

# *Jr* Newsletter August 1987

## **PCjr Expansion Units Selling Like Big Macs**

PCjr owners are hungry for memory expansion units, according to manufacturers and dealers, who report brisk sales in the past few months.

Perhaps because many PCjr owners realize they can have memory equal to that of a PC, with the additional benefit of the PCjr's color, sound, and graphics abilities, PCjr owners seem to be willing to invest in expansion units ranging in price from under \$200 to nearly \$500.

Of the pure memory expansion units, the jr Hotshot has become the best seller since it was introduced last fall. PC Enterprises, Micro Products, and Racore also report brisk sales of their expansion units for PCjrs. Tecmar, which had ceased production of its very popular jr Captains, is now promoting them in nationwide advertising. In a recent issue of PC Magazine the jr Captain was sitting there among the more senior members of the Tecmar family in a double page spread. This, too, is evidence of an active PCjr market.

Ed Strauss, who makes the jr Hotshot, says he has sold well over 2,000 of his units, which are unlike other memory expansion systems in that they plug into the PCjr's 24 pin CPU socket rather than being installed as a

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*"Only two more days 'til I can go home to my PCjr."*

## **A Treat for Sore Eyes**

By Diana Fisher

Once upon a time I was very smug about my computer. "Oh, you have a PC JUNIOR," people would say with a smirk, and I would smirk back. With 640K and two disk drives, there weren't too many computers sitting in my friends' family rooms that had the memory or capabilities of mine.

Those were the good old days. You couldn't pick up a computer magazine then without finding an article about IBM's baby. But as the months went by, there were fewer articles to read and most references to the Junior were accompanied by words like "orphan," "ill-fated" and "mistake." For a short while, I almost believed it.

I began to hunt the far corners of computer magazines for sources of PCjr information, and also for useful additions to improve my computer's performance. While extra memory boards, and EGA cards and monitors were receiving extensive coverage in the front pages of the popular magazines, the best I could find was an ad for a "Six-foot serial cable for the PCjr" on the back pages.

I have found, however, that there are still things you can do to improve your PCjr's performance, and many of them are inexpensive. Of course, adding more memory, a second drive, a hard disk or a new keyboard will cost more, but they're all additions that are worth the expense if you have use for them. Quite a few companies offer these options in a wide range of prices. My second drive, added memory and Keytronics keyboard

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# BASIC Program Demonstrates Colors

By Ray Stroud

In BASIC, the TEXT mode and the GRAPHICS mode define colors differently. This can be confusing. Just like the TEXT mode, GRAPHICS mode has a medium and a high resolution setting.

To keep things as simple as possible, for the time being, we will talk only about the medium resolution mode.

To obtain the medium resolution mode in BASIC, enter SCREEN 1. From this point on, several things are different. In the TEXT mode, the first numeral after COLOR denoted the foreground color and the second numeral denoted the background color. In the GRAPHICS mode, it is reversed—that is, the first numeral denotes the background color and the second numeral identifies the foreground color. BUT it is not as straightforward as that, because the foreground colors are identified by PALETTES.

Palettes are composed of only four colors. Palette colors can be defined like this:

PALETTE 0:

- 0 Background (1 of 16)
- 1 Green
- 2 Red
- 3 Brown (yellow)

PALETTE 1:

- 0 Background (1 of 16)
- 1 Cyan (blue-green)
- 2 Magenta (purple)
- 3 White

So, to run colors in the GRAPHICS mode, a background color is chosen, then a palette is chosen and finally the color in the palette is chosen. So we end up with the option of 16 background colors combined with four foreground colors (remember one of those foreground colors is always the same as the background).

Here is a short program to acquaint you with all combinations.

```
100 SCREEN 1
110 CLS
120 T1$ = "PALETTE 0"
130 T2$ = "PALETTE 1"
140 '
150 PRINT TAB(12);
160 PRINT "MEDIUM RESOLUTION"
170 '
180 LINE ( 40, 40)-(160, 100),0,BF
190 LINE (160, 40)-(280, 100),1,BF
```

```
200 LINE ( 40,100)-(160, 160),2,BF
210 LINE (160,100)-(280, 160),3,BF
220 '
230 FOR I = 1 TO 15
240 COLOR I.0 'pat
250 LOCATE 23.(40-LEN(T1$))/2 + 1
260 FOR J=1 TO 2000:NEXT J
270 LOCATE 23.(40-LEN(T2$))/2 + 1
280 COLOR I.1
290 FOR J= 1 TO 2000:NEXT J
300 NEXT I
310 '
320 COLOR 0.1 : END
```

Lines 250 through 280 draws the boxes used in the display. The "0", "1", "2" and "3" at the end of these lines indicates which color of the palette will be used. The "BF" at the end of a line is a statement to FILL the boxes with the palette color.

