better graphic programs on the market are:

• *Aegis Images,* $69.95 retail; *Aegis Animator,* $139.95 retail; *Aegis Draw,* $199.95 retail; Aegis Development, Inc.; 2210 Wilshire, Ste. 277; Santa Monica, Calif. 90403; 213-306-0735.

This trio of programs can turn your Amiga into a versatile art/drafting studio.

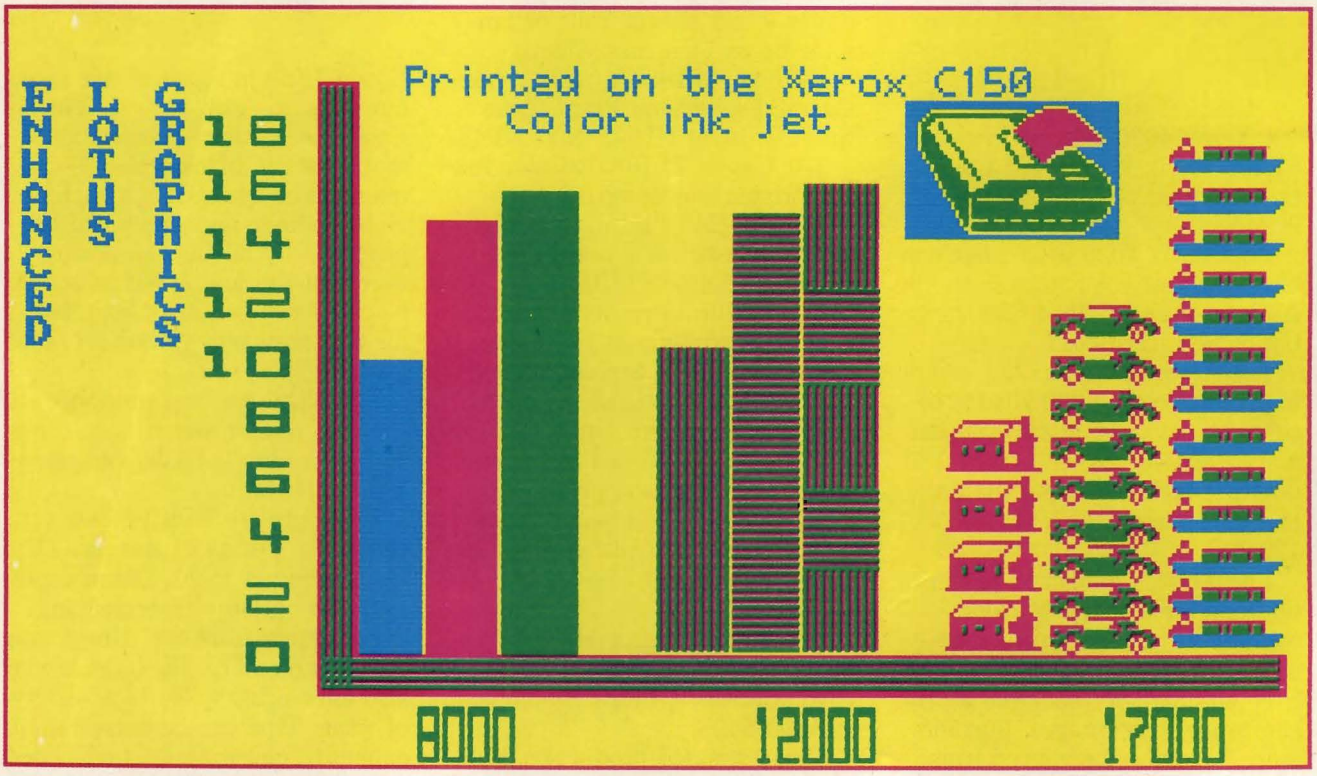
Aegis Images is a menu-driven painting program that includes color gradation, finger-painting, air-brushing, image-shrinking and magnification options.

Aegis Draw allows the user to create charts, graphs and architectural drawings. *Aegis Draw*'s capabilities can be enhanced by combining it with other paint programs.

Aegis Animator allows Amiga owners to create animated scenes on nine storyboards. This program is packaged with *Aegis Images,* so backgrounds can be added to enhance the animations.

• *Deluxe Paint,* $79.95 retail; *Deluxe Print,* $99.95 retail; Electronic Arts; 2755 Campus Dr.; San Mateo, Calif. 94403; 415-571-7171.

Deluxe Paint, like most of Electronic Art's "construction sets," is a wonder to behold. *Deluxe Paint* is the cornerstone of a family of



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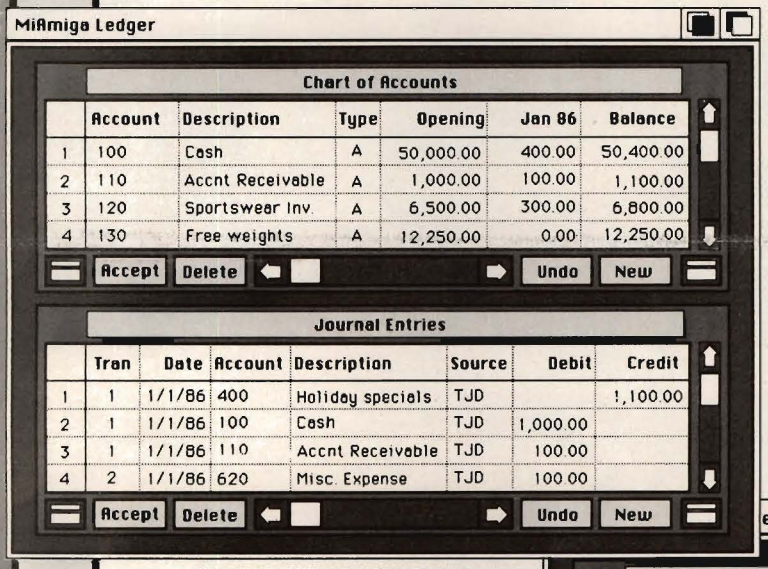

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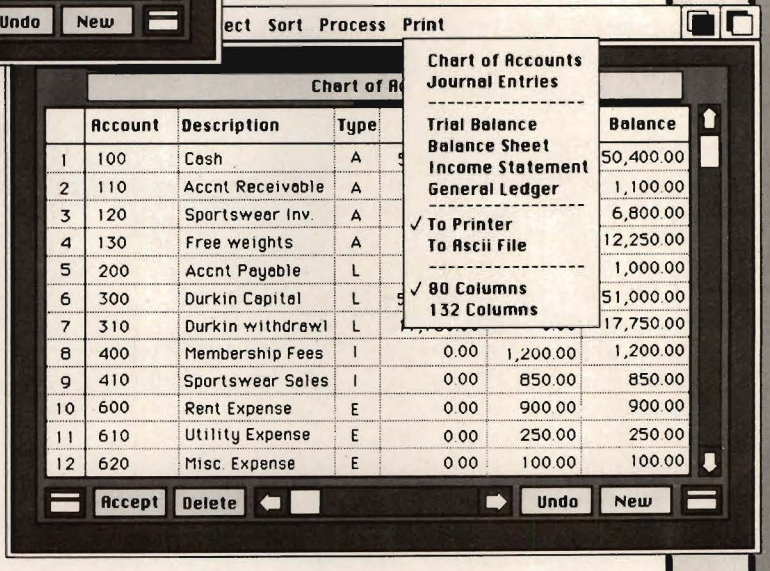

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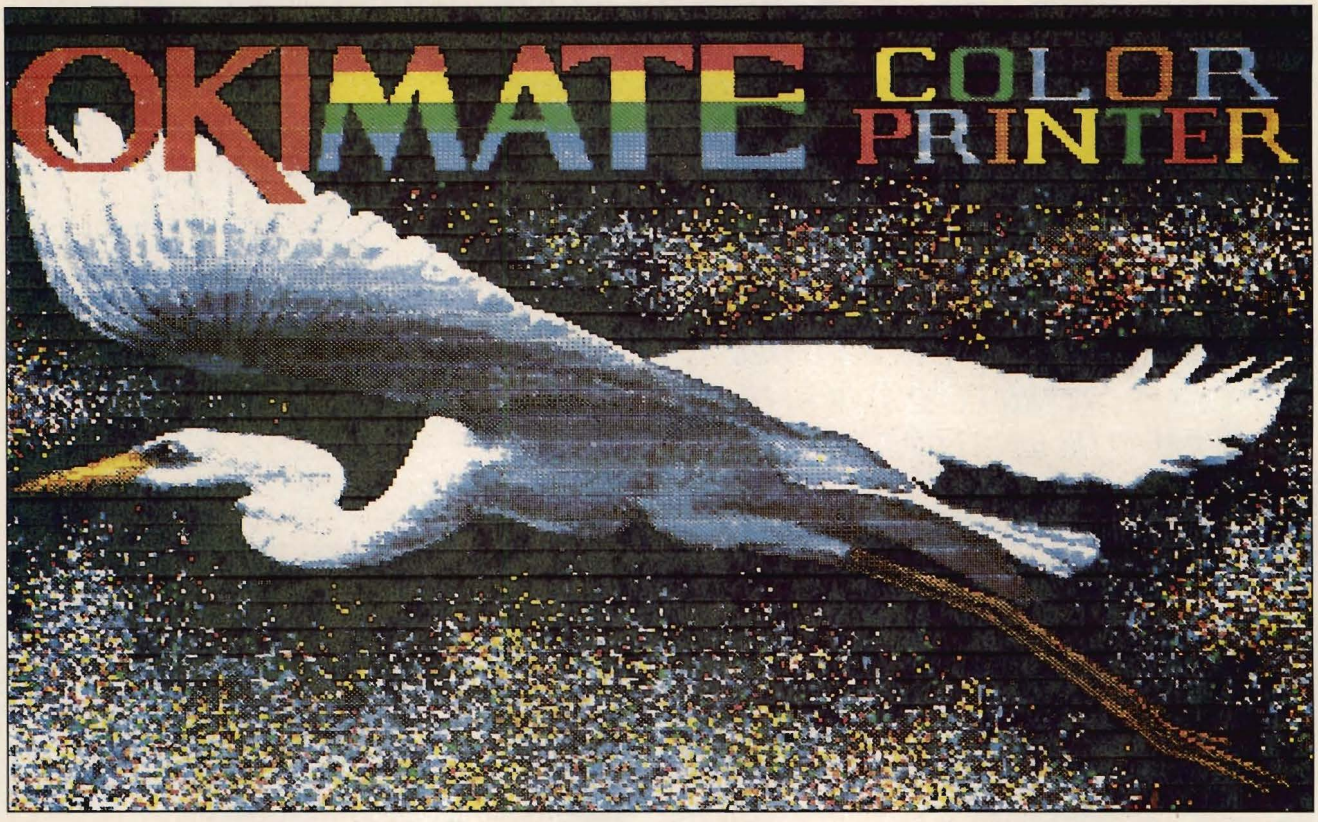

four personal creativity programs: *Deluxe Paint, Deluxe Print, Deluxe Video* and *Deluxe Music Construction Set*. With *Deluxe Paint,* a user can design, display and print pictures that use the full capabilities of the Amiga special graphics chip.

The *Deluxe Paint* program comes with an assortment of options, including Magnification and Grid. The Magnification feature allows a user to simultaneously see and work on a picture at close-up and normal ranges, and Grid is used when precise spacing is essential. Users can turn on the Grid feature for exact drawings, such as architectural designs or precise diagrams.

In addition to these features, the user can also use any piece of a painting as a brush. That means, for example, a piece of one painting could be merged into another painting, or a paint brush could be designed in any shape the user required.

Deluxe Paint is extremely useful for art directors, graphic designers, hobbyists and businesspeople who require high-quality graphics.

The Xerox 4020 Color Ink Jet from Xerox.

Deluxe Print, according to Electronic Arts, is the first full-function color printing program specifically designed for the Amiga.

Deluxe Print gives the user control over both text and graphic images. The program allows the user to place an unlimited number of different images anywhere on a page; edit them; flip, shrink or expand the images; or change their colors using the full range of Amiga colors.

Deluxe Print uses a grid system that allows the user to equally space images and text. The program also includes a graphic editor that enables the user to create and save images in a custom graphics library.

Deluxe Print supports all 11 Amiga fonts, plus three font sizes and three font styles (a total of 99 different text types). The program includes two complete sets of large alphabet characters, which print smooth-edged text for signs and banners.

As you can see, all the elements—both hardware and software—are now available to allow printing and plotting in glorious color. The Amiga is eminently suited to provide the front end of the system, and today's printers and plotters are easy to use and provide quality output. All we need now is a printer that prints *moving* pictures in full color.

—Michael Meyers

The author is a free lance writer and advertising copy writer from Philadelphia, Pa.

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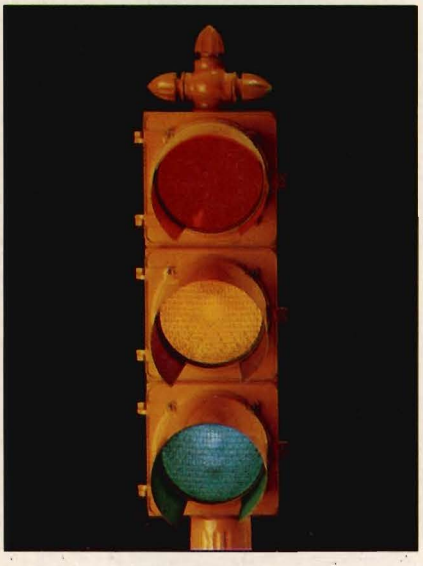
AmigaDOS: An Efficient Control System

Why should Amiga users concern themselves with AmigaDOS, the computer's Disk Operating System? Why bother with typewritten commands and syntax errors when it is much easier to push a mouse across a desk, point to an application and click a button?



Besides, if you don't use Workbench you don't get to work with those fascinating little icons.

There are several good reasons for exploring and using AmigaDOS, such as more commands and applications than you will find in the pull-down menus of the Intuition interface, greater speed of execution and less memory consumed.

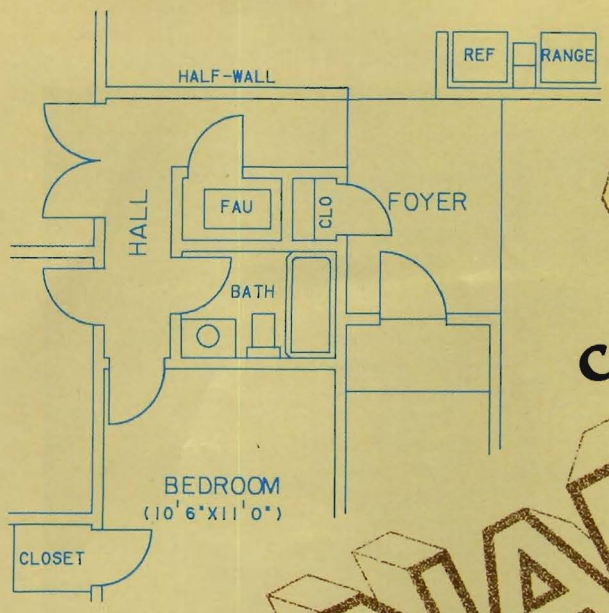
Let's talk about the last reason first. It takes a certain amount of memory to create the windows and icons you see when you open a disk such as Workbench. Do away with the icons and the pull-down menus and you've saved yourself several K of RAM, which is important if you're working with a 256K Amiga. The memory you save can be used to run a program or an application that might otherwise not run.

Speed is another consideration. Without the necessity of refreshing screen memory to display icons and pull-down menus, any application running under AmigaDOS will execute faster than the same application running under Intuition.

A second speed gain is the ability to create a RAMdisk, a defined area of memory set aside and used for holding an application or an entire program. This memory area is write-protected. You cannot accidentally corrupt whatever is held there, and it acts as a disk drive in all respects but one. When a program must be called up from a true disk, there is a brief delay—accompanied by the sound of your drive—until the application is loaded into memory. Without the mechanical moves of a physical disk drive, the transfer from RAM is entirely electronic and happens very fast.

The third area of difference between AmigaDOS and Intuition is the extra commands supported by DOS, such as:

Install—which allows you to make a formatted disk bootable,



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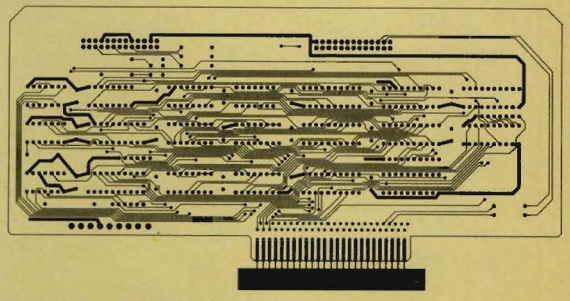

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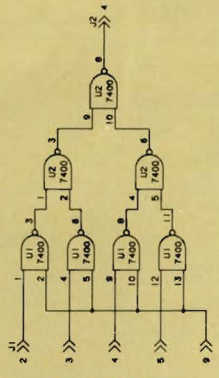
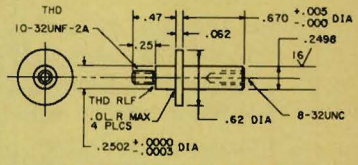


SCHEMATICS

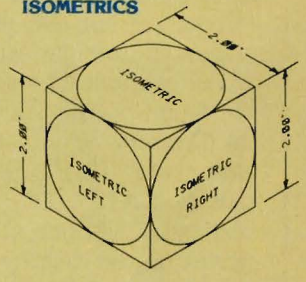


MECHANICAL DRAFTING

SIGNAL NAME	COMP NAME	PIN NUMB	SOURCE	TYPE COMP
S0001	J1	2	•	CON
S0001	U1	1	•	7400
S0002	J1	3	•	CON
S0002	U1	4	•	7400
S0003	J1	4	•	CON
S0003	U1	9	•	7400
S0004	J1	5	•	CON
S0004	U1	12	•	7400
S0005	J1	9	•	CON
S0005	U1	2		7400
S0005	U1	5		7400
S0005	U1	10		7400
S0005	U1	13		7400
S0006	U1	3	•	7400
S0006	U2	1	•	7400
S0007	U1	6	•	7400
S0007	U2	2	•	7400
S0008	U1	8	•	7400
S0008	U2	4	•	7400
S0009	U1	11	•	7400
S0009	U2	5	•	7400
S0010	U2	3	•	7400
S0010	U2	9	•	7400
S0011	U2	6	•	7400
S0011	U2	10	•	7400
S0012	U2	8	•	7400
S0012	J2	4		CON

NET LIST FROM SCHEMATIC

ISOMETRICS



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without the necessity of going through Workbench or creating a CLI disk. CLI (Command Line Interface) is the method used to access and control AmigaDOS.

