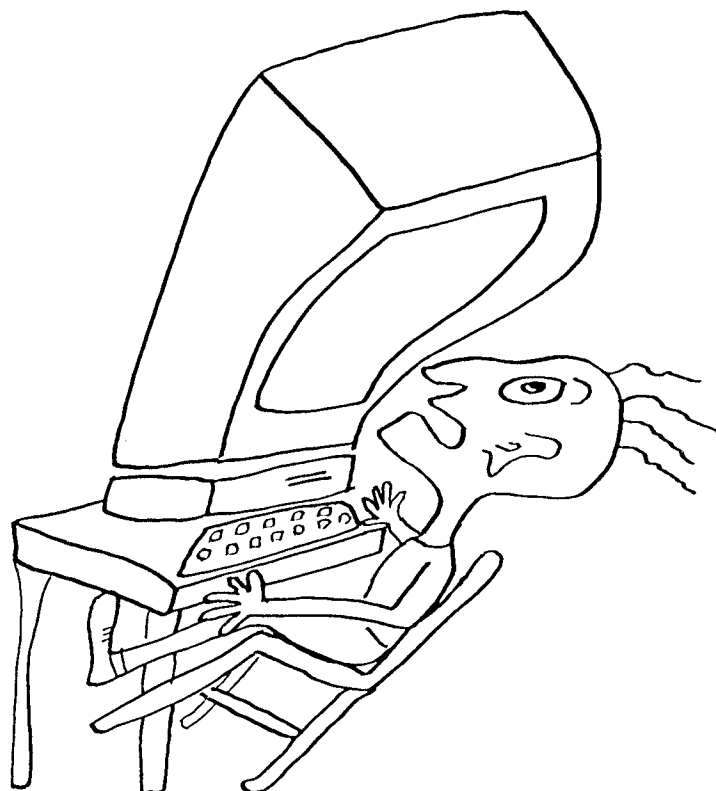## Three Ways to Overcome Computer Intimidation

Computer chickens -- you know who you are. You don't have to admit it publicly, but if you are one of the thousands of PCjr owners who are intimidated by their computers, this article is for you.

The PCjr is not known for being fearsome. In fact, its size and its orphaned status make it something sophisticated computer users look down on. Might even be considered cute.

But to a beginning computer user ANY computer, even one that used to be called the "peanut", can cause fear and trembling. Even those of us who have used computers for years can remember those first encounters with the big brain in the box. We were afraid primarily of two things -- that we would push some key that would cause the computer to blow up, or we would make a mistake so foolish the computer would laugh out loud at how dumb we were.

It doesn't take long to realize that neither of those things are going to happen. There really isn't any key or combination of keys you can erroneously press that will harm your computer.

In fact, it may be comforting to know that the PCjr keyboard is so indestructible that one PCjr user we know put

it through his dishwasher when it got dirty and it still works perfectly.

As for the second fear, you certainly can do some dumb things while learning how to use your PCjr, but rather than laugh at you, your computer will more than likely beep at you. This can be irritating, but it shouldn't be humiliating.

Most readers of this newsletter have gotten beyond the fear and trembling stage, but we know from the letters we receive that a great many of you need help learning how to do the things you want to do with your PCjr. Those of you in the beginning stages can gather from the articles and letters that appear in this newsletter every month that the PCjr, however humble, can do many, many useful and entertaining things. In fact, with added memory and other goodies available from PCjr support companies, the PCjr can do almost everything any other computer can do.

So, here are our three suggested ways of overcoming computer intimidation: 1. Think of your PCjr as a friend who takes a while to get to know. A friend who is ready to serve you faithfully with a little understanding on your part.

jr Bulletin Board Systems

The following Bulletin Board Systems are set up to serve PCjr owners. Since BBSs are notorious for floating in an out of existence, there are probably some on this list that have vaporized since we heard of them, and others that have popped into being as well.

Some of the BBSs listed below are not completely devoted to PCjr users, but have significant PCjr sections.

If you have information on jrBBS's that you don't see here, we would appreciate it if you would share it with us so we can update this list from time to time.

CALIFORNIA:
PCjr User's Group, Ventura, CA:(805) 656-1519
San Francisco PCjr Users Group:(415) 997-4874
Racore:(801) 363-8720
Rau Consulting:(209) 745-9284
Oaks PCjr RBBS:(213) 659-7187
Wildcat! (805) 399-1887
Ventura PCUG, Ventura, CA:(805) 658-1195
COLORADO:
PCjr Net, Englewood, CO:(303) 789-4610
CONNECTICUT:
Expressline, Greenwich, CT:(203) 622-9304
ILLINOIS:
Beaker's Beacon, Chicago, IL:(312) 589-2827
Chicago PCjrUG:(312) 741-5757
INDIANA:
Elkhart PC Group + PCjrs:(219) 875-6430
LOUISIANA:
New Orleans JUG:(504) 366-0954
MARYLAND:
jr BBS, Rockville, MD: (301) 468-0984
MASSACHUSETTS:
Bionic Dog, Newton, MA:(617) 964-8069
MICHIGAN:
Blase, Grand Rapids, MI:(616) 784-4179
Peanut Gallery, Troy, MI:(313) 585-3893
Tony's Corner, Warren, MI:(313) 754-1131
Lil' Blue, Grand Rapids, MI:(616) 243-2654
MINNESOTA:
PCjr Express, St. Paul, MN:(612) 644-6302
TC PCjr Users Group,MN:(612) 545-5014
Turning Point, Eden Prairie, MN:(612) 926-5666
NEBRASKA:
Legacy RBBS:(402) 466-8114
NEVADA:
Raiders, Las Vegas, NV:(702) 641-6649
Reno Connection, Reno, NV:(702) 972-4682
NEW HAMPSHIRE:
Downeast Roots, Rye, NH:(603) 964-7912
NEW JERSEY:
Jr Connection, Woodbridge, NJ:(201) 636-5064
Paradise, Cranford, NJ: (201) 272-4249

NEW YORK:
NoVaSys Fido, New York, NY:(212) 304-8553
Eastern Queens, New York, NY:(718) 343-2185
Finger Lakes, Honeyoyo Falls, NY:(716) 624-4034
OKLAHOMA:
Broadside PCjr, Tulsa, OK:(918) 496-2055
American Fido, Okl City, OK:(405) 843-5002
OREGON:
PC Connection, Portland, OR:(503) 659-7362
PENNSYLVANIA:
WestPenn, Pittsburgh, PA:(412) 367-2505
jr Domain BBS:(215) 752-2053
Pacs Jr, Philadelphia, PA:(215) 752-2053
TENNESSEE:
Bits & Bytes, Nashville, TN:(615) 226-6628
The Anarchist's, Memphis, TN:(901) 685-8543
Micro-age, Nashville, TN:(615) 360-2190
TEXAS:
Computer Reset:(214) 272-7920
Jr Soft, LaPorte, TX:(713) 479-2985
Jr Micrologi, Spring, TX:(713) 353-5289
Powerhouse, Houston, TX: (713) 466-7377
Underworld, Houston, TX: (713) 292-6446
UTAH:
Apocalypse Now, Sandy, UT:(801) 561-9856
Racore BBS, Salt Lake C, UT:(801) 363-8720

IBM Reduces PC User Support

IBM has announced that it will cease publication of its highly informative Exchange, the PC user bulletin which was distributed to PC user groups around the world.