The program itself cycles through the 16 background colors and as it does, the two palettes are shown with each background color.

There is a lot to be learned from this exercise. Remember the first box will ALWAYS be the same color as the background, therefore invisible. Another thing is to determine how different palette colors will produce a satisfactory contrast with the background. Notice in some cases that ONLY TWO boxes appear. This is because the primary colors of red, blue or green in these boxes too nearly approach the background colors; therefore, these boxes become "invisible."

If you are not satisfied with the time allowed by the "pause" statements in 260 and 290, change the lines to read: PRINT "HIT ANY KEY TO CONTINUE" : QS\$ = INPUT\$(1).

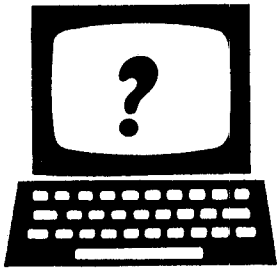
\* \* \* \*

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## Questions and Answers



**Q. I have a Racore Drive II Plus and I can't run some software that I have heard other jr owners are running on their PCjrs. Is there something wrong with my Racore unit, or should I be using the PC switch differently. I switch it to the jr mode and it doesn't seem to make any difference.**

A. Although there is always a chance that you have a defective unit, Racore units have proven to be very reliable. It's more likely that you have not set up your boot disks correctly. This is a common mistake made mostly by people who don't take the time when they first get their units to follow the set-up instructions. Racore units (and other memory expansion units for PCjrs) require instructions in a file called config.sys as well as special software designed to enable your PCjr to recognize and properly handle additional memory. In the case of Racore units, which have a switch to allow you to change your unit from PC mode to PCjr mode, you have to have the correct config.sys on your boot-up disk to match the setting of the PC/PCjr switch. And if you want to switch modes you have to reboot your computer with the right boot-up disk to match the new setting of the switch. You can't just flip the switch while running software.

Racore's instructions for creating these boot-up disks are clear and easy to follow. They should not take you more than 20 minutes to read and carry out. (Yes, even beginners can do it!) And yet, when we checked with Racore recently they told us some people don't take the time to follow the instructions for making their boot-up disks and later wonder why they are having all kinds of problems.

Briefly, if you want to operate in PCjr mode, which is better at handling games, your config.sys file should have the statement `DEVICE=JRVIDMA2.SYS`. For PC compatibility use a config.sys file with `DEVICE = JRVIDMA2.SYS /C`. We have also found that jrconfig.sys, which is available on the Jr. Power Pack disk #52 works fine with Racore units and allows greater flexibility and more control over other features than the software supplied by Racore.

**Q. I have heard that Turbo C will not run on PCjrs. True or false ?**

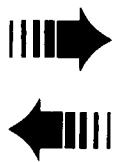
A. Borland International did not have us in mind when they designed Turbo C, but once again some ingenious PCjr owners have come up with patches to make so-called "incompatible software" work on PCjrs. There is also a patch for Quick Basic V3.0. We considered printing the patches in jr Newsletter, but that would take up a lot of space and we felt many readers would not be interested. However, if you would like a printed copy of the patches, send \$2 and we'll mail it to you. Some day soon we plan to put all the patches that are available for jr owners to run otherwise inoperable software on a disk and add it to the Software Store.

**Q.I have been trying to use Cut and Paste by Electronic Arts and have not been able to get it to run on my PCjr, which has 640K. It has its own boot-up system and is copy protected. Can you tell me why it won't run?**

A. We haven't tried Cut and Paste, but the question brings up two problems that PCjr owners can face. First, self-booting software will not recognize your expanded memory and will not run if it requires more than 128K. You can usually get around this problem by booting DOS first and then loading your software. This allows you to set up your system with its added memory before the software has to access it. The second problem is that copy protection systems sometimes cause problems with PCjrs. For example, the non-copy protected version of dBase III Plus will run on PCjrs, while the copy protected version will not. Fortunately software manufacturers seem to be producing copy-protected software less frequently than they used to.