DIR—allows you to look at the directory of a disk in greater detail than you would have by simply opening the disk and examining the icons in the window.

LIST—gives even more information about files, including the date created, bytes used and whether the file is protected.

PROTECT—allows you to prevent a file from being accidentally deleted.

TYPE—prints a text file to the screen.

ASSIGN—tells AmigaDOS where to look for certain files or applications.

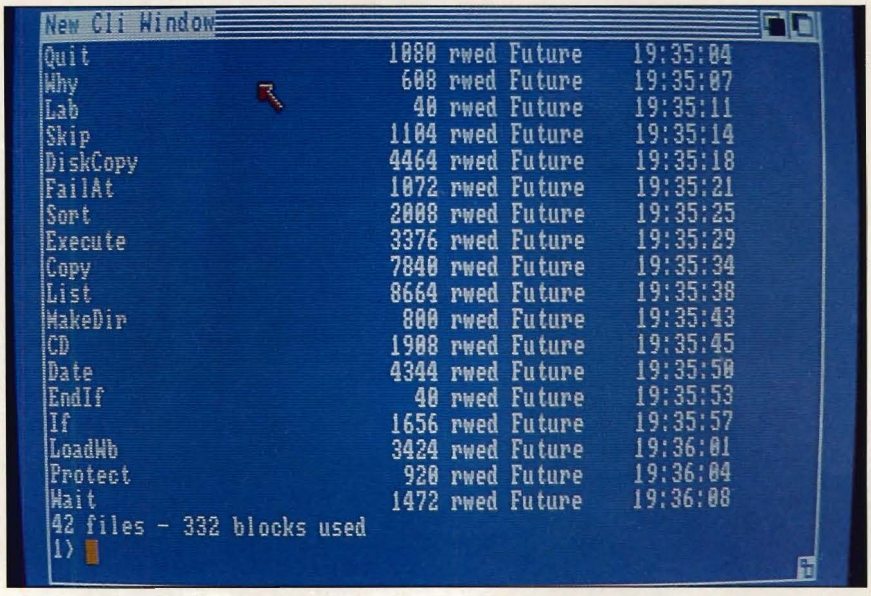
You may also use the commands found on the pull-down menus of Workbench, such as Initialize (Format), Rename (Relabel) and Duplicate (Diskcopy). You may also use Preferences.

There are many more AmigaDOS commands, but they are outside the scope of this introduction. When you are ready to pursue the subject further, buy a copy of *The AmigaDOS Manual*, published by Bantam Books. It's $24.95, available in better bookstores and well worth the money.

Commands in AmigaDOS cannot only be used separately, they can be combined into what is called a batch file or executable file, where commands and arguments are put into list form and executed automatically in order.

An example of such a file can be found on the Workbench disk in directory S. To see it, use this command: **TYPE S/STARTUP-SEQUENCE**. The S tells AmigaDOS which of several directories on the disk to go to, and STARTUP-SEQUENCE is the label of the file to be accessed.

A sequence of commands is called a Path. If the file you wish to access is on another disk, the Pathname may also contain directions to that disk, such as **TYPE DF1: S/STARTUP-SEQUENCE**. The batch file has printed to your monitor screen and you should see this:



Results of LIST command on C subdirectory.

ECHO—a command that prints messages to the screen.

LOADWB—a command to load Workbench.

ENDCLI—the command to close the CLI window.

>nil—a directional symbol that, in this case, tells AmigaDOS where to write the output of the ENDCLI command. Since the symbol is followed by nil, the output goes into limbo and we do not see a message telling us that the CLI window has been closed. Instead, we are shown the Workbench.

The implication here is that Workbench is a CLI disk, controlled by AmigaDOS, that uses a start-up batch file to render AmigaDOS and CLI invisible and present the Workbench-Intuition tools. From Workbench we can use Preferences to activate CLI, open the systems drawer, click on the CLI symbol and be presented with a window in which we can utilize AmigaDOS.

As with other windows opened under Intuition, the CLI window can be moved and resized. You'll notice that the prompt is 1>. Should you wish to open another such window, use the command NEWCLI where you see the prompt 2>. The numbered prompts help you keep things straight. They are not so much window numbers as they are task numbers. As soon as you open your second window, you've begun multitasking.

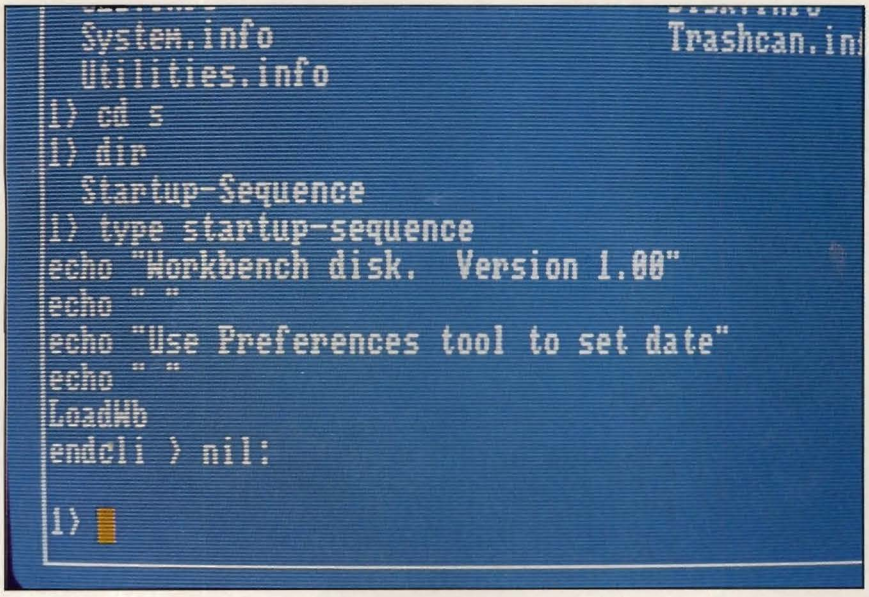
Although you can work in only one window at a time (activated by clicking the mouse button when the pointer is in the correct window), it is possible and very easy to have each of several windows working on separate tasks.

For comparison purposes, you could use the first CLI window to list the directory of the disk in the internal drive (DFO:) and the second window to list the directory of the disk in the external drive (DF1:)

Once a CLI window is open, you can close all other windows relating to Workbench. The savings in RAM begins immediately.

With the RAM you've saved, you can create a RAMdisk. In fact, you don't really create it. It's there, at least potentially, in the form of a logical device that's ready to be activated by using "RAM:" as part of a command or argument. The colon following the word RAM is important. Just as DFO: specifies the internal Amiga drive, RAM: tells AmigaDOS you're referring to the virtual drive, not just talking shop.

To activate the RAMdisk, give



Start-up sequence of Workbench disk; a batch file that may be modified as required.

it something to do. As an example, you could type **COPY FORMAT to RAM:**. On the next line, type **ASSIGN FORMAT RAM:FORMAT**. The first command makes the transfer from real disk to RAMdisk; the second tells AmigaDOS where to look for that file when it is next called upon.

The RAMdisk is elastic. Unlike PC-DOS, where a certain amount of memory must be allocated to the creation of a RAMdisk and forever lost to the balance of the operating system, AmigaDOS allocates only as much memory as is needed to hold the files or applications you transfer to the RAMdisk. With PC-DOS, if you allocate 64K to the RAMdisk and your file consumes only 10K you are still down by 64K; with AmigaDOS you are only down by 10K.

RAMdisk size is limited only by the amount of memory in your Amiga. It is possible, for instance, to put the entire C directory into a RAMdisk, speeding up your work under CLI because the execution of a command will not necessitate accessing the physical disk drive.

You should be aware, however, that RAM is dynamic memory. It exists only while it is supplied with power. Once you turn off your computer, the contents of RAM—and that includes your RAMdisk—are lost. Any files that have been altered should be saved to a physical disk before powering down. Do this with the command sequence **COPY FROM RAM:(filename) TO DFO:** (or DF1:)(filename).

Once you have the C directory successfully copied into a RAMdisk, you can begin whizzing along with your Amiga. After the computer is powered down, to go back to what you were doing you must go through the copying process all over again.

You can make the computer do this for you automatically when you first boot the disk by simply adding a few lines to the STARTUP-SEQUENCE batch file. In order to do that, however, we have to take a look at another AmigaDOS application that runs under CLI but not under Workbench: ED (edit).

ED is a screen editor for use with CLI. It allows full cursor movement over the screen and provides a few word processing features, such as insertion or deletion of text. ED's purpose is to allow you to type on screen and to revise or change as necessary.

In our example, you would use the command **ED S/STARTUP-SEQUENCE**. Again, the file will print to the screen. You now have the ability to change it as you wish.

To create a CLI-to-RAM file, delete the LOADWB command. In its place, type:

MAKEDIR ram:c. This activates RAM: and creates a directory. Next type:

COPY sys:c to RAM:c. This copies the contents of the C directory. On the next line, type:

ASSIGN c: RAM:c. This tells your computer to look for c in RAM:. Delete the ENDCLI command and the >nil command and your start-up file is done. Save it to disk by pressing Escape X.

Thereafter, when Kickstart gives you the Workbench prompt, insert your CLI disk. The start-up sequence file will read all the CLI files from the physical disk and transfer them to the RAMdisk. You'll see proof of this happening on screen. If you'd rather not witness this, add the command QUIET to the COPY line: **COPY sys:c TO ram:c QUIET**.

In using the ED application, movements around the screen are by way of the cursor keys, a logical way of doing things. Other commands you will encounter here are:

ESC D—to delete the line currently holding the cursor.

ESC I—when followed by text, inserts the text line above the cursor.

ESC A—inserts a text line after the cursor.

ESC J—joins two lines together.

ESC T—sends the cursor to the top of the file.

ESC B—sends the cursor to the bottom of the file.

ESC Q—ends your involvement with ED, without saving any changes you've made.

ESC X—saves changes and returns you to CLI.

While it's possible to use ED as a rudimentary word processor, we recommend it only for short notes. To create a new file with ED, you must first assign a filename. Then type: **ED (filename)**. If after creating and

saving such a file you wish to print it, the command is: **(filename) > PRT**.

Within AmigaDOS there is also a line processor called EDIT. Frankly, dedicated word processors such as *Textcraft* and *Scribble* are much easier to use.

Although you can set the date and time in Preferences from the Workbench window, you probably won't want to go there if you're heavily involved in AmigaDOS, especially if you've bypassed Workbench by creating the CLI disk described above.

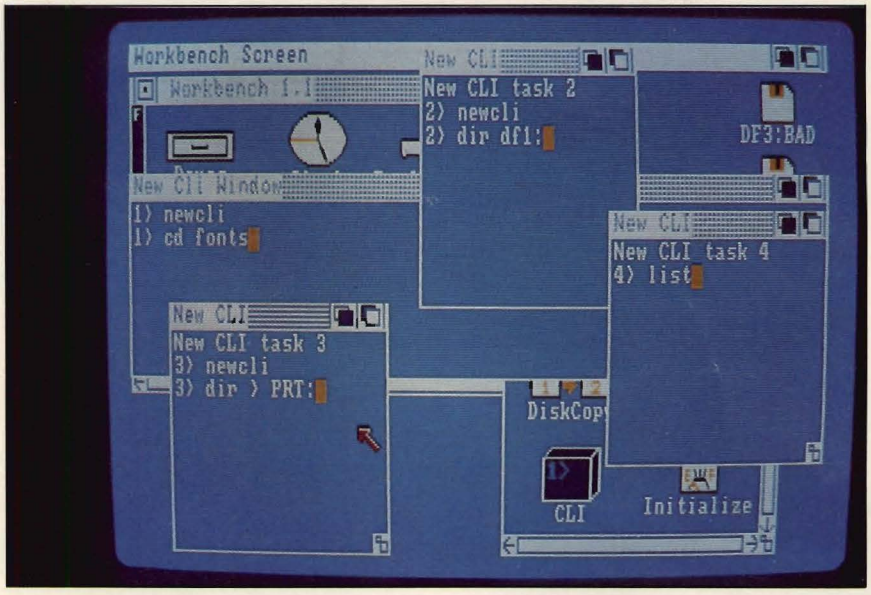
The DATE command allows you to do this under CLI and the format is simple: **DATE (dd-mmm-yy)**. Enter the day first, then the month, then the year. To set the time, the format is **DATE (hh:mm)**. This format is based on a 24-hour clock.

Using DATE at the outset of an AmigaDOS session causes any files you created and saved to be stamped with that date and time. This is helpful to those of us who may have more than one version of a file that has gone through various revisions, since the latest revision would have the latest date. This is also one of the bits of information that will be displayed when you use the LIST command.

You may use the LIST command to display files on the current disk in use, to display files on a disk in an exterior drive or to display only the files in a directory.

LIST also tells you the size of a file and whether a particular name refers to a file or a directory. It displays a column called rwed—Read, Write, Execute, Delete. These are products of the PROTECT command. The presence of an initial after a file indicates action can be performed on that file; the absence of an initial means the file is protected.

Files and directories under AmigaDOS need not be complicated. Think of them as a family tree. Directories are the first generation of the family; subdirectories the second; files the third.



Multi-tasking with CLI. Each CLI window is prepared to handle a different task.

Files are the smallest part of a directory.

You've been dealing with these items on Workbench all along, perhaps without knowing it. Workbench is a directory; the Utilities drawer is a subdirectory. Within the Utilities drawer are the Notepad and Calculator. They are files or, in this case, applications. If you can manipulate files and directories with a mouse and pointer, you can also do it through CLI and AmigaDOS.

You may have several directories on a disk, as you do on the Workbench disk. These are always specified by the suffix (dir). To go from one to another in AmigaDOS, use the command CD (Current Directory) and specify the name of the directory you want to make current, as in CD S to get into the S subdirectory.

Once there, you can use the DIR or LIST commands to examine the files or subdirectories contained there. If you already know which files are there and which one you wish to access, your command would be **CD S/STARTUP-SEQUENCE**. You changed to the S directory and immediately went into the file labeled Startup-Sequence.

To return to the root directory (the first generation), simply type CD:. If you forget where your DOS meanderings have taken you, typing the CD command will cause AmigaDOS to print the identification of the current directory.

You may notice that the above process happened much faster than if you had slid the pointer to an icon, opened it with a double click, slid the mouse again and then clicked on a drawer icon. That's why AmigaDOS is fast and why we say there is more to it than meets the eye. As you work with AmigaDOS, you'll see that blinding speed you were told about when you purchased your Amiga.

If you've learned that AmigaDOS commands are simple and logical. If you've learned a few basic applications and, mostly, that DOS is not an arcane science, then the next step is to click on the CLI icon and dive in. The rewards are in the form of speed, memory and, perhaps, discovering a few things you didn't know your Amiga could do.

—Ervin Bobo

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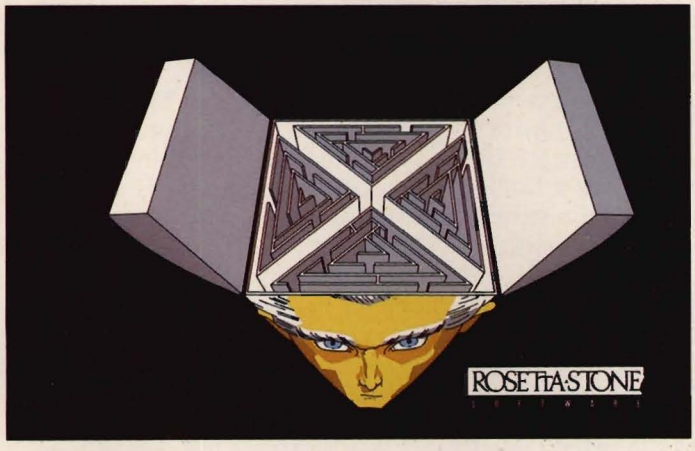

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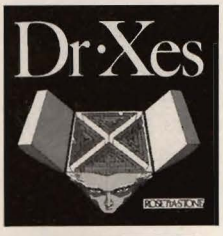

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Aprotek Printers

Daisy-wheel and dot-matrix printers

The new Aprotek Daisy 1120 printer and the Seikosha SP-1000A printer are sensible products that produce quality printouts.

The Aprotek Daisy printer is a feature-rich 20-character-per-second (cps) machine that uses the standard 96-character, Diablo-type print wheel with a special ridge-back feature. This feature, according to the manufacturer, provides the most accurate positioning for the characters on paper.

Aprotek Daisy 1120 Printer from Aprotek

The printer has a front control panel with LED-lit function switches, including power, alarm, pitch, select mode (SEL), line feed (LF) and top of form (TOF). The alarm lamp lights and the alarm sounds for half a second when the printer is out of paper or out of ribbon. The pitch switch delegates either proportional spacing (PS) or one of 10, 12 and 15 characters per inch (CPI) to be used. The manufacturer notes that when using the PS mode, it is best to also use the 12 CPI to make printouts.

The SEL switch determines whether the printer is in selected or deselected mode. When the SEL lamp is lit, the selected mode is on and printing can take place. When the SEL lamp is off, the deselected mode is on and then the pitch, LF and TOF switches can be operated. The LF switch when depressed results in a 1/6-inch vertical advance of the paper. When the TOF switch is pressed, the printer memorizes the position that it's in. A second press of the switch allows the printer to advance to the next TOF position.

The Aprotek Daisy printer comes with such special features as international character selection, paper-length setting, auto-line-feed selection and low-speed-mode selection. These features are all controlled with a row of DIP switches located on the back of the machine.

The next set of features includes baud rate selection, protocol selection, stop-bit length, parity selection, odd/even parity selection, data length selection and interface selection. These are controlled with a second row of DIP switches located beneath the other. The manual gives a brief description and detailed instructions on how to set these switches for the desired modes.

The printer has a self-test printing function that gives the user a printout of its 96 available characters. This can aid in checking print quality and the printer mechanism, and the printer need not be connected to a computer to run this check.

Also in the manual is a complete list of standard control codes and escape (ESC) control codes with an explanation of each. The ESC codes are described in the manual appendices. They include auto underscore, double-strike print, bold print, horizontal tab setting, auto centering, horizontal spacing, pitch setting, absolute horizontal and vertical tab setting, line-feed spacing, pitch setting, graphics mode and vertical tab setting.