In its place, IBM will publish something called Update, which will be less about how to use a PC and more about IBM products.

Even though Exchange was primarily devoted to the PC and its big brothers, XT and AT, the announcement is something of a blow to PCjr owners since Exchange occasionally ran articles on PCjrs.

IBM has transferred its user group support to the National Distribution Division's National Support Center in Atlanta, GA, which will operate an Electronic Bulletin Board Service (EBBS) with information about PC related products.
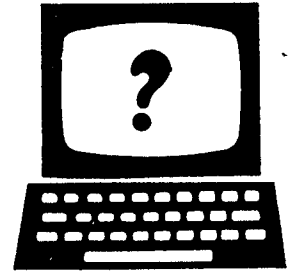
The EBBS number is (404) 988-2790.

Questions and Answers

Q. I am a satisfied user of PC-File for all my database work and I have obtained all the updated versions as they have come out. Now, when I use the latest version, I have trouble with some of my older data disks that were created with earlier versions. Why is that and what can I do about it?

A. Sometimes when software is updated, the changes made in the newer version are so significant that they are no longer interchangeable with older versions. This has happened with PC- File. There are two ways to deal with this. One is to simply keep on using the older version when you want to work with an older data file that was created with that version. Another is to convert your older files so they will work with the newer version.

Jim Button, author of PC-File, provides excellent manuals when you register for his shareware versions of PC-File. These tell you how to convert older files so they can be used with newer versions. He says that versions prior to 3.0 should be interchangeable, but starting with 3.0 the structure of the database index was changed to allow for a greater number of records per database. There is a program on the later versions called PCFIX, which will make the conversions for you.

Q. What is the least expensive way for me to add speed to my PCjr?

A. If you have enough memory, the no-cost way to speed up your PCjr is to use a RAM disk. This will increase your speed dramatically. Consult your memory expansion instructions for ways to create a RAM disk (sometimes called a virtual disk or memory disk, because it exists in your computer's memory). Or check back issues of jr Newsletter for one of the many articles we have published on the subject.

You will also get a dramatic increase in speed by adding a hard disk to your PCjr, although it will cost you at least $500.

Replacing your 8088 chip with a NEC V20 chip will increase the processing speed of your PCjr by as much as 15%, depending upon the software you are running. There are, however, about 5% of the PCjrs which have soldered 8088 chips, rather than socketed ones, which makes installation of the V20 more difficult. V20 chips are available for under $20.

The jr Video Cartridge from PC Enterprises also has the effect of speeding up your computer's speed because it carries out screen writes, the display of data on your monitor, much faster. The cartridge plugs into the PCjr cartridge slot and costs $29.95.

Another possibility is to simply move up to a newer version of the software you are using. Although this doesn't add speed to your computer, it can have the same effect, since many software upgrades involve greater efficiency and improved execution speed. This is particularly true of spreadsheet and database software.

If you are interested in any of the products mentioned above, check the advertisements in this issue for prices and ordering info.

Q. Aside from jr Newsletter, how can I get help and information on using my PCjr to its fullest extent ?

A. User groups are usually good places to find information and to talk with other PCjr owners who can share information and tips. We will soon be publishing an updated list of the PCjr groups we know about. The last list we published was in our October 1986 issue. We know of several groups that have dissolved, and others that have merged with PC user groups. If you don't want to wait for the new list to be published, we suggest you contact a PC user group in your area. You might find that they have a subgroup of PCjr owners. Even if they don't, much of the information and tips that might be discussed at a meeting of PC owners would most likely apply to you as a PCjr owner since your PCjr uses DOS and can run 98% of the software that runs on a PC, if you have the required memory.

Another good source of tips and answers to questions you may have about your PCjr is bulletin boards. Many of the ones listed on page two contain message sections where PCjr users ask questions and other users provide answers. If you don't have a bulletin board in your telephone area, you might consider joining Compuserve, which has an active PCjr Forum with a regular exchange of information, tips, and downloadable software. You can join Compuserve by calling (800) 848-8199.

New Disk Provides Answers To Compatibility Questions

Want to know whether Turbo Tax will run on a PCjr? Or how to solve a joystick problem with Ancient Art of War?

The PCjr Compatibility Disk (Disk #60) that we've just added to our software collection might be able to help you out. This disk contains all the information on what software runs on PCjrs and what software doesn't, as well as tips on solving software problems, that we've been able to gather from many different sources.

The disk contains a list of nearly 300 software titles. Listed with each title is whether or not it is PCjr compatible, how much memory is required to run it, and, where applicable, any tips we may have on how to run that title on a PCjr. The list is a compilation of several lists put together by PCjr users around the country. It is not complete in the sense that it lists all software you might want to use, but it is based on the experience of PCjrs actually using that software on their computers -- and that is the most valuable kind of information you can get if you use a PCjr yourself.

Included in the listing is information we obtained from a survey of jr Newsletter readers, who were asked to tell us about their favorite software titles. It also includes tips we have collected through our own experience, the experience of our readers who have taken the time to share information with us, and several other similar listings compiled by PCjr user groups.

We considered publishing the information in jr Newsletter but decided against it since it would have taken up the better part of two whole issues. The data contained on the diskette is, to the best of our knowledge, accurate, although, since it came from many sources, we cannot guarantee it as such. We do feel it will be a valuable guide to PCjr users who want to explore new software.

For ordering information, see page 13.

Hints for Using WordPerfect on PCjrs *By John King*

WordPerfect 4.1 and 4.2 are powerful, expensive ($225, discounted price) word processing programs. If you need to use one of these, you'll find that they work extremely well on a single disk drive PCjr as long as you have at least 512K of RAM.

Fortunately, WordPerfect has an option which allows the whole program to be loaded into memory. If you copy the other files needed by WordPerfect to a ramdisk, the program disk can then be removed and is not needed again during the session. The disk drive is then available for a data disk, the Speller disk, or the Thesaurus disk.

You will need to create a ramdisk and copy these files to it:

    WPFONT.FIL   WPPRINTER.FIL
    {WP}SYS.FIL   WPHELP.FIL

These files take up about 75K bytes.

PCjr SKYCRAPER shown above includes four different drives. From the bottom they are: 5 1/4" 360K drive, 5 1/4" 1.2 megabyte drive, 3 1/2" 720K drive, and 20MB hard drive.

What may be the world's tallest PCjr is owned by PC Enterprises, which plans to feature this photo, which includes other of the company's products, on the cover of an upcoming catalogue. A second 20MB hard drive usually sits on top of the first hard drive, but was removed for purposes of the photo. (Photo courtesy of PC Enterprises, Belmar, NJ).

If you are using a sheet feeder, you will have to copy WPFEED.FIL, as well.