**Q.I have a Tecmar jr Captain and I have added a Racore second drive, but I am having trouble with my screen going blank. Is there something wrong with my Color Display or are the Tecmar and Racore units incompatible ?**

A. The hardware isn't incompatible, but software is. You should delete the Tecmar software from your boot disk and use Racore software with your second drive.



# READER FEEDBACK



## Improving the Dictionary In Writing Assistant

The IBM Writing Assistant is the program most frequently used on my PCjr. The limited dictionary and lack of a thesaurus are its only serious deficits. This problem can be remedied with Borland's Turbo Lightning by using an effective, but "different" dictionary format technique.

My jr is enhanced with a legacy 2nd disk drive and 640KB of memory. Turbo's small dictionary and thesaurus; FLP-DISK.DIC and FLP-THES.DIC with RAM3 are designed as the largest dictionary-thesaurus recommended for this system. I found it too small to be effective. Turbo's systems are supposed to be RAM resident; which is the major drawback.

Turbo Lightning's largest dictionary and thesaurus are on a separate diskette, and are for use with a hard disk or external RAM. To use this large program change Turbo Lightning's "Setup" dictionary window as follows:

Auxiliary dictionary file name	AUX1
Disk dictionary file name	A:DISK
Thesaurus file name	A:THES

Boot up jr and place Turbo's system disk in B: and Turbo's DISK.DIC,, THES.DIC in A: load the system disk in B: then the Writing Assistant in B: . Remove the Writing Assistant and place Turbo's system disk back in B: . Writing Assistant will function normally and jr will find the large Turbo DISK/THES system in "A" when called for by the Turbo "on screen menu".

The jr's RAM is almost fully intact and the sleeping monster in "A" is an excellent addition to an already simple word processing program.

Another suggestion is — when setting up Turbo's system disk with the "Lightning" program, the "Selected environment" doesn't have Writing Assistant as a selection. Overwriting "Reflex" (line M:) was close to Writing Assistant. Piping delay of 002 also helped and changing the **Main menu** hot key to Alt Z allows bringing up the Turbo main menu with one hand. The remainder of the windows, selections, etc. is by cursors, enter and ESC.

Bob Ashbeck  
Bakersfield, CA

## Chessmaster 2000

Since you have been promoting Chessmaster 2000 as one of "the world's best games for PCjr's," I thought you might be interested in my experience with it. Attached is a copy of my letter to Software Toolworks and their reply, which was not helpful.

They say that the program will not work with any memory resident software. But it requires 256K and the only way to get that on jr is with a program such as CONPCJR.EXE, which I believe must remain resident. They also suggested I look at my CONFIG.SYS file, but it contains nothing except the usual "file" and "buffer" statements.

Prior to purchasing the program I called their office, and they assured me it would work with jr. Apparently, they have told you the same thing, but I wonder how many of your readers have had a surprise.

Jerry Roger  
Tulsa, OK

**EDITOR'S NOTE: We have thoroughly checked out all of the commercial software we sell through jr Newsletter — either by trying it ourselves or by talking with other jr owners who have tried it. Chessmaster 2000 is one we own and use ourselves and we have found it to run flawlessly on our PCjrs. We contacted Jerry, who told us he believes his problem was with Tecmar's CONPCJR. When he used the jrVideo Cartridge to move the video buffers, his problems with Chessmaster 2000 disappeared. If anyone else has problems with Chessmaster, please let us know. We've found it to be an excellent game and want to help PCjr owners enjoy it as much as we do.**

## Dac Accounting Problems And Music Teacher Questions

I'd like to address a couple of comments and then a question. If you can't answer them, perhaps one of your readers will be able to respond.

First, that infernal original equipment disk drive is giving up the ghost. After being carefully cleaned and oiled probably ten times in the last year, it just won't respond at boot-up. Yesterday, even though it had been serviced only a couple of weeks before, it took 21(!) tries before it

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booted and then another ten or so to load software. Needless to say, I've broken down and ordered a new replacement from one of your advertisers.

Second, concerning compatibility (spelled with an "i" according to Webster), while some of your readers say that virtually anything will run on their jrs, I feel compelled to mention one product which I use a great deal that is not compatible in its upgraded version. That product is "dac—easy accounting." Version 1.0 runs beautifully and has been a boon for my little business, but all the peripheral modules and the new, highly touted version 2.0 will not. Technical representatives from dac, who are very cordial and patient, freely admit this fact but it is glaringly omitted in their advertising and even in their upgrade letter. The other compatibility problems I've encountered were with a game disk (copy protected) which runs fine on the 128K machine, but will not run when my memory sidecar is attached, and a couple of memory-resident accessories which are very picky about their software partners.