In all, the Aprotek Daisy is a fine, reasonably priced printer with many advanced features. It produces excellent printouts that will meet the most demanding requirements.

The Seikosha SP-1000A is another fine printer in the matrix printer market. The manufacturer states that one valuable characteristic of this printer is its ability to print high-quality print in very small dot size. As the manufacturer reminds us, the SP-1000 printer line was developed to emulate certain well-known printer brands, which means that the SP-1000 line should be compatible with almost all available software.

The SP-1000A comes with an easy-to-read manual complete with diagrams and pictures to facilitate learning its many functions. The control panel has four switches: on-line, near-letter-quality (NLQ), form feed (FF) and line feed. The printer's on-line switch, NLQ switch, paper-out indicator and power indicator all have LEDs that light when their corresponding functions are in use.

The printer has margin settings

that are set using these switches. Depressing the on-line switch for longer than one second causes the margin setting to engage. By depressing the LF switch, the margin is shifted to the right. By depressing the FF switch, the margin is shifted to the left.

The SP-1000A also comes with a self-test printing function, an automatic paper-loading function, an automatic printing function and a hexadecimal dump-list function. Each of these special features is explained in detail in the manual.

The user is also able to operate other special functions: bold print, double-strike print, graphic print, line-feed spacing, page-length setting, horizontal tab setting, margin setting, underlining, buffer clear, skip-over perforation, unidirectional printing, language-fonts setting, input data control and print-code area designation. All of these, plus others, are explained in the manual in detail.

The manual also provides four separate appendices for certain subjects that deal with character specifications, categories and sets and control codes.

Printout quality in the NLQ mode is excellent. The standard mode is comparable to most popular matrix printers.

Overall, the Seikosha SP-1000A is a cost-effective, quality matrix printer that will meet the printing needs of the average computer user.

—Eric Tenbus

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that Electronic Arts has promised a *Print Shop*-type program that will print in color. Well, if you haven't yet used *Deluxe Print*, you're in for a revelation.

Deluxe Print prints signs, banners, letterheads and greeting cards. It also prints calendars, mailing labels, wrapping paper and more. It's not *Deluxe Print*'s extras or even its preview feature that sets it apart from all other programs of this type. It is how you arrive at the finished product.

Booting after Kickstart, *Deluxe Print* gives you a familiar Workbench window, complete with a Preferences icon that helps you properly set the system for the type of printer you are using. Though the program supports the Okimate 20, Epson JX-80 and HP Colorjet printers, it does equally well with black-and-white printers.

After viewing *Deluxe Print*'s title screen, created with the award-winning *Deluxe Paint*, you're presented with the first of many menu screens. The left half of your screen shows a work slate, and the right half offers choices as to the type of printing you wish to do—sign, banner, calendar, etc.

Using the mouse, click on the appropriate label and the entire screen changes. The right side is still a menu, though a different one, and the left half is still a slate, now blanked and changed to reflect the dimensions of what you've chosen to create. This, whether it be a sign, label, greeting card or whatever, is known as a Format. Formats can be changed prior to printing. If you start with a sign that you wish to change to the dimensions of a bookmark, you may.

At the top of the menu are three broad categories: Images, Borders, Text. You will be working with these categories in all you do and, unlike other programs, they can be used in any order.

Click first on Images, then on Select. A directory appears, each entry consisting of several graphic representations. Choose an entry and the choices appear on your slate; click on the image you want to use and you go back to the Create menu. Your slate is still blank and your selected image appears in the lower left corner of the screen.

Now click on Place, then move your cursor to the appropriate spot on the slate and click again. As the image appears, you realize you have a continuing preview,

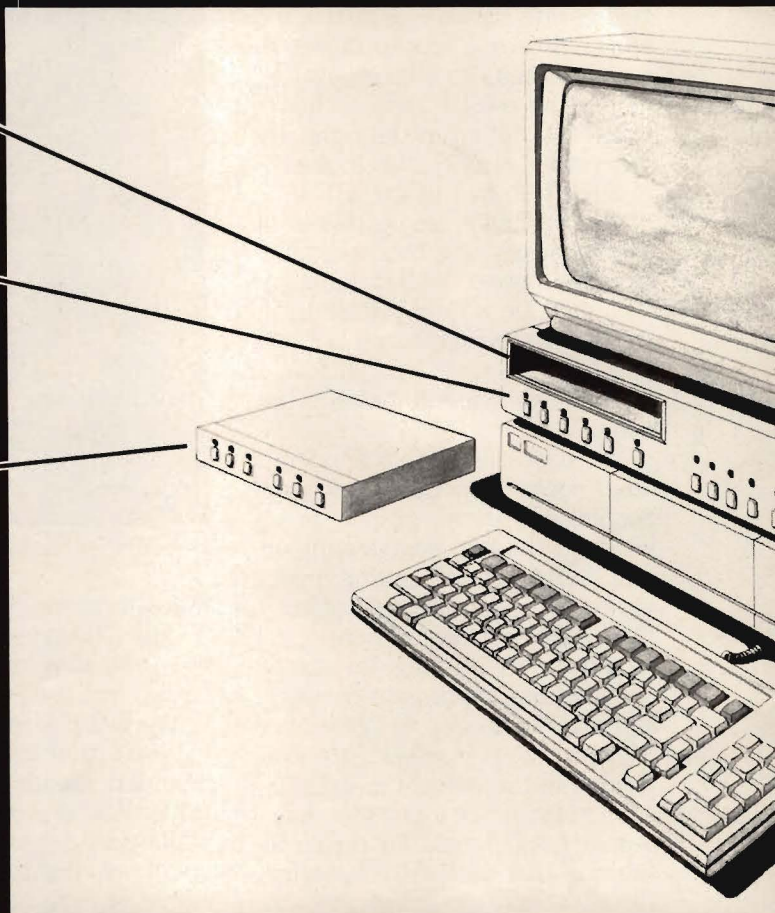
ALL

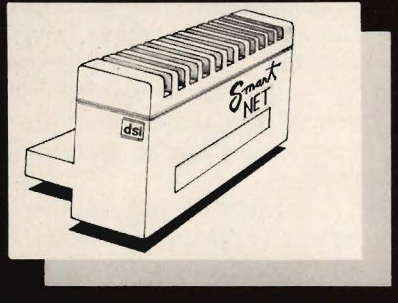
The Buss Station comes with a recessed slot which allows the user to store his most used/popular program diskettes only a fingertip away! The recessed slot can be removed to provide room for the optional DSI "Associate".

A surge, spike, RFI, and EMI interference suppressed, five outlet power control center which allows the Amiga computer, and four peripheral devices to be plugged into one fully protected power source. The front panel of the power controller section of the Buss Station, houses six switches (one is a master switch), each with an LED which lights when the corresponding switch is in the "on" position. Eliminates messy extension cord cabling, and allows the user to switch on/off his computer and all other peripherals from one panel.

The Associate is a multiport data switch which provides two fully switchable serial and parallel output ports for the Amiga. The front panel of the Associate section of the Buss Station houses six switches, each with an LED which lights when the corresponding switch is in the "on" position. The Amiga allows the use of only one serial and parallel device, however, the Associate increases the utility of the Amiga by allowing the use of up to two serial and parallel devices which are selected and controlled by the flick of a switch.

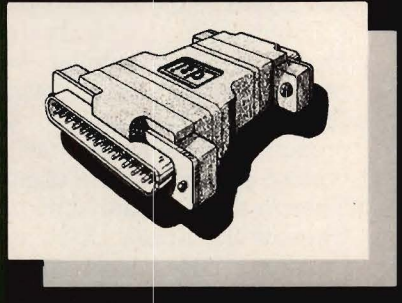
The Buss Station can be ordered with the Associate already installed at our factory or, the Associate can be ordered at a later date and installed at the dealership where the Buss Station was purchased or by the end user at his home.





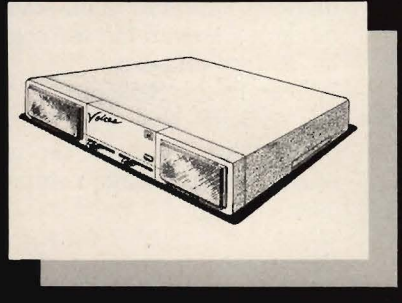
SMARTS

You can give your Amiga Smarts in two different ways. The first method requires a DSI Buss Station, a Smart 1 Ram Expansion Starter Card and up to three Smart 2 Ram Expansion Slave Cards. The second method requires a Smart Net, a Smart 1 Ram Expansion Starter Card and up to three Smart 2 Ram Expansion Slave Cards. The DSI Smart Net is an EMI/RFI shielded metal enclosure which interfaces to the Amiga, provides ports for, and encases the Smart 1 and Smart 2 RAM Expansion Cards. The DSI Smart 1 Ram Expansion Starter Card provides incremental RAM expansion and has the microprocessor circuitry necessary to expand the Amiga to an additional 2 megabytes of RAM. Smart 1 also has an expansion port which allows the user to connect up to three additional Smart 2 Ram Expansion Slave Cards. Each Smart 2 Ram Expansion Slave Card provides up to 2 megabytes of incremental RAM expansion for the Amiga. A combination of one fully loaded Smart 1 Starter Card, and three fully loaded Smart 2 Slave Cards will increase the Amiga's memory to its maximum potential of 8 megabytes. The Smart cards can be ordered with 0k, partially loaded, or fully loaded with 2 megabytes of RAM.



VISIONS

Due to the way the RGB TTL video output circuit of the Amiga was designed, it can properly interface to only a very small percentage of the many RGB TTL monitors on the market today. Visions is a video circuit designed to convert the non-standard RBG TTL video output of the Amiga to a standard IBM PC RGB TTL video output thereby allowing the user to choose from the widest possible variety of monitors available. RGB TTL monitors that can be interfaced to the IBM PC can be interfaced to the Amiga when Visions is used.

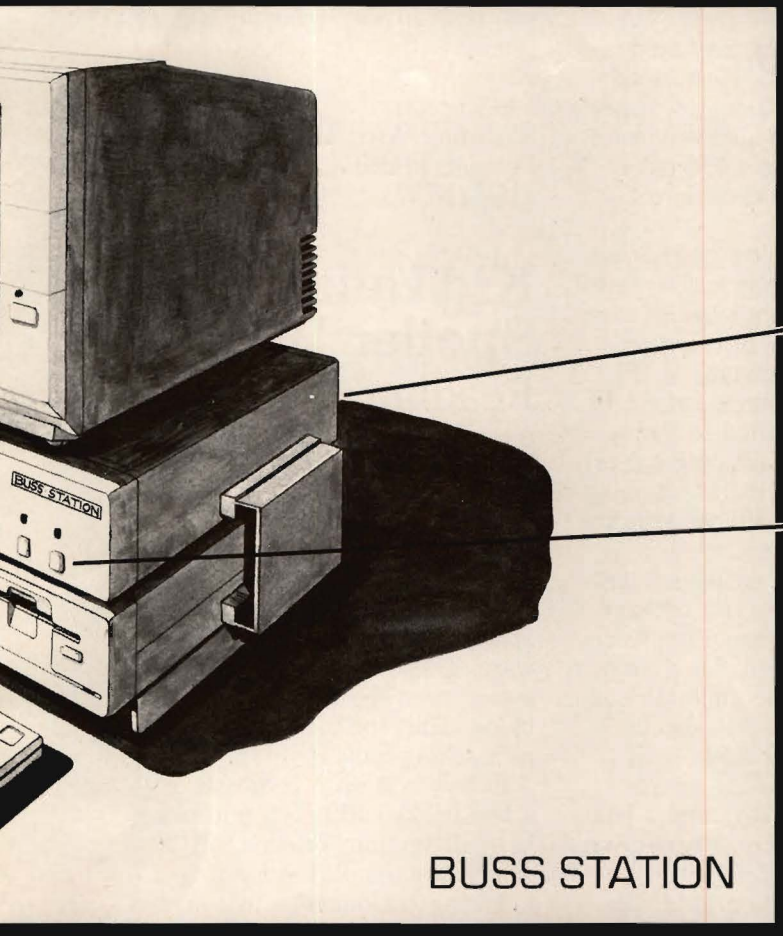


VOICES

Voices is a stereo amplifier with two full range speakers designed to fully utilize the stereo output ability of the Amiga where the use of a home stereo unit is not available or desired. The amplifier and speakers are encased in a low profile/high tech EMI and RFI shielded metal enclosure. Voices provides right and left channel stereo output jacks, which allow the user to connect the Amiga to a home stereo unit if desired and, a headphone jack for situations where quiet or privacy is desired. Voices can be used to provide stereo quality sound for audio and non-audio monitors.

For complete dealer and distributor information concerning the exciting new ine of DSI products please contact your local representative or DSI at the following address:

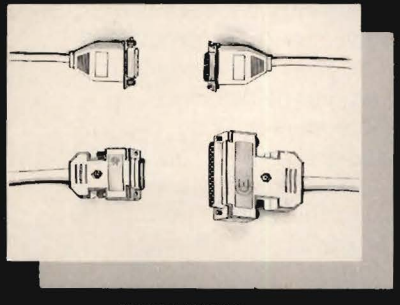
ABOARD



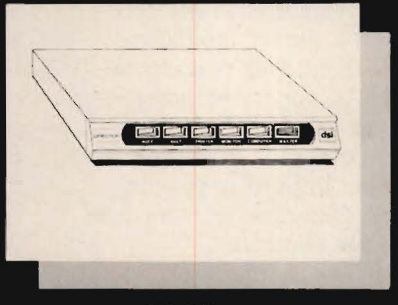
BUSS STATION

A special RAM expansion port which allows the user to plug in the DSI "Smarts" and incrementally increase the memory of the Amiga to its maximum potential of 8 megabytes.

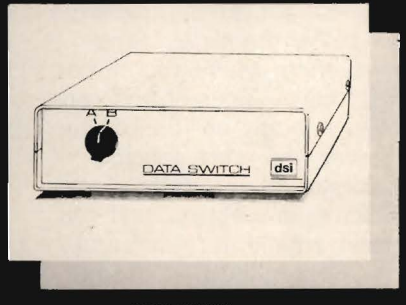
Eight 86 pin card edge connectors, identical to the one on the Amiga, giving it expandability comparable to the IBM PC. The front panel of the slot expansion section of the Buss Station, houses eight switches, each with an LED which lights when the corresponding switch is in the "on" position.



INTEREX SYSTEM
INTERFACE CABLES
The only totally comprehensive program of interface cables for connecting the Amiga to virtually all of the most popular analog RGB or digital RGB TTL color monitors, as well as composite monochrome and color monitors, serial printers and modems, parallel printers, keyboards, disk drives and other peripheral devices.



DIRECTOR
The Director is a surge, spike, RFI, and EMI interference supressed 5 outlet power control center for computers and peripherals.



DATA SWITCH
Six Data Switch models allow port expansion and sharing of computer and peripherals.

dsi
717 South Emporia
Wichita, KS 67211-2307
316-264-6118
Telex: 650-193-4977

much like a pasteup, allowing you to see changes and rearrangements without having to wait for a printout. By clicking on Move, you can drag the image anywhere within the slate. You can flip it, copy it, resize it, color it, remove it or even edit it.

When editing, the image expands to fill your slate, and you have at your disposal several simple drawing tools that you can use to make alterations. Once changed, click on Done and go back to your primary slate.

Borders are worked with in a similar manner. Besides generic borders, each image on the disk has a corresponding border. The Amiga logo, for instance, uses a double check mark in a kind of rosette fashion, if you choose to use it as a border.

With Text, you click on Fonts and see familiar Notepad styles listed for you. As you select a font, it is visually represented at the lower left of the screen. Any font can be used as blended, boxed or outlined, multiplying your choices by three, and can also be made larger than normal.

Once you've chosen a font and returned to the slate, your typed-in words will appear in a message window below the slate. Using Place, put them where you choose. As with Images, lines of text can be moved into any position on the slate, giving you more spacing freedom than other similar programs allow. In addition, text can be flipped, copied, removed and so forth. Everything that can be done to an image can be done to text.

Text, however, is handled as a line. If you wish to manipulate a single word, it must be typed as a single word and entered into the correct space.

Image, Border and Text colors can be changed independently. Decide which of the three you chose to change, click on Color, click on a color from the palette at the bottom of the screen, then click on your choice (Image, Border or Text) and watch the color change. If the color displayed is still not quite right, clicking on Palette gives you a control panel that allows you to alter any color and use any of the 4,096 colors that the Amiga is capable of producing.

If all this weren't enough, *Deluxe Print* also allows you to print pictures created with *Deluxe Paint* or any painting or drawing program that stores images in IFF format. These pictures cannot be manipulated or edited in *Deluxe Print* (except for changing colors), but they can be used as stunning backgrounds or overlays with images, borders or text.

Electronic Arts includes a data disk in the *Deluxe Print* package, in addition to the program disk. The data disk gives you additional images that can be imported and added to your slate. It also includes 25 pictures made with *Deluxe Paint,* including an all-purpose birthday card and a beautiful view of Saturn as seen from one of its moons.

The documentation for *Deluxe Print* is the best we've ever seen. It is possible, however, to get excellent results with the program—on a purely instinctive level—without ever reading the manual. An appendix to the manual serves as a good primer on AmigaDOS and is a helpful reference when importing paintings from the data disk or from your own *Deluxe Paint* files.

Even if it did not allow printing in color, *Deluxe Print* would still represent state-of-the-art printing programs because of its pasteup working mode, its Place and Move options that allow more latitude in design, its font options and the stunning backgrounds that can be imported from other full-featured painting programs.

The lack of a color printer should not deter you from buying *Deluxe Print;* the program works well in black and white. Who knows? It might be exactly what you need to justify buying a color printer.

—Ervin Bobo

$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, Calif. 94404; 415-571-7171

KidTalk; Speller Bee

Reading, writing, spelling instruction

512K Amiga.

If you've ever wondered where educational software was bound or if it would become truly educational, take a look at *Kidtalk* and *Speller Bee* from First Byte Software. These two programs should please even those who may be dubious about the use of computers as teaching tools.

Kidtalk is a word processor with a few tricks and twists not found in adult versions of such programs. As the disk is booted—following Kickstart—a title screen appears, which is pronounced by a "soft" male voice.

Next, the computer asks if the user has ever used the program before. The response is made by clicking on one of two boxes, yes or no. If the answer is no, the user is asked to type in his or her name for future reference and for Secret Code files. Each prompt is written to the screen as well as spoken, further reinforcing the relationship between the written and spoken word.

