

jr Newsletter

January, 1989

Your PCjr Can Connect You to a Vast New World

SPORTSLOG

With a modem attached to your PCjr, you can explore the wide world of Bulletin Board Systems (BBSs), which provide such things as free software, electronic mail, up to the minute news, and exchanges of information with other PCjr users.

That's just for starters. You can also use your modem to go shopping for bargains, play games with users around the country, book a flight to Brazil, or get information on just about any subject you want.

In this article we have reprinted some samples of PCjr information that has appeared on three different systems recently. But before we get to that, we'll provide some basic steps for those of you who have not yet linked your PCjr up with the exciting world of BBSs.

First of all, you need a modem. The PCjr internal modem is available for about \$30, for those of you who have limited budgets. But you'll also need a great deal of patience. These modems are tricky to use and operate only at the slow speed of 300 baud (you don't need to know what this word means other than that it refers to the modem's operating speed.) In spite of its drawbacks, the PCjr internal modem can introduce you to the joys of telecommunicating once you've overcome the difficulties.

A better choice would be a 1200 or 2400 baud modem, either internal or external. These cost from \$80 on up, but they can save a lot of time and headache since they are faster and easier to set up than the PCjr internal modem.



You will need a special RS-232 cable to hook an external modem up to your PCjr. Most of the advertisers in jr Newsletter carry modems as well as the special PCjr cables.

You will also need software to operate your modem. We have two excellent choices in the Software Store -- Procomm and Boyan. Procomm (Disk #15) is probably the best choice for the beginner, since it is quite easy to use and yet provides all the features you'll need. Instructions for setting up are on the disk. There are also commercial programs, such as Crosstalk and Smartcomm, but these cost more.

Once you've got your modem set up, you're ready to start exploring the almost unlimited world of telecommunicating. The networks are vast and growing larger and more sophisticated as more and more people discover their benefits. We know someone who did all her Christmas shopping through Compuserve's "Electronic Mall." She never had to leave her desk. We also know others who spend hours every week chatting with new found friends who enjoy similar hobbies, such as genealogy, aquariums, and music.

PCjr owners are fortunate in having several excellent

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PCjr Lives!

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The Search for "Friendly" Software

By Jerry Fagin

Many fine programs are developed that scare off new users because they are seen as having unfriendly interfaces to access their commands. What seems to have developed a receptive following are the so-called "pull-down" menus. The user selects from major topics presented across the top of the screen and from that point, a menu drops down with various options in a vertical column. Move the cursor to your option and hit home and either that operation will be executed or a new submenu will appear. Several programs have been marketed recently using this often-preferred approach.

Quattro, by Borland, is trying to displace 1-2-3 as a powerful spreadsheet. I don't have much use for a spreadsheet, so I have resisted learning any because it seems the ratio of time spent to learn it versus time spent using it would be poor. I have tried learning some other spreadsheets such as Supercalc, but they seemed too much of a bother if I didn't intend to be a power user. I watched a demonstration of Quattro at Comdex and it seemed, with its pull-down menus, that it might be easy for even me to use. It was a cinch to install and all the options were grouped logically into menus that I had no trouble using to access any command I wanted. In addition, the help screen system is extensive, screen sensitive, and layered. The only objection I can find to their command structure is that when you ask to quit, you are not given the option of saving your changes but are told if you do quit you will lose your changes, so you have to cancel the quit command, enter the file menu, select Save and then you can Quit. With all the nice work the programmers did on this, it's a shame they didn't make the exiting more logical and graceful. With that minor exception, I find Quattro a pleasure to use and look forward to using some of its more arcane features in the future.

WordPerfect is another program that scares new potential users with its command interface. Now a small company in Pasadena is marketing a program called WPMenu that you can load before you load WordPerfect and it remains invisible until you touch what is normally WordPerfect's help key. Instead of the normal help, it displays a horizontal menu across the top of your screen from which you can select pull-down menus. The menu system is quite comprehensive with over seventy-five menus and submenus available. All this cost 170Kb of RAM since WPMenu stays resident, but if you can spare the RAM, it does make WordPerfect easier, quicker and more logical to use, espe-

cially for the novice.

The main choices are "Quick," which is a collection of the most useful commands from the other menus, "File" which controls file I/O, "Layout" which controls the more common formatting commands, "SFX" which controls special effects for less-used formatting commands, "Edit" for editing previously created text, "Block" for operations on defined areas of text, "Search", " Other" for miscellaneous commands, "Print" for printing commands, and finally a "?" to bring you to the Wordperfect help screen system which it originally intercepted.

Most of the menus end with the options repeated to reveal WordPerfect codes, undo/cancel, or mark blocks. You can move directly from one menu location to another without necessarily going back to the main menu. If you know the command you want is on menu 5, item j, just typing 5J from anywhere in WPMenu will get you there. Since the program will not execute a command until you press return, this feature is not as dangerous as it might initially seem.

WPMenu remembers where in it you were when you last used it and when you call it up again, it resumes at that point so you can repeat a command easily. The menus are very thoughtfully and intuitively arranged so it is pretty easy to use. I liked using it very much and recommend it highly to anyone who isn't yet a master of WordPerfect 4.2 If you are the type of person who can rapidly touch type on QWERTY keyboard but are willing to learn a Dvorak keyboard and are facile with a WordPerfect, I can still recommend you experiment with WPMenu.

An upgrade to WordPerfect 5.0 is now available.

Finally, there is a similar but different product called

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Questions and Answers

By Rene Waldron



EDITOR'S NOTE: jr Newsletter gets questions in the mail from PCjr owners every day. So many, in fact, that we apologize for not being able to answer them personally. This Questions and Answers column is our way of responding to the questions readers ask about their PCjrs. We can't answer all of the questions we receive, but we try to answer those that are either asked by several readers or those we feel will be of interest to PCjr owners in general. If you have a question that you do not see answered here, or elsewhere in this newsletter, please feel free to write to us at jr Newsletter, Box 163, Southbury, CT 06488

Q. I have a PCjr Compact Thermal Printer and would like to set up MODE COM 1:1200,N,8,2,P followed by MODE LPT1:=COM1 to have program output go to this printer via the serial port. I think this can all be done in DOS so that when I boot-up these MODE commands will all be put into place. Should I put them in an AUTOEXEC.BAT file? The problem in doing this is the two separate commands. (J. Bruce Dougherty, Bethlehem PA)

A. Yes, you can do exactly that. There is no problem with having two or more commands or statements in any .BAT file. In this case just be sure to have MODE COM1:1200,N,8,2,P as the first command to be executed. If you have not made any .BAT files yet, here's the general method for DOS 2.1. (And a trick to prevent those irritating double A>'s when the .BAT file ends!) Type the following exactly as shown below, especially the spaces.

COPY CON: AUTOEXEC.BAT (Press Enter)

MODE COM1:1200,N,8,2,P (Press Enter)

MODE LPT1:=COM1 (Then one space but do NOT press Enter!) There's the trick for the double A>'s in DOS 2.1.

Press and release the FN key. Press the #6 key.

The new AUTOEXEC.BAT file will be written to the default disk. If there was an AUTOEXEC.BAT file on the disk, it will be overwritten by this one. To add your commands to an existing AUTOEXEC.BAT file, type the following:

Type TYPE AUTOEXEC.BAT (Enter) and if there is such a file, you will see a listing of the command(s) already being executed by DOS upon boot-up.

To add your commands, type COPY CON: AUTOEXEC.BAT (Enter) then type in the existing com-

mands, copying them EXACTLY as they are on the screen, pressing Enter after each one. Continue by adding your own two additional commands, remembering to put a space and NOT to press Enter at the end of the LAST command. When you press Fn-6 this time, the whole file will be written to disk. If you choose to have this printer only occasionally initialized, do not add the commands to the AUTOEXEC.BAT file. Make a separate, two-command file named something else when you type COPY CON:

Example. COPY CON: THERMAL.BAT, then put in the two commands, etc... Then when you know you'll need the printer just type THERMAL (Enter) The reason we suggest this alternate is because these particular MODE commands will cause some intercept code to become resident in memory. For each command this increases the resident DOS by 256 bytes and you might want this memory.

Q. I am planning to add a Racore drive II to my jr. Would it still be a good idea to add a V-20 chip and the Quicksilver Cartridge? (Gregory Fast, Ketchikan AK)

A. The V-20 chip will speed up ANY PCjr by as much as 30% or more, depending on the type of programs being run. The Quicksilver Cartridge speeds up the booting test time and modifies the keyboard BIOS for even more compatibility with the standard PC. Both products are fully compatible with all known PCjr add-ons.