Now for my question: is software and firmware available to help me in my occupation? jr is just fine for word processing, data base, and spreadsheet operations. So what more is there? For me and my profession, plenty. This fall, I will be returning to teaching after a time away and want to be able to use my computer for tasks such as making worksheets, study guides, tests, etc. Since I am certified in mathematics and music, this means that I need software which will give me the capability of producing the appropriate symbols, drawings and/or graphs, and music manuscript. The name of the game for most teachers is do it by hand, cut and paste, use available materials, or ignore it. I'd like to believe that jr is capable of these tasks, but the business-oriented world out there has produced precious little that appears to meet my needs. So can I use a paint program, for instance, or are there page processors which will incorporate graphics with text? Is there a viable music writing program that will do a five-line score and allow text on the same page? There is a solution to my problem, but it is spelled Mac and would cost a good \$2,000 plus software to implement. Frankly, I'd love to have one but the cost is out of my league. Putting a bit more into my jr would be justifiable if it can be made to meet these needs. Any suggestions you may have would be appreciated.

Thanks for your newsletter and other services. Each month I look forward to columns with tips and comments as well as your more general articles on using the jr. It's especially gratifying knowing that I'm not alone!  
Norm Ashley

**EDITOR'S NOTE:** We believe Fantasy can provide the graphics/text and page formatting you require. You might call Prosoft at 818-765-5008 to ask any technical questions you may have. As for the Dac-Easy Accounting program, see the letter from Tom Iwanski in this issue—there may be a solution.

\* \* \* \*

## Two jr Owner Needs Help With Dac-Easy Accounting

First of all, and I know you've heard this a lot, I want to say that your newsletter is the most informative collection of articles and advice and undoubtedly some of the finest reading material that any PCjr user could ask for.

I bought two PCjrs in October of 1984, and about a month and a half later I saw the need to upgrade, so I bought a Legacy III 20mg hard drive and some extra memory for a total of 384K. I transport only the hard drive from home to office which is a whole lot easier than packing up the entire PCjr. I am currently using DOS version 3.2. I use several different word processors, data bases, accounting programs, spreadsheets, graphics programs and anything in between. My favorites are IBM's Assistant Series, Lotus 1-2-3, Printmaster, and Dac-Easy Accounting which brings me to my question.

I've been using Dac-Easy version 1.0, which works fine on my PCjr. As companies usually do, I received an announcement of their new version. So I took advantage of their special offer and purchased the new Dac-Easy Accounting Version 2.0. The new version is far superior to the old one. The problem is that it needs a config.sys file with

```
BUFFERS = 16  
FILES = 20
```

and correct me if I'm wrong, but I believe that the default buffers for the PCjr = 8. The end result is that this new version Dac-Easy Accounting will not run on my PCjr.

Is there any solution to this problem? I would really like to be able to use this program.

Tom Iwanski  
Grand Island, NE

**EDITOR'S NOTE:** You can write your own config.sys file with any number of buffers from 1-99, or files (up to 255). You can write a new config.sys file with any text editor, EDLIN, or COPY CON commands from DOS.

# A Treat for Sore Eyes

*Continued from page 1*

have been with me for a long time, but I'm always looking to see if there's anything new.

One problem that I've always had (and evidently many other people have too) is difficulty reading the screen in 80 columns. The first correction I tried was the knob on the back of the display which compresses the original IBM screen font and makes it clearer. I also bought an inexpensive anti-glare screen. Once you've used one of these, you'll wonder how you lived without it. But when I discovered that the standard font can be permanently changed to something more readable by replacing a chip, I started pulling the cover off.

## Character Generator ROM

The chip I replaced is called the Character Generator ROM chip, and it's located immediately behind the infrared module (the metal box behind the round hole to the left of the cartridge slots). It's a 24-pin chip. If yours is socketed, it can be easily removed and replaced with the DUAL FONTS chip from Synectics Software & Systems (see information below). If it's not socketed and you're not handy with a soldering iron, put the top back on and find something else to do with your computer.

The disk which accompanies the chip contains everything you need to know to put the chip to work. The directions are quite clear and include drawings to make installation painless. Also included is the file to add to your bootup disk to allow switching between a bright, heavy font and the lighter, thinner font. This is important because there are a few backgrounds that make the thinner font difficult to read.