A technique that makes the program easier for children to use is the mouse, used for selecting options from menus. Only the left mouse button is used.

The theory behind *Kidtalk* is that children will learn to read from their own writing. This is accomplished by providing users a screen upon which they can compose their own stories and have

the computer read them back.

From the Talk menu, users may choose to hear the audio as each letter, word or sentence is typed in. They may also choose to hear only the completed version. Listening to each word alerts them to misspellings; listening to each sentence alerts to syntax errors; and listening to the final version should give a sense of whether a complete story is being told.

From the Control Panel, a user has the ability to change the voice of the computer.

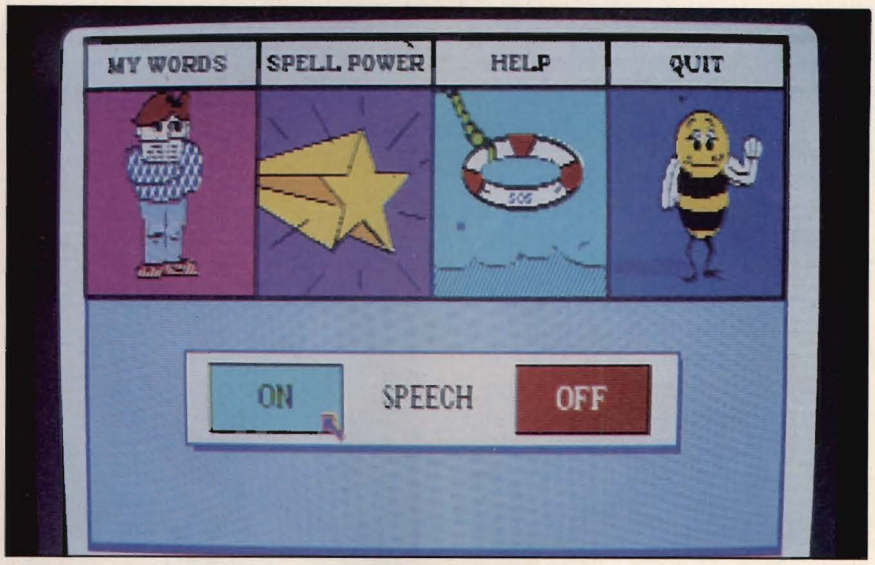
Dictionary Tricks is a two-part section. In Secret Codes, a user types in a real word and follows it with a code word. There apparently is no limit to how long the list can be. Once the words have been added to the user's file, complementary lists appear side by side at the top of the screen.

For example, using code words allows the user to type "love" and have it pronounced "hate." In this way, a child could write a note to his parents stating that he loves spinach. While his elders are beaming with joy, the child allows the computer to read the real note to them.

In the second section of Tricks, users can add the approximately five percent of English-based words that *Kidtalk* does not already know by first typing in the words and then retyping in their sounds-like forms. This seems to be an introduction to the use of phonemes.

Although it would have been easy to write a less functional program, dress it up with speech and sell it in a market hungry for new software, this is not the case with *Kidtalk*. There is real value here. My only quibble is with the age group specified for use, preschool to junior high. We feel that the upper limit for true interest in the game would be no more than age 12.

The program's documentation is good, geared to a seven or eight-year-old and well illustrated.



***Kidtalk* from First Byte**

Also highly recommended and also from First Byte is *Speller Bee*, where speech is used to teach and reinforce spelling skills.

As in *Kidtalk*, the emphasis is on the relationship between printed and spoken words. To practice spelling routines, users may work from their own list of problem words or use the program's built-in list of 150 frequently misspelled words.

From *Speller Bee*'s pull-down menus, users may choose My Words, which allows them to create their own lists using Listmaker. Up to 32 lists can be made, each containing as many as 10 words with a maximum of 15 letters each. These lists can be modified, erased or rewritten, as users progress toward more difficult levels.

The menu named Spell Power is the actual heart of the program. Each option chosen here begins by asking users to select their own word lists or those built into the program. As in *Kidtalk*, the options to be had are spoken as well as written on screen. For children who may not need the audible prompting, the sound may be turned off.

In Bee Prepared, users see words from any list, one at a time. They hear them spelled and pronounced and are given a chance to spell them themselves. With the sound on, a correct spelling is rewarded by hearing the computer pronounce the word. An incorrect answer is signaled by a message to that effect and a consequent lack of scoring.

In a game called Detective, users are presented with a word missing several letters. Below a box, the alphabet is displayed with each letter residing in a yellow circle. Users choose the letters they think belong in the word, not necessarily in order.

Scramble is exactly what it sounds like, a word game probably as old as written language—unscrambling words. Scoring is based on the number of words unscrambled correctly.

Search is also a familiar game, found in crossword puzzle books and daily newspapers. Within a block of seemingly random alphabetic characters, words from a word list are hidden, which users must locate. Scoring is based on elapsed time.

When users earn their best scores on any of the games, the rewriting of the scoreboard makes them feel very special, taking place among flashing colors and

shapes and followed by a message that says they have achieved their very best score.

This is probably enough motivation to make any child want to do better in successive attempts. Since spelling depends greatly on repetition, the games accomplish their aims in a way that is not only painless but truly enjoyable.

Speller Bee's documentation is sparse, the games being simple enough that no lengthy explanations are necessary. We particularly like the second section of the book, which takes the time to explain to parents and educators the purpose and the objectives of the program.

Because of the routines for synthesized speech, both *Kidtalk* and *Speller Bee* require a 512K Amiga. That is a small price to pay. It's speech that causes these programs to succeed where other computer programs fall short. We recommend both programs.

—Ervin Bobo

$59.95 each retail
First Byte, Inc.; 2845 Temple Ave.; Long Beach, Calif. 90806; 213-595-7006

The Music Studio

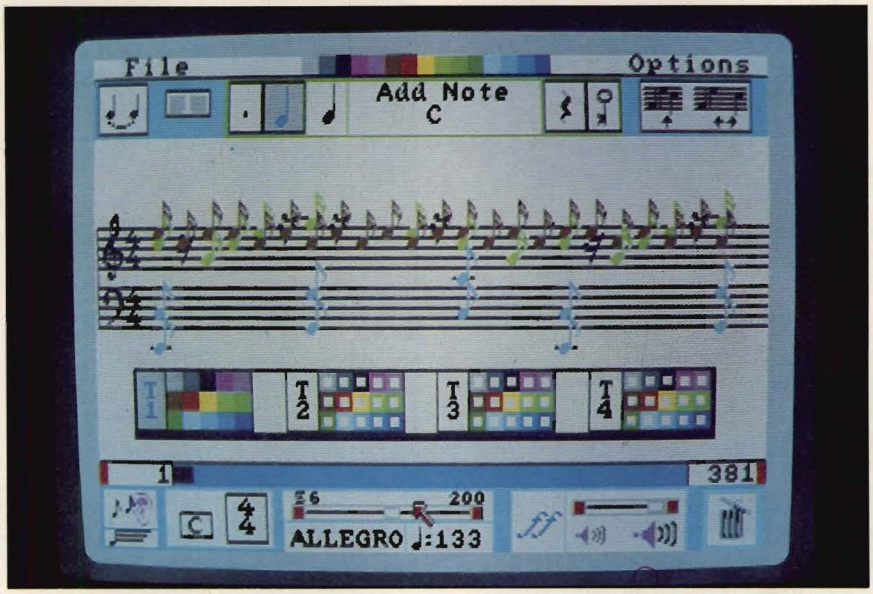
Music composition

256K Amiga.

Since the advent of the *Pinball Construction Set,* the software market has been inundated with construction sets of all types. Some of these sets have been worthwhile; others are so frivolous as to have no point or purpose.

The Music Studio is a rather interesting new breed of construction-set software. It overlaps this broad range of programs, becoming as complex as a Mozart symphony or as unusual as a Cindi Lauper concert.

Studio gives you the tools needed to create sound and stretch the Amiga to its considerable limits. If that isn't enough, you can design your own tools or compose music with a MIDI instrument.



***The Music Studio* from Activision**

Making full use of the mouse for placement of notes and rests and for pull-down and pop-up menus, *Studio* boots immediately after Kickstart and, after a short wait, presents you with a title screen and a theme song.

Because many levels of composition are supported, you may begin at a level consistent with your own abilities. If you're a beginner, you might want to start by selecting a song from *Studio*'s library. You'll find something for any taste, be it classical, country, calypso or whatever.

After making your selection, you'll see the following message: "Sound Data Recalculation in Progress." This means your Amiga is preparing itself to play back the instrument sounds for which the song you chose was composed. It is your first hint that you have in your possession something truly awesome.

Mess around with the song if you want. You can't hurt anything. A slider bar at the bottom of the screen can be used to change tempo; clicking on the 4/4 box changes the measure; clicking on the box next to the 4/4 box changes key; and a slider bar at the bottom right can be used to change volume.

If you wish, go to the top of the screen and start adding notes. Play them back by clicking on the ear symbol. Make your own decision as to whether you improved the song or trashed it completely.

You'll notice that notes you add are displayed in color. Each of the 15 instruments built into *Studio* has its own color, allowing you to keep things sorted when composing.

These same colors guide you when in the program's Musical Paintbox section, where you deal with colored rectangles instead of notes. The size of a rectangle determines the duration of a note, and the color represents the instrument. Select a color from the palette of 15, select a rectangle, then move your cursor up to the grand staff and place the note where you think it should be located.

If this seems like a frivolous way to create music, let me add that *Studio* encourages such experimentation. You can't hurt the program, the computer or any-

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FutureSound™

...*Record!*

At last you can take full advantage of the sound capabilities of your Amiga. Applied Visions announces **FutureSound**, a digital sound recorder for the Amiga personal computer. With **FutureSound**, anyone can create the spectacular sound effects that makes your Amiga stand out from other microcomputers. **FutureSound** allows you to record *any* sound, *any* musical instrument, *any* voice, and use these recordings to add instruments to music packages, create realistic sound effects for your programs or add true voices to your applications. Multitrack recording and editing is provided as well as stereo playback. Sounds can be easily accessed from "C" or BASIC. **FutureSound** comes complete with recorder, cables, microphone and software—all for only $175. Available from your Amiga dealer or directly from us. Order now and find out just how creative you and your Amiga can be!

APPLIED VISIONS

Applied Visions, 15 Oak Ridge Road, Medford, MA 02155 (617) 488-3602

thing by trying something new. If a note is wrong, it can be changed again and again until it is exactly what you want.

The corresponding sound of a selected note is played as you move the note over the grand staff. This is an aid to let you know, before placement, the sound of the note you picked. If it matches the one you want, great. If not, try another.

When all the notes you picked sound the way you want, go to the Main Composing Screen. All your colored blocks will change to real notes that can be printed out as real sheet music. If you like, you can add lyrics before printing or saving.

The Main Composing Screen, what you saw when you loaded a song from the library, provides the following fine-tuning options: pull-down and pop-up menus that give you instrument selections; notes as short as 1/32nd duration; and ties, slurs and rests. This screen is used for serious composing.

Studio's Design Instrument Screen allows you to change the parameters of any instrument by changing its sound envelope. The sound envelope is represented by a graph that depicts the tone of a particular instrument. On the Design Instrument Screen, up to seven harmonics can be represented in their ADSR (attack, decay, sustain, release) cycles. By pointing and clicking on such options as Vibrato, Tremolo, Sustain Control and Amplitude Value, any instrument from the palette of 15 can be altered to your liking. As each change is made, the graph changes to represent the new ADSR.

This feature is of more interest to the advanced user, but the fact that *Studio* allows such advanced use and is still of value to the beginner speaks well for its designers. You may never need consider another music composition program.

The Music Studio also features full MIDI support. With a MIDI adapter plugged into your Amiga and connected to a MIDI instrument, such as a Casio keyboard, you can play your compositions through the instrument. In a turnabout that seems more magic than computer science, play the instrument and watch the notes appear on your monitor, ready for printing or saving.

It should also be noted that *Studio* allows stereo composition and working with multiple tracks. With the sound capabilities of the computer, you work within a range of five octaves and four voices and, like a good word processor, *Studio* allows you to copy, move or insert blocks of music.

The program's documentation is good. It takes you through the steps of using the program and stops now and then to explain unfamiliar terms and concepts.

The Music Studio is all you could ask for in a music composition program. While not a substitute for musical talent, it is a tool that enhances a user's existing talent by removing some of the drudgery connected with exercising that talent.

—Ervin Bobo

$59.95 retail
Activision, Inc.; PO Box 7286; Mountain View, Calif. 94039; 415-960-0410

Online!
Telecommunications

256K Amiga.

With the introduction of *Online!*, a program for serious telecommunications, Micro-Systems Software takes another chunk out of the artsy pedestal erected for the Amiga and proves that the computer is also a down-to-earth productivity machine.

Residing on Workbench 1.1., *Online!* boots immediately after Kickstart and can easily be copied to another floppy or installed on a hard disk. The working copy will not only be for the usual data-storage purposes, because you will also be writing a lot of information to disk. Keeping the original clean means that, if a subsequent copy need be made, you won't have to do a lot of editing and deleting of old files.

Even for the first-time user, *Online!* is easy to use. Default support is for Hayes and Hayes-compatible modems, which covers most modems in use today. It's, therefore, possible to select Call from the Service pull-down menu, refer to your Hayes quick-reference card to dial a number and be on line in minutes.

This is how I first used the program, believing that the best software allows at least minimal use without need for study. Next day, I began reading the program's manual.

Online!'s documentation is clear, concise and easy to understand. It gives you an overview of telecommunications and the specifics of the program. The learning process is often made painless by a sprinkling of well-placed humor throughout the manual.

Online! supports baud rates from 300 to 19,200. The default setting is 1,200. That rate can be quickly changed by going to a pull-down menu and clicking the Amiga's mouse on a more appropriate rate. *Online!* also supports any word length or parity, with default settings of seven-bit word length, one stop bit and even parity.

Settings for the number you are about to call may be stored in a terminal file. This allows you to get on line more quickly next time by going to Archive Get and clicking on the file name. *Online!* will set the proper parameters and dial the number for you.

An extended form of automated calling can be obtained with a script file. *Online!* supports the creation of a script file for each

The Flow™ Idea Processor Helps You Survive the Information Age

The age of the computer has produced a virtual wilderness of personal complications. So much information needs to be organized. So many things need to be done. And there's only so much time to do them in. To survive you need a tool that lets you organize things the way *you* want them organized. You need Flow, the Idea Processor for the Amiga™ computer.

With Flow you can formulate and organize your business and creative endeavors with absolute ease and flexibility. Enter your information in an outline form and give it the structure you want. Then selectively hide and show only the subtopics of interest. You can see the big picture, or just the details you need.

And because Flow takes full advantage of the mouse, using it is intuitive. With the touch of a finger you can arrange and rearrange, find, sort, expand and condense at will. Drag whole blocks of entries to where you want them. Click twice to zoom in on the subtopics. Sort your entries, and quickly find the information you need.

Flow is a tool for organizing your writing, a tool for arranging schedules and appointments, a tool for categorizing and storing any kind of information. Flow is the multi-purpose tool you need to survive in the information age.

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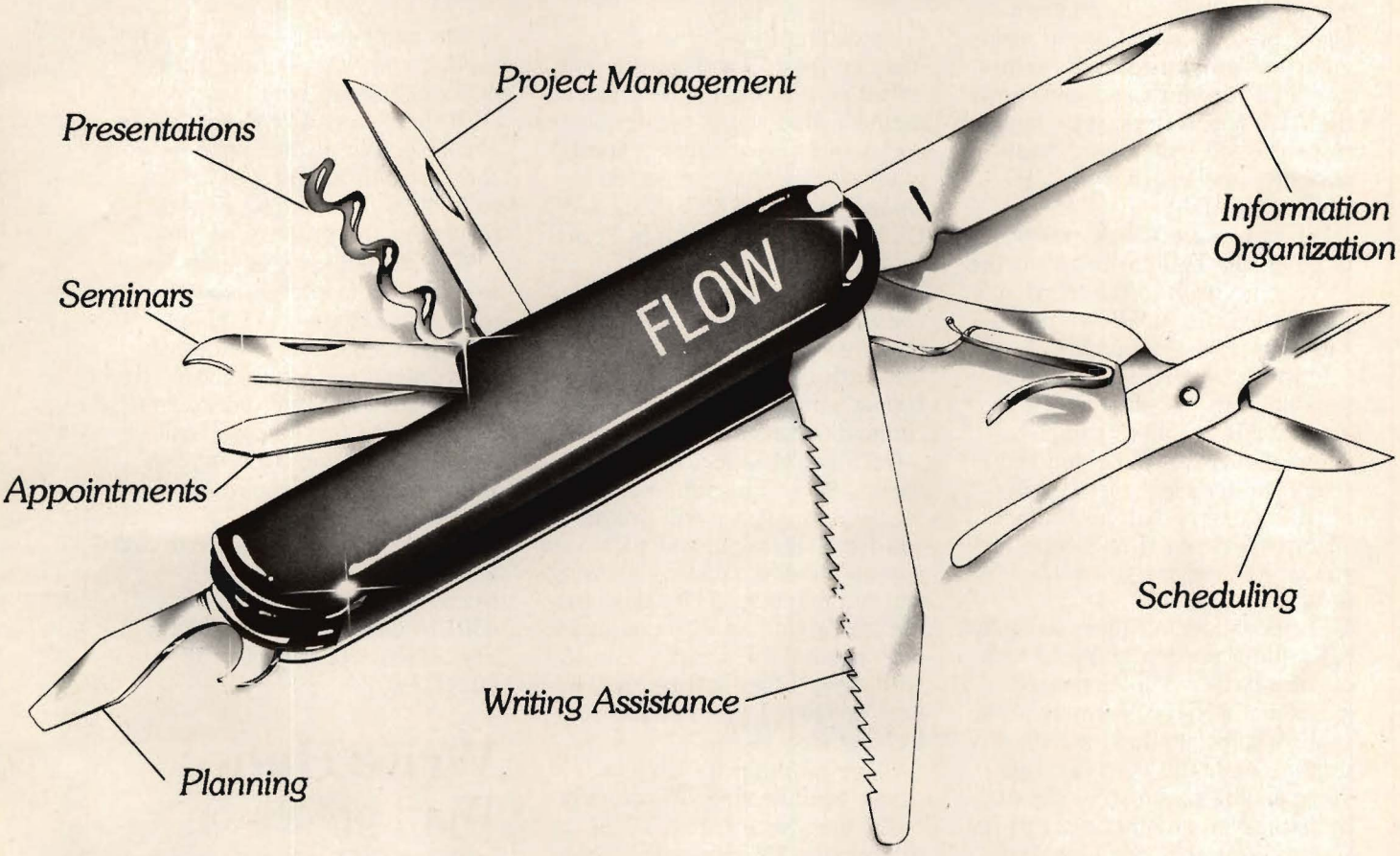
A Personal Productivity Survival Tool



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SOFTWARE

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number you call frequently. With a script file, similar to a program or a batch file, *Online!* will carry out all protocols, such as logging onto Compuserve and presenting your password and/or account number. The program will even go directly to your area of interest and download a specific file.