Q. I would like to buy a publishing program and a CADD. I have 640k and two disk drives. I have asked at the local software suppliers and they don't seem to know if any I have asked about will work. (Can you recommend any for me? (D. Sorrenti, Tempe, AZ)

A. We have run into this same problem time and again with local software suppliers and computer stores. You should really get a copy of disk #60, The PCjr Compatibility Disk from our Software Store. It has listings and memory requirements of probably more programs which work on the jr than you might want to use or know about. What's more, in some cases where the programs do not work "out of the package," there is information about what is necessary to patch them. The patches are labelled and available on other diskettes which are also available from The Software Store. Once you have a listing from the Compatibility disk of the programs you might want, go to the suppliers and get a demonstration if possible so you can compare

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Questions & Answers

(Continued from page 4)

features. You should be better satisfied with your purchases by doing this.

Q. This might be a dumb question, but do cartridges work when in the PC mode? (J Murray, Kansas City MO.)

A. There is no such thing as a dumb question! A question is simply a request for information. And that can be a heck of a lot smarter than NOT asking a question. There can be dumb answers, however. (See this one.) Enough philosophy...

As we do not have a set-up which includes the PC mode and only have limited knowledge of what it does, we will try to have you solve this one yourself. If you have the BASIC Cartridge, or can borrow one, simply plug it in and try it out in the PC mode. You can write a little BASIC program which especially tests the hi-res 16-color screens because many cartridges use the jr's video enhancements. You will find a program in the double Sept-Oct issue of the jr Newsletter on page 29. Change line 2 to "SCREEN 6,1:CLS" If, when you booted-up, your CONFIG.SYS reserved full video RAM it should work. Of course this only proves that the BASIC Cartridge works! Actually, the PC mode really only writes some information to the jr for those programs which "look" for the standard PC identification in memory. If a cartridge "looks" for the PCjr identification, and we don't know if any do, then it should not work. Summing up, the PC mode should have nothing to do with cartridges. Some cartridges even have their own Operating System and pay no attention to what you may have already done with DOS. They take over completely. These usually are the ones which seem to re-boot on their own.

Remember, you can always run cartridges by switching out of PC mode.

Q. We bought a Jr Hot Shot last spring, just after having the disk drive aligned. Now when we format a Hot Shot disk it runs properly for an erratic number of boots, and we get "disk drive error." A plain, 128k DOS booting disk works OK. Are we doing something wrong? Is this a hardware or software problem? (Judy Warner, Boulder CO)

A. This seems like hardware. First: There may be a loose or poor connection at any of the cards installed, the plugs to the drive, the sockets of the Hot Shot, or believe it or not, one of the connectors from the rear of the unit. The drive alignment is also not beyond suspicion. It may just be the case that one of your drives is not precisely aligned to read a diskette formatted by the other, let alone other commercially produced diskettes.

Q. Am I getting the most out of my jr? I have a Racore Drive II, with their 512K expansion and a NEC V-20

chip. I have read about jrconfig and wonder what it would do for me. (Don Broderick, Parker, CO.)

A. Jrconfig could very well enhance your jr and here's the scoop. .EXE files (programs) load into the lowest memory they can find which is not already in use. The lowest 128k of jr's RAM runs slower than the memory higher than this. Plain DOS 2.1 uses only about 54k or less of this memory, for example and .EXE programs start loading at about this address. If your programs now load into this memory, they will simply run slower. If however, you could load programs into memory starting above 128k then they will run faster. Jrconfig allows just this by reserving or using (your choice) some of this low RAM for other things which may not need the speed. In effect, a marker is placed so that programs load above the already used (or reserved) low RAM.

We use two booting disks. The first one boots with maximum memory available for large programs. Our jrs run at "normal" or slow speed with this configuration. The second booting disk reserves the full video RAM in low memory and any programs loaded now run at top speed and hi-res 16 color is available as a bonus. Jrconfig also allows a RAMdisk to be loaded into this low RAM and no memory is "wasted" or inactive. This is a fine program, and one which can further enhance jrs with V-20 chips, ANY memory add-ons, including Racore, Tecmar, PC Enterprises, all second drives etc. Used in conjunction with either Fast-Boot (a re-write of the boot sector itself) or the Quicksilver cartridge, the jr boots up fast and runs fast.

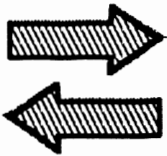
Q. My jr has two drives and 512k memory with sidecars. My problem is with DisplayWrite 2. I get to the point where it says "Program Loading" then it locks up. Also would I have a problem if I was to get DisplayWrite 3?

A. Our information is that DisplayWrite 2 version 1.1 works on the jr with at least 256k. and two drives. There are sporadic reports of problems, but not lock-ups. The first thing to do is to be sure your jr boot disk is configured with all the keyboard patches for best PC compatibility. See the comments in a previous answer on the JRCONFIG programs developed by Larry Newcomb. Go over the "getting started" part of the documentation and be sure you have followed the "install" directions very carefully especially the path to the proper program files.

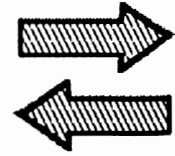
Q. I have a 640k re-worked IBM expansion unit, no problems. Why is it some programs like Pit Stop II (Epyx) run slow on the jr. How can I get them to run at PC speed? (J. Tichota, Lincoln NE.)

A. This is the general rule for all programs which require you to boot up with DOS first. You will need to load the game program into your expansion memory. Use a CONFIG.SYS file which will reserve low RAM. (Up to 128k)

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Reader Feedback



PCjr Lover Also Loves Money Counts 5.0

Dear Fellow PC/Jr Lovers:

I am so grateful that I found you! I have subscribed to other Jr letters, but yours is, by far the best.

I have just purchased "MoneyCounts 5.0" from Parsons Technology and it works great! Thought you might want to add it to your list, so here are the particulars:

MONEYCOUNTS 5.0, \$29.00
(PARSONS TECHNOLOGY
375 COLLINS ROAD N.E., DEPT. RM
CEDAR RAPIDS, IA 52402
Telephone: 1-800-223-6925

SYSTEM REQUIREMENTS:

2 FLOPPY DISKS
256K RAM or 512 RAM (for MoneyCounts Plus - you have "?" on your Compatibility Disk #60)

Dot Matrix, Ink-jet or laser printer (I have an IBM Pro-printer)

MS or PC/DOS 2.0 or higher

If someone has MoneyCounts 5.0 and wants to upgrade to MoneyCounts Plus, Parsons provides this for \$19.00. Also, you can purchase:

1989 Personal Tax Preparer (available Jan. 1989), \$29.00

The MoneyCounts Tutor (printed manual provided great) \$29.00.

Quite Write (w/p required to print reports, etc.)

\$29.00

Paper Caper II (attachment to print checks from bank) \$14.00

I originally called Parsons Technology to purchase MoneyCounts 5.0 and they were very courteous and anxious to be helpful. Wonderful people!

Okay, I hope this helps some other novice like me. Now I have a problem for you - "JEOPARDY"! Has anyone found a way to run this game on a Jr. and, if so, how?

Don't ever let my subscription lapse - I need all the help I can get!

Ms. Barbara M. King, Meriden, CT

Write and Play Music On Your PCjr!

All you need is JR MUSIC MACHINE

-- Disk #62, page 23. --

Newsroom Pro Has Great Features But Reader Has Several Problems

Thought you might be interested in my experiences with **Newsroom Pro** which I recently bought based on newsletter reader surveys indicating it would run OK on a PCjr.

When I got the program, I made a backup copy to work with. After a few problems, it loaded and ran on the A: drive, but it was very slow and required many disk changes.

In order to get some faster action and reduce the disk swapping, I made another backup copy (the program is not copy protected) following the setup instructions for a single drive system with RAM and the tried to load the program to the RAM disk. "Newsroom Pro" says it needs at least 300K of RAM. I have a 640K single drive system with jrVideo and Keyboard Buffer cartridges, but can never squeeze out more than about 605K, so I set up a 301K RAM, leaving 304K for the system.

Copying to C: would get just so far, and then "File Creation Error" would appear. I never had that problem before. Checking the DOS manual for clues from the error messages proved useless, (as usual) and after lots of head-scratching, I finally remembered reading somewhere that the number of directory entries for the RAM disk could be adjusted and wondered if this could be the problem. Eventually I remembered that I had read it in the documentation that came with Larry Newcomb's JRCONFIG.DSK. So, after I set the number of entries to 64 ("Newsroom Pro" has 37 files), everything got copied to the RAM disk.