Both fonts are easier to read than the normal PCjr font you are used to. The type style is simpler, without serifs, and the thinner font is considerably clearer. If you do a lot of word processing or spreadsheet work on your PCjr, this is the font your eyes will appreciate.

## Installation Procedure

Once you have pulled out the Character Generator ROM chip and inserted the Synectics chip in the socket, a short wire with a hook on the end must be attached to a chip underneath the disk drive. The thought of removing a disk drive by myself immediately sent ice water through my veins, but it was very easy; when I poked a screwdriver into the little plastic plugs under the computer, the drive popped right out.

Once the drive is removed, you have a chance to see if your Intel 8088 microprocessor chip is socketed. This chip is the long chip located six rows back from the right hand cartridge socket. If it is socketed rather than

soldered, you might want to consider replacing it with a faster NEC V-20 chip (which is exactly what I did).

I've read a lot about the pros and cons of replacing the 8088 with a V-20. I wanted to do something that would make my computer more efficient and a little faster, but not at the risk of software incompatibilities. It was suggested that I buy an 8 megahertz chip with a ceramic case, and whatever that is, it works very well.

The only software incompatibilities I've found are Broderbund's Loderunner and Championship Loderunner. Broderbund is aware of this problem and will replace your old Loderunner disk (at no charge) with one that will work with the V-20. There is no plan to fix Championship Loderunner, however, so if that's the only game you ever play on your PCjr, don't invest in a NEC V-20.

## V-20 Speed Improvement

There is a file on the Norton Utilities called "SI" (System Information) that allows you to see your particular computer's performance measured against that of an IBM PC/XT. Before I installed the NEC V-20, I received a reading of .7—with the new microprocessor chip installed the performance is 1.9, which theoretically means my PCjr is now almost twice as fast as an XT. I didn't notice much of a speed increase, however, until I was replacing a disk drive and decided to put the old 8088 chip back in for awhile. It must be that "slower" is easier to recognize than "faster" because the decrease in speed was quite obvious.

This kind of chip-switch test is not for the faint of heart; the microprocessor chip has 40 pins and getting 40 pins into the correct 40 holes is a serious test of patience and eye-hand coordination.

While we may not be able to turn our PCjr's into PC/AT's, both the font chip and the V-20 chip, each of which costs less than \$20, are worthwhile. I've also discovered that those cranky Qume and Alps belt-driven disk drives IBM gave us can be easily replaced with direct-drive Fujitsu drives that are noiseless, accurate, and a perfect fit. I replaced my original PCjr drive as well as the Racore second drive and both Fujitsus are performing flawlessly.

So do something nice for your "orphan," and keep in mind that with IBM's announcement of their new PS/2 computers, we'll have a lot of distinguished "orphans" keeping us company very soon.

The dual font chips are available from Synectics Software and Systems, PO Box 53501, San Jose, CA 95153-0501 (408) 281-7780. V20 chips are available from most computer suppliers, including the PCjr specialists who advertise in jr Newsletter.

# PCjr Program Compatibility

By Steve Mark

It has often been my experience that programs that are not supposed to function properly on the PCjr actually run just fine. The purpose of this article is to share, with other PCjr owners, the factors I have found that do and do not affect PCjr compatibility.

I will try to keep this discussion very non-technical. I don't know much about interrupt levels, assembly language, or soldering irons, and have no burning desire to learn now. I promise to get no deeper than an occasional reference to the CONFIG.SYS file and some Internal Modem command codes.

I also promise that everything in this article is based on my *personal* experience unless otherwise noted. There will be no "I think I heard somewhere that..."

My present system has 640K with two diskette drives. I started in September 1985 with a 128K, single drive PCjr. A month later, I bought a PCjr Internal Modem. Then came a 128K Microsoft Junior Booster, a Quadram Expansion Chassis that included a second drive, 384K, and a parallel port. A Hayes 1200 bps external modem and an IBM Proprinter finished the configuration (and my bank account).

Most reasons that programs supposedly will not run on the PCjr can be categorized as follows:

1. Configuration
2. Communications issues
  - The PCjr Internal Modem
  - Comm port addressing
  - DMA
3. DMA
4. The Video Buffer
5. It actually won't work on a PCjr.

This article discusses each of the above considerations and has a section that contains some simple techniques I have used to get the best performance from my PCjr.

## Configuration

One of the earliest sources of misinformation regarding PCjr compatibility was the original maximum configuration. Many programs were said not to run on the PCjr simply because the programs required two diskette drives and/or more than 128K. To confuse matters more, many dealers and software vendors seemed unaware that several accessory manufacturers made it possible to add a second diskette drive and/or a fixed disk to the PCjr.

