PCjr WORLD

The Home Computer Magazine for People with IBM PCjrs and Compatibles

PC Software for PCjr

IBM's Personal Communications Manager Makes PCjr Speak

What Happens If It Breaks? Warranty and Service Tips

History will record as a profound irony
that the most powerful word processing package
ever created for the IBM® Personal Computer
can be worked with two fingers.

It was created by Leading Edge,® specifically to take advantage of the power of the IBM PC, plus the simplicity that all that power ought to be able to give you—but didn't.

Until now, you could go for the simplicity, and end up with a somewhat glorified typewriter. Or you could go for the power, and go nuts performing dozens of commands to do even the simplest things.

But with Leading Edge Word Processing™ you get both.

You don't have to start with an ounce of understanding about word processing.

You don't even have to be a terrific typist. (Matter of fact, the worse you type, the more the help.)

So come along:

Hunt and peck your way into the future.

LEADING EDGE®

Leading Edge Products Inc., Headquarters and Retail Division, 225 Turnpike Street, Canton, Mass. 02021 (800) 343-6833 (617) 828-8150

*IBM is a registered trademark of International Business Machines Corporation.

Circle 91 on reader service card

PCjr WORLD

When PCjr Speaks 4 ***Lisa B. Stahr and Gregory Pearson***
Telecommunications for home computer users.

Megabytes 10 ***Katie Seger***
News and notes for the PCjr community.

Working the Home Claim 14 ***Adrian Mello***
Will software developers adapt PC programs for the home market?

What Happens If It Breaks? 18 ***Katie Seger***
IBM brings PCjr users many happy returns with its one-year free warranty.

Editorial
Editor: Kearney Rietmann
Assistant Editors: Adrian Mello, Katie Seger
Editorial Manager: Reed McManus
Copy Editors: Kathleen Christensen, Tema Goodwin, Evelyn Spire
Contributing Editors: Fred Davis, Janette Martin, Stuart R. Schwartz, Linda V. Williams
Telecommunicator: Susan M. Ford

Art & Production
Designer: Marjorie Spiegelman
Art Director: Mick Wiggins
Production Manager: Frances Mann
Assistant Production Manager: Lee R. Trevino
Editorial Production Manager: Ellyn Hament
Editorial Production Assistant: James Felici
Design Associates: Darcy Blake, Dennis McLeod, Molly Windsor-McLeod, Monica Thorsnes
Advertising Production Coordinator: Nan Cassady
Production Assistants: Clare Bouey, Rosetta Egan
Contributing Photographer: David Bishop

Personal Communications Manager, a telephone, and a modem link PCjr to the outside world.

When PCjr Speaks

Lisa B. Stahr and Gregory Pearson

Polo is a rich man's game: the equestrian equipment needed to play is costly, the skill required to compete hard earned. As a rule, those who play polo have few financial concerns and plenty of free time.

Not long ago, communicating with computers was like playing polo. If the cost of the equipment wasn't prohibitive enough, the knowledge required to use it was. An elite group of engineers were the best—but also the only—players.

Today hundreds of thousands of people use computers to communicate, play games, and send reports. And with IBM's announcement of PCjr and the optional program *Personal Communications Manager (PCM)* even more people will dare to tread where once only scientists worked and played.

Telecommunications Basics

Using computers to communicate over a distance is called telecommunicating. The information sent, whether a brief message or a complex computer program, is called data. In the computer, data is encoded in a series of electrical on/off pulses called bits. Although it varies, 7 bits are normally used to create one alphabetical or numerical character. Ordinary telephone lines are used to carry the data from one computer to another, but because of differences in how computers and telephones communicate, information travels across the phone lines in a state different from that inside the computer. A device called a

modem is required to change the data from the computer so that phone lines can transmit it and change the data back again so that the receiving computer can digest it.

There are many formats in which data can be transmitted by a computer. The machine needs a program to tell it which format to use. These programs are called communications software. *PCM* is a communications package that tells both IBM Personal Computers, the PC and PCjr, what to do when they are telecommunicating. Without this program or one like it your PCjr would be forever mute; with it, PCjr speaks.

What You Need

PCM is a simple program that performs complex functions. The program doesn't operate alone, however; it works with PCjr. This interdependence means that PCjr must have certain features to help *PCM* do its job, including a color or monochrome monitor, one disk drive, room to store 128,000 bits (referred to as 128K memory), and a modem.

The PCjr Entry Model has 64K of user memory and two slots for program cartridges. Although options can be added, this version lacks the memory, the second disk drive, and the modem needed to use *PCM*. The Enhanced Model has a disk drive and enough memory for the *PCM* program, but like the Entry Model it needs a modem to telecommunicate. You can purchase one of the many modems such as the Hayes Smartmodem 1200 or the Bytcom 212 AD that plug into PCjr, or you can buy IBM's internal device that's sold as an option with either PCjr model. IBM's modem, called a modem board, fits inside the computer and can send and receive 300 data bits per second (bps).

The IBM modem, like the *PCM* communications package, is simple in design. It performs the basic functions that a modem should perform but without the flair and grace of more highly developed and therefore harder to use devices. Both *PCM* and the internal modem board were designed for novices and serve those people well.

Communications Made Easy

When the people at IBM created PCjr for novices, they recognized the need for a simple communications program. The software has to tell people what to do just as clearly as it instructs the machine. Microcom of Norwood, Massachusetts, is the company that IBM contracted to create such a package. The result is *PCM*.

PCM uses a series of hierarchical menus, which are lists of program operation choices that guide you through the telecommunications process. Through one series of menus, for example, *PCM* allows you to choose the format in which you want the computer to send data. This process is called setting the communications parameters and is accomplished by selecting the Reconfigure option from the program's main menu (see Figure 1). Once inside this branch of the menu tree, you can choose how many bits are to be used to create a character, how fast the information is to be transmitted, and whether the sending and receiving computers should check for transmis-

PCjr can be connected to countless information services.

sion errors. If you don't want to change the settings, the computer uses the default parameters that are preset by Microcom and IBM.

PCM's simple menus are just one example of how the program makes telecommunicating easy; several other features eliminate confusion as well. If you enter a menu other than the one desired, for instance, a prompt at the bottom of every screen reminds you that pressing the <Esc> key returns you to the preceding menu. This option guarantees an exit no matter where you are.

To ensure that you know which menu you're in, the name of each selected menu is listed at the top of every *PCM* screen. If you are creating a mailbox, for example, the screen says:

ELECTRONIC MAIL
ADDRESS BOOK MAINTENANCE
MAILBOX MAINTENANCE

By looking at these three menu names you can see that you're in the Electronic Mail menu, under the Address Book Maintenance section, doing Mailbox Maintenance.

What to Do with PCM

Of the many menus integrated into *PCM*'s operation, the first is the most important. All the program's capabilities are buried beneath the five options listed on the main menu (see Figure 1).

Exit is self-explanatory; it lets you leave the program. Reconfigure, as previously mentioned, allows you to change the communications parameters. Edit File is the choice to make to write text. The first two options, Enter Terminal Emulator and Enter Electronic Mail, are the most important features that *PCM* offers.

Personal computer users who connect their machines with mainframes can vastly increase their computing power.

Terminal Emulator

When *PCM* is in the Terminal Emulator mode, it can communicate with the large computers, called mainframes, that are used to run various information services. In computer language a terminal is similar to a personal computer except that it lacks disk drives. Instead of using programs, the terminal is dependent on a mainframe to "think."

```
                    Personal Communications Manager

                    1. Enter Terminal Emulator
                    2. Enter Electronic Mail
                    3. Edit File
                    4. Reconfigure
                    5. Exit Program

Make selection (1–5): [_]
```

Figure 1: Main menu

When a computer such as PCjr connects to the mainframe at an information service, the personal computer must fool the larger system into thinking that the small-fry is just a terminal. The communications software that runs the smaller computer is responsible for creating this illusion. Hence, you use the Terminal Emulator portion of *PCM* to connect to such a service.