WordPerfect will also store temporary overflow files on the ramdisk if you are working on a large document. Therefore, it should be at least 100K. However, be sure to leave at least 300K free memory for WP.EXE. You can use CHKDSK.COM from your DOS disk to check free memory after the ramdisk is installed. The command to start WordPerfect is:
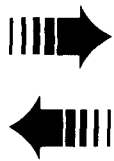
    WP/R/D-C:

The /R loads WP.EXE completely into memory, and /D-C: tells WordPerfect to find all necessary files on ramdisk C:. If your ramdisk is not C:, substitute the appropriate letter.

As finishing touches, you can try these. Add the line BUFF-ERS=10, or 20, to your CONFIG.SYS file. This will speed up the loading of large programs. Write a batch file to do the copying to the ramdisk, or add this to the AUTOEXEC.BAT file. Add the line SET WP=/R/D-C: to your AUTOEXEC.BAT file. Then, you can start WordPerfect with just WP and the options will be automatically invoked.

For more information, consult the Installation and Appendices manual in your WordPerfect binder.

(The above article was originally published in the San Francisco PCjr Users Group Newsletter)

Software Misrepresented

Your request for feedback on software: regarding "Ability-Plus" software. It did not work on my jr or on the computer at ComputerLand, so I sent it back and demanded my money back. After I threatened to advise the attorney general of the state and BBB, I received a check for the full amount and deposited it. The software was sold by telephone using high pressure. The salesman misrepresented it, saying it would do footnotes. It would not. That was one of the grounds upon which I demanded the refund.

Joe Hattersley

OKIDATA Upgrade Tip

On p.8 of the December issue there is a note on upgrade chips for printers. I recently upgraded my OKIDATA 82A with a chip which emulates the IBM PC Graphic Printer and have been very satisfied with the results. This chip is produced by: Rainbow Technologies, 18011-A Mitchell South, Irvine, CA 92714 (714) 261-0228, Helen Schilling - Sales Representative.

The chip was advertised in BYTE magazine (Aug. 87, p. 311) for $99.

Herb Holden, Associate Professor Department of
Mathematics and Computer Science,
Gonzaga University, Spokane, WA

PCjr Helps National Guard

I have a PC application that I think you haven't run across.

I am the commanding officer of the 1st Battalion, 14th Regiment, NYGuard. This organization consists of a headquarters detachment, headquarters company, and one line company. Currently we are in cadre status only, nevertheless, our current composition is 6 officers, 1 warrant officer and 64 enlisted persons.

We were constantly riffling through personnel files to establish re-enlistment dates, and the other minutia of a military organization. Our T/A has no provisions for data processing equipment, so the PCjr was called to the colors.

I developed a personnel profile on PFS File which has worked admirably. Now, every individual has a file delineating all personnel information in addition to training accomplishments, decorations, disciplinary actions, etc., all accessible at single location.

The file is updated as required with the hard copy filed in a loose leaf binder. As significant entries are made, pages are changed, and when an individual leaves the unit, the file page is removed to the inactive files. Of course this does not replace the official military records, but it enables the HQ Personnel Officer to research personnel with a minimum of file disruption.

I have attached a print-out of a typical individual file it illustrate the procedure. The system is readily expandable if and when the unit is brought to full strength. Without my PCjr on the job, the staff hours required to handle this chore would necessitate detailing personnel away from their regular tasks, with the inevitable loss of time which should be utilized for scheduled training.

William Scheck, LTC INF NYGuard, Commanding,
Brooklyn, NY.

EDITOR'S NOTE: This is the first instance we've heard of where a PCjr served honorably in the armed forces. The print-out attached with this letter showed how a good computer (and operator) could provide for efficient handling of complex records.

Report On Quickbasic 4.0, Quick C, Quattro, MM Assembler 5.0

I'm responding to your call for information about new software. As you know, both Microsoft and Borland are presently upgrading all their languages. I have recently received Quickbasic 4.0 and Microsoft Macro Assembler 5.0 with Codeview. I have also recently purchased Quick-C and Borland's new spreadsheet, Quattro, to run on my 640K Racore Drive II PCjr. I run in the jr mode, I have DMA, but I don't activate it.

Quickbasic 4.0 and Quick-C, like Quickbasic 3.0, will not run correctly as received, however John Bongiovanni's INT9SYS.SYS (available on disk 56, JRPATCHES) is all it takes to correct this. Both of these are capable of compiling and linking to a stand alone executable file from within the integrated environment. Unfortunately, both compilers, along with their associated libraries and includes, are so large that this is very cumbersome, unless you have a hard disk. With only two 360K floppys, I find it more practical compiling object modules from the integrated environment, and then linking separately from the command line.

MASM 5.0 seems to work well, just as MASM 4.0. CODE-VIEW, which comes with MASM 5.0 is interesting. It runs, but it is capricious. It wouldn't start from the demo.bat on the distribution disk, but ran well from the command line. It ran through most of the demo routine before hanging up. It can't seem to access its own help file. It hangs up in the return from the OS Shell command from the pulldown menu. Still, it runs well enough to be useful.

Overcoming Computer Fear

2. Forget everything you heard, read or thought about computers being easy to use. As with most things that are worth doing, using your computer well requires an investment of your time and effort. 3. Both beginners and intermediate users can start right now by reading the following article, the first in a series, by Gary West, a computer consultant and PCjr expert who has the gift of being able to explain technical things in simple terms.

Introducing Your PCjr

By Gary West

The equipment that you have purchased has three physical components:

(1) the keyboard, (2) the system console, and (3) the screen on which you see what you type.

These pieces of equipment are designed, respectively, for (1) input, (2) action, and (3) output.

It is possible that you have a couple of other pieces of equipment, also. You may also have a cassette recorder/player and a printer.

For the "Entry" model PCjr, the cassette recorder/player is necessary if you plan to write programs that you will want to save for use at later times. The "Enhanced" model has a built-in disk drive (in the system console) and you do not need the cassette recorder/player--unless you want to use it for "backup" purposes. Both the cassette drive and the disk drive can be used for input or output of information.

Our discussion will concentrate on the "Enhanced" model so that we can discuss the use of all the possible parts of the PCjr system.

The system is really organized like this: the computer is the computer and everything else is PERIPHERAL. Thus, the memory and processing units that are built into the system console are the computer; the cassette recorder/player, the disk drive, the cartridge slots, the printer, and the screen are all peripheral devices--or, simply, peripherals.

The equipment is called the HARDWARE. The term, SOFTWARE, is applied to programs and other items that are printed on paper, or are stored on disk, tape, or cartridge.

THE KEYBOARD

The keyboard is your means of talking with the computer. You type things you want the computer to understand and the computer does one of two things: it (1) understands or (2) doesn't understand. If it doesn't understand, it will tell you that it doesn't understand AND will try to tell you what has confused it so that you can try again. You will find that the jr is very easy to talk with and that it really wants to get along with you.

THE SYSTEM CONSOLE

The computer is housed inside the system console. Actually, the system console contains the computer, the disk drive, and two cartridge slots. The computer contains the operating systems and memories (for immediate use) and the disk drive, which allows you to store your programs and data (for later use).