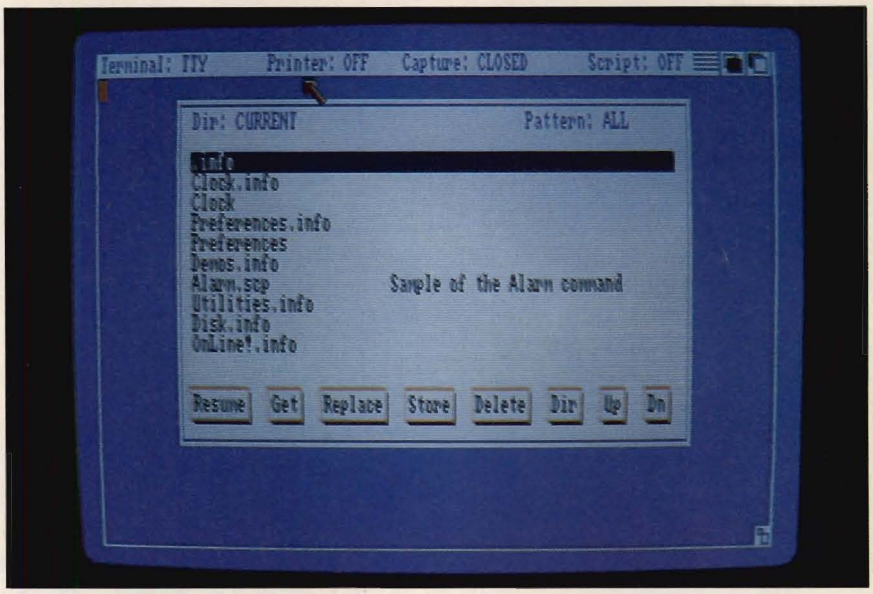
In creating a terminal file, you teach *Online!* how to make a call for you, much like telling a child which buttons to press on the phone. With a script file in place, however, your calls can be accomplished without you ever having to touch the keyboard, thereby reducing your involvement almost to zero.

The creation of such files is made easy by *Online!*'s learn mode. Simply call the bulletin board or service and log in normally. When you reach a prompt to which you must respond, press the ALT and L keys, type in your response and, where you would normally hit Return, type "|" (shift-virgule).

When you are where you wish to be on the bulletin board or the service, go back to the Service Archive on the pull-down menu and save it as a script file.

If you have already created a terminal file, you may link it to a script file for more complete automation. Next time you call, select the terminal file. It will set parameters, dial, go through all the checkpoints and deposit you exactly where you wish to be.

For downloading files, you may set aside a portion of RAM as a capture buffer. The suggested maximum is 64K. You may also capture direct to disk, screen or printer. It should be noted that downloading parameters can also be part of an automatic script file. If you frequently call Dow Jones to see how your stocks are doing, the parameters for downloading to printer or disk could be part of the script file that logs you on and gives your password.



***Online!* from Micro-Systems Software, Inc.**

Uploading files is just as easy. You can send files from the text buffer or use one of the protocol methods that sends files in blocks and detects errors during transmission. Protocols supported by *Online!* include XMODEM, XMODEM/CRC and the Hayes Verification Protocol.

In addition to these standards, *Online!* also supports the Compuserve "B" protocol. When using this with the Compuserve service, *Online!* automatically responds to commands sent from Compuserve.

Once you've selected the protocol, select Transmit from the menu. A requester will prompt you for a file name and path. A pop-up window appears, showing you the number of blocks in the file and giving an estimate of the time needed for transmission. As with every other feature of *Online!*, we found file transfer extremely easy to use.

Other program features include: window sizes 79 columns by 22 lines with frame, or 80 columns by 23 lines without the frame; definable macro key sequences, where one keystroke can be used to enter a commonly used word or phrase; and user-definable redials for busy telephone numbers.

For those who like to "hang out" on bulletin boards and chat with the Sysop, a chat window is available. Within this window, you can carry on a CB-type dialogue, regardless of incoming data displayed on the primary window.

With its pull-down menus, easy-to-read documentation and requester windows that prompt you through its various routines, we find *Online!* to be a real value. If you've been avoiding telecommunications for fear of complexity, don't. *Online!* will make anyone you contact think you're an expert.

—Ervin Bobo

$69.95 retail
Micro-Systems Software, Inc.;
4301-18 Oak Cir.; Boca Raton,
Fla. 33431; 305-391-5077 or
800-327-8724

Write Hand
Word processor

Write Hand is a simple and useful word processor that allows the user to create and print material easily, while still providing the basic, essential editing commands. With complexities of the program

being minimal, *Write Hand* gives even the novice computer user an easy way to process material.

The manual that accompanies *Write Hand* provides detailed instructions on how to write, edit and print letters and documents. Included in the manual is a tutorial exercise that gives a step-by-step account of entering *Write Hand*, starting word processing and using the edit and print modes. Following this tutorial exercise, the user is shown pictures of how the screen will appear at each stage of the editing and printing processes, which we found to be extremely helpful.

After using Kickstart, you insert the *Write Hand* disk. A double click on the *Write Hand* icon gives you a view of the Workbench. Another double click allows you to enter the program.

The master menu appears, and you have three choices to follow: the utilities function, word processing function or exit to the Workbench. The utilities function offers a menu that contains such features as file operations, back-up/restore data files and manage system security. All of these are explained in detail in the manual. Choosing word processing presents you with a menu that includes: an edit file, a help menu, a print file and a file for document reformatting.

If you want to create a new file, enter the edit function. The screen shows a select-file and file-information window where data location, file name, disk space available, file type and margins are revealed. If beginning a new file, though, you do not name your file here. You do that after exiting the edit mode.

Next you see the screen as it will appear when you enter text, showing up to 20 lines at a time. A dotted line reading "end-of-text" stretches across the screen. The cursor is above it. At the bottom of the screen is the function key command menu for insert line, copy line, clear to end and adjust paragraph. Other commands are all explained in the manual.

These commands come in handy when doing tasks such as moving paragraphs, deleting lines, setting tabs and inserting new lines. Some of these functions, though, are used with the shift key, so it took some study, trial and error to understand them fully.

In order to move the cursor, you use the directional arrows. They are also used for scrolling text up and down. We found that the screen scrolls up or down only one line at a time and then realigns the whole text for each line scrolled. This makes getting to a remote paragraph or section rather slow. If you scroll—push the arrow keys—too often, you must wait for the computer to finish its scrolling process before you get the cursor back again. This, too, takes up valuable editing time.

In order to save what you are inputting, all you do is exit the edit mode by pushing ESCAPE. You are then presented with a menu of several entries, the last of which asks if you would like to go back to editing the file. If you do not, you return to the word processing menu.

We found the help file very useful. It provides a menu that includes an introduction, description of features, editing help and printing help. Especially useful is an editing Help feature that provides an alphabetical listing of 26 editing functions. One is a keyboard reference chart that shows, on a simulated keyboard layout, the functions that require a shift key, control key or some other special command.

Write Hand also provides underline and double-strike styles of print, which are controlled with the special key commands.

When you wish to change margins on text, you must go to the reformat document file on the word processing menu. This allows a quick, efficient way to readjust both the left and right margins and center your text on paper. Other *Write Hand* features include automatic word wrap and the ability to move blocks of text and figures of any size around.

Write Hand allows the use of batch commands. These are related instructions that appear on screen in the edit mode. They do not appear when printing, although they affect the printing format. An example of one of *Write Hand*'s batch commands is the form letter command that creates a custom form-letter format.

In order to enter the print mode, you choose print file from the word processing menu. The screen then lists text features that can be changed, such as lines per page, number of copies and page range. Up to three heading and/or footing lines may also be inserted.

Write Hand has an automatic page-numbering command as well as one that prints the correct time and date. Once these features have been set, a single RETURN keystroke begins the printing. *Write Hand* provides three commands that can quit, temporarily halt and resume printing. These commands appear on screen while printing is taking place.

We viewed the process of printing as rather inefficient. It requires you to leave the edit mode to print. After printing, you must go back to the main menu and begin again by entering, creating or printing a file.

Although *Write Hand* moves a little slowly at times when editing, it is an efficient program for creating letters, reports and documents that do not need a program full of fancy, complex functions.

—Eric Tenbus

$50 retail
Byte By Byte; 3736 Bee Cave Rd., Ste. 3; Austin, Texas 78746; 512-328-2985

Accounting

B.E.S.T. Business Management System
Integrated business management
A 20MB hard disk will increase capacity approximately 20 times.
Functions include: accounts receivable, accounts payable, inventory management, order processing, purchase orders, invoices, statements, checks and others—including standard and user-generated management reports. Even though the system is not modulized, functions may be used independently.
$395 retail
Business Electronics Software & Technology, Inc.; PO Box 852; McMinnville, Oreg. 97128; 503-472-9512 or 800-368-2378

CCI Bottom Liner A
Personal, small-business accounting
External disk drive.
An expandable accounting system designed for personal, home and/or small-business use.
The heart of the system is a detailed Ledger file with automatically assigned transaction numbers that provide an audit trail. The method used to enter items into the Ledger is user selectable, and the Ledger file is linked to both Account and Project files.
Single- or double-entry bookkeeping can be used. Cash flow, bank balances and a trial balance can be obtained from the Ledger.
Clockwork Computers, Inc.; 4612 Holly Ridge Rd.; Rockville, Md. 20853; 301-924-5509

CCI Merchandiser A
Transaction accounting, inventory control, customer lists
External disk drive.
CCI Merchandiser A handles transactions, inventory records, financial reports and analyses, accounts receivable and more.
Point-of-sale transactions are prepared on the system, invoices produced and inventory updated. Short-period (usually daily) and long-period (up to one year) files keep track of sales by cash, check, credit card, store charges and CODs. Refunds by cash, check, store credit or credit card are also tracked.
Clockwork Computers, Inc.; 4612 Holly Ridge Rd.; Rockville, Md. 20853; 301-924-5509

CCI Merchandiser A-Plus
Integrated accounting
512K Amiga; external disk drive.
CCI Merchandiser A-Plus is an integration of the *CCI Merchandiser A* and the *CCI Bottom Liner A* accounting programs to produce a fully integrated quotation, job order, sales transaction, inventory control, inventory costs and a complete accounting program. It manages a business with all the reports necessary through to forecasting sales and the balance sheet.
Available September, 1986
Clockwork Computers, Inc.; 4612 Holly Ridge Rd.; Rockville, Md. 20853; 301-924-5509

Financial Plus
Small business accounting
512K Amiga.
An integrated accounting package that incorporates general ledger, accounts payables, accounts receivables, payroll and word processing.
$295 retail
Byte By Byte; 3736 Bee Cave Rd., Ste. 3; Austin, Texas 78746; 512-328-2985

MiAmiga Ledger
General ledger accounting system
512K Amiga.
A double entry general ledger accounting system designed to be used in both the home and in small businesses.
The program produces a full range of financial and supporting reports that include balance sheet, income statement, general ledger report, chart of accounts and journals. Customized reports may also be created.
$99.95 retail
SoftWood Company; PO Box 2280; Santa Barbara, Calif. 93120; 805-966-3252 or 805-966-5884

PHASAR
Accounting system; register
512K Amiga.
PHASAR (Professional/Home Accounting System And Register) is a personal and/or small business accounting system.
Functions include entry and editing of transactions; bank statement reconciliation; various screen/printer reports showing a user's complete financial picture; full spreadsheet-type tax calculation that can be customized to a user's needs; and more.
$89.95 retail
Marksman Technology, Inc.; Rt. 5, Box 221A; Santa Fe, N.M. 87501; 505-455-2681 (information) or 800-334-7792 (sales)

Rags To Riches IV
Accounting
Rags To Riches IV modules include General Ledger, Accounts Receivable and Accounts Payable. The modules have been restructured to take advantage of the Amiga features: workbench compatibility, mouse support, use of icons, windows, multi-tasking, three-fold increase in reports and RAM-based speed.
$199.95 retail; per module
$499.50 retail; all three modules
Chang Labs; 5300 Stevens Creek Blvd.; San Jose, Calif. 95129; 408-246-8020

Business Graphics

Impact
Graphics
512K Amiga; external drive.
Displays numeric data in graphic form. There are two parts to the program; the first allows a user to create slides of graphs, charts, text and symbols in a free format, and the second plays the slides back in a predetermined sequence and fashion.
Available October, 1986; $199.95 retail
Aegis Development; 2210 Wilshire Blvd., Ste. 277; Santa Monica, Calif. 90403; 213-306-0735

Communications

A-TALK
Communications
A set of integrated communications tools that work together to help a user collect, control and transmit data.
$49.95 retail; not copy-protected
Felsina Software; 3175 S. Hoover St., Ste. 275; Los Angeles, Calif. 90007; 213-747-8498

A-Term
Communications
A terminal program that allows incoming data to be spoken through the speaker; data to be printed as it is coming over the line; support of protocols; auto-dialing and more.
$49.95 retail
MegaSoft Limited; PO Box 1080; Battle Ground, Wash. 98604; 800-541-1541 or 206-687-5205

BBS-PC!
Bulletin board system
A versatile electronic bulletin board system that transforms an Amiga into an on-line information network.
$99.95 retail
Micro-Systems Software, Inc.; 4301-18 Oak Cir.; Boca Raton, Fla. 33431; 305-391-5077 or 800-327-8724

D.A.S. Communications
Telecommunications
Features include VT100 emulation; support of 110 to 2400 baud; built-in bulletin board system with message base; and upload and download options.
$30 retail
Developers of Advanced Software; 12455 Veterans Memorial Dr., Ste. 204; Houston, Texas 77014

Digital Link
File transfer; telecommunications
Enables a user to transfer programs, data and text from IBM PCs, PC-compatibles and the Macintosh to the Amiga, and back.
It is also a telecommunication package that offers full terminal emulation for VT52, VT100, Televideo 925 series, ADM-3A, ANSI and TTY terminals.
$69.95 retail; *Digital Link*
$19.95 each retail; cables
Digital Creations; 530 Bercut, Ste. F; Sacramento, Calif. 95814; 916-446-4825

Genie
Integrated software
10MB; networked environment.
An integrated information management/electronic communication application program for computer conferencing and

dBMAN

NEW FOR AMIGA!
FREE EVALUATION DISKS

A DBASE III COMPATIBLE DATABASE MANAGEMENT SYSTEM FOR THE COMMODORE AMIGA

VersaSoft's **dBMAN** is a powerful, efficient time saving tool for developing databases related application programs.

dBMAN lets you create everything from simple mailing lists that use one file to complex applications like order entry systems that use many files with multiple indexes.

EASY TO LEARN

As powerful as it is, **dBMAN** is easy to learn. The 300+ page manual has sections for both the beginning and the advanced user. An on-disk tutorial program covers all of the basic commands.

EASY TO USE

Help with any command is never more than a keystroke away. Enter commands from the keyboard or create a file of commands that are executed automatically.

dBASE II AND II COMPATIBLE

Anyone knowing **dBASE** can use **dBMAN** right away.

FREE EVALUATION DISKS

Full featured evaluation copies are available *free* at authorized dealers. Try *ALL* of **dBMAN's** commands and functions and see for yourself how powerful it is.

MONEY BACK GUARANTEE

When you purchase **dBMAN** we guarantee that you'll be satisfied. If you're not, you can return it within 30 days of purchase for a full refund.

PRICING

dBMAN is only $149.95. the **dBMAN** run-time version is also available for $149.95 and there are NO LICENSE FEES

LOOK AT THESE dBMAN FEATURES!