PCjr can be connected to countless information services. The most popular are information utilities such as The Source, CompuServe, and the Dow Jones News/Retrieval service; information retrieval services such as Dialog, Orbit, and BRS; and free bulletin boards run by computer enthusiasts.

Information Utilities

Information utilities were created on the premise that personal computer users who connect their machines with mainframes can vastly increase their computing power. These services offer a seemingly endless array of computing options. The Source, for example, the oldest system, offers more than 1200 features and programs. The Source's closest competitor is CompuServe; it also has numerous programs and features for sale.

The variety of features available on these services can be divided into five major categories:

News and sports. News, weather, and sports from major wire services, newspapers, and magazines.

Entertainment and consumer services. Games, special interest tests, travel arrangements, electronic buying and banking, and reviews of theater, books, movies, restaurants, and hotels.

Business. Past and present financial information,

corporate profiles, electronic banking, programs for financial analysis and planning, and information on money markets, stocks, bonds, and mutual funds.

Home information. Gardening tips, advice columns, encyclopedias, and an assortment of electronic publications covering topics such as family health, home decorating, automobile maintenance, and education.

Communications. Electronic mail, software exchange, word processing, and bulletin boards.

The features listed above are just a sampling of what's available on information utilities. The Source and CompuServe are the two largest services, but not the only ones. Delphi, for example, operating out of Cambridge, Massachusetts, is the most recent competitor. For financial news and information, though, no service is more complete than the Dow Jones News/Retrieval service. A financial data base turned information utility, Dow Jones is similar to the other services in that it offers news and general information, an encyclopedia, and consumer reports. But its strength is clearly in financial matters. Any stockbroker or business person who uses a personal computer should become familiar with Dow Jones News/Retrieval.

Dialing for Data Bases

Of the many programs and features offered on information utilities, only a few have enough commercial draw to compete on their own. A service that offers only advice for the lovelorn might not attract enough paying customers to keep it on line, but a service that retrieves information on just about any topic will.

Dialog, Orbit, and BRS are such services. By searching their numerous data bases, they can produce bibliographic and full-text references on just about any topic. Whether you want to search for a specific patent or trademark, learn how to heat an underground dwelling, or find a recipe for a certain fruit, you can find what you are looking for in the data bases of these information retrieval services.

Each service has a full line of data bases to search. Dialog, for example, has over 175 data bases available with a total of 80 million entries; Orbit has 70 data bases with more than 55 million entries. The information that goes into these data bases is gathered from special information indexing and abstracting services that scour books, newspapers, magazines, annual reports, conference papers, maps, and government legislation (just to name a few sources) for the information. All the services offer special

Where to Sign Up

Ready to tap into some information? The following list will help you get started. To find out about bulletin board services read BBS Watch *in this issue of* PC World.

BRS
1200 Route 7
Latham, NY 12110
800/833-4707

CompuServe
5000 Arlington Center Blvd.
P.O. Box 20212
Columbus, OH 43220
800/848-8199

Delphi General Videotex Corp.
3 Blackstone St.
Cambridge, MA 02139
800/544-4005

Dialog Information Retrieval Service
3460 Hill View Ave.
Palo Alto, CA 94303
800/227-5510

Dow Jones News/Retrieval
P.O. Box 300
Princeton, NJ 08540
800/222-0081

IBM
Systems Products Division
P.O. Box 1328
Boca Raton, FL 33432
800/447-4700, 800/322-4400 Illinois,
800/447-0890 Alaska, Hawaii

Orbit
SDC Information Services
2500 Colorado Ave.
Santa Monica, CA 90406
800/421-7229, 800/352-6689 California

The Source
Source Telecomputing
1616 Anderson Rd.
McLean, VA 22102
800/336-3330

courses to teach subscribers how to search their system effectively, and with so much information at your fingertips, it's wise to make the investment in the training.

Bulletin Board Bonanza

The applications for the information retrieval services just mentioned are limited almost entirely to business; few home users are willing to pay the high price of this unlimited knowledge. Information utilities such as The Source and CompuServe cater to both home and office subscribers, but these services can be costly. PCjr users may find that calling electronic bulletin boards satisfies the desire to telecommunicate without requiring a significant financial investment.

Hundreds of computer bulletin board systems (BBSs) are in operation. The only price a person pays to access these BBSs is that of a local or long-distance telephone call.

BBSs offer people a chance to trade ideas, programs, announcements, and advice on any topic they care to discuss. Some are general-interest bulletin boards, and some are devoted to specific topics such as certain computers and programming languages, satire and humor, games, and medicine. PCjr will undoubtedly have its own set of bulletin boards as well.

Bulletin boards are run by computer enthusiasts who enjoy witnessing and sharing the power of their machines. All that's required to start a BBS is a computer equipped to communicate with other computers, 48K of user memory, one disk drive, a modem that's capable of automatically answering the telephone, a computer bulletin board system software package, and a dedicated person, known as the system operator, to maintain the service. Of all these ingredients, the system operator is the hardest to find.

Logging On

Getting onto communications services or bulletin boards usually requires signing up. Whether this initial enrollment is done via the mail or the computer, most companies and system operators want to know who's on line. Once the sign-up is complete, you are given a special password or number sequence that, when entered, logs you onto the system. Logging onto a service using *PCM* is as easy as pressing one key.

By referring to the *PCM* documentation, you can program any of PCjr's function keys to recreate a logon sequence automatically when pressed. You can dial the appropriate telephone number, enter the correct service codes, and sign on with the identification sequence by pressing a single key. These sequences can be saved as a special file on the program disk so each function key can have unlimited commands associated with it. A special series of prompts asks you whether to save each sequence for future use.

```
                    Electronic Mail
                  Send/Receive Mail

                    Current time: 10:50
            The system is currently WAITING
              Mail sent ..... 0
              Mail received ..... 0
              Mail to be sent ..... 0

Press 'R' to exit after current transfer
Press Esc to exit immediately

Awaiting link...
```

Figure 2: Unattended electronic mail screen

```
                    Electronic Mail
                Address Book Maintenance
                  Mailbox Maintenance

              Name:          pcjrworld
              To:            Editor
              Phone number:  (415) 861-3861
              Destination modem speed (h/l): H

Is this correct? (y/n)? [_]

Press Esc to exit
```

Figure 3: Add mailbox screen

Electronic Mail

Using *PCM* to link up to a special information service or bulletin board requires the Terminal Emulator mode of operation. The other important mode, Electronic Mail, has many features of its own (see Figure 2).

PCM can electronically mail any kind of file that PCjr is capable of storing on disk, including printed text files, text data files (those with text and numbers), and special binary files. Printed text files can be created with *PCM* by choosing the Edit File option from the main menu. This option works with your word processor or text editor, enabling you to write messages, letters, and even long reports for electronic mailing. Once a written message is created or a file loaded, you can send it to three possible receivers: a mailbox, a list, or a telephone number.

Address Books and Mailboxes

Sending electronic mail is like sending standard mail: before the message can go anywhere it has to be addressed. Whenever you address outgoing mail, the computer automatically enters the information in an address book (see Figure 3). Each entry in this address book is called a mailbox.

If, for example, Mr. Sublett in Washington wants to send a report to Ms. Barker in Ohio, he is asked for the appropriate header information: the name of the person to receive the mail, the date and time to send the report, the mailbox name, the name of the file to be sent, the subject of the mail, and the mail class (text file, text data file, or binary file).