THE SCREEN

The screen is the major output device because most of the things we want the computer to show us can be displayed on the screen. The screen has two dimensions:

(1) the number of lines it will display and

(2) the number of characters that each of those lines will hold.

The screen for the Entry PCjr has 25 lines and each of those lines will hold 40 characters. Therefore, the screen is said to be 25-by-40 (written "25X40") and will hold up to 1000 characters. When the screen fills with characters, it will SCROLL up; the top line will disappear as it scrolls off the top of the screen so that more lines can be added at the bottom. The lines that go off the top are not lost; those lines are still in the computer's memory, but they are not displayed because the screen is full.

For the Enhanced PCjr, the screen dimensions may be either 25X20, 25X40, or 25X80. However, if you are using your TV set, you will find that 80 characters per line are almost impossible to read because of the low level of resolution of the TV screen. With a monitor--either a composite or a direct drive

color monitor--the resolution is sufficient to make 80-character lines quite readable.

The normal screen (described above) is called the "text" screen because you can put only text--letters, numerals, and other characters--on that screen.

The jr also provides up to six graphics screens on which you can draw pictures and play games as well as type text.

For now, we're interested only in the size of those screens. Each screen is divided into small dots (called PIXELS--short for "picture elements"), each dot of which can be turned on and off and colored so that you can create pictures and charts. For "low-resolution" (called "lo-res") graphics, the screen has 200 rows of pixels, with 160 pixels per row. Lo-res graphics are available only for the Enhanced jr. For "medium-resolution" ("med-res") graphics, the screen has 200 rows with 320 pixels in each row. For "hi-res" graphics, the screen is 640X200 (that is, there are 200 rows with 640 pixels in each). Obviously, your screen doesn't get larger as you change from text to lo-res to med-res to hi-res graphics. In order to get more pixels per line, those pixels are made smaller and smaller so that the screen's resolution capabilities are increased. When you press a key, a character is printed on the screen. You will notice that the character is always printed at the place where the CURSOR is located (the cursor is that little line that keeps running across the screen as you type). The cursor actually identifies what is called "the next print position." The cursor for the graphics screens is a solid block and does not flash.

The screen is the OUTPUT device through which the computer may talk with you after you have talked with it. The computer can talk to you in words, shapes, and/or colors--in addition to sounds--depending on what you've told it to say and how you've told it to say it. However, the screen is not the only output device that your computer system can include.

THE DISK DRIVE

The disk drive is BOTH an input and an output device. It can be an input device when you insert a disk into the drive and key in the appropriate commands, instructing the computer to copy into its memory whatever you need from the disk. It can be used as an output device when you decide to save a program or some information that you have in the computer.

The disk drive is controlled by the computer and by what you tell the computer to do. The computer will turn on and off the drive unit at the appropriate times and will carry out whatever instructions you give to it.

The purpose of the disk drive is to allow you to save important material that you will need from time to time. It is a "mass storage device" in that it can store (on disk) much more than the jr could store in its memory. The storage of information is important because the jr (and every other computer) forgets everything that you might have put into its memory when the power is turned off. The disk drive is one of the most important components of your computer system because it provides a way for your computer to never forget.

THE PRINTER

Besides the disk drive there are two other pieces of hardware that can be used for output. One of those is, of course, the printer.

With a special printer interface, you can add almost any of the many types of printers to your PCjr. Dot matrix printers are the most popular because of their speed and their relatively low price.

Almost all of what we discuss about printer will apply to any dot-matrix/graphics printer (although the printer's manual will provide most of the information you will need in order to use your specific printer in the appropriate manner).

THE CASSETTE DRIVE

Another output device, which may be used for input or output, is a cassette drive. A cassette drive is another term for a cassette player/recorder. You may use any good quality machine and any high quality cassette tape in order to accomplish most of the same things that can be done with the disk drive. However, the cassette drive for mass storage is much slower and has more limitations in use than does the disk drive.
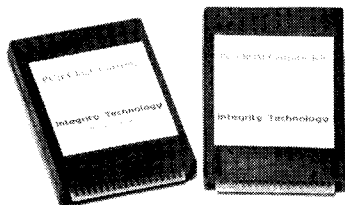
THE CARTRIDGE SLOTS

We have discussed the input capabilities of the keyboard, the disk drive, and the cassette drive. Also, built into the system console are two cartridge slots, which are input devices. These slots work in the same way that the slots on the early video games machines work--except that the jr allows you to use two cartridges at one time, and those cartridges are not limited to games. In fact, "cartridge" BASIC is supplied on

Overcoming Computer Intimidation

Continued from page 7

a cartridge that uses one of these slots. The cartridges are also action-oriented in that the computer can use the cartridges just as it would use its own system for doing things.

SYSTEM SUMMARY

The PCjr system can be summed up like this:

(1) INPUT hardware:
- (a) keyboard;
- (b) disk drive;
- (c) cassette drive; and
- (d) cartridge slots;

(2) ACTION hardware:
- (a) computer system; and
- (b) cartridge system;

(3) OUTPUT hardware:
- (a) screen (TV, composite or color monitor);
- (b) disk drive;
- (c) cassette drive; and
- (d) printer.

And there are other peripherals that you can purchase in order to expand your PCjr system. Discussion of such devices is beyond the scope of this article, but you should plan to look at newsletter and magazine articles that describe the use of the MODEM and your telephone, your video tape player/recorder or your video disk player, and--as yet, unthought of--other devices designed to help you get the most from your system.

YOUR COMPUTER'S MEMORY

The one thing that makes the computer worth anything to those of us who are human is that the computer can remember many things--and it can remember those many things for long periods of time.

In fact, the computer has several memories and each of those memories has specific functions with regard to those things we ask the computer to do.

The computer's memories are, basically, no different from our own--except that ours are much more complex than those of the computer. Each of us is born knowing how to breathe, how to cry, how to suck--we are born knowing a lot. As we grow older, we learn a good many things that can be remembered--things that we put into our memories for later use.

We who are human tend to create things that function very much as we function. Computers, therefore, are born knowing a lot. As they are used more and more, they learn more and more and they put those learned things into their memories for later use.

The learning process--for computers--is called programming.

READ-ONLY MEMORY

The computer is born (removed from its cardboard case) with some things already in one of its memories. The computer's in-born memory is in its ROM (for humans, the in-born memory is in the DNA). ROM is an abbreviation for READ ONLY MEMORY. The ROM is called "READ ONLY" because it never learns anything new; the computer may only "read" from the ROM; it cannot "write" new things into the ROM.

The ROM simply contains everything that the computer already knows when you turn it on. It is the only part of the computer that knows anything at all; everything the computer does, it does because the ROM knows what to do.

RANDOM ACCESS MEMORY

The part of the computer's memory--which can learn new things--is called the RAM--the RANDOM ACCESS MEMORY. It's called "RANDOM ACCESS" because it is that part of the computer's memory to which you have access--into which you can put the information that you want the computer to learn and use. The "random" part of RAM means that you can put your information into that memory at any point you choose.