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JrNewsletter Welcomes Questions

We enjoy hearing from fellow PCjr owners and will do our best to answer questions and help solve any problems you may have. Please, however, send your questions in writing. We are a part-time organization and are not set up to handle telephone calls. Please write to: jrNewsletter, Box 163, Southbury, CT 06488.

Reader Feedback

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(Who ever would have thought that "File Creation Error" could possibly refer to the number of directory entries on the RAM disk?! Does DOS provide any way to change these? Larry's great program lets you get as far as 128 entries, but suppose you wanted to load say 140 files to RAM, like with Flight Simulator?) Now there was a tremendous improvement in speed and disk-swapping was reduced significantly. All went well until it came time to print. Then I was stunned to get the message "Not enough system memory" from the "Newsroom Pro" program.

So, what I ended up doing is using the RAM disk to create and save my data and then shutting down and rebooting with the disk I created to run on the A: drive in order to print. This is a bit awkward, but at least it works. Maybe someone can tell me why I'm having a print problem from the RAM?

The other problem I have when running on the RAM disk is that every time I return to the main menu, there's no display - just a bunch of dots or lines, different each time I return. But if I press the appropriate keys, I can still get to the various functions even though I can't see them on the menu screen. This doesn't happen at all when I use the disk I made for the A: drive. Spooky. Has anyone had this experience?

By the way, "Newsroom Pro" has many, many enchantments compared to "Newsroom", and I would recommend it highly if I could just get the printing problem solved.

Sorry to write such a long letter, but it seems to take a lot of words to give a fairly clear description of a problem.

Love jrNewsletter. Virtually every issue has at least one good tip, aside from the interesting articles and reader feedback. Pretty good considering you're writing about a

"dead" machine. Keep up the good work.

Phillip Bonday, Maywood, NJ

EDITOR'S NOTE: We don't have Newsroom Pro ourselves, so we can't comment from personal experience. We have reports from other jr users who say it's great, though. Here are a few suggestions which might help:

Your printing problem is probably caused by the fact that the printing program takes RAM to operate. So when you invoke the print command, you are making an additional demand for RAM. If you are already at the limit, this will cause a "not enough memory" message to appear. So, how about reducing the size of the RAM disk required by going through the files on your Newsroom Pro disk and finding out which ones you don't actually need on your RAM disk. You may find a couple of files that are there for special purposes that you rarely or never use. These would be the files to keep off your RAM disk. Without having a copy of Newsroom Pro handy, it's just a guess, but we'll bet there are a few files you can do without most of the time. With a 250K RAM disk, instead of 301K, the print function will most likely operate.

We can't help much with the other problems, but perhaps another reader who uses Newsroom Pro can provide some insight.

Replacement Floppy Drive And Praise for DOS 3.1

It's amazing how much I seem to miss in some of your newsletters. I've been skipping around in past articles re-learning many new tips and ideas for manipulating my jr. Skimming through the combined 1988 September-October issue I reread a letter from Craig Tregillus, Washington D.C., pg 7, Reader Feedback. Because of this issue and this particular article I have ordered the Thin Font Chip, Quicksilver Cartridge and the Speedup board from PC Enterprises. Quicksilver has proven to be fantastic. I have yet to install the font chip. I figured I would wait to install the speedup board and the font chip at the same time. I'm still waiting for the speedup board to be delivered and have been since the beginning of September.

In the four years that I've owned my jr, the only major trouble I have had has been the replacement of two drives. One for the jr and one on my Racore. Both were replaced at the time by Computerland (big mistake) for \$99.00, and both were Qume drives. At a computer swap meet I met John King, president of San Francisco PCjr User Group. I was informed from him that the Fujitsu 2551 will work in the jr. I even saw it with my own eyes working on a display jr and John King made several dozen purchases of this drive (for other members) while I was there. This was great, a

New Prices, New Speeds! SPC DISKITjr HARD DRIVE

DISKITJR 22L (now 29ms)	\$695	\$595
DISKITJR 33L (now 29ms)	\$795	\$695
DISKITJR 42H (25ms)	\$995	\$895
DISKITJR HD Interface	\$245	

Features: Works with all other add-ons, including Tecmar, Racore., jrHotshot, etc.

XT compatible upgrades, no charge.

1 yr. warranty, customer references available.

5% cash discount, \$15 shipping charge.

Systems Peripherals Consultants

7950 Silverton Ave., #107, San Diego, CA 92126

1-800-345-0824 or (619) 693-8611 CA

NEW drive at \$79.00 for 1 YEAR WARRANTY. So I purchased one for a spare. I hope it works. It has been over a year now and I have yet to use it. About a month ago, my Racore replacement drive started acting up. It will copy and read file by file perfectly, but started refusing to format or diskcopy. I get a drive not ready and format failure error on the Racore drive. I am waiting for complete failure (very bad mistake) before replacing it with the Fujitsu drive. Apparently John King meant that this drive would work in the IBM jr only. For in your November 1988 issue, Reader Feedback, page 12-13, article by Alan D. Peters, Cleveland, OH., states that Racore says only the Qume 142 drive is compatible with their expansion chassis disk controller. Is this true? Will I have to now purchase another drive for the one that is going bad? Can a Qume 142 drive still be purchased and at a reasonable cost? Is it possible the problem is not the drive this time?

In a past letter I wrote to you about a problem I was having with Fontasy Publisher Version 2 on my jr, Reader Feedback, August 1988 page 17. I have now purchased Fontasy Version 3 as an upgrade. This version, if you're an avid Fontasy user is fantastic. A major improvement over Version 2, but I can think of many more improvements for their next update. Anyway, the problem I was having was still there. Then someone gave me an old copy of IBM DOS 3.1. It cured my problem. It was a big relief to find out that my problem was another bug in IBM DOS 2.1 and not another jr compatibility problem. IBM DOS 2.1 will now reside on the back shelf of my closet.

The price of a hard drive for the jr is enough to make a person junk our beloved machines and just upgrade to big brother clone. Why are they so much?

Paul E. Pierce, Winton, CA

EDITOR'S NOTE: Hard drives are more expensive for PCjrs than for other computers primarily because there are millions of PCs, XTs, etc. and only a few hundred thousand PCjrs in the computer universe. As Henry Ford demonstrated with his Model A, if you produce enough of something you can get the cost per unit down pretty low. Since relatively few hard drives are sold to PCjr owners, the price is higher.

As for your question about which disk drives are compatible with Racore units: Racore says their controller was designed to work with the Qume 142 and that is the only drive they will guarantee will work. However, many jr owners have successfully installed other drives in Racore units. Generally speaking, the higher quality drives, such as the Fujitsu, are more likely to be compatible. However, the information we have indicates that you can't be completely sure a drive of a certain brand will work until you try it in your own Racore unit. So be sure you can return the drive, or exchange it, before you buy.

Comments on Flight Simulator 3.0

I'd like to comment on Mr. Haub's article on Flight Simulator 3.0. First off, the convert program Mr. Haub mentions is not meant to be used to convert FS2 scenery disks into FS3 scenery disks (there is no such thing). Rather, it is supposed to be used to copy the copy protected FS2 scenery disks onto a hard disk. FS2 disks are completely compatible with FS3 and do not need conversion to work on a floppy disk based system.

Secondly, I disagree with Mr. Haub's assessment of the documentation for FS3. I consider it a vast improvement over the documentation for FS2. The Flight School section, which was all but non-existent in the FS2 manual, is a welcome addition. I thought, for the most part, that the rest of the manual was quite adequate.

Your default window preference CAN be saved! The procedure for doing so is covered in the manual on page 63. The second view window and map window may be placed anywhere on the screen and not just in the cockpit window. You can even overlay them on the instrument panel though I don't recommend this. Whenever the instrument readings change, the affected instrument will partially bleed through the window covering it. It should be noted here that persons lacking a hard disk on their system (jr or otherwise) MUST, I repeat, MUST activate these windows BEFORE loading ANY scenery disk other than the master scenery disk. IF either is activated afterward, the program will crash. For the same reason, the crash detect (menu 4) MUST be turned off. If it's on and you crash while using a Sublogic scenery disk (on a floppy drive system), the program will crash with you.

Stephen S. Miller, Grand Terrace, CA

Public Domain Program Unprotects Writing Assistant

Writing Assistant Version 1.01 is copy protected and thus impossible to run from a hard disk or a ram disk without first removing the copy protection. There is, however, a public domain program that will unprotect Writing Assistant, making it possible to copy.

We decided not to print the entire Debug routine in this newsletter since it would take several pages and is probably of interest to relatively few readers. But those who are interested can obtain copies of the program on disk by sending \$3 to Clyde A. Dodge, 1075-285 Space Park Way, Mountain View, CA 94043.