If Mr. Sublett lists the time the mail is to be sent as midnight that night, PCjr will hold the mail until that time. By relying on its internal clock, the computer can send mail any time day or night without a person there to help it. Using this feature you can take advantage of lower telephone rates.

Once the specified mailing time is reached, the computer automatically calls the telephone number listed for Ms. Barker and relays the report to her computer. If Ms. Barker has never been listed in Mr. Sublett's address book and consequently has no mailbox listing, he can either create a mailbox listing for her or send the report directly to her telephone number.

A *PCM* address book can contain up to 40 mailboxes. Each time a new mailbox is created, the program displays on screen how many mailboxes are still available (see Figure 4). If all 40 mailboxes are filled, the program creates a new address book. By following one of the two methods listed in the program documentation, you can create a new address book before the original book is filled.

If you want to send the same file to several associates around the country, you can make a distribution list within the address book. Each address book can contain up to ten lists, each with its own unique

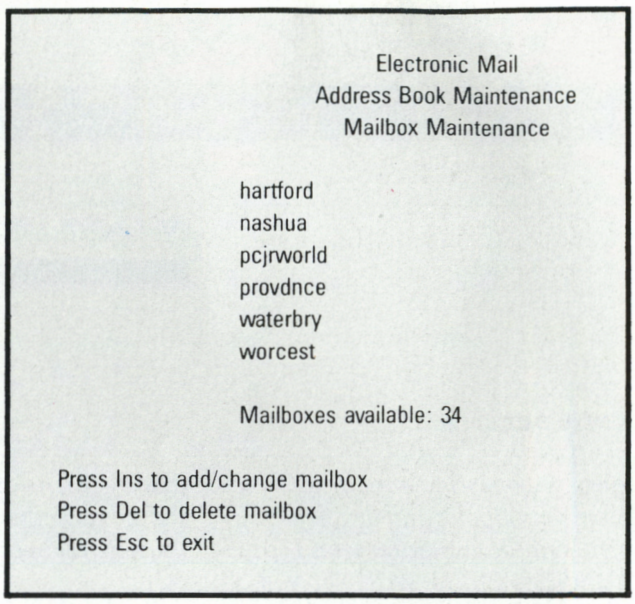


Figure 4: Mailbox maintenance screen

name and description. By entering a list name for the mailing, you tell the program to address the mail item automatically to every mailbox on the list.

In addition to sending electronic mail, *PCM* users can also review logs of mail scheduled to be sent, print those logs, and try again to send mail that previously could not be sent or received. *PCM* can tell even before sending a file if it's too long for the receiving computer's memory. In this case, the program refuses to send the file and lists an error message on the transmitter's screen.

Features like these make IBM's PCjr and *Personal Communications Manager* useful telecommunications tools. What's more, *PCM*'s ability to run on the PC exactly as it runs on PCjr creates endless opportunities for home, office, and home-to-office connections. With *PCM*, IBM has shown that it can make a product right the first time.

Lisa B. Stahr is a freelance writer who is currently working on a book about communications for PC World Books. Greg Pearson is chief network architect for Microcom of Norwood, Massachusetts. He has worked in protocol design since 1978 and is the principal designer of the Microcom Networking Protocol.

Megabytes

News and notes for the PCjr community

Katie Seger

Megabytes *reports about the people, products, and developments in the computer world surrounding PCjr. We will keep you up to date on the events and trends as well as the occasional speculations that occur in this rapidly expanding world.*

What's in a Name?

With all the preannouncement information leaks, hoopla, and hype that surrounded PCjr, it's amazing that the real name of the computer took as long as it did to surface. The machine was referred to as the "Peanut" by industry sources until only weeks before IBM made the announcement. An IBM spokesperson acknowledged that the computer had been dubbed "Peanut" in the early planning stages, but he said that company decision makers believed that members of the PC family should have the same initials, so the new computer was christened PCjr.

One of the reports that accompanied the Peanut moniker was that Charlie Brown's creator, Charles Schulz, would do the illustrations for the computer's advertising campaign. An IBM spokesperson said that the company has not signed an agreement with the master cartoonist.

Although Schulz isn't working with IBM, other artists and cartoonists have begun to discover the wealth of comic possibilities associated with computers. Before his "Doonesbury" sabbatical, Gary Trudeau's daily strip featured Michael and the Rev. Scott Sloan trying to buy a word processor from a "user-friendly, consumer-compatible sales rep." MacNelly's eagle-eyed editor in "Shoe" constantly wages battle with his video display terminal—which loses stories and scrambles copy—in his tree-house newsroom. And much to the chagrin of his ever-weary father and various FBI agents, "Bloom County's" young hacker, Oliver, continues to access computers at NASA, the National Strategic Defense Center, and the *New York Times.*

Other well-known artists are making extra money by working for hardware and software manufacturers directly. Hank Ketcham's "Dennis the Menace" is skipping around with Digital Research's Dr. Logo—Mr. Wilson won't believe all the trouble Dennis can cause with a computer. And Jean-Michel Folon, international artist and sometime *New Yorker, Atlantic,* and *Time* illustrator, is conferring with marketing and advertising directors at Apple. If the late Al Capp were still doodling, Li'l Abner would probably be carrying a COMPAQ to the Sadie Hawkins dance.

Born Too Soon

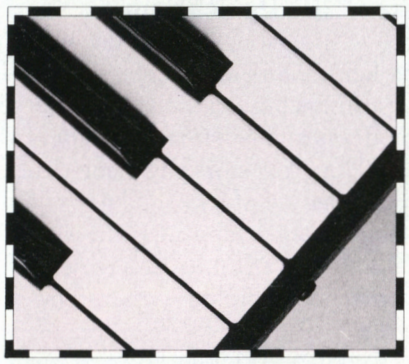
Remember eating boxes of Alpha-Bits, Honeycomb, and Raisin Bran to save enough box tops for a se-

cret decoder ring that would stump any and all enemies of Freedom and the American Way? Nowadays, cereal consumption can earn you a computer.

General Foods' Post Cereals and Atari's Catch On to Computers program are offering computers and software in exchange for proof-of-purchase seals from the entire line of Post Cereals. The program, which runs through June 30, allows youth groups, such as Boy and Girl Scout troops and 4-H clubs, and public, private, and parochial schools to redeem proof of purchase seals for equipment such as the Atari 800XL and 1450XL computers, disk drives, printers, and educational software.

Post Cereals hopes that the computer giveaway will be as successful as its "Fun 'n Fitness" program, which has placed 250,000 pieces of athletic equipment in 45,000 schools since 1980. Teachers, administrators, and group leaders, call 800/435-7678 (800/892-1869 in Illinois) or write to Catch On to Computers, P.O. Box 3445, Kankakee, IL 60902 for more information about the Post redemption program.

Hundreds of educational software packages have been written for the PC since it was introduced. Since the PCjr has a lower price tag and is PC software compatible, it should be a more popular school computer than its PC big brother. Maybe a Boca Raton-Battle Creek alliance is in order.



Play It Again, Sam

Baldwin Piano & Organ Co. has introduced a new computerized piano. The PianoPro is built with three microprocessors instead of traditional hammers and strings. PianoPro weighs half as much as a regular piano and requires no tuning. The piano can be set for different modes of play, including one that allows musicians to play chords with only one finger. A Baldwin spokesperson stressed that the PianoPro produces acoustic pianolike sounds very different from the electric pianos that have been on the market for years. PianoPro will sell for approximately $3000.

Politics to Micro Chips

What do you do when you step down from the governor's office and you're too young to take up gardening as a full-time hobby? Go into computers, of course. At least that's the route former California Governor Jerry Brown took.