Some software manufacturers, however, came out with PCjr versions of their packages. These versions usually included one or two cartridges and were designed to run on a 128K, single-drive machine. The use of

the ROM cartridges resulted in reasonably good performance, but prevented the PCjr version of these programs from running on anything other than a PCjr. The trade-off was that the user gained performance, but lost upward compatibility.

Because there were special PCjr versions of these programs, and because these versions would not run on other PCs, people believed that the PC version would not run on the PCjr. Wrong! In most cases, the "regular" version will run just fine on PCjrs that meet the package's configuration requirements.

Vendors created versions of their software (e.g., IBM's Planning Assistant) that utilized an overlay structure to fit into 128K, although with substantial performance degradation. Many PCjr users who have upgraded their machines to 256K and more are still suffering unnecessarily from the poor performance of the PCjr version of their software because they do not realize that the original constraint was memory, not the "jr" on their machines' nameplates.

The PCjr has one unique memory consideration. The Color/Graphics Adapter on a PC contains a 16K video buffer. The PCjr's display adapter does not include memory for this buffer. Therefore, when you boot the PCjr, DOS allocates 16K of the system's memory for a

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"Upon this rock"....Matt. 16:18

# PCjr Compatibility

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video buffer. (The positioning of this buffer is the reason you need drivers such as PCJRMEM.COM in order to recognize memory beyond 128K, but that is beyond the scope of this article.) The result is that a program that has less than 16K to spare when running on a PC will not run on the same size PCjr. Remember that the words "requires a 256K system" usually mean "will not fit in a 128K system."

## Communications

### The PCjr Internal Modem

Where do I start? This little jewel has caused more confusion and consternation than all the tax simplification measures that the U.S. Congress could ever dream of!

Most of the problems in getting communications programs to run on the PCjr are really problems getting the programs to send the proper commands to the PCjr Internal Modem. The modem does *not* accept the Hayes (AT) command set. Most popular communication programs (QMODEM, PC-TALK, CROSSTALK, etc.) are set up to issue the Hayes command set, with some method of specifying a different command set if necessary. In browsing through bulletin board systems around the country, it appears to me that many people have problems using non-Hayes compatible modems regardless of whether the attached PC is a PCjr. The PCjr's internal modem just seems to get more criticism because it is concentrated in one environment.

Some programs (including the IBM PC Videotex

Connection and the terminal program on the PCjr Sampler Diskette) support the Internal Modem's command set and will dial, communicate, and hang up correctly. However, they often will not properly do things such as changing data format from 8-N-1 to 7-E-1. Other programs such as QMODEM allow the user to specify the control sequence for dialing, etc., but also will not issue the commands to change format. The result is that the modem will not dial, or else the received data looks like garbage.

It is usually very simple (at least it is with QMODEM and PC-TALK) to manually issue modem commands from the "terminal" screen of your program. Therefore, the best advice I can give you is to keep the PCjr's command reference handy. There is one in the small supplement to the *PCjr Guide to Operations* that comes with the modem. There is a better one in the *PCjr Technical Reference*. It's not really as onerous as it sounds, though. The only time you should need to enter commands manually is when changing format or entering transparency mode.

Now comes the fun part. If all you want to do is exchange messages and download files, you can skip this discussion. However, if you want to endear yourself to

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# PCjr Compatibility

Continued from page 8

your favorite SYSOP and be a good BBS citizen, you will occasionally want to upload a file or two. The PCjr's internal modem makes that a real adventure. To understand why, you need to realize that the modem attempts to execute commands even if it finds them in the middle of a data stream that you are sending to another computer. If you try to upload a binary file (like a .COM or .EXE file), sooner or later the data will include a bit pattern that the modem thinks is its command character (Ctrl-N). It will not only fail to send that character down the line, but will try to execute the "command" it thinks comes behind it.

Without going any deeper into what happens when the modem receives what it thinks is an invalid command, or delving into how to put the modem into transparency mode, it should be obvious that the problem we are discussing is a function of the modem being used and not the fact that the system is a PCjr. Try all the tricks you can find documented on many bulletin board systems until you find one that works.

## Communications Port Addressing

This is one problem you *won't* have if you use the internal modem. Some people cannot get their communi-

\* \* \* \*

## Have a Comment or a Tip?

Share your experience with other PCjr owners by writing to: jr Newsletter, Box 163, Southbury, CT 06488. We'd like to hear from you.