Wondering how to run new software on your PCjr?

Get the PCjr COMPATIBILITY DISK -- Disk #60, page 23. It has compatibility info on more than 600 titles!

Huge Hard Drive Now Available For PCjrs From Systems Peripherals

Bob Richards of Systems Peripherals Consultants recently informed us that he now has an 86 Megabyte hard drive that will run on PCjrs.

Bob's company, which has been providing hard drives for PCjrs (and other computers) for several years, offered a 42 MB hard drive as its largest until the new giant came along in December.

The new drive is the Export Model 86H, which is made for Toshiba, Tandy and IBM laptops. It boasts an access speed of 19ms.

SPC has also increased the speed of its other hard drives. The 20MB and 30MB drives now have access speeds of 29 milliseconds and the 40MB drive operates at 25 milliseconds. The standard speed of these drives used to be 65 ms.

Systems Peripheral Consultants new address is 7950 Silverton Ave. #107, San Diego, CA 92126. Their phones are 1-(800)-345-0824 or (619)-693-8611 in California.

Numeric Keypad Makes Life Easier When You're Number Crunching

If you're tired of fumbling with the number keys across the top of your PCjr keyboard when you're working on a spreadsheet, the separate numeric keypad from PC Enterprises may be for asyou.

The keypad works side by side with the PCjr keyboard, allowing you to enter numbers quickly and easily. It has a square calculator-like format similar to the layout of numeric keypads on larger keyboards made for PCs and ATs.

Also available is a separate keypad for those who have upgraded their keyboards to PC and AT type keyboards. The separate keypad gives you numeric functions without having to use the numlock key. Thus you have both numeric and cursor movement ability at all times and don't have to keep track of whether or not the numlock key is activated. This keypad is compatible with Racore PC Keyboard Adapters.

The keypad for use with PCjr keyboard costs \$29.95. The other is \$39.95. From PC Enterprises (800) 922-PCJR.

Are you reading a friend's copy of jr Newsletter?

Make it easy on yourself - send \$19 for a year's subscription to jr Newsletter, Box 163, Southbury, CT 06488.

When Buying King's Quest IV Be Sure To Get 256K Version

There are at least two versions of King's Quest IV now being sold. One of them won't run on PCjrs regardless of how much memory you have, but the other one will.

If you purchase the wrong version and try to run it on your PCjr, you will receive the message "Will not run on a PCjr." There should be a notice in the box allowing you to send the wrong disks in to Sierra On Line, the makers of King's Quest, in exchange for the version that will run on PCjrs.

It is generally a good idea to make sure that the store where you purchase software allows you to return it if it doesn't run on your computer.

How To Disable DMA On Racore Units

PCjr users who have Racore expansion units with DMA may want to disable the DMA feature in order to make your unit compatible with a new hard drive (some are not compatible with Racore's DMA) or for some other reason.

Disabling DMA in Racore units is not difficult and it is can be reinstalled later if you want it back. It just takes a little care, particularly when it comes to removing the DMA chip.

According to the Racore Service Department, here are the steps to follow:

1. Carefully remove the U-19 chip (a large 40 pin chip), using a chip puller, if available. (These chips cost about \$25 to replace.)
 2. Move the jumpers on J-10 and J-13 over one pin to the left. They are currently on the right two pins and should be moved to the left two pins.
 3. Install a 150 ohm terminator in the H1 socket near the top of the board. These terminators are available in most electronic supply stores. Beckman part #899-3-R150 or Epitek part #EM 1407-151G are two types of terminators that will do the job, but there are many others that will also work.
 4. Remove the floppy disk drive controller card and cable. Now you will need a \$10 Racore cable, Part #5500-1013 to connect your second floppy drive. Or, you can replace the original IBM card and cable that came with your PCjr if you are going to operate with one floppy.
- That's all there is to it.

Now's the time to do your Family Tree!

All the help you'll need is on FAMILY HISTORY (Disk #33). See page 22 for a full description of its features.

Scout Is Always Ready to Help You Out

By George Spragins

EDITOR'S NOTE: After reading the following review in the Palmetto PC Club's Newsletter, we were so interested in trying Scout that we obtained a copy, tried it out, and decided to add it to the Jr Newsletter Software Store. We think you'll find Scout a useful addition to your collection.

SCOUT is a memory resident disk, directory, and file manager as well as a DOS shell that may be invoked from the DOS level or from within an active program.

Even though I am not a fan of memory resident software, sometime referred to as Terminate and Stay Resident (TSR), because of conflicts with other programs, Scout seems to be worth a second look. It is impressive in that it does seem to live well with other programs. Secondly, it has a long list of functions all in the one program so multiple programs are reduced.

A small portion of SCOUT remains active in memory waiting to be called via the hot keys or Prime key. The majority of its code resides in an overlay file and contains approximately two-thirds of SCOUT's code. When SCOUT needs a function from the overlay, it accesses that file and loads the required code to perform the function.

SCOUT was designed with three primary goals in mind. The first goal was to be accessible from any application program as well as from the DOS level. That necessitated a memory resident program. The achievement of this goal allows a user working in an applications program to call SCOUT to perform some disk chore, then return to productive work with a minimum of interruption. The second goal was to limit the keystrokes required to perform a specific function to the absolute minimum. A third goal was to make SCOUT as compatible as possible with applications as well as other memory resident programs. SCOUT works with most applications and memory resident utilities. Therefore it seems to have accomplished the goal.

A summary of some of SCOUT's major features are:

- Select and Execute programs from the displayed directory
- Move, copy, delete individual or tagged files
- Rename files, directories, or volume labels
- Create, remove directories, or volume labels
- Change file attributes
- Sort, in ascending or descending order, files in five different ways
- Search an entire disk for files or a text file for a specific string
- Print directory listing of files
- Send printer control codes to printer
- View (with scroll) or Print a text file (formatted or

unformatted)

- Change drives or directory with single keystroke
- Set system or file date and/or time
- Strip high bits (Wordstar) from files during copy
- View a monthly calendar
- Remove the program from memory

Installing and customizing SCOUT for a particular PC system is accomplished by executing the CONFIG program. Execute the configuration program by entering at the DOS prompt: CONFIG SCOUT. The configuration program will load and display the following main menu:

- {A} Assign overlay file directory (path for overlay)
- {B} Assign SCOUT activation key (default = Alt/F10 or """).
- {C} Assign default file mask key
- {D} Assign directories to function keys
- {E} Assign printer codes
- {F} Assign default sort
- {G} File copy date/time setting
- {H} Set printer margins
- {I} Assign favorite programs
- {J} Set prime key ("""", backward prime symbol)
- {ESC} Quit

Menu item G provides a unique capability. If desired, SCOUT will update the date and time of a copied file to the current date and time. This feature can be toggled on or off as desired.

Item H provides the facility for setting up parameters for printing text files. These default parameters can be set:

- {L} Left margin
- {T} Top margin
- {B} Bottom margin
- {P} Lines per page
- {N} Page numbering
- {D} Today's date

SCOUT can be loaded directly from the DOS command line or from a batch file. Many PC users have several other memory resident utilities that are loaded each time the system is booted. SCOUT is well-behaved and should work in conjunction with most Terminate and Stay Resident (TSR) software. In case of conflicts with other TSR's, experimentation with the order the TSR's are loaded will usually solve the problem.

SCOUT provides a way to adjust the amount of Random Access Memory (RAM) it occupies. Scout's default is set to support up to 350 files per directory and up to 100 directories per drive. To change these defaults, place an

(Continued on page 10)

Scout Helps You Out

(Continued from page 9)

"f" and the maximum number of files and a "d" and the maximum number of directories on the command line when loading scout as follows:

SCOUT f200 d25

Once loaded, SCOUT can be called from anywhere. Press the Hot Keys or PRIME key, and SCOUT will pop up, saving the prior screen. Return to normal operations may be invoked by pressing the ESC key. The SCOUT display will be replaced by the screen that was present when SCOUT was called.

A help display may be activated from the main SCOUT screen by pressing either CTRL and H (^H) or the backspace key. This display contains a list of all available SCOUT command keys and a short description. The two pages of the help display are toggled by pressing any key. Remove the help display by pressing the ESC key.

The main SCOUT display contains a wealth of information. The top line of the display shows the date and time followed by the version of DOS in use. The main part of the display is divided into 5 columns that hold up to 14 file names each. Thus up to 80 file names can be displayed at one time. If there are more than 80 files in the current directory, the PgUP and PgDn keys can be used to display the remaining pages up to the maximum.