After an unsuccessful bid for the U.S. Senate in 1982, Brown formed the National Commission on Industrial Innovation (NCII), a nonprofit research/consulting/lobbying group, which is mainly supported by computer and software manufacturers (Advanced Micro Devices, National Semiconductor Corporation, and Convergent Technologies are the group's largest contributors). Brown is chairman of the board of the Los Angeles-based group.

As NCII chairman, Brown testified before a congressional subcommittee and urged the passage of legislation granting federal income tax credit for computer manufacturers who donate computers to schools. Any proposed federal legislation would be pat-

terned after California law A.B. 3194, which allows a tax credit of 25 percent of market value for any computer and peripherals donated to public or private schools.

Modem Your Mail

MCI, the telecommunications corporation, now offers a nationwide electronic mail service, MCI Mail, in addition to its long-distance phone service. MCI Mail can be sent with any personal computer to anyone in the United States, even if the addressee doesn't have a computer. So don't use a stamp when you can use PCjr.

A subscriber to MCI Mail connects with the service through a local phone call in 15 major cities or through a toll-free number for the rest of the continental United States. The subscriber writes a letter (no minimum number of letters or messages is required) on a personal computer and then, using a modem and communications software such as *PC-Talk III* from Freeware, *Personal Communications Manager* from IBM, or *Hostcomm* from Janadon, sends the letter over the telephone. MCI Mail offers four delivery options (listed here in order of delivery speed):

$1 "instant" service sends letters from one computer user to another.

$25 "four-hour" service provides paper-copy delivery by courier within the metropolitan areas of 15 cities regardless of the message's point of origin.

$6 "overnight" service provides paper-copy delivery in 20,000 continental United States cities.

$2 "MCI Letter" transmits the copy electronically to the MCI postal center nearest its destination, then delivers paper copy to the U.S. Postal Service for quick local delivery.

Unlike MCI's telephone service customers, who pay a monthly fee, MCI Mail subscribers sign up and give billing instructions by phone and are charged on a per-message basis. For more information call 800/624-6245.

Stocking Up at Home

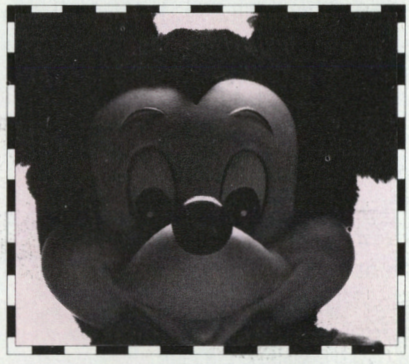
C. D. Anderson, a small discount broker in San Francisco, is letting customers buy and sell stock via modems and personal computers like PCjr. Investors pay a one-time brokerage fee of $300 and pay telephone charges ranging from 10 to 40 cents per minute each time they call the broker with a stock order.

Anderson said that most of his firm's 17,000 clients live in the San Francisco Bay Area, but several hundred people across the nation take advantage of the at-home stock ordering service by calling the brokerage firm via local Telenet numbers.

Anderson said that he expects competition. Although a spokesperson would not confirm or deny the report, Wall Street watchers believe that another discount broker, Charles Schwab & Co., will establish a similiar home service this year. Two full-service brokerages, E. F. Hutton and Dean Witter Reynolds, offer securities research and account information via home computer to their clients, but at present neither investment firm has plans to offer at-home buying and selling services.

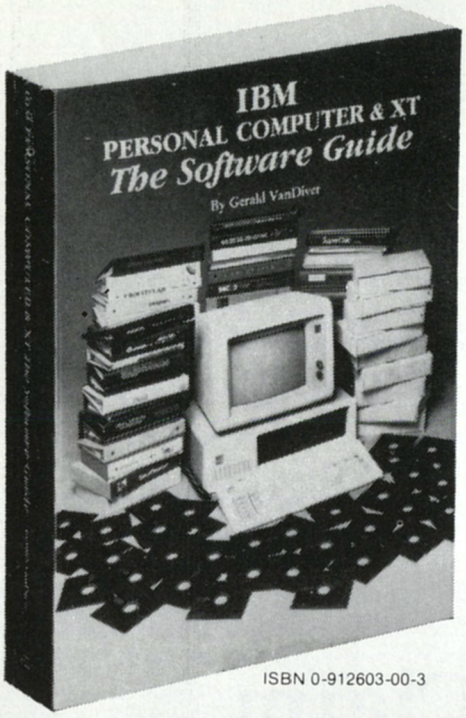
Disney on PC

While PCjr owners shouldn't expect to have Mickey Mouse and Donald Duck running across their computer screens for a while, plans for converting Walt Disney Productions software to work with the PC and PCjr are being made. The creative people who gave us *Snow White and the Seven Dwarfs*, "The Mouseketeers," and the EPCOT Center are introducing approximately 50 educational programs in 1984.



Favorite Disney characters like the Cheshire Cat and Peter Pan have been enlisted to help children in their science, social studies, math, and language classes. If the programs are anything like previous Disney products, the software should be worth at least an E coupon.

Megabytes *welcomes contributions of interesting items. Send them to* Megabytes, PCjr World, *555 De Haro St., San Francisco, CA 94107. Please include your name, address, and phone number.*



ISBN 0-912603-00-3

YOU CAN OWN THE MOST COMPLETE LIBRARY OF IBM PC, XT, PC*jr* SOFTWARE INFORMATION ON THE MARKET!

Software Guides by Micro-Information Publishing provide detailed product descriptions and information for a thorough understanding of each program. For quick and easy reference to the appropriate software, the guides are sectioned by categories and subcategories including . . .

Agriculture • Business • Accounting • Communications • Data Base
Education • Electronic Mail • Engineering • Specific Industry
Languages • Mailing Lists • Math • Networking • Stock Market
Office Management • Personal/Home Use • Word Processing

Qty.	Specify Book(s)
	IBM Personal Computer & XT The Software Guide
__	ISBN# 01-912603-00-3, 8½ x 11, 1,036 pages . $24.95
__	Quarterly Updates ..... $49.95/year or $19.95/ea.
	PCjr Software Guide & Handbook
__	ISBN# 0-912603-13-5, 5½ x 8½, 320 pages .. $19.95
__	Quarterly Updates $39.95/year
	IBM Personal Computer & XT Educational Software Guide
__	ISBN# 0-912603-03-8, 8½ x 11, 250 pages .. $14.95
__	Quarterly Updates $29.95/year
	IBM Personal Computer & XT Word Processing Software Guide
__	ISBN# 0-912603-11-9, 8½ x 11, 290 pages .. $14.95
__	Quarterly Updates $29.95/year
	IBM Personal Computer & XT Business Software Guide
__	ISBN# 0-912603-12-7, 8½ x 11, 350 pages .. $15.95
__	Quarterly Updates $31.95/year

To order, fill out this coupon and mail now!

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Telephone # (_____) _____

Please include $5.00 shipping and handling for each book ordered.
For ordering information or assistance call 1-800-328-0196

QUANTITY DISCOUNTS AVAILABLE

☐ Check Enclosed ☐ Visa ☐ MasterCard ☐ American Express

SEND TO:
Micro-Information Publishing
4730 Dakota Street
Prior Lake, Minnesota 55372
(612) 447-6959

Card # _____

Exp. Date _____

Signature _____
(Signature required if Credit Card Purchase)

IBM is a trademark of International Business Machines Corporation

Circle 299 on reader service card

Working at home on PCjr requires a new breed of software. The way new programs are designed will determine if users and software developers strike pay dirt.