- Compatible with **dBASE II** and **III**
- Programmable - executes automatically from command files
- Fast sorting and indexing of data
- Create menus with a single command
- Access any field of any open file WITHOUT SELECTing
- Multi-child tree relations.
- Supports global/local memory variables.
- Validate ANY data within a READ command
- Powerful debugger to test command files
- Edit your command file WHILE you debug
- Supports **dBASE, SDF, DIF** & delimited file formats

AVAILABLE Now! — Call your local Amiga dealer for more information

dBMAN is distributed by:

Apex Resources — 800-343-7535 • Computer Software Service — 800-422-4912 • Pacific Exchanges — 800-235-4137
Oreman Sales — 504-468-2001 • Southern Technologies — 214-247-7373 • Triangle Electronics — 800-245-6711

VERSASOFT

723 Seawood Way
San Jose, CA 95129
(408) 268-6033

*dBMAN trademark of VersaSoft, dBASE trademark of Ashton-Tate

Communications Continued

electronic mail in a networked environment. It is written in Pascal and designed for multiple user interfaces, including non-English interfaces.
Available first quarter, 1987
Data Dynamics, Inc.; PO Box 2728; Portland, Oreg. 97208; 503-626-4635

MaxiComm
Communications; file transfer utility
A modem or cabling for remote access.
An ANSI terminal and file transfer utility program that allows a user to connect an Amiga to public database services, public bulletin boards and another local computer.
$49.95 retail
MaxiSoft; 2817 Sloat Rd.; Pebble Beach, Calif. 93953; 408-625-4104 or 800-942-6294

Middleman
Terminal emulator
Allows an Amiga to emulate the functions of the DEC VT100 terminal.
$59.95 retail
Benaiah Computer Products, Inc.; PO Box 11165; Huntsville, Ala. 35814; 205-859-9487

Online!
Micro-Systems Software, Inc., see review on page 90

StarNet
Bulletin board network system
Features include X-modem protocol support, password operation, multi-level security systems, upload and download capabilities, menu operation and more.
Available September, 1986; $99.95 retail
Eight Stars Software, Inc.; 2900 Boniface Pkwy., Ste. 277; Anchorage, Alaska 99504; 907-345-6109

T-Link
Communications
Provides users with a telecommunications link to access bulletin board systems and information services across the country. It provides almost all of the popular communication protocols, allowing maximum access to available free public domain programs.
$79.95 retail
Techni Soft; PO Box 7175; 5505 Walden Meadows Dr.; Murray, Utah 84123; 801-2268-4961

Creative

Aegis Draw
CAD drawing package
512K Amiga; external drive.
A CAD drawing package used to create structured drawings that can be sent to a plotter or printer. Commands can be issued via the mouse, the keyboard or a digitizer.
$199.95 retail
Aegis Development; 2210 Wilshire Blvd., Ste. 277; Santa Monica, Calif. 90403; 213-306-0735

Amiga Coloring Book
Clip art
Each *Amiga Coloring Book* is a two disk volume of line art containing 20 files that a user can cut and paste to create his own graphics.
Volume 1: The Sampler contains 20 files that include more than 200 images.
Volume 2: The World contains 20 files with maps showing all the areas of the world and beyond.
$34.95 each retail
The Dragon Group, Inc.; 148 Poca Fork Rd.; Elkview, W.V. 25071; 304-965-5517

Analytic Art
Graphics, pictures
Can be used to produce precise drawings of striking beauty and complexity. Users don't have to understand math, programming or art to develop interesting pictures.
$59.95 retail
Crystal Rose Software; 109 S. Los Robles; Pasadena, Calif. 91101; 818-795-6664

Animator
Animation package
512K Amiga; external disk drive.
A metamorphic animation package that uses a concept called "tweening," which allows movement and change within each segment of the animation.
$139.95 retail
Aegis Development; 2210 Wilshire Blvd., Ste. 277; Santa Monica, Calif. 90403; 213-306-0735

Art Director
Allows a user to create storyboards and layouts, layout and justify text, experiment with colors and typefaces, create and move artwork and more.
Available fourth quarter, 1986
Grey Associates; 250 Bruton Way; Atlanta, Ga. 30342; 404-851-9103

Bobshop; Soundshop
Animation; sound
Bobshop is a Blitter-Object and animation editor that exploits the Amiga's custom graphics circuitry.
Soundshop exploits the sound production circuitry of the Amiga. With the program, waveforms may be read from files on the disk, displayed on the screen graphically and played through the Amiga's digital to audio converter.
$49.95 retail; both programs
Revolution Software; PO Box 38; West Chester, Pa. 19381; 215-430-0412

DeluxePaint
Color graphics; drawing; design
512K Amiga.
A paint program loaded with special features such as zoom enlarging, split-screen magnification, color cycling, blend, smear, stretch, bend and rotate.
$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, Calif. 94404; 415-571-7171

DeluxeVideo
Video production
512K Amiga.
Deluxevideo can be used to produce video slideshows, point-of-sales videos, animated commercials, business presentation videos, interactive educational videos, animations and home versions of MTV.
$99.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, Calif. 94404; 415-571-7171

DNA Music
Sequence mapping
512K Amiga; two disk drives; two RCA audio cables.
Allows a user to "hear" DNA by mapping a DNA sequence directly into a musical sequence.
$19.95 retail
Sterling Software; 77 Mead St.; Bridgeport, Conn. 06610; 203-366-7775

FutureSound
Digital sound recorder
Futuresound makes it possible to record, play back and store any sound directly on the Amiga.
Features include multitrack recording, variable recording speeds and variable playback speeds.
$175 retail
Applied Visions; 15 Oak Ridge Rd.; Medford, Mass. 02155; 617-488-3602

Graphicraft
Graphics creation
An entry-level graphics design and paint program that features 32 colors and special effects such as color animation.
$49.95 retail
Commodore Business Machines; 1200 Wilson Dr.; West Chester, Pa. 19380; 215-431-9180

Images
Creative
512K Amiga.
Allows a user to create paintings with as many as 32 different colors. Colors can be mixed and changed on a palette to get the exact colors needed. Circles and rectangles as well as free hand shapes can be drawn. There are 20 different brushes and 16 patterns available, all of which can be modified for custom designing.
$79.95 retail
Aegis Development; 2210 Wilshire Blvd., Ste. 277; Santa Monica, Calif. 90403; 213-306-0735

Imagine This
Image processing; software development
512K Amiga (recommended); video digitizer.
Image processing software system that turns an Amiga computer into an image processing workstation.
Available second quarter, 1986
Zoxso; PO Box 283; Lowell, Mass. 01853; 617-655-9548

The Music Studio
Activision, Inc., see review on page 88

VIP Professional™

Finally – A Business Program that Brings Lotus 1-2-3® Functionality to Your *Amiga*™!

VIP Professional is a state-of-the-art, integrated spreadsheet program which brings together a spreadsheet, a database and graphing capabilities. Modeled after the powerful and best-selling Lotus 1-2-3® program which dominates the business world, Professional will help you do your:

Home Budget	Accounting	Accounts Payable
Loan Schedules	Inventory	Accounts Recievable
Planning for:	Payroll	Order Database
Retirement	Business Plan	Sales Database
Investments	Check Ledger	Business Graphics
Insurance	Bookkeeping	Engineering Problems

Worksheet Magic

Nothing is left out of the workings of the worksheet. Ranges of cells can be named for convenience; column widths are variable; the screen can be split into two windows; titles can be frozen; contents of cells may be copied or moved; the worksheet may be altered as a whole or only partially; the list goes on and on. Perhaps most important, Professional can use and save Lotus 1-2-3 files for transfer between computers.

The worksheet includes over 45 special functions to simplify commonly used formulas, including powerful financial functions for the internal rate of return, present value, and future value. Of course Professional also has all mathematical, trigonometric, table, conditional and logical functions.

Database Power

The built-in database can handle up to 8192 records, with a possibility of up to 256 fields. The records can be searched, sorted and analyzed to find your best salesperson or your rarest stamp. Sorts can be done using multiple criteria, in ascending and descending order. And database functions can be used to do up to seven different kinds of statistical analyses of your database.

Graphs

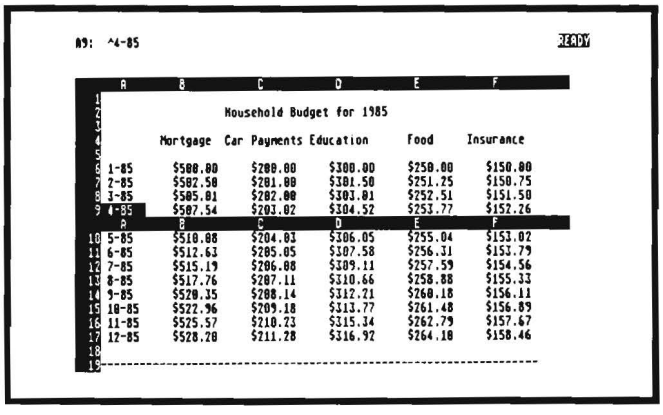
The graphing capabilities of Professional are astounding. Not only are there six completely different types of graphs available, there are tens of ways to manipulate the data, titles, grids, colors, legends, keys, and scaling of the size of the graph.

Macros

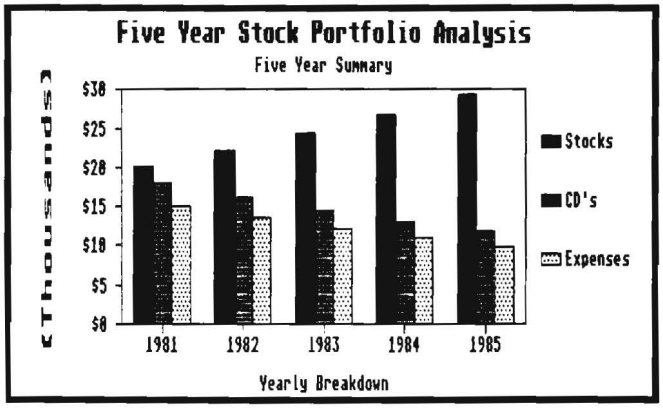
Professional also includes sophisticated macro programming commands. With several special macro commands, the user can actually *program* Professional to be dedicated to a specific task such as accounting.

Just Minutes to Learn

Professional is as easy to use as it is powerful. It comes with a user-sensitive tutorial for the newcomer. And help is built right into the program. With the handy tutorial, you will be able to create professional worksheets in just minutes.



Integrated Spreadsheet Power



Easy-to-Use Graphs

The Power of 1-2-3® for only

VISA *$199.95* MasterCard

If your local dealer is out of stock, Order directly from us.

Send your check or money order to the address below, together with $3 for shipping and handling. California residents add 6% sales tax. COD's and purchase orders WILL NOT be accepted. Personal checks will be held for three weeks to clear. All prices are subject to change without notice.

VIP TECHNOLOGIES

132 Aero Camino
Santa Barbara
California 93117

(805) 968-9567

SYSTEM REQUIREMENTS: Amiga with 512K; One disk drive; Monochrome or color monitor; Works with printers supported by the Workbench.

VIP Professional is a trademark of VIP Technologies Corporation; 1-2-3 and Lotus 1-2-3 are registered trademarks of Lotus Development Corp.; Amiga and Workbench are trademarks of Commodore-Amiga, Inc.

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Creative Continued

SoundScape
MIDI recording studio
Pro MIDI Studio is performance and recording software that provides complete facilities for routing, recording, editing, transposition and playback of any musical performance. $149 retail
MIDI Interface is necessary for programs that support MIDI to communicate with MIDI equipment. Contains MIDI In, Out and Thru connectors, and plugs into the serial port. $49 retail
Sound Digitizer allows any sound to be sampled and modified by the Amiga, including voice. $99 retail
Mimetics Corp.; PO Box 60238, Sta. A; Palo Alto, Calif. 94306; 408-741-0117

TV*TXT
512K Amiga; two disk drives.
A video production tool that enables a user to produce high resolution, animated video titles on the Amiga.
$249.95 retail
Zuma Group, Inc.; 6733 N. Black Canyon Hwy.; Phoenix, Ariz. 85015; 602-246-4238

Database

A Filer, A Report
Database
A Filer features include creation of disk files; sorting of information; printing out mailing labels; printing out a sorted or partially selected list; 12 fields per record and more. $49.95 retail
A Report features include creation of custom report headings; page numbering; column-type or multiple-line reports; calculation of totals and more. $49.95 retail
MegaSoft Limited; PO Box 1080; Battle Ground, Wash. 98604; 800-541-1541 or 206-687-5205

Amiga Record Manager
512K Amiga.
Features include 16 fields with user definable input and length; sorts on any field; arranges into zip code order or alphabetically; prints mailing labels; accounts ledger; and on-line help and tutorials.
Available September, 1986; $38 retail
HC Software Australia; GPO Box 2204; Adelaide, South Australia 5001; 08-428377

DATAMAT
Database manager
512K Amiga.
A menu-driven relational database management system for micro-to-mainframe applications that has an identical user interface across hardware and operating systems. It currently runs under AmigaDOS, MS-DOS, XENIX, UNIX and VMS.
Data-manipulation functions include statistical analysis, stepwise multiple regression and t-test on data or on transformation of same.
Features include a dynamic data dictionary, modular design, partial or total batch processing with interface to operating system batch utilities and process-dedicated or global computations with up to 26 selection criteria and conditional (if-then) logic.
$495 retail; A300 (AmigaDOS) or MX300 (MS-DOS)
$350 retail; A200 (AmigaDOS) or MX200 (MS-DOS)
$125 retail; A100 (AmigaDOS only)
Transtime Technologies Corp.; 797 Sheridan Dr.; Tonawanda, N.Y. 14150; 716-874-2010

The Data System
512K Amiga; two disk drives; Amiga-DOS 1.1 or later; ABasiC.
A full featured database management package that builds files, reports and lists with posting, totals, subtotals, calculations, etc., all on up to nine conditions.
$200 retail; without ABasiC
$210 retail; with ABasiC
Gander Software, Ltd.; 3223 Bross Rd., "The Ponds"; Hastings, Mich. 49058; 616-945-2821

dBMAN
Relational database manager
512K Amiga.
A *Dbase* compatible relational database manager that can be used for developing databases and database related application programs.
The program allows a user to create everything from simple mailing lists that use one file to complex applications like order entry systems that use many files with multiple indexes.
$149 retail
VersaSoft; 723 Seawood Way; San Jose, Calif. 95120; 408-268-6033

FoxFile
File management
256K Amiga; external disk drive optional.
A file manager that will accept up to 65,536 records.
$50 retail
Foxware; 1554 Park Creek Ln.; Atlanta, Ga. 30319

InfoBase
Database
512K Amiga.
A database program that provides many powerful functions. Each record can contain up to 200 fields of information.
$45 retail
Harvsoft; PO Box 725; Kenmore, N.Y. 14217; 716-877-3510

MiAmiga File
Database management
512K Amiga.
A database management system that may be used in a variety of applications in both the home and in business.
The program presents its databases in both list (spreadsheet-like) and form formats. The list format provides an overview of the database showing multiple records at a glance. The form format shows one database record at a time.
Miamiga File provides sorting and selection capabilities. Sorting may be performed on a single field or progressively on fields within other fields. Up to 32 levels of progressive sorting are supported.
$99.95 retail
SoftWood Company; PO Box 2280; Santa Barbara, Calif. 93120; 805-966-3252 or 805-966-5884

Integrated

VIP Professional
Integrated spreadsheet, database, graphics
Brings together a spreadsheet, a database and graphics capabilities in one program.
Modeled after *Lotus 1-2-3*, the program helps users do: home budgets; loan schedules; retirement, investment and insurance planning; accounting; inventory; payroll; business plans; check ledgers; and bookkeeping.
Built-in graph types include pie charts, stacked-bar charts, line graphs, bar graphs, scatter graphs and X/Y graphs. Titles, legends, grids and formats can be added, and users can also control scaling.
$199.95 retail
VIP Technologies; 132 Aero Camino; Santa Barbara, Calif. 93117; 805-968-9567

Miscellaneous Management

Computer Co-Pilot
Assists a user at his communication tasks, while learning about the user and his relation to the world.
Available fourth quarter, 1986; $900 retail
Alive Systems Group; PO Box 50; Big Sur, Calif. 93920; 415-332-8018

D.A.S. Business Finance
Assists business owners in making financial decisions and planning for future business expansion.
$30 retail
Developers of Advanced Software; 12455 Veterans Memorial Dr., Ste. 204; Houston, Texas 77014

Gizmoz Productivity Set
Desktop accessories
Contains 15 desktop accessories: calendar, rolodex, memo pad, black book, calculator set, hot key, free list display, cuckoo alarm clock, terminal package, announcer, graph package, popup cards, super life, data compressor and data encryptor.
$49.95 retail
Digital Creations; 530 Bercut, Ste. F; Sacramento, Calif. 95814; 916-446-4825

MaxiDesk
Business tools
Comprised of a set of useful business tools, including a calculator, appointment

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Time & Task Planner
512K Amiga; two disk drives; Amiga-DOS 1.1; ABasiC.
A time management tool for up to five users that provides each user with a 60 item To Do List; a 60 item Future Planning List; an Appointment Scheduler; a Copy to Scheduler utility; and a Calendar utility.
$100 retail; without ABasiC
$110 retail; with ABasiC
Gander Software, Ltd.; 3223 Bross Rd., "The Ponds"; Hastings, Mich. 49058; 616-945-2821

Programming

3D Graphics Library
Available third quarter, 1986
Computer Food, Inc.; 2215 Sarah Ct., Ste. 80H; Norcross, Ga. 30093; 404-851-9103

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$39.95 retail
MegaSoft Limited; PO Box 1080; Battle Ground, Wash. 98604; 800-541-1541 or 206-687-5205

Advanced String Library
512K Amiga.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Amiga Intelligence
Artificial intelligence
512K Amiga.
Contains several artificial intelligence programs written in Amiga BASIC to provide a user with active exposure to AI-type programs and methods. Unprotected source code is included.
Available September, 1986; $49.95 retail
Westcomp; 517 N. Mountain Ave., Ste. 229; Upland, Calif. 91786; 714-982-1738

Amiga Lattice C Compiler
512K Amiga; two disk drives.
$149.95 retail
Lattice, Inc.; PO Box 3072; Glen Ellyn, Ill. 60138; 312-858-7950

Amiga Lattice dBC III Library
512K Amiga; two disk drives.
$150 retail
Lattice, Inc.; PO Box 3072; Glen Ellyn, Ill. 60138; 312-858-7950

Amiga Lattice Maclibrary
512K Amiga; two disk drives.
$100 retail
Lattice, Inc.; PO Box 3072; Glen Ellyn, Ill. 60138; 312-858-7950

Amiga Lattice Make Utility
512K Amiga; two disk drives.
$125 retail
Lattice, Inc.; PO Box 3072; Glen Ellyn, Ill. 60138; 312-858-7950

Amiga Lattice Screen Editor
512K Amiga; two disk drives.
$100 retail
Lattice, Inc.; PO Box 3072; Glen Ellyn, Ill. 60138; 312-858-7950

Amiga Lattice Text Utilities
512K Amiga; two disk drives.
$75 retail
Lattice, Inc.; PO Box 3072; Glen Ellyn, Ill. 60138; 312-858-7950

Amiga-Lint
Diagnostic facility for C
$98 retail
Gimpel Software; 3207 Hogarth Ln.; Collegeville, Pa. 19426; 215-584-4261

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Programming Continued

Amiga Panel Forms Manager
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Amiga Programmer's Library
Software development; file transfers
IBM PC for file transfers; C compiler; Amiga assembler and linker.
$200 retail
MaxiSoft; 2817 Sloat Rd.; Pebble Beach, Calif. 93953; 408-625-4104 or 800-942-6294

Aztec C68k/Am
C software development system
256K Amiga.
Aztec C68k/Am-d, the developer's system, includes a C compiler, 68000 macro assembler, a selective overlay linker, a versatile object code librarian, an editor and a full standard UNIX library.
Aztec C68k/Am-c, the commercial system, also includes the UNIX-style utilities Make, Grep and Diff; a "vi"-type editor; a symbolic debugger; library source; and an Amiga-to-Aztec object module converter.
$249 retail; *Aztec C68k/Am-d*
$499 retail; *Aztec C68k/Am-c*
Manx Software Systems; PO Box 55; Shrewsbury, N.J. 07701; 800-221-0440 or 201-542-2121

Commodore-Amiga
Programming languages
$199.95 retail; *Amiga LISP*
$149.95 retail; *Amiga C*
$99.95 retail; *Amiga Pascal*
$99.95 retail; *Amiga Macro Assembler*
Commodore Business Machines; 1200 Wilson Dr.; West Chester, Pa. 19380; 215-431-9180