File names are displayed in the order determined by the current sort method. The cursor can be moved with the up, down, right, and left arrow keys. The solid bar under the file display shows the current directory path name. Below that there are three blocks of information on the current file or directory. ARC files with an .ARC extension may be accessed to view its directory or file entries. If SCOUT determines it is a valid ARC file, a window will appear that shows the directory listing in pages of 18 entries each. Each entry displayed has the ARCed file name, the date, the time, the uncompressed file size, the compressed file size, and the method used in compression. To get a printed listing of the ARC file directory, press CTRL/P at any time while displaying the file names.

There are more features to be found in SCOUT. It is a solid product that deserves your consideration for your utility Toolkit of programs. I ask that you support the author with a contribution for the value you have received in this well-written program. (See page 23 to order Scout from the jr Newsletter Software Store.)

Use your PCjr to learn a Japanese art form!

ORIGAMI, Disk #39 on page 23, will take you step by step through the art of Japanese paper folding. It demonstrates how to make amazing animals and other objects right on your screen.

Owl Software



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(Continued from page 2.)

Primal Screen. The concept of Primal Screen is that just about every major word processor and spreadsheet have similar commands, so they designed standardized interfaces for different programs. That means if you learn their interface for 1-2-3, you can use the same styled interface for Supercalc, making the transition as painless and invisible as possible. If you use their menu interface for Multi-mate and want to switch to using WordPerfect, again it is easy if you use their interface for both. The review version I had was for Wordperfect 4.2 (easily internally configurable to 4.1). They have a plastic template that fits over your horizontal number keys (not your function keys) to give you the main menu choices. The menus are selected by hitting the control or alternate key, then the number key so as to minimize using other TSR program's activation key. The control keys bring you into pull-down menus, the alternate keys usually execute a command immediately. The menu choices are as complete as WPMenu but the system seems less desirable compared to the latter because Primal Screen depends on a plastic template which is small and could get misplaced while WPMenu shows the master menu on the screen. However, Primal Screen uses only 52Kb of RAM compared to WPMenu's 170Kb. Also Primal Screen is more expensive than WPMenu. Primal Screen's main advantage is if you are a user who has to use multiple word processors or spreadsheets, this system will make easier for you, but you (or your company) has to buy an individual module for each program and that can make the total fairly expensive.

Quattro is by Borland International, 4585 Scotts Valley Road, Scotts Valley, CA 95056, (408) 438-8400. It lists for \$195, but is discounted at about \$130.

WPMenu is by Windows on Words Software, P.O. Box 60620, Pasadena, CA 91106, (818) 791-8434.

Primal Screen is by Genest Technologies, Inc., 1331 East Edinger Avenue, Santa Ana, CA 92706 (714) 547-0880 Retail list is \$129.

(The above article was originally published in the UCLA PCUG Newsletter.)

PCjr Train Lovers' Software

If you ever yearned to be a train dispatcher, you'll be glad to hear about PCjr compatible software developed by Signal Computer Consultants in Pittsburgh, PA (412) 655-7727.

Train Dispatcher simulates the job, and a second disk, Track Builder, allows you to lay out track systems, which you then use to test your skills as a dispatcher. Train Dispatcher retails for \$25, Track Builder is \$15.

Play Your Way to Good Spelling!

Spelling Bee, the new spelling game software added to the jr Newsletter Software Store this month (Disk #82), is a way for both children and adults to have fun while learning how to spell.

The game is patterned on the Olympics, with you as the champion representing the United States in competition with any one of seven other nations. You choose your opponent and the game begins with the playing of the national anthem as you watch an athlete (you) run across the screen carrying a torch to light the Olympic flame.

You then select the level of difficulty you want (from 1-4) and the word flash speed (from 1-100). You press your Enter key and your word flashes very briefly on the screen. The flash is so brief that it doesn't really give away the correct spelling. And you can set it to an even faster flash as you become accustomed to playing.

When you spell a word correctly, your country's flag appears in a rectangular area at the center of the screen. When you spell a word incorrectly, a flag of your opponent's country is put in the rectangle. You are shown the correct spelling of the word when you get one wrong. There is room for twelve flags in the rectangle and your goal is to fill it with flags of your own country. The game continues until you get all twelve flags or your opponent does.

When you win you are rewarded with the sight of an athlete (you) on the winners stand, jumping up and down, hands raised high in front of a cheering crowd.

The game is suitable for children and adults since the four levels of play range from very simple words at Level 1 to difficult words at Level 4.

For example, here are a few words from each level:

Level 1 - all, burn, cow, jaw, much

Level 2 - blank, except, gray, inch

Level 3 - apricot, ceaselessly, pattern, ultraviolet

Level 3 - licensable, candidacy, deflationary, macrocosm

There are hundreds of words in each level, so you aren't likely to run across the same ones in the same session. You can also create your own word list. The instructions tell you how to do it. This might be useful if you want to learn legal, medical or other specialized words.

This disk offers a great way for kids to become winners of their school spelling bees, or for adults to become less likely to make spelling errors in their writing. See page 23 for ordering information (Spelling Bee, Disk #82).

Video RAM and Sleepless Nights

By Rene Waldron

The information we jr owners have tells us that to write to the screen buffer (the RAM which holds the information which the screen will display) we should write (POKE, in BASIC) to the addresses which begin at HEX B80000. In the jr this address doesn't even exist! It is higher than the 640K or even the 738k top of our expanded memories. What's going on?

In the standard PC this RAM address is actually on the CGA, VGA or whatever video card has been installed. On this same card is a pile of dedicated RAM for the screen display only. The amount of "free" memory then, doesn't change in these machines for different screen displays. Whatever amount of RAM is needed for video is already on the card and most of it just sits there, unused. This is a whole Segment or more of RAM which is logically placed just above the 640K "barrier" which has gotten so much press.

The PC jr however, has a different system; one which does not let memory go unused. Here's how it works: There is a special pair of chips which work together to allow some of our normal RAM to take the place of the dedicated RAM mentioned above. The first thing which happens whenever we try to write to an address beginning at HEX B80000 is that we are "detoured" to another address in Low RAM. The video chip which would normally read from HEX B80000 to get information to display on the screen is also instructed to read from this new, low address. In other words, all programs with calls to the standard PC addresses starting at HEX B80000 are simply re-routed to Low RAM in the jr. The Low RAM addresses and the method to use them were carefully chosen to keep compatibility with the rest of the IBMs as high as possible, but only IF the applications (programs) are well-behaved, ie. use normal DOS and ROM BIOS calls. The PC jr Technical Reference manual tells us there is no performance degradation using this system because the jr always waits for the right instant to transfer (update) video information to screen... the reason we never get the "snow" which plagues other computer screens, such as the clones.

So far, so good. Now, the place (addresses) in Low RAM where our jr video buffers reside is also where the "transient" parts of COMMAND.COM is normally loaded. The video information sometimes writes right over this during our program runs. Well, that's still OK because COMMAND.COM checks for any changes the next time it's needed, such as a SHELL or the end of the program and back at the DOS prompt, and it re-loads itself if necessary. Early on, programmers learned that this part of COMMAND.COM could be written over, and guess what they did... Right! They saw this part of RAM ready for use

and wrote programs which addressed these locations directly, sometimes to store data and sometimes for the program itself. Fine on a standard PC but the screens on a jr looked like Egyptian hieroglyphics, if such a program would even run! The jr will detour screen info right down onto the program instructions in most cases and then CRASH! A well-behaved program, according to Bill Gates, should leave this area alone and use the Microsoft and IBM BIOS and DOS calls for its implementation. The advice is not often taken.

The general location for these video buffers is just below the first 128K. Let's see what we've got. If we boot up reserving just 16K for the video, the beginning of the actual addresses should be about 16K below 128K. (at about the 112K mark) If we boot up reserving 64K for video then the starting address should be at the 64K mark. You can see that the system to "detour" us from HEX B80000 has to be pretty sophisticated to handle these different addresses.

Well, I finally discovered where the actual video buffers reside in low memory. They really are "moving targets" as described above but there seems to be some organization about it. The only part that has me bogged down is the system for active and visual pages. They seem to change address without reason...

The following BASIC program is to experiment with and it demonstrates where the jr buffers are located and how they are accessed in BASIC. The program will work with the Cartridge interpreter, disk BASICA, BASIC, Compiled BASIC and QuickBASIC, any version. I suspect that Turbo BASIC or any other will also cause no problems, as the program is really simple and straight-forward. Remember, this is written as instructional in nature and certainly not an example of polished programming.