Working the Home Claim

Adrian Mello

A computer's usefulness stands on two pillars of strength: the quality of the machine itself and the abundance of good software that runs on it. The most successful computers are those that have a large software base. Consumers and software designers are anxious to find out what products will be available for PCjr to determine what roles PCjr will take on.

In a world where most computer manufacturers are eager to provide test machines or at least hardware specifications to encourage software development, IBM chose to keep PCjr under wraps. As a result, PCjr's introduction created a situation that one expects to see only in a TV western: word is out that someone has discovered gold, and all those ready to strike pay dirt are waiting around in the local saloon for a hint as to the exact whereabouts of the claim.

Despite the relief that IBM had finally announced their much anticipated home computer, few computer product manufacturers had PCjrs during the months immediately following the machine's introduction. Since they were not able to study the new computer, manufacturers had to go back to the waiting room while they wondered what kind of products PCjr would warrant bringing into the world.

Working around the Hardware

Software publishers are concerned about designing programs to match PCjr's hardware features. Developers who are used to creating programs to work with the IBM PC's two disk drives, 83-key keyboard, and potentially large memory hope to avoid costly adaptations for PCjr. Professional software created to take advantage of the hardware bounty of the IBM PC must, to run on PCjr, work within a memory size of 128K, with one disk drive as op-

posed to the two commonly expected in the business world, and with a 62-key keyboard that doesn't seem to be designed for professional word processing.

Program designers at Lotus Development Corporation, publisher of the best-selling spreadsheet *1-2-3*, have no plans to adapt the program to run on PCjr. The program requires a hefty 192K of memory, which exceeds PCjr's 128K limit.

Partially as a result of the difficulties of adapting *1-2-3* to the PCjr hardware, and because they are not convinced that PCjr will take on a work-at-home role, Lotus employees have what they call a "wait and see" attitude toward PCjr. In the meantime they expect people who want a computer for work at home to use machines like the PC-compatible COMPAQ Portable Computer.

Whether PCjr takes on a work-at-home role depends on how software publishers respond to the technical and financial questions of new product development. Many people who use IBM PCs at the office will want to use PCjr at home. Most people will want to use software that they have grown to trust in the office, and PCjr users will also want to buy programs that enable them to take their data disks home from the office. Employers might even pay for workers' home use of programs to encourage increased productivity.

The Price of Porting

Development costs play an important role in a company's decision to revise products. More difficult adaptations require more money and must be prioritized against other scheduled projects. Some companies may have to choose among products because they don't have enough money or people to develop every product they want. Programs that are easy to adapt keep costs down and are more likely to get the go-ahead than those that require extensive modification.

The cost of adaptation becomes especially important in the case of PCjr because home computer owners are likely to have less money to spend on programs than businesses have. The result may be that software publishers won't earn as much money for each PCjr program as they earn for a comparable PC program. Peachtree Software, IUS, SoftWord Systems, BPI, and other manufacturers intend to provide home use programs in the $100 to $200 range. Their business programs for the PC run from $150 to $750.

Popularity is another consideration in choosing products to revise for PCjr. Manufacturers prefer programs that have already demonstrated their popularity and show promise for the home market. Microsoft, the company that produced the MS-DOS operating system running on both IBM microcomputers, plans to support PCjr in its roles as an educational, entertainment, and work-at-home machine. Russ Werner, Microsoft's product manager for PCjr, says he doesn't know yet if the company's *Flight Simulator* will need modification to run on PCjr. He says that the program is a good choice for the home market because it is popular with PC owners. In the area of professional

Most people will want to use software that they have grown to trust in the office.

software, Microsoft's spreadsheet *Multiplan* already runs on PCjr, and the company will probably convert their word processing program *Microsoft Word* to conform to PCjr's hardware requirements.

Program Pruning and Feature Grafting

Related to decisions about cost are decisions developers must make about which features to include in PCjr programs. Software developers may choose to eliminate features of IBM PC programs to create new scaled-down versions that work within the bounds of PCjr's 128K memory and single disk drive. Another choice is to optimize a program so that it takes advantage of PCjr's unique features such as the programmable, remote-control keyboard. The penalty of such a strategy, however, is that the program will operate on only PCjr.

Peachtree Software is one company that will prune back existing programs to develop new products for PCjr. Company planners intend to revise their well-known *Series 8* accounting programs, and since word processing software accounts for more than 70 percent of Peachtree sales, it is no surprise that consumers will be able to purchase a scaled-down version of *Peachtext 5000.* IBM sells the present *Peachtext* version under the IBM name and claims that it operates on PCjr. IBM does not recommend *Peachtext* for use with PCjr, however, because when it runs on the home computer, both the program and data files must share the same disk.

Along with the adaptations of existing products Peachtree will release an entirely new series of accounting software that is incompatible with the *Series 8* programs but can be used on both the PC and PCjr. The first three programs in the new series will be general ledger, accounts payable, and accounts receivable applications. The programs will soon be followed by inventory, sales order processing, and payroll packages.

Another major software publisher that will introduce a remodeled product with limited features is Information Unlimited Software (IUS). *EasyWriter I,* IUS's PCjr word processor, is based on *EasyWriter II,* not to be confused with earlier products, *EasyWriter 1.0* and *1.10,* which are no longer distributed. IBM is the sole distributor of yet another IUS-designed *EasyWriter* version, *1.15. EasyWriter 1.15* runs on PCjr but is different from *EasyWriter I* and *II.* Mail-merge and spelling-checker programs, formerly sold as separate products by IUS, are now part of the word processing package.

One company, Perfect Software, claims to have expected PCjr's hardware limitations. The company's programs were designed so that they could be converted easily once the home computer was announced. Perfect Software will offer full-featured versions of *Perfect Calc, Perfect Filer, Perfect Writer,* and *Perfect Speller* for PCjr. Robert Glidden, cochairman of the company, states that "in anticipation of IBM's PCjr, we purposely limited our program size to 128K, minimized system calls, and maximized code portability. With these features our programs can be quickly revised to run on new versions of DOS."

Software developers may choose to eliminate features of IBM PC programs to create scaled-down versions that work on PCjr.

Software Publishing, producer of *pfs:FILE* and *pfs:REPORT,* feels that PCjr will become a work-at-home machine. IBM distributes both those programs for PCjr under the IBM logo. Software Publishing also plans to modify the memory requirements of *pfs:GRAPH* and *pfs:WRITE* to allow them to work on PCjr.

SoftWord Systems, creator of the *MultiMate* word processor, has decided to cut back some of the program's features and add others that address PCjr's hardware. The company is releasing a new version called *MultiMate Jr.* that contains many of the features of the PC version but does not include background printing, mail-merge features, or full header and footer capabilities.

MultiMate Jr.'s design allows the entire program to be loaded into memory at once. This design lets the program run even when the system disk is removed from the disk drive. *MultiMate Jr.* users can insert a document disk into the drive and save their documents on it without having to swap system and document disks every time they want to save a document.

While some features have been eliminated in the PCjr *MultiMate* version, one feature has been added to replace commands such as COPY, MOVE, and SEARCH and REPLACE that on the PC are activated by the function keys. *MultiMate Jr.*'s command options are displayed on screen. Users choose options by moving the cursor to a symbol of the desired command and pressing the <Enter> key. *MultiMate Jr.* has another feature called phrase memory that enables users to save and recall portions of text such as frequently used names and addresses by highlighting the text and saving it in a library. Up to nine phrases can be stored and recalled for any document.

One of the best features of SoftWord's PCjr program is the compatibility between *MultiMate* and *MultiMate Jr.* documents. Because of this design, people who create documents on disk with *MultiMate* for the PC can edit the same documents with *MultiMate Jr.* on PCjr.