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cations programs to recognize external modems. If you have this problem, then you may be facing the COM1 versus COM2 addressing mystery.

When the PCjr Internal Modem is installed, it is COM1, and the external serial port on the back of the system is COM2. When there is no modem in the internal slot, the external port becomes COM1. So far, so good. The problem is that, regardless of whether an internal modem is installed, the base address and interrupt level of the external port remain the ones normally used for COM2.

If your communications program is well-behaved and does not try to bypass the system BIOS, none of this should cause any problem. Just tell the program that your external modem is COM1. QMODEMjr (version 1.07) works fine this way. Other programs seem to use the base address and interrupt level associated with whatever comm port you have specified for your modem. To use these programs (e.g., QMODEM 2.0 and 2.2), just tell them your modem is at COM2. That is how these three programs worked on my system after I removed the internal modem.

But I have heard of different people who got different results, supposedly using the same programs! In fact, on several bulletin board systems there are routines available that claim to swap COM1 and COM2 so you can use an external modem. The SYSOP of the IBMjr forum on CompuServe tells me the problem appears to be a function of the compiler used to compile the program and/or any external port drivers that the compiler uses.

If you think you have this problem you have two choices. The first is to find an internal modem and plug it into your machine. This will straighten out the addresses so you can use your external modem as COM2. The second is to get one of the programs that logically swaps the addresses back to where they belong. These programs have names like SWAPCOM or COMSWAP, and can be found on many PCjr-oriented bulletin board systems.

**(EDITOR'S NOTE: SWAPCOM is on Disk #15 in the jr Software Store.)**

There has been an interesting development on this issue. The QINSTALL program for QMODEM 2.2 lets the user specify the base address and interrupt levels for each comm port. The defaults are provided by the program, so all you have to do is switch the specifications for COM1 and COM2. Because I was unable to recreate the problem on my system, I could not test the effectiveness of this new feature. In theory, however, it should solve the problem.

(This article was originally published in IBM's Exchange. The second part will be published in next month's issue of jr Newsletter.)

## Using Wildcards to Find Files

DOS allows the use of two wildcard symbols, the \* and the ?. These symbols can be useful in many ways, but the one we'll discuss here is using wildcards with the DIR command to find files quickly and easily.

Each of the symbols means something different. The \* will match any number of characters, while the ? will match just one character.

Here are some examples:

If you type DIR \*.DOC, you will get a listing of all the files in your directory with the file extension .DOC.

To get even more specific, if you type DIR A\*.DOC, you will see all files whose names begin with A and whose extensions are .DOC.

Since the ? represents a single character, if you type DIR FILE.DO?, you will get a listing of all the files named FILE with extensions that have DO as the first two letters.

If you keep these wildcards in mind, you can not only speed up your searches for files, but you can create file names and extensions that will help you organize and find them later.

## A Word Processor That Works With Lotus 1-2-3 Spreadsheets

InWord is a pop-up menu driven word processor that PC Magazine called "the most versatile and functional" of the 1-2-3 word processing packages that it reviewed in a recent issue.

InWord uses 70K of RAM and is memory resident. It interfaces smoothly with Lotus 1-2-3 V2.x and has most of the word processing features you will require.

Price: \$99, from Funk Software, 222 Third St., Cambridge, MA 02142.

## 8087 Math Coprocessor CAN Be Added to PCjrs

A statement made in the May issue of jr Newsletter regarding the differences between PCs and PCjrs has been disputed by several readers.

The article stated that PCjrs cannot accept the addition of 8087 Math Coprocessors, which speed up the processing of mathematical computations. However, several readers have reported that they have installed 8087s in their PCjrs and have found them to work quite well.

We apologize for the error and are happy to learn that one of the supposed deficiencies of our PCjrs is not one after all.

## Speech Attachments for \$30

That price seems unbelievable, but Mendelson Electronics in Dayton, Ohio confirms that they are indeed selling IBM PCjr Speech Attachments for \$30, plus \$3.50 for shipping.

We can't verify it 100 per cent since we haven't purchased one, but we spoke to them by phone on two occasions to make sure we heard it right. They said they are a surplus electronics company and they have the Speech Attachments in their original packaging for \$30 each. Speech attachments originally sold for \$300, but are currently available from IBM for \$200.