Co-Pilot
Pilot language interpreter
512K Amiga.
A pilot language interpreter written in Amiga BASIC.
It includes the interpreter in compiled form, source form, full documentation on adding more commands and the internal operation of the interpreter.
Available September, 1986; $49.95 retail
Westcomp; 517 N. Mountain Ave., Ste. 229; Upland, Calif. 91786; 714-982-1738

Hex Utilities
Programming utilities
256K Amiga.
Hex Utilities perform conversions between binary files and Intel and Motorola hexadecimal file formats.
They can be used to download code to EPROM and logic programmers, transfer binary data between incompatible machines and debug microprocessor-based systems.
$49.95 U.S. retail
Capilano Computing Systems, Ltd.; PO Box 86971; N. Vancouver, B.C., Canada V7L 4P6; 604-669-6343

Hippo Eprom Burner
$199.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

HobKit I
Programming utilities
Hobkit I is a basic set of programs and utilities that includes *Funtime I* and *File Clerk I.*
Funtime I is a collection of animated color graphic routines, a music transcriber/composer and a music player driven by an extensive music meta language (MML).
File Clerk I includes all the utilities and routines needed to create commercial or data processing applications.
$125 retail; *Hobkit I,* includes *Funtime I* and *File Clerk I*
$50 retail; *Funtime I*
$100 retail; *File Clerk I*
Getting Enterprises, Inc.; 204 Hamilton Rd.; Bossier City, La. 71112; 318-747-4829

InfoMinder
Information resource
An information resource program that allows a user to access stored data.
The program consists of three parts: an access/display program, a text compiler and a programmer's interface.
$89.95 retail
Byte By Byte; 3736 Bee Cave Rd., Ste. 3; Austin, Texas 78746; 512-328-2985

Key To C
Developer's package
Key To C functions are similar to *BASIC,* including windows, screens, menus, graphics, requestors and alerts; and allow developers/programmers to use either source or object code.
Through the standardization of program modules, the software eliminates 30 to 40 percent of the procedures and time previously involved in program development of "C" applications.
$34.95 retail
Data Research Processing, Inc.; 5121 Audrey Dr.; Huntington Beach, Calif. 92649; 714-840-7186

Logic Compiler
Designers' aid
512K Amiga.
An aid for hardware designers who are using programmable logic devices, such as PLAs or PROMs, in digital circuits.
The compiler takes a high-level specification of internal device logic in text form and produces output data that can be used for device programming or simulation.
$129.95 U.S. retail
Capilano Computing Systems, Ltd.; PO Box 86971; N. Vancouver, B.C., Canada V7L 4P6; 604-669-6343

Metacomco
Programming
512K Amiga.
$199.95; *Cambridge LISP*
$99.95; *ISO Pascal*
Tenchstar, Inc. Metacomco; 5353 #E Scotts Valley Dr.; Scotts Valley, Calif. 95066; 408-438-7201

Metadigm Software
Programming tools
$95 retail; *Metascope: The Debugger*
$85 retail; *Metascribe: The Editor*
$69.95 retail; *Metatools I*
Metadigm, Inc.; 19762 MacArthur Blvd., Ste. 300; Irvine, Calif. 92715; 714-955-2555

The Micro Forge Programming
Programming utilities
$69.95 retail; *Programmer's Editor*
$89.95 retail; *Prolog Level 1*
The Micro Forge; 398 Grant St. SE; Atlanta, Ga. 30312; 404-688-9464

Micro-shell
Programming
256K Amiga.
Gives software developers the ability to repeat commands, rename commands, move within the file system and save and restore development sessions.
$79.95 retail
Meta-Soft, Inc.; PO Box 7293; Las Cruces, N.M. 88006; 505-523-0371

Multi-Forth
Software development
$179 introductory retail
Creative Solutions, Inc.; 4701 Randolph Rd., Ste. 12; Rockville, Md. 20852; 301-984-0262

Programmers Toolkit
512K Amiga.
Available fourth quarter, 1986; $124.95 retail
MicroDimensions, Inc.; 455 North University Ave., Ste. 206; Provo, Utah 84601; 801-377-0933

Program Generator
512K Amiga; two disk drives; Amiga-DOS 1.1 or later; ABasiC; The Data System.
$400 retail; without ABasiC
$410 retail; with ABasiC
Gander Software, Ltd.; 3223 Bross Rd., "The Ponds"; Hastings, Mich. 49058; 616-945-2821

Quick Test 1000
Digital waveform aquisition and storage
512K Amiga.
Available September, 1987; $800 to $1,200 retail
Syquest; PO Box 758; Snowdon Station; Montreal, Quebec, Canada H3X 3X9; 514-935-5881

Sorting & Searching
512K Amiga.
$49.95 retail

True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Sprite/Graphics Editors
256K Amiga.
Allow a user to edit three-color, double sprites or six-color, quadruple sprites with 32 pixel/bits resolution.
$50 retail
Scott Lamb; 205C Heights Ln.; Ft. Worth, Texas 76112; 817-496-9220

T-Packs
Language utilities
T-APack is a package for 68000 assembly language programmers. It includes a program editor, a 68000 file disassembler and a UNIX-like "make" utility.
T-CPack , for 'C' programmers, contains a program editor, a UNIX-like "make" utility, a program cross-reference utility, a 'C' source code beautifier and "pretty print" utility and other utilities useful to 'C' programmers.
T-BPack is a package for Microsoft BASIC programmers. It contains a program editor, a BASIC source code beautifier and "pretty print" utility and a BASIC program cross-reference utility.
$49.95 each retail
Techni Soft; PO Box 7175; 5505 Walden Meadows Dr.; Murray, Utah 84123; 801-2268-4961

True BASIC Language System
512K Amiga.
$149.90 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

TxEd
Text editor
$39.95 retail
Microsmiths, Inc.; PO Box 561; Cambridge, Mass. 02140; 617-576-2878

WAO Robot
Computerized logic controlled robot
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ZLI
Line interpreter
$49.95 retail
Zoxso; PO Box 283; Lowell, Mass. 01853; 617-655-9548

Specific Application

3-D Graphics Library
Three-dimensional graphics
512K Amiga; True BASIC.
The *3-D Graphics Library* allows a user to create three-dimensional images.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Chem101
CAI program
512K Amiga.
Performs various chemistry routines using graphics and voice capabilities.
Available September, 1986; $39.95 retail
Westcomp; 517 N. Mountain Ave., Ste. 229; Upland, Calif. 91786; 714-982-1738

Digital Building System
Graphically simulates digital electronics circuits on the Amiga's hi-res screen.
Standard schematic, logic and integrated circuit symbols are used to build the circuit on the screen using the mouse or keyboard to move parts around.
$299 retail
MicroMaster Software; 1289 Brodhead Rd.; Monaca, Pa. 15061; 412-775-3000

Dynamic-CAD
Computer aided design
512K Amiga; two disk drives; printer or plotter.
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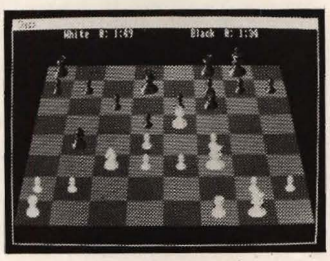
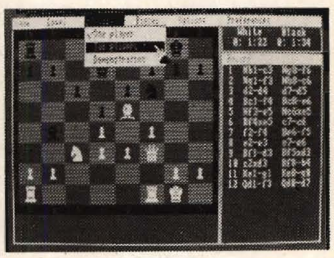

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Specific Application Continued

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Emusoft Corp.; 1400 Chicago Ave., Ste. 303; Evanston, Ill. 60201; 312-869-6676

Film Production Toolkit
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512K Amiga.
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The program is written in the "C" programming language, and is designed to connect with a series of building blocks that will interface the program's scheduling and budgeting programs.
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$1,500 retail
Film Production Toolkit; 446 Sherman Canal Ct.; Venice, Calif. 90291; 213-306-2146

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$49.95 retail; *Music Student I* and *II*
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512K Amiga.
A program that advises a user in property investment.
Available November, 1986; $150 retail
Westcomp; 517 N. Mountain Ave., Ste. 229; Upland, Calif. 91786; 714-982-1738

Write-To-Left
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256K Amiga.
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512K Amiga; two disk drives.
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Utilities

A Disk
Two-drive emulator
A two-drive emulator that allows a user to load and run programs without continually swapping the Workbench disk.
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Clock For Amiga
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A small cartridge that plugs onto the side of the Amiga. The time of day is set automatically each time the computer is turned on, and the clock will run for two years even when the Amiga is turned off.
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D.A.S. Disk Editor
Utility
Any Amiga.
A utility program that allows a user to change any byte(s) on a disk and display

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$20 retail
Developers of Advanced Software; 12455 Veterans Memorial Dr., Ste. 204; Houston, Texas 77014

Deluxe Print
Electronic Arts, see review on page 83

Disk Guru
A utility program that includes undeleting files, recovering bad files (when possible), viewing files in various formats, editing files and directories one byte at a time and more.
Available third quarter, 1986
Computer Food, Inc.; 2215 Sarah Ct., Ste. 80H; Norcross, Ga. 30093; 404-851-9103

Disk Library
Provides a way to organize the contents of a disk for easy access.
$49.95 retail
Classic Image, Inc.; 510 Rhode Island Ave.; Cherry Hill, N.J. 08002; 609-667-2526

Disk Traffic Controller
Master disk catalog system
Two disk drives recommended.
Grey Associates; 250 Bruton Way; Atlanta, Ga. 30342; 404-851-9103

Diskwik
Disk utility package
512K Amiga.
Gives a user total access and control of his disks.
Features include restoring deleted files; eliminating any errors on a disk (except those due to defective disks); editing in hex or ASCII; copying blocks to the same or another disk; reformatting tracks; correcting checksums; and much more.
$49.95 retail
Tigress; PO Box 665; Glendora, Calif. 91740; 818-334-0709

HippoPixel
A font and sprite editor that includes timed animation sequence.
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Laserwriter Utilities
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Marauder
Disk backup utility
A utility program designed to make accurate backup copies of both copy-protected and unprotected software.
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Maxipower Series
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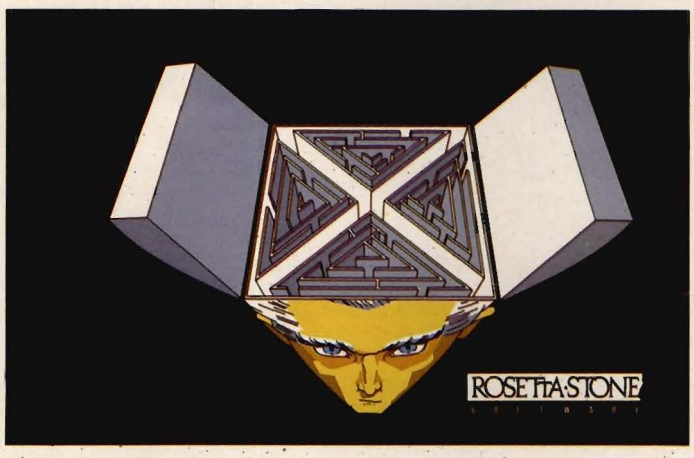
The On-line AmigaBASIC Manual
On-line help utility
256K Amiga.
An online help utility program that includes pull-down menus for help on all the BASIC instructions, as well as how-to information and tips on BASIC programming.
Available November, 1986; $29.95 retail; not copy-protected
Omega Star Software; PO Box 1831; Clemson, S.C. 29633; 803-882-3602



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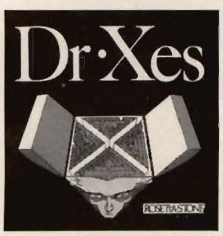

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Business And Professional Software

Utilities Continued

The On-line AmigaDOS Manual Version 1.1
An on-line DOS and CLI help utility
Menus provided are DOS Help, which contains how-to sections on DOS devices, directories, command formats and other DOS features; Commands, which contains all of the AmigaDOS commands underlying the Workbench, broken down into menu categories; and more.
$29.95 retail; not copy-protected
Omega Star Software; PO Box 1831; Clemson, S.C. 29633; 803-882-3602

Pick Your Preferences
Startup file
256K Amiga.
An auto-running startup file that presents a user with a menu that lists the available preference settings on a disk.
A user can create new preference settings or edit existing ones with the standard Amiga Preferences Editor.
$29.95 retail
MicroMaster Software; 1289 Brodhead Rd.; Monaca, Pa. 15061; 412-775-3000

RAM Disk
Memory partitioning utility
Gives high speed capabilities to users of the Workbench interface. The program appears as a normal disk icon and functions in all ways as a normal Amiga disk drive.
The Micro Forge; 398 Grant St. SE; Atlanta, Ga. 30312; 404-688-9464

T-Util
File recovery
Consists of four programs: *Recover-All, Recover-Deleted, Un-Kill* and *Diskedit*. These files are designed to run from the CLI environment, and instructions are provided in the manual for users who are not familiar with CLI.
$69.95 retail
Techni Soft; PO Box 7175; 5505 Walden Meadows Dr.; Murray, Utah 84123; 801-268-4961

Word Processing

E.T. Writer
256K Amiga; printer.
Turns an Amiga computer and printer into a full-featured electronic typewriter. It can be used to write short memos, fill in forms, address envelopes and more.
Available fourth quarter, 1986; $49.95 retail
T.R. Software; 4346 W. Maypole; Chicago, Ill. 60624; 312-875-9760

Flow
Idea processor
256K Amiga.
A tool that assists in creating sales reports, school papers and novels; helps plan business strategies and schedule appointments; and organizes thoughts and ideas.
$99.95 retail
New Horizons Software; PO Box 43167; Austin, Texas 78745; 512-280-0319

HippoConcept
An outliner and idea processor with multilevel conceptual structuring and unrestricted outline formatting.
$119.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

Hippo Fonts
Twelve additional fonts to be used with *Hippoword.*
$39.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

HippoSpell
A generic spell checker that contains a user defined or 30,000 word dictionary.
$59.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

HippoWord
A full-featured, multiple font word processor with mail-merge and macro capabilities.
$189.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

IdeaCraft
Idea processor
512K Amiga recommended.
A versatile idea processor that gives a user the capability to organize thoughts, see any level of detail of work, categorize ideas and order items in various ways.
The program allows a user to prioritize items; sort alphabetically or numerically, by dictionary order or character order, with or without accent marks; store names, address, phone numbers, appointments and miscellaneous notes; move headers up and down; and much more.
$89 retail
The Great American Softworks; PO Box 819; Larkspur, Calif. 94939

Laserwriter Fonts Vol. 1
AmigaDOS; Apple Laserwriter; serial cable; modem eliminator; external disk drive.
A collection of three downloadable analytic (not bit-mapped) fonts for the Laserwriter printer.
$30 retail
S. Anthony Studios; 889 De Haro St.; San Francisco, Calif. 94107; 415-826-6193

Nancy
Spelling checker and utilities
A spelling checker with a compressed dictionary file containing more than 80,000

words. It can search up to four user-supplied word lists of unlimited length which can, for example, hold names and technical words.
$60 retail
The Computer Club; 4843A South 28th St.; Arlington, Va. 22206; 703-998-7588

Scribble!
Word processor
256K Amiga.
A full-featured word processor that contains basic word processing capabilities and advanced features.
$99.95 retail
Micro-Systems Software, Inc.; 4301-18 Oak Cir.; Boca Raton, Fla. 33431; 305-391-5077 or 800-327-8724

Talker
Word processor
An easy-to-use word processor that talks.
$49.95 retail
Rosetta-Stone Software; 4000 MacArthur Blvd., Ste. 3000; Newport Beach, Calif. 92663; 714-854-4434

Textcraft
Word processing
An entry-level word processor that stresses ease of use, on screen documentation and templates for business letters, memos, etc.
$99.95 retail
Commodore Business Machines; 1200 Wilson Dr.; West Chester, Pa. 19380; 215-431-9180

TV*FONTS
Video; presentation graphics
512K Amiga.
Designed for use in video and presentation graphics applications.
Each of the volumes contains font sizes ranging from 20 to 100 points for screen resolutions of 320 x 200, 640 x 200 and 640 x 400.
$29.95 per volume retail
Zuma Group, Inc.; 6733 N. Black Canyon Hwy.; Phoenix, Ariz. 85015; 602-246-4238

Wordwright
Word processing
512K Amiga.
A word processor that can handle large text files and is oriented to the user who wants total control over the way text is printed.
$75 retail
RTL Programming Aids; 10844 Deerwood SE; Lowell, Mich. 49331; 616-897-5672

Write Hand
Byte By Byte, see review on page 92

Personal And Home Software

Education

Algebra
512K Amiga.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Amiga Training Tapes
Basic and advanced video training
$29.95 retail; 1/2-inch Tape
$17.95 retail; disk and user guide
$39.95 retail; tape disk and user guide
Organic Productions; 71 Gold St.; East Hartford, Conn. 06118; 203-569-3855

Analogies I And II
$65 each retail
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Calculus
512K Amiga.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

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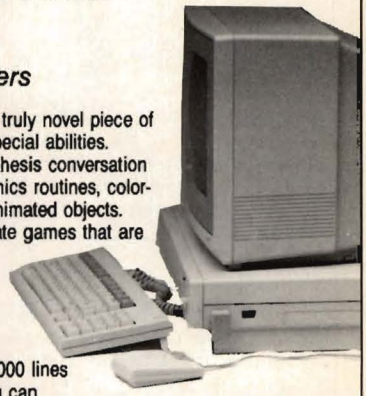
"Very highly recommended by me is **Conversation With A Computer,** *from Jenday Software, a set of games and conversation written in Amiga Basic, and shipped with the source code provided. It is entertaining, amusing, thought provoking, and just plain fun. If you have any interest in programming in BASIC on the Amiga this is a* **must have** *for the examples."*
—MATTHEW LEEDS
Commodore Microcomputers



Conversation With A Computer is a truly novel piece of software that really shows off Amiga's special abilities. You'll carry on an entertaining voice-synthesis conversation with your computer. There are wild graphics routines, colorful screen displays, sound effects and animated objects. Amiga will challenge you to three separate games that are guaranteed to pickle your brain. NOW INCLUDES AN INTRODUCTION TO THE C LANGUAGE!

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Conversation With A Computer is 2,000 lines of Microsoft's amazing Amiga Basic. You can list the Source code on your screen or printer. The documentation explains how it all works. It's a complete programming course for your Amiga.