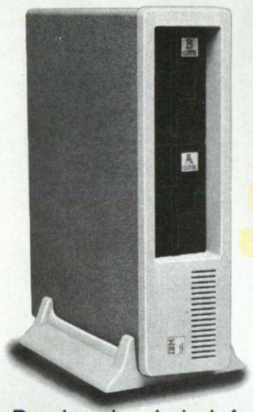
Applications Cartridges

Putting applications software on PCjr cartridges the way IBM did with Cartridge BASIC may be one way to make the computer's single disk drive available for file storage. One software developer taking this approach is Camilo Wilson of Lifetree Software. His PCjr version of the *Volkswriter Deluxe* word processor will soon be released on cartridge.

Whether software publishers decide to adapt programs by reducing or adding features or even providing cartridge versions, they probably won't wait long to act. Some manufacturers are confident that PCjr will be a tremendous success. Bruce Rampe, a spokesperson for Software Arts, which designed *VisiCalc* and *TK!Solver,* said that he doesn't know yet if *TK!Solver* runs on PCjr. If Software Arts has to change *TK!Solver* to fit PCjr, company decision makers will have to weigh the costs of development against potential sales. After addressing the question of *TK!Solver*'s compatibility with PCjr, Rampe brings up a point that must be weighing on the minds of many manufacturers. "Considering the publicity PCjr is getting, the machine will probably produce a market that software publishers can't ignore."

Adrian Mello is an Assistant Editor for PC World Special Editions.

Save space, improve ergonomics and system life.



The SS-I System Stand by Curtis offers you more freedom of arrangement. Reduces the systems unit footprint by 54%. Use less desktop space, or no desktop space at all – put it on the floor! It feels great. Also, with less disk drive wear in the vertical position, systems unit can be expected to have a longer life and less down time with the SS-I.

Get the sturdy SS-I and stand your systems unit on its ear – it feels great and lasts longer.

Re-arrange your IBM PC ... comfortably

Developed exclusively for the IBM PC, all Curtis products have a lifetime warranty and are a perfect PC match in color, style and finish.

PC Pedestal™ II, Tilt and Swivel Base . 79.95 (for IBM PC Monochrome and Color Displays)

AD-I Adapter for PC Pedestal™ ..... 9.95 (for Princeton Graphics Systems and Quadchrome Displays)

SS-I System Stand ..... 24.95 (for IBM PC System Unit)

EC-I 3′ Extension Cable Set ..... 49.95 (for IBM PC Monochrome Display)

EC-II 3′ to 9′ Extension Cable ..... 39.95 (for IBM PC Keyboard)

Manufacturing Company, Inc.

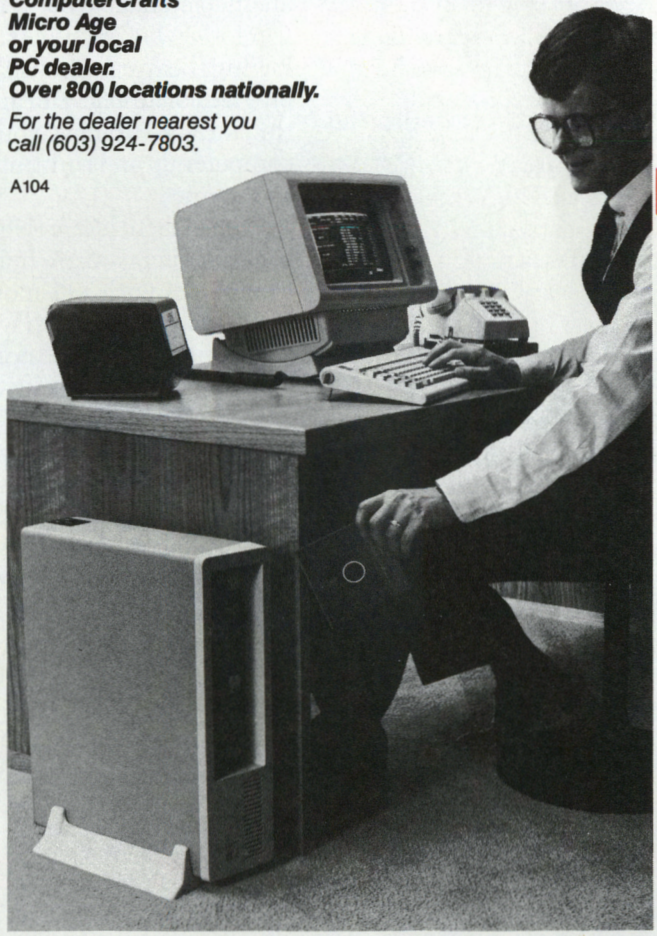
CURTIS

Curtis Manufacturing Company, Inc.
Peterborough, NH 03458

Available at all ComputerLand Stores Entré Computer Centers ComputerMarts ComputerCrafts Micro Age or your local PC dealer. Over 800 locations nationally.

For the dealer nearest you call (603) 924-7803.

A104



Computer Woodenware by New England Wood Designs, Dublin, New Hampshire 03444

reduce footprint

Copyright© Curtis Manufacturing Co., Inc.

A 12-month warranty and disposable parts make PCjr an industry trendsetter.

What Happens If It Breaks?

Katie Seger

Many new computer owners are afraid of breaking the computer once they get it home and out of its protective box. The feeling is an understandable but unfounded fear for new PCjr owners. By following the instructions that IBM provides on unpacking and setting up, you can have your new computer up and running in a short time.

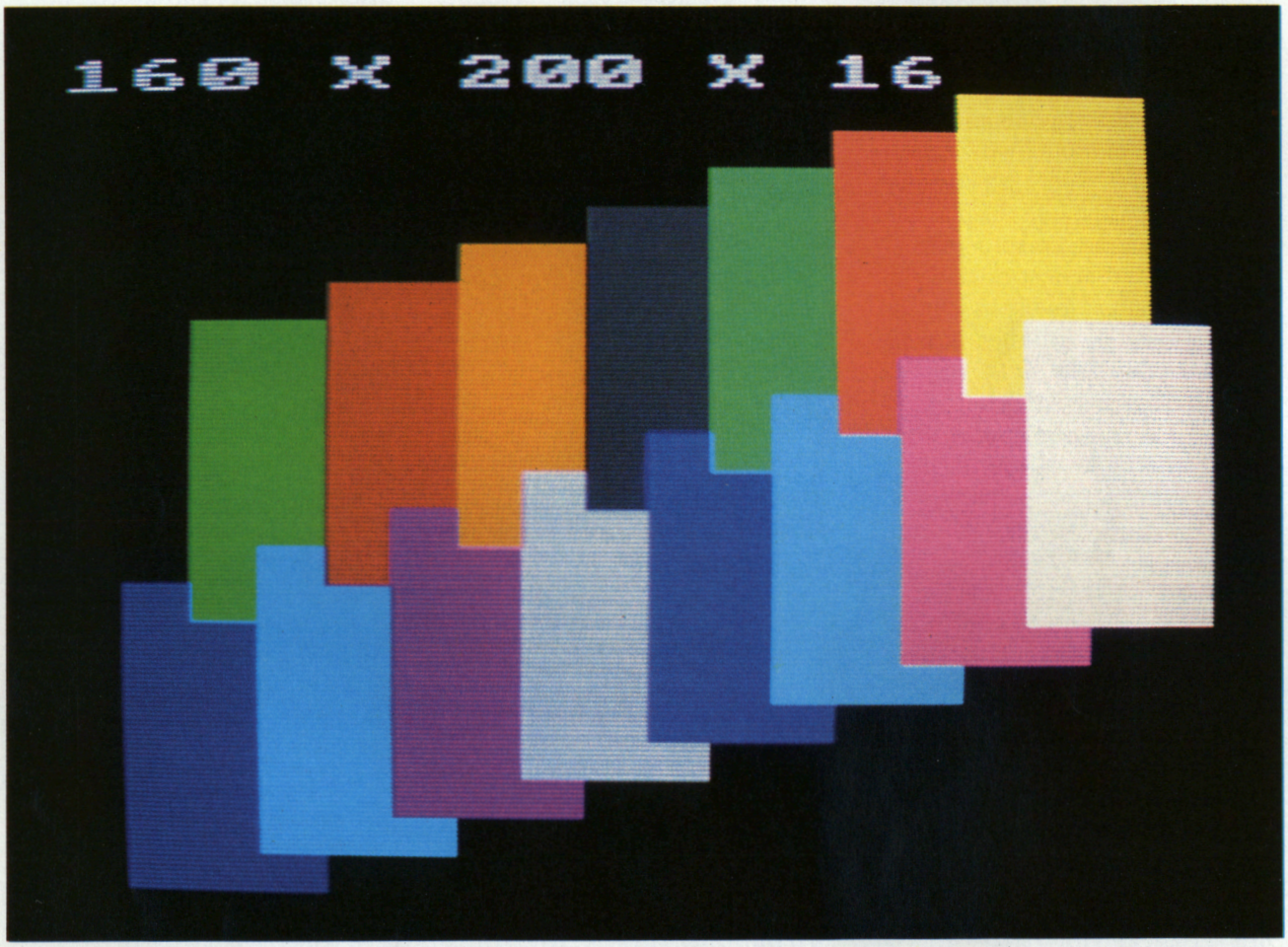
Even if there is a problem with the computer, you are in luck. PCjr comes with a 12-month warranty. In an industry in which 90-day warranties are the norm, IBM set a laudable precedent when it opted to offer PCjr buyers nine additional months of protection from mechanical troubles. Since IBM offers only the standard 90-day warranty for its best-selling PC, the offer of a one-year warranty is a boon for PCjr customers.