Everything the computer learns goes into the RAM. And like the rest of us, the things the computer is born with (the ROM) and the things it learns in life (put into the RAM) determine what it can and will do. Humans and computers are born with potential, and that potential is developed as we interact with those things around us. Our computers are not very different from us.

PARTS OF MEMORY

Each of the computer's memories has limited space for remembering things. Memory size is measured in BYTES.

Generally, a byte represents one character--a letter, a numeral, or a symbol. (Bytes are made up of smaller units but, at this point, we're really not ready for even a little bit about those.)

Working with bytes is like trying to weigh an elephant in ounces: the numbers sometimes get larger than we can easily use. So, as ounces are grouped into pounds (and elephants into tons), bytes are grouped into KILOBYTES. The metric prefix "kilo-" means "1000"; thus, a kilobyte should be 1000 bytes.

The truth is that "kilobyte" is used because it's easier to estimate "1000 bytes" than to try to keep track of "1024 bytes"--which is what a kilobyte is really worth.

All this discussion of kilobytes brings us to the use of the symbol "K" to present approximately 1000 bytes.(In much of IBM's written material, you will see KB, instead of K, for "kilobyte.")

The Entry PCjr has 64K RAM; the Enhanced PCjr has 128K of RAM. That simply means that there are approximately 64,000 (or 128,000) bytes of memory into which you can put data for the computer to use.

Let's consider the RAM to which you have access. From the keyboard, you may enter commands or statements and the computer will put those into its memory for later use. But, with 64,000 or 128,000 places to put those commands and statements, the computer must have some system to keep track of where those commands are put--otherwise, the computer may not be able to find them when it needs them (even 64,000 places is a lot of places to have to look.)

The system for keeping track of your data is easy to understand; it's just like the street you live on. Every place has an address and the mailman always knows which mail goes to which house (right?). The memory of the computer is laid out the same way: each of the bytes is numbered and the computer has the ability to remember those numbers because they are sequential. When looking for information, the computer simply looks at the number assigned to the particular byte.

Those numbers are called ADDRESSES and each byte has an address that makes it easy for the computer to find that byte.

The memories we've discussed are called "in-line memories" because they are in the computer and the computer has the ability to use any or all of those memories at any time.

But there are days when there are just too many things going on (and on days like that, the mind just gets overrun and there's just too much to remember). Those days come around for the computer--just like they do for us. If your program, all the information you put into it, the calculations that are done by the program, and a lot of other things that the computer has to use during execution of the program--if all that adds up to more than the available RAM, the computer's memory is going to fill up; and when its memory fills up, the computer will simply not know what to do next.

To prevent such problems, the PCjr system allows us to use another of its memories. That memory (sometimes called the "off-line" memory because it is not built into the computer itself) is the disk storage system.

We can put our program and the information for our program onto disk in order to

(1) take it out of RAM so we can use the RAM for other things and

(2) save it until later so that we won't have to input everything again when we next need those things.

The cassette storage system serves the same purpose although it is handled differently.

In fact, when we talked earlier about the computer's ability to remember things for long periods of time, we were speaking specifically of this "off-line" memory system; the computer, itself, remembers only when it's "on-line" (that is, only when it's plugged in and turned on). When the computer is turned off, everything in RAM is lost forever. So, if you want to keep anything for any length of time, it must be copied to the "off-line" memory before you turn the machine off.

For now, you should know that the "off-line" memory is often called "mass storage." Because one disk can hold more than 360,000 bytes of information.

As we mentioned earlier, computers are useful to us because they can remember better and can recall faster than we can. The trick to taking advantage of the computer's ability to do so is to be able to talk to the computer in a way that the computer understands. For us, that way of communicating is the BASIC computer language.

BASIC

Almost all computers, regardless of size or name of the manufacturer, understand BASIC (or have the capacity to do so when the appropriate software is available). Each BASIC (for each different computer) may be slightly different (BASIC is said to have several different dialects, much like the various regions of the United States have distinct and different English dialects) but if you are familiar with one dialect of BASIC, you can easily understand other dialects, although you may have to make small adjustments in using the other

dialects.

The BASIC dialects that your jr understands are
(1) cassette BASIC,
(2) disk BASIC (two versions), and
(3) cartridge BASIC.

When you are comfortable with the jr's BASIC, you will be able to use most of the personal computers that are on the market today.

You will also be able to translate other BASIC dialects so that your computer can use programs written for other brands of computers.

Our discussion of BASIC for the PCjr will emphasize "cartridge" BASIC because the cartridge is necessary to operate the disk drive.

If you have the "Entry" model, the one without a diskette drive, you are set to begin. Your jr understands that it's going to be using your cassette drive when you're ready to save your programs and data. This is true whether you are using "cassette" BASIC or "cartridge" BASIC with the "Entry" model.

DOS

If you have the "Enhanced" jr, you can choose between your cassette drive and your disk drive--but only if you are using "cartridge" BASIC. Just as with the "Entry" model, both "cassette" BASIC and "cartridge" BASIC understand that the mass storage device is the cassette drive. However, with the "Enhanced" model, you should have received a good-sized box labeled "DOS 2.10" or "DOS 3.00." In that box, you found a manual and a couple of disks. One of those disks is labeled "DOS"--pronounced "Doss," rhyming with "boss" (regardless of your own regional dialect)--and the other is labeled "DOS Supplementary Programs."

Insert the "DOS" diskette into the drive. And be sure that your BASIC cartridge has been inserted in one of the slots under the disk drive.

If your jr is not on, turn it on and DOS will be automatically loaded into RAM. If your computer is already on, you will need to show your dexterity. Hold down the <CTRL> key and the <ALT> key and, then, press the <DEL> key (you can use both hands). DOS will then be loaded.

Following a flash and a beep, you will be asked the date and the time. After answering both items, you will find

A> on the screen--and the cursor will be flashing. Type DIR and press <ENTER>.

You are now looking at the directory for the DOS disk. In the directory, you will see BASIC and BASICA. These are versions of BASIC that the jr will understand.

You should now select either BASIC or BASICA, by typing your choice and pressing <ENTER>. You will see a message that describes the version of DOS and lists all of the copyright dates for the "disk operating system" that the jr will use.

Now you are ready to program.

Each time you plan to use your disk drive during programming, be sure that you "boot" DOS (as we've just described) before you start programming. It's probably a good idea to do that every time you start working anyway.

You should read everything you have about DOS so that you understand ways it can help you do things with your computer. A future article will help you learn to use the major DOS programs and commands.

There's a flashing cursor and an "Ok" on the screen. That is the BASIC "prompt"--the signal to us that the jr is ready for programming.

Why not try this before you go on ?