MAXVID.BAS is for use when the jr has been booted with maximum video memory reserved. Once loaded it can be changed and saved with another name such as MINVID.BAS. The jr can then be re-booted with 16K of video memory reserved and the program MINVID.BAS loaded and run.

Inspection of the program at line 100 shows the different beginning addresses in low RAM for the different amount of reserved video RAM buffers. You see, the TOP of the reserved memory will be just under the 128K mark, so the size grows DOWN from there to the start address, according to size. A LOWER start address for MORE video memory.

The beginning of the program is doing normal printing of the alphabet via the VGA and Motorola chip lines. Lines 60 - 80 are reading the information as requested by the call to HEX B8000 as the segment is set in line 20. These same

lines address the addresses (via the detour) and print the information found to the screen for the second time. The THIRD repetition of the alphabet written to the screen is the one to tell the story. In lines 60 - 80, these chars are being read directly from the low RAM (actual buffer address) and printed to the screen.

Experiment with different active and visual (in line 20) pages to find what addresses are used as page addressing is changed.

```

4 '( R. P. Waldron 1988 video RAM locator )
5 '( This program can be compiled as-is )
6 '( Boot-up must allow maximum video RAM )
7 '( reserved, or segment is in error )
8 '( )
10 CLS: DEFINT A-Z
20 SCREEN 0,0,0: COLOR 14,1: CLS:DEF SEG=&HB800
30 LOCATE 1,1
40 PRINT "A B C D E F G H I J K L M N O P Q R S T U V W
X Y Z "
50 PRINT "a b c d e f g h i j k l m n o p q r s t u v w x y z":
PRINT: PRINT
60 FOR X = 0 TO 300 STEP 2
70 Y = PEEK(X): PRINT CHR$(Y); 'get alpha chars via
HB800 and ROM detour
80 NEXT: PRINT: PRINT
90 '( Below segment is actual RAM address of video buffer
100 DEF SEG=&H1C00 '**** set up for max; use
SEG=&H800 for fmin video mem
110 FOR X = 0 TO 300 STEP 2
120 Y = PEEK(X):PRINT CHR$(Y); 'get alpha chars direct
from actual buffer
130 NEXT: DEF SEG
140 PRINT: PRINT: PRINT " Touch any key to end."
150 K$="": WHILE K$=""
160 K$=INKEY$
170 WEND

```

```

4 '( R. P. Waldron 1988 video buffer locator )
5 '( This program can be compiled )
6 '( Boot-up must allow 16K of video RAM )
7 '( reserved, or segment is in error )
8 '( If Cart BASIC use SCREEN 0,1,1 in line 20)
10 CLS: DEFINT A-Z
20 SCREEN 0,0,0: COLOR 14,1: CLS: DEF SEG=&HB800
30 LOCATE 1,1
40 PRINT "A B C D E F G H I J K L M N O P Q R S T U V W
X Y Z "
50 PRINT "a b c d e f g h i j k l m n o p q r s t u v w x y z":
PRINT: PRINT
60 FOR X=0 TO 300 STEP 2

```

```

70 Y = PEEK(X): PRINT CHR$(Y); ' get alpha chars via
ROM and detour
80 NEXT: PRINT: PRINT
90 '( Below segment is actual RAM address of video buffer
100 DEF SEG=&H800 '**** set up for 16k; use
SEG=&H1C00 for max video mem
110 FOR X=0 TO 300 STEP 2
120 Y = PEEK(X):PRINT CHR$(Y); ' get alpha chars direct
from RAM buffer
130 NEXT: DEF SEG
140 PRINT: PRINT: PRINT " Touch any key to end."
150 K$="": WHILE K$=""
160 K$=INKEY$
170 WEND

```

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Laser Printer or Ink Jet -- Which One is Best for You?

By Bob Magnuson

In a recent users group meeting I attended, the presentation for the day focused on two new printers from Hewlett Packard. A local retailer spoke on specifications and operation for the **Paint Jet** and the **Desk Jet** printers. On-the-spot print examples were generated for the group members to view, and to summarize, the output from these two printers is simply amazing!

These new printers from HP are not of the "laser" variety, but utilize the "ink jet" technique to achieve printed material. Color, graphics, selectable fonts, outstanding clarity and detail were seen in the output from both the **Paint Jet** and the **Desk Jet**, but the question arose regarding the comparison of these units to current "laser" printers. A major factor in considering to purchase one of these versatile units is price; The HP machines come in around \$800. The Hewlett Packard LaserJet2 is about \$1,700. The price comparison between the "ink jet" and "laser" printer design further fueled the debate. Were I to be in the market for a new printer, what would I buy? Some points here might help you decide what kind of machine you purchase.

Laser or ink jet? I have seen the output from both and compared the output side by side; there is little difference in quality. Both are superb! On the output alone, then, the choice seems to be arbitrary. Next, you must also consider the maintenance requirements of these printers. Laser and ink jet both will necessitate more user intervention than just popping in a new ribbon and producing hardcopy. General opinion seems to give the edge to the laser printer for its ability in the graphics area. However, the HPs mentioned above provide for impressive color printing.

The serial/parallel interface of either laser or ink jet types of printer is also a minor point, since with an adaptor cable, almost anything can be connected to the Junior. You could purchase a print buffer to hold your data while your printer chugs away at its printing. Additionally, this frees you up to move on to another task. Print buffers come in both the parallel and serial designs. Keep in mind the PCjr serial port will not reliably exceed 4800 baud in transferring data to the serial printer. While the parallel protocol is generally more prevalent, if the machine of your dreams is serial, don't despair.

The one, most important issue at hand is inter-compatibility between whatever printer you do choose to buy, and whatever existing word processing and/or graphics programs you use. On more occasions than I care to remember, my printer did not appear on the list of printers to select from for setup. You will be taking the path of least resistance if you consider one of these "logical" steps: 1) review all of your software that will print hardcopy and note brands and models of printers that recur: write those

names down, 2) determine from your list of names which model you might purchase, 3) investigate those printers (in person, if possible) to determine other potential interface problems (memory requirements, serial/parallel, etc.), 4) buy the printer that appears to present the least number of obstacles and will provide you with the desired output. The only way you could be disappointed after using these guidelines is if you are asking your software to do some unusual printing tasks, such as extended characters or point-addressed graphics. Even then, if you have done your homework in the "support" area, these sticky points should take little work to solve.

Since we have generally dismissed any difficulties with the actual hardware needs (cables, connectors), what software specifics might arise? Also, what additional software might be needed for operation on your Junior? To start, consider your present software. If you have been using a certain program, are you planning to upgrade with more powerful W.P. / CAD or graphics packages along with the new printer? In an upgrade of software, the amount of RAM and disk storage you have now become important. I know of a graphics program that can operate via floppies, but would be optimized if it could be accessed from a hard disk. Secondly, some printers of the laser variety require the installation of a "device driver" in your config.sys file. Adding the line in the config.sys file "device=hp_prnt.sys" might be necessary for your new Hewlett Packard Desk Jet printer. Adding printer device drivers to your boot disk is very similar to adding the "device=ansi.sys" line to the config.sys file.

With such high quality output from the laser and ink jet printers, you might ask, "do I need a new computer to drive it?" In my opinion, the large number of W.P. and graphics programs that are proven on the Junior will save you a substantial amount of money in not scrapping your present computer for a new compatible or PS/2 unit. After all, the printer is what makes a high quality printout. Your computer just tells it what to print!

Computers Talk Funny

Computer wizards are trying to figure out a way to program computers so that they can translate from one language to another. If you've gotten a foreign assemble it yourself product recently, you may already know that they haven't perfected the art of computer translations yet.

The best example of the problem we've seen was a computer's attempt to translate the phrase "out of sight, out of mind."

It came out "invisible insanity."

Computer Jargon

Beginner: A person who believes more than one-sixth of a computer salesperson's spiel.

Advanced User: A person who has managed to remove a computer from its packing materials.

Power User: A person who has mastered the brightness and contrast controls on any computer's monitor.

Sales Associate: A former cheese-monger who has recently traded mascarpone for MS-DOS.

Consultant: A former sales associate who has mastered at least one tenth of the dBase III Plus manual.

Systems Integrator: A former consultant who understands the term "AUTOEXEC.BAT".

Service: Cursory examination followed by the utterance of the phrase "It can't be our" and either of the words "hardware" or "software."

Support: The mailing of advertising literature to customers who have returned the registration card.

Alpha Test Version: Too Buggy to be released to the paying public.

Beta Test Version: Still too buggy to be released.

Release Version: Alternate pronunciation of "Beta Test Version."

Enhanced: Less awful in some ways than the previous model, and less likely to work as expected.