The IBM warranty promises that the company will exchange any nonfunctioning PCjr component—the keyboard, system unit motherboard, or transformer—for a new or reconditioned component. Internal IBM parts such as the Memory and Display Expansion board and disk drive fall under the same warranty.

The idea of trading bad for good computer parts is not entirely new. IBM dealers usually exchange PC and XT keyboards, monitors, and printers that are under warranty. But PCjr is a "disposable" computer—all internal and external parts will be automatically exchanged in the stores. IBM technicians will then decide if the part can be repaired and used again or must be thrown away.

It Pays to Be Careful

The IBM warranty does not cover damage caused by accident, disaster, misuse, abuse, or non-IBM modification of the product. In other words, if you accidentally drop the system unit down your front stairs, or if your 3-year-old pours honey in your disk drive, you are out of luck.



PCjr's 16 colors as displayed during diagnostics.

I count 15..... unless black is #16

IBM spokespeople refused to comment on what "non-IBM modification of the product" means. However, it is likely that if a PCjr owner adds more options (such as a second disk drive) than the company announced at the computer's unveiling, IBM will not honor the warranty.

Identifying the Problem

A nice feature of PCjr is the built-in diagnostics program included in the computer's read-only memory (ROM). When you run the program, the diagnostics identify malfunctioning parts such as the keyboard and the system unit motherboard, components such as the internal modem and the Memory and Display Expansion board, and peripherals such as a thermal or parallel printer or a joystick. The diagnostics help pinpoint computer trouble so you can call your dealer with the information needed to help get PCjr fixed quickly. Besides saving time, the diagnostics can save you the trouble of bringing in all your PCjr components, parts, and peripherals if only one item needs to be fixed.

Step-by-step instructions for running the diagnostics are found in the *Guide to Operations*. These instructions include some valuable tips to keep in mind when setting up and operating your system. For example, the book advises you not to set up your computer in extremely bright light such as direct sunlight or bright fluorescent light because strong light can interfere with PCjr's infrared keyboard.

Icons Show the Way

Two PCjr test menu screens with drawings called icons appear on the PCjr monitor during the diagnostics. These picture menus are helpful, easy to understand, and make testing the system easy and quick. The first menu (see Figure 1) has pictures representing a floppy disk, a monitor, a joystick, a speaker, a keyboard, and a modem. The second test screen has one or two drawings of printers, depending on the number of printers connected to your PCjr. Each drawing has one or more "test tags"—numbers or letters that appear underneath each icon. The numbers or letters blink if the option is part of your system.

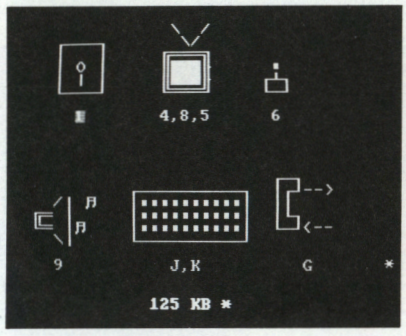


Figure 1: The first PCjr test menu

Test tags underneath components like the keyboard and the television and 40-column display that are part of every PCjr always blink. The "K" test tag, which is found under the keyboard icon, is, according to the guide, "reserved for future use." An IBM spokesperson said that the tag is reserved for a future 83-key keyboard resembling the PC's.

To run a diagnostics test from the menu, move the cursor onto a test tag, press the <Enter> key, and follow the testing instructions listed in the *Guide to Operations* and shown on the screen.

If, for example, you are having trouble saving data on your floppy disk, run the disk drive diagnostics to see if the drive is working properly. To test the disk drive move the cursor to the test tag under the icon of the floppy disk and press <Enter>. PCjr's monitor shows you a disk being inserted into the disk drive and coming out erased. These pictures remind you to use a blank disk during this test so that you don't lose any data. You are then instructed to insert a disk, type the letters MPNP, and press <Enter>. If you type the wrong letters, PCjr beeps once and waits for you to backspace and type the correct letters.

Once you press <Enter> PCjr checks the disk drive and then replaces the first test menu on the screen. An asterisk appears under the floppy disk icon if the disk drive is working properly. If it is not, you receive an error message telling you to have your computer serviced.

Major Trouble

Of course, your PCjr might be so damaged that none of the diagnostics work. If a manufacturing error in the system unit motherboard is causing a problem, for example, the PCjr power might not turn on or the screen might appear blank. If that happens, box up your PCjr and head to your dealer. For the most part, however, the diagnostics can quickly help you determine what's wrong with your computer. With PCjr's built-in diagnostics, you don't need a medical degree to play computer doctor.

Katie Seger is an Assistant Editor for PC World Special Editions.

The best . . . for peanuts!

Get the most computing power from your IBM/PC Jr. with these exciting Amdek monitors.

The COLOR-I accepts composite video input for complete compatibility . . . and it has a built-in speaker and quality resolution. It's the most popular color monitor in the entire world!

The VIDEO-300 with amber or green screen provides 80 column text or graphics display capability . . . and its nylon mesh, non-glare screen eliminates distracting reflections.