Type it just like you see it. A note before you type: When you see <ENTER>, press the <ENTER> key on your keyboard.

```
1 REM--GETTING TO KNOW YOU--<ENTER>
10 CLS <ENTER>
20 PRINT "WHO ARE YOU?" <ENTER>
30 PRINT "TYPE YOUR NAME AND PRESS THE
   ENTER KEY." <ENTER>
40 INPUT NA$ <ENTER>
50 CLS <ENTER>
60 LOCATE 10,15: PRINT "HELLO" <ENTER>
80 LOCATE 11,15: PRINT NA$ <ENTER>
90 LOCATE 13,1:PRINT "I AM YOUR JR. WELCOME
   TO COMPUTING."<ENTER>
RUN <ENTER>
```

Super Telecommunications Software Scores Big Hit

Listen to this from PC Magazine: "The most elegant and ingenious communications package you can buy....packed with features that make you wonder why nobody else ever thought of them...the best communications package anywhere."

All that praise was heaped upon telecommunications software produced by a high school kid trying to earn money to go to college.

It's a shareware program (that we have just added to our collection -- Disk #59), which makes it all the more unusual for PC Magazine to praise it so highly. They even listed it as one of "The Best of 1987."

The software is called Boyan by its author Justin Boyan of Columbia, MD. It is so good, we decided to add it to our collection in spite of the fact that we already have Procomm, an excellent telecommunications program.

It is full of innovative features that make it function exceptionally smoothly with a minimum of effort on the part of the user. Its 200 entry dialing directory contains a default transfer protocol for each of your listings.

This allows you to switch from things like MCI Mail to xmodem or ASCII uploads, etc. without typing in a new protocol each time.

Boyan's macros allow you to define function keys for any function you could possibly want. You don't have to type a filename twice to download or upload. Once you've typed it, Boyan puts it on a menu for you to select or change if necessary.

The list of features Boyan provides are too numerous to mention, so once again, we'll quote PC Magazine to sum up our evaluation of this great software: "Boyan's ....elegant and intuitive interface combine to make it one of the finest communications programs available for personal use." And keep in mind that when PC Magazine says this, it's comparing Boyan with all the top commercial software like Crosstalk and Smartcom.

Boyan requires 256K and one disk drive. The author requests a $35 registration fee if you like his software. We hope he gets enough income from this to encourage him to produce more top notch shareware for those of us who can't afford the prices of commercial products.

Are you reading a friend's copy of jrNewsletter? Make it easy on yourself -- send $18 for a year's subscription to jrNewsletter, Box 163, Southbury, CT 06488. We'll send it right to your home!

How to Identify File Extensions

The last three characters in a file name can, according to the rules of DOS, be any combination of numbers or letters. This means you can give a file your own identifying extension to help you differentiate between various types of files in a directory on your floppy disk.

There are, however, many more or less widely recognized extensions which are used throughout the community of computer users. It is often helpful to know what they mean, which is why we decided to publish this listing of some of the most common file extensions.

Usually the only files that you can execute by simply typing their names (without extension) at the DOS prompt are those with .BAT or .COM or .EXE extensions. Other files are likely to contain data which you may or may not be able to read by using the TYPE command to bring them up on your screen. This list is not a complete rundown of file extensions, but it has most of the ones you are likely to encounter.

.ASC	Standard DOS ASCII data file
.ASM	Assembler source file
.BAK	Backup copy of another file
.BAS	BASIC language source file
.BAT	DOS Batch procedure file
.CFG	WordMARC configuration file
.CMD	dBASE II command program file
.CNF	LOTUS configuration file
.COB	COBOL language source file
.COD	Object-listing file of program code
.COM	DOS binary program file
.DAT	Data file, usually input to a program
.DBF	dBASE II database file
.DIF	Data interchange format file
.DLB	LOTUS device library
.DOC	Document or documentation file
.DRV	LOTUS hardware driver parameter file
.ENG	WordMARC English language prompt file
.EXE	DOS binary program file
.FMT	dBASE II format file
.FON	LOTUS character font definition file
.FOR	FORTRAN language source file
.FRM	dBASE report form definition file
.GLY	Microsoft WORD glossary file
.HEX	Hexadecimal machine code file
.HLP	Listable (printable) file of help information
.LIB	Library file of binary programs
.LST	Listable (printable) output file
.MAC	MACRO assembler source file
.MAP	Linker memory map file
.MEM	dBASE memory save file
.NDX	dBASE index file
.OBJ	Relocatable object file
.OVL	Binary program overlay file
.OVR	Binary program overlay file

jr Newsletter Software Store

This software is the best public domain and user-supported software for the PCjr we've been able to find. All the programs in this collection have been tested on our PCjrs and are highly recommended. Some of these programs are equal to or better than commercial programs costing hundreds of dollars.
The programs in this collection are available for $9 per disk or $7 per disk, if you order four or more.

THE BEST OF JR NEWSLETTER. The best and most informative articles from twelve issues of jr Newsletter (June 1986 through May 1987 issues) are contained on this disk. More than 50 articles on compatibility, problem solving, software, maintenance, memory expansion, how-to projects, tips on using DOS, and more! 128K (Disk #54)

PC-WRITE. This extremely popular word processing program is both powerful and easy to use. A review in PC World said "PC-Write may well be more versatile than WordStar — it's certainly more straightforward." Version 2.5 runs well on 128K. Version 2.7 has more features, comes on two diskettes and requires 256K to run without the spelling checker, which requires 384K. (Order Disk #1 for 128K V2.5. Order Disks #2A and 2B for V2.7)

PC-FILE III. This excellent database manager will handle up to 9,999 records, such as names and addresses, notes, product descriptions, etc. Uses generic, embedded, soundex and wildcard searches. Global updates and deletes. Sorts on any field. Too many features to mention. (Disk #3 runs on 128K, Disk #4 needs 256K)

PC-CALC. A versatile spreadsheet program that can do up to 26 columns of adjustable size and 256 lines. Features on-screen prompts, many math and statistical functions, hidden column capability, many formatting options, 64 character cells, automatic global recalculation, and more. Has some limits on 128K, but still very useful. (Disk #5 runs on 128K, Disk #6 requires 320K and two drives.)

CHECK PROCESSOR — Easy to use software for financial record keeping. Balance checkbook, print expenses by category, etc. 128K (Disk #59)

PROCOMM. This powerful, yet easy to use telecommunications program has become the one favored by more PCjr users than any other. Dialing directory, auto redial, XMODEM, Kermit and other file transfer protocols, auto logon, DOS gateway, keyboard macros, exploding windows and many other features. The editor of PC Magazine called Procomm "competitive with the best comm programs on the market." Manual on disk. 256K (Disk #15)

PC-OUTLINE. Review in PC Magazine called this program "really fine" and it outperformed many commercial programs. Word processing functions are merged, allowing greater control. Many customizing features. Nine windows. Many useful features. 128K, plus DOS 2.0 or higher. (Disk #17)

PC-TOUCH. Designed to teach and practice touch typing. As you type, an on-screen line shows the number of erroneous keystrokes, and your accuracy rating as a percentage of keystrokes. 128K. (Disk #18)

3 X 5. An information management program that works just like a 3 x 5 card file. It offers speed, versatility and simplicity in entering, indexing and retrieving data. Has an integrated word processor, powerful search commands, multiple windows so you can edit in one and search in another, etc. Requires 256K. (Disk #19)

PC-DESKTEAM. Enables you to have an alarm clock, calendar, typewriter, calculator, and phone book accessible from your keyboard. Can be a resident program while you are using other software if you have the memory. 128K will run it alone. Need more to run it with other software. (Disk #22)

PC-PROMPT. A memory resident program that provides the format for DOS commands in an on-line mode. Help screen toggles on and off. Also help screens for BASICA, Turbo Pascal, Debug and EDLIN. 128K. (Disk #23)

PC-DOS HELP. Similar to PC-Prompt, but takes up less memory (16K) as a resident program. Geared to DOS 2.1 with special PCjr commands included. 128K (Disk #24)

PC-CHECK MANAGER. A menu-driven program that can handle multiple checkbooks, unlimited payees and ledger account assignments. Requires 256K. (Disk #25)

FAMILY HISTORY. Includes complete manual on disk with how-to info on tracing and setting up your family tree with detailed genealogical information. Easy to use and modify as you gather more data. New compiled version runs faster than previous version. 128K order Disk #33 alone. 256K order #33 and #33A.