Upgraded: Didn't work the first time.

Upgraded and Improved: Didn't work the second time.

Fast[6MHz]: Nowhere near fast enough.

Superfast[8MHz]: Not fast enough.

Blindingly Fast [10MHz]: Almost fast enough.

Astoundingly Fast[12MHz]: Fast enough to work only intermittently.

Memory Resident: Ready at the press of a key to disable any currently running program.

Multitasking: A clever method of simultaneously slowing down the multitude of programs that insist on running too fast.

Encryption: A powerful algorithmic encoding technique employed in the creation of computer manuals.

Desktop Publishing: A system of software and hardware enabling users to create documents with a cornucopia of typefaces and graphics and the intellectual content of a Formica slab; often used in conjunction with encryption.

High Resolution: Having nothing to do with graphics on an IBM computer.

FCC Certified: **Guaranteed not to interfere with radio or television reception until you add the cable required to make it work.**

American: Korean or Taiwanese, as in "American Telephone and Telegraph."

American Made: Assembled in America from parts made abroad.

Windows: A slow-moving relation of the rodent family rarely seen near computers but commonly found in specially marked packages of display cards, turbo cards, and Grape-Nuts Cereal.

TopView: The official position of IBM brass that an abysmally slow character-based multitasking program is the product of the future.

DOS Shell: An educational tool forcing computer users to learn new methods of doing what they already can.

UNIX: Sterile experts who attempt to palm off bloated, utterly arcane, and confusing operating systems on rational human beings.

EMS: Emergency Medical Service; often summoned in cases of apoplexy induced by attempts to understand extended, expanded, or enhanced memory specifications.

Artificial Intelligence: The amazing human-like ability of a computer program to understand that the letter y means "yes" and the letter n means "no."

(Excerpts from Western New York Tandy Users Group News. Reprinted from the Voice of the '80 of the Fairfield County Computer Users Group, January, 1988)

PCjr Info Exchange Available on BBSs

(Continued from page 1)

Bulletin Board Systems dedicated to PCjr users. There is also a National PCjr Help Conference, which can be accessed through hundreds of BBSs throughout the country. Compuserve and Genie, two of the largest commercial systems, also provide PCjr Forums for exchange of information and software. So even if you only use your modem to increase your PCjr knowledge and add to your software collection, it will be well worth it.

In order to give those of you who have not participated in the kind of information exchange that can occur on a BBS, we are reprinting some informative excerpts from three systems: Jr BBS, run by the Metro PCjr Users Group in the Washington, D.C. area (301) 468-0984; the San Francisco PCjr Users Group BBS (415) 997-4874; and the PCjr Forum run by Compuserve.

These messages have been edited somewhat to save space. Some messages are left in their original form with punctuation and grammatical errors unchanged. This will give novice modem users a sense of the variations in personal style you'll encounter when you log on to one of these systems for the first time. In some cases, there is a "conversation" between people. In others, such as this first

one, it's simply one PCjr user providing information he feels other PCjr users may be interested in.

From Jr BBS (Metro PCjr UG)

From: Pete Laszcz
To: All Subject: PCjr Compatible software

Lotus METRO version 1.1, pops up with the SHIFT ALT hot key plus a letter. This cannot be redefined. the SHIFT ALT ? sequence requires some multiple taps to get it to come up, but it is only used once to install, so it is not too bad. Will work on floppies, but you wouldn't want to. Hard disk recommended. 64 K resident, plus 384K of regular

Tornado notes. works fine, no limitations. memory has stated on the package.

PFS First Publisher, 512K RAM with 2 floppies or hard. 640K and one disk can work with some tinkering and swapping. Ask me if interested, I have experimented a lot with this before I got my hard disk.

QUICK BASIC requires a patch available here. **Earl Weaver BASEBALL** works fine.

HOCKEY program will work but will not accept keyboard input after a certain point.

Ancient Art of War at Sea works fine

* * * *

Here's a question up for grabs:

If a game requires more than 128k of memory but also must be self-booted in order to load, is it possible that it will run on the JR?? It seems to me that since jrconfig.sys is needed in order for DOS to recognize mem. beyond 128k on the JR, the game will not run since jrconfig.sys can't be installed. I know of driver programs on other computers implemented to overcome this problem, but none for the PCjr. I'm specifically thinking of the game **Marble Madness** which won't run on jr.

From: George Eckard
To: All
Subject: **Sesame Street** software

Be careful in buying software from Hi-Tech Expressions which produces a line of software under the Sesame Street label. Although their literature says that they support the PCjr, we have found that this is not always true. **Ernie's Big Splash** runs fine; but, we bought Volume One of the **Learning Library** which has "Astro-Grover", "Ernie's Magic Shapes", and "Big Bird's Special Delivery" only to find that all three games hang up the PCjr. We have written to the company to ask what is happening, i.e., have they

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stopped supporting the PCjr and why. We will keep you informed of any response. By the way, my 5 year old son loves "Ernie's Big Splash" which of course was why we wanted to try the others.

Thanks Lou! It works great. One item of note, I am using JRCONFIG.NRD and I had to set the V option to 96 to get Flight Simulator V3 to work in 16 color. If one uses the JRCONFIG.DSK setting the s option to 128 and the v to 32 will also work. For those using the PCJRMEM.COM driver the /c option is required.

From: Andrew Brouard
To: Pete Laszcz
Subject: Re: PCjr

I am @**#@@!***!! to say the least. I have just purchased Accolade's Mini-Putt miniature golf. In the directions it says option 5 for pcjr 16 color. on the game it has no option. It does have a TANDY option. I used the TANDY option and My keyboard locked, my monitor fissled, diskdrive made an ugly sound, then did the loudest system reset I ever heard with a bang from the external speaker and diskdrive. I tried calling Accolade to let them know about false advertising, and got two numbers one has been changed and the other is out of service. what can I do?????

From: Pete Laszcz
To: Andrew Brouard
Subject: Re: PCjr

Make sure you have a big enuf video page assigned. Use the /C option if you use PCJRMEM.COM or (with jrconfig) -v32 or 96 otherwise. Experiment with ANSI.sys, sometimes that helps although I don't no why. If all fails Lou Davidson may be able to patch the driver. In any event, the dealer should give you a refund. This is one reason I buy from Egghead and/or B Dalton. I have returned items there with NO trouble. In some cases the program just didn't live up to my needs. Mail order may save a few bucks, but the ability to return software is worth the extra premium to me.

From: James Austin
To: Andrew Brouard
Subject: Re: pcjr

1) ZANSI and ANSI are both "ANSI drivers" which, once installed, make it possible for a program to control your screen much more thoroughly without having to go to a graphics mode and draw everything manually. The special characters and colors used for graphics on this and

many other boards are created by ANSI codes; you need to have ANSI installed to see them unless your communications program handles that by itself. ANSI.SYS is a file which comes with DOS. ZANSI is a shareware file which does the same thing (with a few enhancements) but does it much faster. (ZANSI is available in the jr Newsletter Software Store on Disk #56. -ED)

2) The -v32 and -v96 options are used with JRCONFIG to control how much RAM to set aside for the display. PCJRMEM presumably has another system to do this.

From the San Francisco PCjr UG BBS:

From: Antal Herz
To: Scott Miller
Subj: Prodigy

Prodigy really is a nice system. I enjoy trading movie trivia with Gene Siskel, and it has something for everybody. As for file transfers in the future, I talked to a friend that works for Prodigy and he says that that isn't something they're working on. With computer worms and virus' running rampant, and commercial software as well as pirated software being uploaded to BBSs, I don't think that that's a responsibility they want to, or are ready to accept.

(Continued on page 18)

PCjr SPECIALS

IBM PCjr internal Modem with Software	\$ 29
PCjr Traveller Kit - Carrying case & TV Adaptor	\$ 39
New IBM PCjr Computers	\$350

MEMORY & DISK DRIVE UPGRADES

512k jrHOTSHOT Internal Memory Expansion	Call
512k jrHOTSHOT with Clock & 2nd Floppy Disk Drive	Call
512k jrHOTSHOT with Clock & 2nd Drive Control; without 2nd Floppy Drive	Call
2nd Disk Drive Add-On with Disk Drive (no memory)	\$198
2nd Disk Drive Add-On Semi-Kit (you supply drive)	\$ 45
2nd Disk Drive with Case - for Semi-Kit	\$155
RACORE DRIVE II - with DMA and 512K Memory	\$509
20 Megabyte Hard Drive (complete system add on)	\$700
FREE: RAM Disk and Utilities with Memory Upgrades	
ROM Cartridge Clock	\$ 43

ACCESSORIES

IBM PCjr JOYSTICK (hard to find)	\$ 29
Keytronic Numeric Keypad (originally over \$100)	\$ 39
Adapter Cable for Serial Devices	\$ 15
IBM Power Attachment	\$ 55
Parallel Printer Port	\$79-with clock \$ 85
IBM PCjr Keyboard Cord	\$ 15

I Love My PCjr - Bumper Sticker \$2 (No Shipping Charge)
SOFTWARE/BOOKS/PRINTERS/REPAIR/USED EQUIPMENT
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Call Voice Line (214)276-8072
Open BBS (214) 272-7920 - 300, 1200, & 2400, 8-1-N

Useful PCjr Information from Bulletin Boards --

(Continued from page 17)

From: Lenny Bailes
To: All
Subj: Drive In

Several people have asked me about running heavy-weight programs like **Ventura Publisher** on the Junior. If you're game, you can actually do this without a hard disk, if you install a **720K drive** as your B: drive.