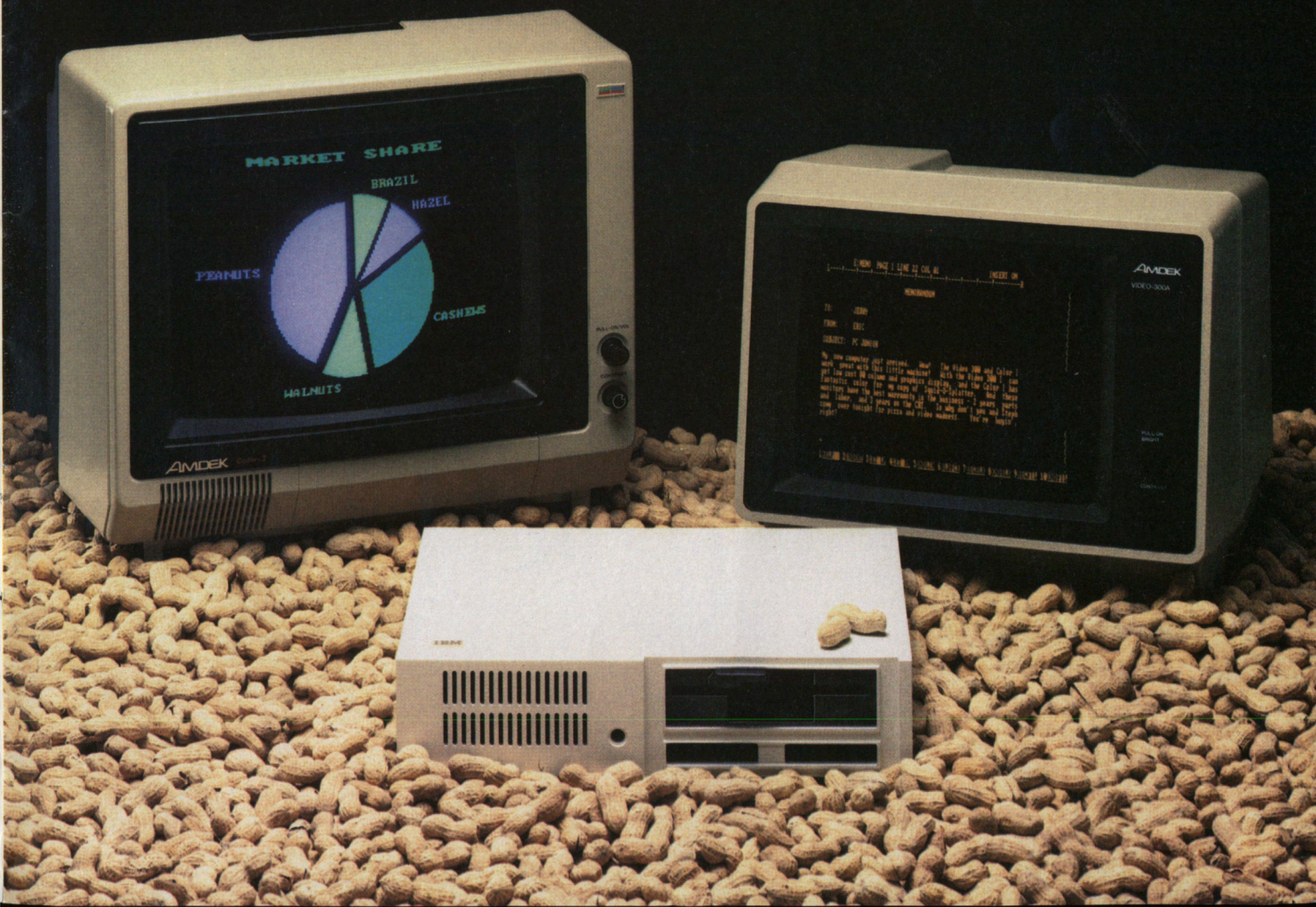
Both monitors are backed with the best warranty in the business (2 years!) . . . and you won't have to shell out a lot of money to own one.

2201 Lively Blvd. • Elk Grove Village, IL 60007
(312) 364-1180 TLX: 25-4786

AMDEK

REGIONAL OFFICES: Southern Calif. (714) 662-3949 • Texas (817) 498-2334
Northern Calif. (408) 370-9370 • Denver (303) 794-1497

Circle 204 on reader service card



KEY TRONIC

RESPONDS

KEY TRONIC RESPONDS WITH THE CAPABILITIES, PRODUCTS, AND PEOPLE THAT HAVE MADE US THE WORLD'S LEADING KEYBOARD MANUFACTURER.

CALL US FOR YOUR KEYBOARD NEEDS TODAY.

key tronic

THE RESPONSIVE KEYBOARD COMPANY

P.O. BOX 14687 — SPOKANE, WASHINGTON 99214 U.S.A. • PHONE (509) 928-8000 — TWX 510 773-1885

Circle 229 on reader service card

Finally, Software The Way You Would Have Designed It Yourself

Because if you designed your software, it would include only the functions you need. It would include Computer Aided Training for you and your staff, and would be backed by the most extensive software support network available. Only Pyramid provides this to you in the NumberCruncher™ series of software products. You decide which functions you need, then choose your system.

NumberCruncher I™ AND NumberCruncher I jr™

FOR THE IBM PCjr

NumberCruncher I™ provides you with full Text Editing integrated with a Spreadsheet System. You define your Spreadsheet exactly as you want, inserting text and numerics wherever required. Columns and Rows may be different sizes and do not need to be aligned vertically. No longer are you confined to a cumbersome column and row format. Finally, with one system you can create a report including a Spreadsheet or Projection that is suitable to present to anyone. No need to swap disks, re-type data, or cut and paste.

NumberCruncher II™ AND NumberCruncher II jr™

FOR THE IBM PCjr

NumberCruncher II™ starts where NumberCruncher I™ stops. In addition to Spreadsheet and Text Editing, NumberCruncher II™ provides you with Information Management and Table Driven Forms Generation. Now you can use your computer to fill in pre-printed forms, such as insurance forms, tax forms, loan documents, and escrow documents without the need to thumb through clumsy rate schedules. NumberCruncher II™ stores your rate tables. You can also create complete computer printed forms, such as invoices and purchase orders. And NumberCruncher II™ will store information from the forms created so that you can create summary management reports.

NumberCruncher III™ AND NumberCruncher III jr™

FOR THE IBM PCjr

The list of applications that NumberCruncher III™ can be used for is endless. It combines full Relational Data Base Management and Application Generation with all of the functions of NumberCruncher I™ and II™ in one completely integrated system. Your capacities are only limited to your disk size. Now your entire business can be operated around a single software "environment". You customize NumberCruncher III™ to fit your business, whether it be accounting, farm distribution, retail, or any other type of business. You know your business, and your computer should run like your business runs... not like someone else thinks it should. NumberCruncher III™ puts you in command of your computer and your business.

NumberCruncher Series:

Your business changes on a daily basis. The NumberCruncher™ series gives you software that grows with your business. As your needs change, you can upgrade to another NumberCruncher™ system and receive a substantial credit for the NumberCruncher™ you have already purchased.

Now, you have the software you need . . .

ONLY FROM PYRAMID™

PYRAMID DATA

PYRAMID DATA, LTD. - P.O. BOX 10116 - SANTA ANA, CA 92711 - (800) 521-2233 (In Calif. (714) 639-1527)

COPYRIGHT© 1983 PYRAMID DATA, LTD., ORANGE, CA

Circle 544 on reader service card

WELCOME A-BOARD TECMAR GREETS THE NEW PCjr

We're glad you're here, PCjr. Tecmar will have a boat-load of products for you. Our PC-Mate product line has been steered in your direction. At the helm is the Tecmar *EXPANSION CHASSIS* to give you more slots. Tecmar can also deck you out with a new *MULTIFUNCTION BOARD* for memory and communications. Also on board is a *TELEPHONE/MODEM* and Tecmar's unique *VIDEO DISK/COMPACT AUDIO DISK CONTROLLER.* Our 'sails' are set for you, PCjr.

TECMAR

Circle 190 on reader service card

Telex:466692

Tecmar Inc. 6225 Cochran Road Solon (Cleveland), Ohio 44139-3377 Phone:(216)349-0600