NEW KEY. Powerful, popular program that allows you to redefine keystrokes and assign series of keystrokes to one or two keys. Customize software to meet your needs. Many other useful features included. 128K. Disk #35)

PIANOMAN. A great music program!. Allows you to write your own music, store it and play it on jr's terrific sound system. 128K. Disk #36)

PC-KEY DRAW. A powerful graphics program that allows you to draw, paint, produce slide shows, store and print your work. 256K, two drives. (Disk #37)

PC-KEY DRAW DEMO. Contains a slide show demonstration which allows you to see the amazing results you can get with PC-KEY DRAW. Helps to learn the many graphic capabilities of PC-KEY DRAW. (Disk #38)

PRINT HANDLER — Excellent software for printing banners, sideways, etc. Contains custom font generator, print spooler, and other useful print control utilities for Epson and compatible printers. 128K. (Disk #51)

IMAGEPRINT. Produces letter quality print on dot matrix printers. IBM Graphics Printers, Proprinters, Epsons and compatibles. Contains many format features, three quality levels, interfaces with word processors. 128K ok (Disk #50)

JR POWER PACK. A collection of particularly useful programs for PCjr owners. Set up RAM disks, address memory to 736K, turn a joystick into a mouse, set screen colors, keyboard click, scan and search text files, screenblanker, print spooler, and more. 128K. (Disk #52)

PCjr COMPATIBILITY DISK. Lists hundred of software titles, along with information on PCjr compatibility, memory requirements and tips on using the software on PCjrs. 128K (Disk #60)

BOYAN. Selected Best of the Year by PC Magazine, this outstanding telecommunications program will astound you with its smooth functioning and innovative features. Supports all protocols. Need 384K. (Disk #59)

DOS 2.1 FIX. Patches to fix the bugs in DOS 2.1. Cures most problems encountered when running memory intensive programs. Also patches to run BASIC and BASICA on DOS 2.1 without having Cartridge BASIC installed. 128K ok. (Disk #40)

DOSAMATIC. A nifty way to view the contents of disks, easily manipulate files and carry out DOS commands. Features a Mac-like "point and press" interface which allows you to select the commands you want from pull down menus. Also permits loading several programs at once and jumping from one to the other. 128K ok, but more memory needed for "multi-tasking." (Disk #49)

PCJR PATCHES. Many patches to fix software that ordinarily won't run on PCjrs. Includes patches for Starflight, Advanced Flight Simulator, Quick Basic, Turbo Basic, Double DOS, and Bard's Tale (16 colors). (Disk #56)

HOME BUDGET MANAGEMENT SYSTEM. Easy-to-use system for keeping track of income and expenses. Create separate accounts for income tax categories and get a summary at end of year. Provides chart of accounts, transaction reports, sorted ledger entries, etc. 128K (Disk #57)

HOME INVENTORY. Taking an inventory of your home might even be fun with this easy-to-use software that takes you through the process step by step. Gives a complete record for insurance purposes. Also good for listing collections. 128K (Disk #58)

GAMES

GAMES. An assortment of games for hours of fun and excitement. Includes Spacewar, Airtrax, Life, Wumpus, Wizard and more. All good with 128K. (Disk #8)

DUNGEONS & WARS. In Dungeon Quest you can choose to be a dwarf, elf, magic-user, fighter or other type of character. You select your strengths and weapons, too. Then you enter the dangerous dungeons on your Quest. Thermonuclear War pits the US vs the Soviets in a very real demonstration of what a nuclear war might be like. Combat is a strategic battle on the ground. 128K ok. (Disk #9)

PINBALL RALLY. A colorful collection of amazingly realistic pinball games. Using the Shift keys as flippers, the games get more and more complex until you get to Twilight Zone, which is the hardest because some parts are invisible. Runs on 128K. (Disk #10)

ARCADE GAMES. Includes Kong, Pango, PC-Golf, Pyramid and other exciting, colorful games for hours of fun. 128K. (Disk #30)

BOARD GAMES. Play Monopoly against the computer. Backgammon, Yahtzee and Four — a game your jr is especially clever at. 128K. (Disk #31)

GAMES, GAMES, GAMES. A wild assortment of games to test your wits and skills. Includes Slither, Xwing, Torpedo, ABM2 and Overeact, where you are in charge of a nuclear plant. 128K (Disk #34)

PC-CHESS. A full color many-featured chess program, with four levels of play. You can play against the computer or another human, save games to disk, set up the board yourself and switch sides if you want. It has two clocks for elapsed time for each player, allows castling, en passant and pawn promotion with vailidity checking, plus other features. 128K (Disk #44)

ZAXXON/GALAXY TREK. Two exciting high tech shoot-em-up games. In Zaxxon you fly through an obstacle course, shooting while you go, up and over walls, and eventually through space. Galaxy Trek makes you the commander of a Star Ship which you maneuver through the universe seeking to destroy a fleet of Megaton warships before they conquer the planets. 128K (Disk #45)

PHRASE CRAZE. Based on the TV show Wheel of Fortune, you get to be the guest who guesses the mystery phrases and wins piles of money! The wheel spins to select the amount of money you win for correct guesses. It gets harder with each round you play. You can add your own phrases to this game or try to guess the ones provided on the disk. Lot of fun for adults as well as older kids. 128K (Disk #46)

GOLF/SAILING. Two great games for sailors and golfers! The golf game has three courses, user definable club ranges, and a swing control that determines whether you hit a slice, hook or straight shot. Three nine hole courses (Novice, Pro, and Sadistic). In the other game, you try to sail the three legs of the Bermuda Triangle, avoiding, if you can, the creeping mists, alien crystals, vortexes and storms. Your boat is equipped with radar, rudder and sail (all of which you control) and an engine for emergencies. 128K ok for sailing. Need 256K for golf. (Disk #47)

BOARD GAMES. Eleven different games on one disk! Hours of fun with Monopoly, Yahtzee, Cribbage, Backgammon, Othello, and others. All run great on your PCjr! 128K (Disk #31)

CASTAWAY/S. AMERICAN TREK. Test your survival skills as the survivor of a shipwrek in the South Pacific. Or as an explorer of South America. Two novice text adventures from Jim Button. Ages 12 and up. 128K (Disk #53)