The Speech Attachment contains 196 words and sounds and can record and retrieve additional sounds to and from a diskette. In order to clear up some confusion, the Speech Attachment is a speech synthesizer, that is, it generates the sounds through your PCjr's speakers. It does not recognize sounds and words. That is, it can speak to you, but it won't recognize what you say to it. (Or, at least, it won't let on that it does.)

For more information, call Mendelson Electronics (513) 461-3525. Their address is 340 E First St., Dayton, OH 45402.

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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.**

**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.)

**EASYRITE AND LABLFILE.** Easy Rite makes your jr perform like a typewriter, without learning complicated commands. On screen prompts are easy to follow. Lablfile is also easy to use for printing labels and storing information. Runs well on 128K with Epson/Gemini coded printers. (Disk #7)

**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)

**MINICALC.** A small, easy to use, spreadsheet program. 11 columns by 22 rows. On-line help function and manual on disk. In addition to performing calculations, will generate bar graphs. 64K. (Disk #27)

**FAMILY HISTORY.** Designed to help you trace your ancestry and create a family tree. 128K. (Disk #33)

**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, Epsoms 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, screensaver, print spooler, and more. 128K. (Disk #52)

**SUPER UTILITIES.** The 15 utilities in this collection include Undelete, to recover a mistakenly deleted file; a powerful command editor; a clock, notepad, time and calendar; another to redirect file contents from printer to disk...and many more useful utilities. Under 128K ok. (Disk #28)

**MORE SUPER UTILITIES.** A collection of excellent screen and keyboard enhancements, useful file managers, color selectors, and more. Under 128K ok. (Disk #29)

**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)

## 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)

**REFLEX POINT.** Patterned on the TV show Robotech, this game follows the show's storyline, with the Freedom Fighters trying to reach the Reflex Point and destroy the evil Invid Prince. 128K ok. (Disk #12)

**TRIVIAL TOWERS.** A computerized version of Trivial Pursuit, with three levels of difficulty and the option of creating and saving your own questions. Runs on 128K with one drive, but two drives are better. (Two Disks — #13A and 13B)

**ADVENTUREWARE.** Six different text adventures with titles like "Island of Mystery," "Terror in the Ice Caverns," and "Moon Mountain Adventure," all test your wits and take you to strange and mysterious places. 128K (Disk #14)

**BUSHIDO.** Test your skills in martial arts combat. Fighters kick, spin, duck, punch, etc. Requires 256K and keyboard with function keys. (Disk #16)

**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 Overreact, 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 validity 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)

## EDUCATIONAL SOFTWARE

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**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)

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**EARLY LEARNING.** A collection of colorful educational games for children ages 6-8. Sing-along alphabet, letter matching, alphabet tutorial, number/counting game, maze, and pattern matching. 128K. Requires Cartridge BASIC and color display. (Disk #48)

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**WORDSTAR FOR PCJR** by Micropro. New, in factory sealed pack. \$55pp. Wm F. Shimonkevitz, 8927 Park Forest Dr., Springfield, VA 22152 (703) 451-1751. (8)

**PC JR ITEMS** — IBM Parallel printer port \$60; Jr Financier Disk Program, \$10; Avatex 600 External modem (300 or 600 baud), \$65. Steven Bulger, 270 Aviator Ave., Millbrae, CA 94030. (8)

**IBM 256K** Memory Expansion, consists of two 128K sidecars, memory options disk with RAM disk, complete documentation. Unit is already set up and ready to snap in. \$100. **Number Works** (spreadsheet) by Paperback Software, with manual and disk. \$30. Larry Wright, Rt 3, Box 211-C, Milton-Freewater, OR 97862 (503) 938-3510.(7)

**TECMAR 128K** Memory Expansion sidecar with misc. software & manuals. Paid \$280, sell for \$130. Epson LX- 90 printer, PIC (printer interface cartridge), 20 ink cartridges black & color, printhead cleaning kit, parallel printer port, refold printer stand. Paid \$500, sell for \$270. John Dominski, 10704 Philcrest Rd., Philadelphia, PA 19154 (215) 824-3695.(7)

**SOFTWARE FOR SALE:** Pitstop \$10; Bop'n Wrestle \$10; Murder on the Zinderneuf \$10; Dame Busters \$10; Home Budget, jr \$10; Sargon III \$20; Writing Assistant 2.0 \$65; Writing Assistant 1.0 \$20; Basic Building Blocks \$30. All software in original condition. Orders less than \$30 pay \$2 shipping. Dennis Primavera, 38 Partridge La., Burlington, CT 06013 (203) 589-4207. (7)

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