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SOFTWARE

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Phone: (714) 636-3378

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Education Continued

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Probability theory
512K Amiga.
Examines topics and illustrates problems in probability theory. It can serve as a supplement to a course in probabilty theory or to a course containing a unit on probability.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Comprehensive Grammar Review I And II
$54.95 each retail
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Decimal Dungeon
Fraction Action
Math Wizard
Math programs
$49.95 each retail
Unicorn Software Co.; 2950 E. Flamingo Rd.; Las Vegas, Nev. 89121; 702-732-8862

Discovery
Interactive educational space adventure
512K Amiga; joystick.
Through the mastering of mathematical and spelling challenges a user explores and repairs the inner workings of the spaceship *Discovery.*
It is available in math or spelling versions, and grade levels can be set at 1 through 7 for math challenges, or 1 through 10 for spelling.
$39.95 retail
MicroIllusions; PO Box 3475; Granada Hills, Calif. 91344; 818-360-3715

Discrete Math
512K Amiga.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

French And Spanish Grammar
$34.95 each retail; *French Grammar I, Spanish Grammar I, II, III*
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Geography
$59.95 each retail; *U.S. Geography Adventure, World Geography Adventure I, II, III, IV*
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

The Halley Project: A Mission in Our Solar System
Educational game
$44.95 retail
Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, Ill. 60062; 800-221-9884 or 800-942-7315 in Ill.

Hippo Computer Almanac
Reference software that contains more than 35,000 useful facts in 17 topic areas.
$34.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

History
$59.95 each retail; *American History Adventure, How A Bill Becomes A Law, World History Adventure*
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Keyboard Cadet
Typing instruction
$39.95 retail
Mindscape, Inc.; 3444 Dundee Rd.; Northbrook, Ill. 60062; 800-221-9884 or 800-942-7315 in Ill.

KidTalk
First Byte, Inc., see review on page 86

Lessons In Reading And Reasoning
$149.95 retail
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

MasterType
Typing tutor
$39.95 retail
Scarborough Systems, Inc.; 55 S. Broadway; Tarrytown, N.Y. 10591; 914-332-4545

Paraclete
Music aid
$89.95 retail
Associated Computer Services; 839 South Glenstone; Springfield, Mo. 65802; 417-865-6555

Practical Composition And Sentence Completion
$44.95 retail; *Practical Composition I: Making Words Work*
$54.95 retail; *Practical Composition II: Logical, Clear Sentences*
$44.95 retail; *Practical Composition III: Selecting The Best Approach*
$44.95 retail; *Practical Composition IV: Making Sentences Work*
$44.95 retail; *Practical Composition V: Using Words Correctly*
$149.95 retail; *Practical Composition Package I;* includes *Practical Composition I, II* and *III*
$85 retail; *Practical Composition Package II;* includes *Practical Composition IV* and *V*
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Pre-Calculus
512K Amiga.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Reading
$65 retail; *College Aptitude Reading Comprehension Exercises*
$39.95 retail; *Reading Adventure I*
$59.95 each retail; *Reading Adventure II, III*
$54.95 each retail; *Reading and Thinking I, II, III*
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Speller Bee
First Byte, Inc., see review on page 86

Starting A New Business
A simulation game that teaches the ins and outs of starting a new business venture
$59.95 retail
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Trigonometry
512K Amiga.
$49.95 retail
True BASIC, Inc.; 39 S. Main St.; Hanover, N.H. 03755; 603-643-3882

Typing Tutor And Word Invaders
Typing instruction
Typing Tutor teaches touch typing by starting with the home keys and advancing to new keys in gradual steps as a user's skills develop.
Word Invaders is a typing game that adds fun to the typing sessions while reinforcing proper typing techniques. Invading words must be blasted out of the sky before a user's base is destroyed.
$34.95 retail
Academy Software, Inc.; PO Box 6277; San Rafael, Calif. 94903; 415-499-0850

Vocabulary
$34.95 retail; *Antonyms*
$54.95 retail; *Practical Vocabulary*
$59.95 each retail; *Vocabulary Adventure I, II, III*
$39.95 retail; *How To Spell*
Intellectual Software, a division of Queue, Inc.; 562 Boston Ave.; Bridgeport, Conn. 06610; 800-232-2224

Personal And Home Finance

2+2
Home management system
512K Amiga; two disk drives; printer recommended.
A home management system that features an integrated database to help organize financial transactions and daily activities for the home and small businesses.
The program can generate budget reports and related documents. It can also be used as a mailing list manager and a telephone directory.
$99 retail

Olamic Systems Corp.; 141 W. Jackson Blvd.; Chicago, Ill. 60604; 312-786-1410

D.A.S. Home Finance
Assists the homeowner in making financial decisions and in planning for future investments.
$30 retail
Developers of Advanced Software; 12455 Veterans Memorial Dr., Ste. 204; Houston, Texas 77014

Financial Cookbook
Financial analysis
The program offers 32 financial calculation "recipes" that contain formulas that produce answers about taxes, investments, savings, mortgages, IRAs and other personal finance questions.
$49.95 retail
Electronic Arts; 1820 Gateway Dr.; San Mateo, Calif. 94404; 415-571-7171

Financial Planner
512K Amiga; two disk drives; Amiga-DOS 1.1 or later; ABasiC.
A what-if planning tool for all common financial transactions with amortizations. All math, rows and columns are built in.
$100 retail; without ABasiC
$110 retail; with ABasiC
Gander Software, Ltd.; 3223 Bross Rd., "The Ponds"; Hastings, Mich. 49058; 616-945-2821

Home I, Real I, Biz I
PAR financial software
Amiga 512K recommended; two disk drives.
PAR Home I enables a home user to get a handle on major areas of personal financial management. $69 retail
PAR Real I assists a realtor or investor with several property financial management areas. $149 retail
PAR Biz I helps an accountant, executive, controller or manager with certain areas of business financial management. $149 retail
PAR Software, Inc.; PO Box 1089; Vancouver, Wash. 98666; 800-433-8433

Hardware And Peripherals

256K Memory Expansion
$149.95 retail
Skyles Electric Works, Inc.; 231-E South Whisman Rd.; Mountain View, Calif. 94041; 800-227-9998 or 415-965-1735

256K Memory Expansion
$120 retail
Starpoint Software; 122 S. Broadway; Yreka, Calif. 96097; 916-842-6183

2MB Memory Expansion
A memory device that has optional multi-function features such as a battery-

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Hardware And Peripherals Continued

backed realtime clock, Motorola math chip socket and parity checking.
$495 retail; 512K installed
MicroBotics, Inc.; PO Box 855115; Richardson, Texas 75085; 214-437-5330

ADC-1 Data Acquisition And Control System
Measurement; monitoring hardware
An RS232 peripheral product that combines analog and digital inputs with hardwired, controlled outputs and a transmitter
$449 retail; standard model
Remote Measurement Systems, Inc.; 2633 Eastlake Ave. E, Ste. 206; Seattle, Wash. 98102; 206-328-2255

Amiga Expansion Box
Contains a fully socketed memory array to hold the full 8MB of addressable fast memory. The standard configuration of memory is 512K, and memory is expandable in increments of 512K. Eight expansion slots are available within the expansion box.
$995 retail; Expansion box, 8 expansion slots, 512K bytes of expansion fast memory (with sockets for 8MB), battery backed-up real-time clock, hard disk interface, power supply
$1,995 retail; Above plus 8MB of memory
The Gemstone Group; 620 Indian Spring Ln.; Buffalo Grove, Ill 60089; 312-537-0544

Aprotek Printers
Aprotek, see review on page 82

Black & White Digitizer
$199.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

The Business Partner
Hard disk drive
$2,042.95 retail; 10MB
$2,199.95 retail; 20MB
$2,504.95 retail; 40MB
The Micro Forge; 398 Grant St. SE; Atlanta, Ga. 30312; 404-688-9464

Buss Station
Features include a recessed slot; surge, spike, RFI and EMI interference; a multiport data switch; a RAM expansion port; and eight 86-pin card edge connectors.
DSI; 717 South Emporia; Wichita, Kan. 67211; 316-264-6118

Converter+
Universal interface and buffer
Provides buffer memory for a printer and interfaces parallel-to-serial or serial-to-parallel at the flip of a switch.
Memory capacity starts at 64K and is expandable to 256K, 512K or 1MB.
$229.95 retail; 64K
$279.95 retail; 256K
$179.95 retail; 0K
Johnathon Freeman Designs; 1067 Dolores St.; San Francisco, Calif. 94110; 415-822-8451

Cypress Technologies
RAM expansion boards/RAM disks
The Cypress 2MBX board is a 2MB RAM expansion board/RAM disk for the Amiga 1000 or 2000 that allows a user to use memory intensive programs.
The Cypress 2MBX unit is a self-contained 2MB RAM expansion board/RAM disk for the Amiga 1000. The board may be loaded in increments of .5MB, 1MB or 2MB, using 256K DRAM chips.
The Cypress 4MBX unit is a self-contained 3MB RAM expansion board/RAM disk for the Amiga 1000. The board may be loaded in increments of .5MB, 1MB, 2MB, 2.5MB, 3MB or 4MB, using 256K DRAM chips.
Cypress Technologies, Inc.; PO Box 3346; Fremont, Calif. 94539; 415-656-1974

Desktop_Amp, Disk_Mate
Stereo amplifier, disk drive expansion box
Desktop_Amp is a small, stereophonic amplifier. $44.95 retail
Disk_Mate is an add-on peripheral box that allows a user to use two or three external drives with the Amiga. $89.95 retail
Digital Systems Engineering; 6854 Blowing Wind Way; Citrus Heights, Calif. 95621; 916-725-3025

Easyl
Drawing pad
A pressure-activated drawing pad that allows a user to draw directly into the Amiga with a pencil.
$499 U.S. retail
Anakin Research, Inc.; 100 Westmore Dr., Unit 11C; Rexdale, Ontario, Canada M9V 5C3; 416-744-4246

The Executive
Expansion box
A two-slot, 100-pin auto configuration expansion box that sits under the Amiga monitor. It is 2.8-inches high and has a pass through for other hardware.
The Micro Forge; 398 Grant St. SE; Atlanta, Ga. 30312; 404-688-9464

GenLock Subsystem, Model RM2
Designed for professional use of the Amiga in recording studios and broadcast applications.
$850 retail
Burklund & Associates; 3903 Carolyn Ave.; Fairfax, Va. 22031; 703-273-5663

Home Controller
X-10 powerhouse controller.
Allows remote control of lights and appliances.
$139.95 retail
Hippopotamus Software, Inc.; 985 University Ave., Ste. 12; Los Gatos, Calif. 95030; 408-395-3190

IVS Busbox
Bus expansion box
A fully buffered bus expansion box with integral power supplies for the Amiga.
Included in Busbox are four expansion slots in a fully buffered backplane and a real-time clock.
Available September, 1986; $299.95 retail
Interactive Video Systems; 15201 Santa Gertrudes Ave., Y-102; La Mirada, Calif. 90638; 714-739-5020

IVS Ramex-1M
RAM memory expansion board
Comes with 1MB of dynamic RAM installed and is user expandable up to 8MB.
Available September, 1986; $199.95 retail
Interactive Video Systems; 15201 Santa Gertrudes Ave., Y-102; La Mirada, Calif. 90638; 714-739-5020

Megabytes/Amiga
1.05, 2.10, 4.19 or 8.39MB of memory on a single board designed to plug directly into the right side of the Amiga or to fit into the Zorro expansion box.
$599 retail; 1.05MB
$899 retail; 2.10MB
$1,099 retail; 4.19MB
$1,299 retail; 8.39MB
Skyles Electric Works, Inc.; 231-E South Whisman Rd.; Mountain View, Calif. 94041; 800-227-9998 or 415-965-1735

The Micro Forge Hardware
Memory and hard disk expansion systems
$656.95 retail; Seven Slot Expansion Box
$84.95 retail; One Slot Expansion Board
$1,134.95 retail, 10MB; $1,229.95 retail, 20MB; $1,479.95 retail, 40MB; Basic Hard Disk System
$755.95 retail, 10MB; $849.95 retail, 20MB; $1,099.95 retail, 40MB; Second Hard Drive Kit
$1,507.70 retail, 10MB; $1,582.70 retail, 20MB; $1,850.45 retail, 40MB; Standard Single Drive System
The Micro Forge; 398 Grant St. SE; Atlanta, Ga. 30312; 404-688-9464

MIDAS
Multi-instrument data-acquisition system
A data management system that combines economical microprocessor-based hardware with hardworking software.
The system collects, analyzes and displays chromatographic and spectral data; handles the input of five distinct disciplines from eight different instruments simultaneously; and displays results from all instruments immediately.
$15,000 retail
Duryea Associates, Inc.; 701 Alpha Rd.; Pittsburgh, Pa. 15238; 412-963-7262

MIDI For Amiga
MIDI interface
A standard MIDI IN, MIDI OUT and MIDI THRU interface.
$79.95 retail
Skyles Electric Works, Inc.; 231-E South Whisman Rd.; Mountain View, Calif. 94041; 800-227-9998 or 415-965-1735

MTA Series 1000.
Optical computer components
Series 1000 components will convert an Amiga to an interactive laserdisc terminal.
Available Summer, 1986
Media Technology Associates; 9208 Burning Tree Rd.; Bethesda, Md. 20817; 301-469-7060

Multiport Controller
Multiport asynchronous RS232C/RS422 port controller
The basic system consists of one DCE and one DTE port factory preset at 9600 baud, 32K bytes of RAM expandable to 192K bytes in 32K byte increments, resident FORTH or BASIC control language available on host Port 1, resident setup menu invoked by embedded control characters and non-volatile memory storage of port setups (EEPROM).
$877 retail
Component Systems, Inc.; 778-A Brannan St.; San Francisco, Calif. 94103; 415-861-1345

Okimate 20
Color printer
A ribbon-transfer color printer that allows users to print thousands of shades of color to create pictures, graphics and overheads.
$268 retail; printer and Plug 'N Print kit
Okidata; 532 Fellowship Rd.; Mount Laurel, N.J. 08054; 800-654-3282 or 609-235-2600

The Pal
Expansion chassis
An expansion chassis that features a hard disk that transfers data via true DMA into the Amiga; a hard disk controller capable of 10 megabit data transfer rate; five DMA expansion slots; 512K RAM with battery backed clock/calendar that resides on the motherboard; room for multiple storage and retrieval devices; 1 to 8MB RAM card options; optional pass-through BUSS connector for further expansion; and optional prototyping card. Retail price depends upon configuration
Byte By Byte; 3736 Bee Cave Rd., Ste. 3; Austin, Texas 78746; 512-328-2985

Penmouse
Input device
$295 retail
Kurta Corp.; 4610 S. 35th St.; Phoenix, Ariz. 85040; 602-276-5533

Plug-compatible, Standard 256K
A compatible, standard memory expansion in heavy-duty metal cases.
$149.95 retail
MicroBotics, Inc.; PO Box 855115; Richardson, Texas 75085; 214-437-5330

Pow-R-Card
Memory expansion
An expansion board that upgrades in increments of 2MB to give a user a full 8MB of RAM. It fits all expansion boxes for the Amiga, including the new 7-slot expansion box.
RS Data Systems; 7322 Southwest Freeway, Ste. 660; Houston, Texas 77074; 713-988-5441

Scuzzy 20MB Hard Disk
A 20MB, half-height SCSI hard disk drive.
$1,495 retail
MicroBotics, Inc.; PO Box 855115; Richardson, Texas 75085; 214-437-5330

Series One
Graphics tablet
A graphics tablet that has a solid eight-degree slope and the smallest footprint in the industry. The device includes a pen, cabling, power supply and software driver.The tablet comes in three sizes: 8 ½ inch by 11 inch, 12 inch by 12 inch and 12 inch by 17 inch.
Kurta Corp.; 4610 S. 35th St.; Phoenix, Ariz. 85040; 602-276-5533

Sound Digitizer
An ADA board that allows sampling, modifying and playing back sounds. Includes executable and source code.

OH, SAY CAN YOU 'C'!

When "Key to C" was first introduced, AMIGA microcomputer programmers responded enthusiastically. Now, there's a new, extensively enhanced, even better version! The 'C' functions are similar to BASIC. The object library's good, clean working code includes windows, screens, menus, graphics, requestors, and alerts. For even greater productivity, we include our own system utilities.

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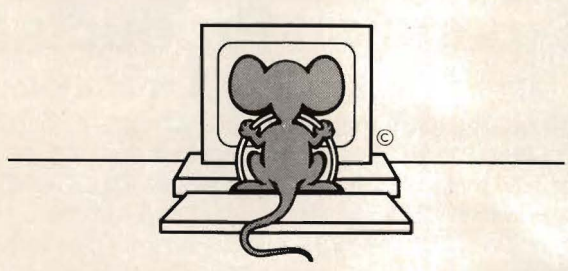

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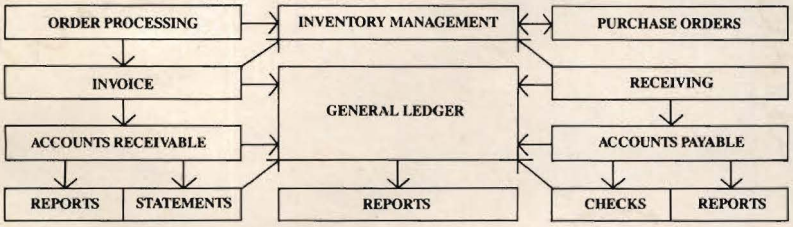

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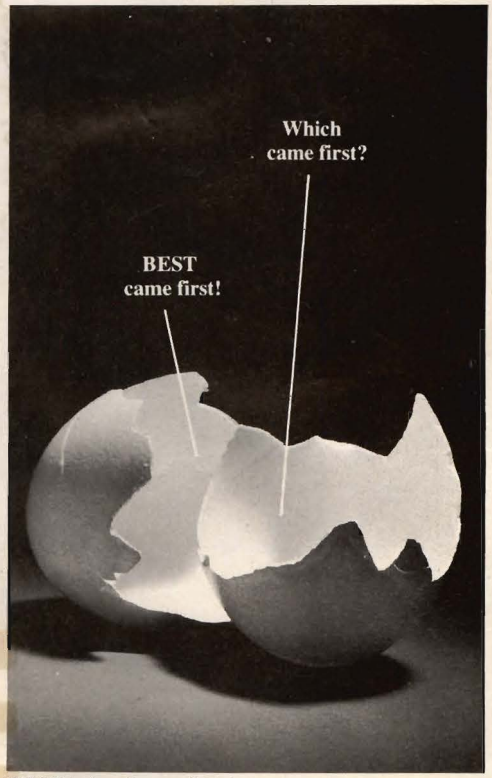

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