SUPER BOARD GAMES. Excellent versions of two popular board games — Monopoly and Risk. Very much like the board versions, except your computer keeps track of everything for you. All you have to do is make the right moves and have fun. 256K (Disk #55)

EDUCATIONAL SOFTWARE

ORIGAMI. Learn the art of Japanese paper folding. This program shows you how, step-by-step, to create amazing animals and other objects just by folding paper. Fun for kids and adults, too. 128K (Disk #39)

PLAY AND LEARN. Educational games for kids 5-12. Word match games, find-a-word puzzles, word scrambles, and many more — made by teachers. 128K, need Cartridge Basic. (Disk #32)

WORD PROCESSING FOR KIDS. Simple, fun and easy-to-use word processor designed especially for beginning writers. Allows children to express their ideas easily and then print them out in large type on your printer. Colorful opening menus make learning the simple commands very easy. Parents/teachers manual is on the disk. 128K (Disk#41)

MATH FUN! A great way to get kids learning how to add, subract, multiply and divide. Includes a program called Math Tutor which has cleverly designed exercises for kids in Grades 1-6. Also Funnels and Buckets, a nifty math game that makes learning math fun. 128K (Disk #42)

EARLY LEARNING. A collection of colorful educational games for ages 6-8. Sing-along alphabet, letter match, counting game, maze, pattern matching and more. 128K, need Cartridge Basic. (Disk #48)

* * * * * * * * * * * * * * * *

jr Software Order Form

Please circle the disks you want:

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* * * * *

WE GOOFED
BOYAN IS #61
NOT #59

Reader Feedback

Quattro is also interesting. It's a pretty package that does everything. Compared to 123 it makes really nice graphs. It seems slower than 123 at things like copying ranges, but it can invert a large matrix in about a quarter the time that 123 takes. I have a large spreadsheet with an interactive macro that took almost an hour to run on 123; it only took 12 minutes on Quattro!

But Quattro really begs for a hard disk. It consists of four 360K disks loaded with utilities, overlays, drivers, fonts, "resource files", etc. If it doesn't find what its looking for on the disk, sometimes it will just dump you at the A >. Goodbye data. The Lotus setup is more practical for a two floppy system, but for the money Quattro is hard to beat.

Harry W. Daykin, Jackson, MI.

Patches And Utilities Helpful To PCjr User

Just dropping a note of appreciation for the great help jrNewsletter has been in making my 640K, double disk drive jr a lean, mean, fast running machine. Last year I wrote about my problem with Symphony not working properly and you recommended the DOS patch which has worked great: no more crashes in mid-spreadsheet!!

Since then I also purchased the PC Enterprises jr Video Cartridge which increased cursor and screen write speed dramatically, particularly when using programs like Reflex or

Symphony.

More recently I purchased your jr Power Pack disk and successfully installed a print-spooler and automatic ram disk on boot-up. The print-spooler is a real gem since I continue keyboard input while the printer is moving out the hard copy. The ram-drive was a cinch to install, even though I'd been previously unsuccessful with similar attempts using Microsoft, Racore, and PC Enterprises software and instructions.

But just as important as the items you check and recommend for purchase are the articles explaining how to improve computer efficiency by using various DOS commands, etc. Thanks to the recent Newsletter I set up my first disk Volume label and established my initial disk directories. Batch files are my next project. I've ordered Quattro from Borland. I'll let you know how it works as soon as I receive and test it out.

I do have one favor to ask. As a charter subscriber I have saved and filed all copies of Newsletter from June '86 on. However the November '87 edition which was being used extensively before being filed, has disappeared. All efforts to locate the newsletter have failed and so I'm asking for assistance in obtaining a replacement.

Enclosed is a check which I trust will be sufficient to either provide another original, or at least a xerox copy of same.

Keep up the good work!! I continue to value my jrNewsletters more than any of my other subscriptions to the 'slick cover' computer magazines.

Larry Meyers, Stowe, PA

EDITOR'S NOTE: We thank Larry for his compliments and are happy that jrNewsletter articles have been helpful. As for back issues of the Newsletter, however, we are sorry to say there aren't any left! We've sent them all to new subscribers and people asking for samples. We suggest that anyone interested in past articles get disk #54 The Best of jrNewsletter. It has the major articles we published from June 1986 through May 1987. We plan to issue a similar disk with articles from June 1987 through May 1988 when the time comes.

File Extensions

.PAS	Pascal language source file
.PAT	MultiMate printer action table
.PIC	Graphics encoded picture file
.PRD	MicroSoft WORD printer definition file
.PRF	IBM Professional Editor profile file
.PRG	dBASE command program file
.PRN	Printable (listable) output file
.PRO	ProKey keyboard macro definition file
.REL	Relocatable object file
.SAT	MultiMate sheet feeder action table
.SET	VTERM setup parameters file
.SRC	WordMARC parameters source file
.STY	MicroSoft WORD style definition file
.SYS	DOS system parameter file
.TMP	Temporary file of any kind
.TUT	LOTUS tutorial data file

IBM PCJR 512K - Two disk drives, Racore w/DMA, both keyboards w/cable, DOS 2.1, BASIC w/cartridge, all manuals and documentation, Zenith "green" monitor, will include pfs Write, Plan, Graph, plus hundreds of dollars of software. Factory packaging, only $750.00 call 609-596-2545 ask for Herb. (2)

IBM PCJR JOYSTICKS - Two available at $10 each. Add $2.50 shipping for one or $3.50 shipping for two. Ronald Baux, 432 Bristol Ct., Scranton, PA 18509. (2)

ELECTRIC DESK - by Alpha Software - includes word processor, data base, spreadsheet, and communications software in one integrated package. $100. Contact Robert Rode, 908 Carrie Ct., E. Meadow, NY 11554 (516) 485-6687. (2)

WANTED - Defective PCjr color monitor for parts. Picture tube must be intact. Will pay $50. Mouse Systems Mouse for PCjr for sale or trade $50. Call or write H. Kennedy, 813 Chisholm Vly. Dr., Round Rock, TX 78681. (2)

IBM PCJR 640K - Quadram 2 Drive IBMjr Color Display, jrHOTSHOT with V20 Chip, 20Meg External Hard Drive (Paul Rau System), PC.ID. and jrVIDEO Cartridges, Many PCjr Books, DOS 2.1, Cartridge BASIC, 2-IBM Joysticks, IBM PC Keyboard, Koala Pad with Software, Documentation for all MORE...Runs Great - must move to a 286. Call (203) 589-4207 ask for Dennis. (2)

DAC EASY - Accounting along with Accounting Tutor, $50. Also Microsoft Flight Simulator for IBM PC and PCjr, $50. Jim Babcock, 1141 Dover Ct., Safety Harbor, FL 34695 (813) 725-4829. (2)

WORDSTAR - for PCjr by MicroPro. New, never been opened. $29 PP. Wm. F. Shimonkevitz, 8927 Park Forest Drive, Springfield, VA 22152 (703) 451-1751. (2)

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