We've installed the 3-1/2 inch (Macintosh-like) 720K drives for people at the Drive-Ins before, but I'd like everyone to know that it's also possible to install one of the older 720K 5-1/4 inch drives as your B: drive. The advantage in doing this is that the 5-1/4 inch drives will format ordinary 25 cent disks as 720K disks. This is great for storage, and may let you run some programs on the junior which are larger than 360K of code.

Haltek is currently having a clearance sale on Mitsubishi 720K 5-1/4 inch drives for \$39 each. If any club members are interested in making their second drive for the drive-in a 720K 5-1/4 inch drive, let me know, and I'll test some of these at the swapmeet this Saturday.

The only disadvantage to the 720K 5-1/4 inch drives is that once you format a disk in it, it can only be read in another 720K drive.

From: Fred Brucker
To: Lenny Bailes
Subj: 720k drive

Lenny, I want to put in a vote for a 720k drive. I think it would really make the conversion worthwhile. I have been experimenting with 400k floppies in the 360k drive. This works fine under DOS 3.2. I modified a program normally used to format low density diskettes to 800k in an 80 track drive (usually on an AT). I wonder if the 720k drive can be pushed to 800k on the jr? This involves 10 sectors per track and seems to work in 40 track mode (400k). This only gives 40k additional, but every little bit helps, eh? If anybody is interested in this, let me know and I will upload the software.

From: John King
To: Nimfa Miranda
Subj: PCjr Monitor

The PCjr monitor is CGA only. The 640x200 4 color mode is done by the PCjr CPU, not the monitor. The PCjr can do this with any CGA monitor.

Don't plug a PCjr monitor into an EGA card! It might not like it. That means you might smoke it.

From: Rory Kealohi
To: All
Subj: Software Compatibility

Does anyone have any experience running the following programs on the IBM PCjr:

**Topview, IBM
Lotus 123 (v2.01), Lotus
ClickArt, Personal Publisher Software**

With Topview, whenever I load it, would display the main menu and lock up. With Lotus 123 (v2.01), The program seems to work fine, however, ClickArt, this program seems to run incredibly slow on my system. My system consists of the following: Tecmar jrCaptain sidecar w/ 512K, 2 Disk Drives, IBM PCjr Color Monitor, PCjr Keyboard (not chicklet), Epson RX80 printer. I also use a monochrome monitor at times when I know I'll be reading and writing alot. Any and all help/tips/advise/recommendations would be greatly appreciated. Maybe I could be expecting too much from my junior, but that's the whole point. Also, would appreciate any advice in adding a mouse and a 101 key keyboard. Any suggestions?

From: John King
To: Rory Kealohi
Subj: Tips

Lotus 123 ver 2.01 runs fine on a PCjr with 512K. Even Lotus says so in the installation manual.

For a mouse, I like the **Logitech Serial Mouse**. You do need the serial adapter from the S port to the mouse.

The **Synectics keyboard adapter** is the way to go. \$45 and it works with all PC, XT, and XT-AT Switchable keyboards. Then just buy any clone keyboard that feels good to you, \$35-75.

Downloads from CompuServe PCjr Forum:

Fm: Buddy Tillery 75766,2256
To: MICHAEL C. SWANSON 73170,643 (X)

Just connected on at 2400b with an **Everex MNP** and Bitcom. what a blast after 4 years of thinking that ole Jr was slow! Thanks for your reply, forsure. Buddy Tillery 75766,2256

Fm: Adam Schindler 71511,3521
To: all

Is there any way to up- or download using the PCjr

A Sampling of What You Can Get With a Modem

Sampler software that came w/ the computer?

Fm: Coit Weaver 71511,420
To: Adam Schindler 71511,3521 (X)

If you are referring to the Terminal Emulator on the Jr Sampler diskette it does not support up and downloading. As a matter of fact, it doesn't support much of anything accept direct communication. i.e. no capture to disk or printer, uploads, downloads, etc. Our faithful sysop, Don, will send you some comm programs that do if you send him a diskette and self addressed mailer. His address is in a file called JRCOMM.TXT or DL.HLP (I think) in the Data Libraries here. Good luck and happy telecomming!

Questions & Answers

(Continued from page 4)

Reserve it as video RAM. Now when you run the game or program it should run approx. 30%-50% faster. If the program does not require DOS to operate at all you may be out of luck, because it will take over and configure the video memory then probably load itself at least partly into low RAM, but try it anyway.

This question once again reinforces the importance of memory expansion. You not only get the ability to run larger programs and have RAMdisk capabilities but you get control over speed as well. We have always recommended RAM expansion as the first, most important add-on.

Q. I have a Logitech C7 mouse and cannot properly install this device with the accompanying documents. The software produces the following message. "Mouse improperly installed." Can you help me? (Clarence R. Jones, Alpharetta, GA.)

A. Assuming that this model of mouse does work on the jr: the seat of the problem may be in the address of the serial port. Here is the COM1 and COM2 problem. The jr is supposed to use the same addresses as the PC if there is no internal modem installed, but we have found that for one part of the address this is not so. You should get a "communications port swapping" program. They are available as shareware and they resolve the differences between the jr and the PC serial (COM) addresses. You may have to install the mouse in COM2: using MODE COM2: even though the mouse will be plugged into (what you think is the only) COM port of the jr. Sometimes just setting the MODE command properly is difficult to find in the documentation. One other note: the jr Tech. Ref. Manual states that the max. baud rate is 4800 for this port if no keyboard overlap is involved.

Fm: Adam Schindler 71511,3521
To: Coit Weaver 71511,420 (X)

Yes, that's what I'm using. Actually, you CAN capture to the printer w/ the F3 key with the **PCjr Sampler**. Thanx...

Fm: Frank Fisher 72301,522
To: Peter Ahearn 75156,2047 (X)

Leisure Suit Larry II will run on a 640K Jr if you use the **PC I.D. Cartridge** from Racore(at last there is a use for it!!). Command.com has to be patched to recognize any cartridges. The patch directions come with the Cartridge or I can upload them if anyone needs them. The memory drivers must be patched too. The game runs slowly, but it does work. I've been unable to use more than 4 colors. I bet this would work with Sierra's other games.

Fm: SCOTT MILLER 75116,165
To: Chris James 73457,150 (X)

Well, that's not quite correct. Using a Racore PC ID cartridge I was able to get **KingsQuest IV** to run on my jr. Unfortunately, it ran at a snails pace and, to add insult to injury, only in CGA colors! Needless to say, I returned it and got the 256k version!

As you can see from the tiny sampling of messages above, there is an active exchange of useful information taking place between people sitting in front of their PCjrs and communicating with other people with their PCjrs. And that's just a tiny part of the wide, wide world of telecommu- ninating that you and your PCjr can explore together. (Detailed instructions on setting up your PCjr with a mo- dem, and using communications software are on Best of jr Newsletter II (Disk #66).

How to Submit Classified Ads:

Classified Ads are published on page 20. They are free to subscribers of jr Newsletter. Just send us your typewritten ad (no more than five lines on an 8 1/2 X 11 typed page) and we'll run it for you for two months. Ads are \$10 per issue for non-subscribers. Send to jr Newsletter, Box 163, Southbury, CT 06488

* * * **PCjr CLASSIFIEDS** * * *

Please See Page 18 for How to Submit Classified Ads

PCJR Qume 142 half height double-sided 360K disk drive, good condition, 460 or best offer; chiclet-style jr keyboard w/o cord, new never-used, \$15 firm. (I'll pay shipping on either or both). George Malko (212) 265-0872 (1)

PCjr Accessories in original boxes. COD shipping. 7-color Display Adaptor Cables, \$10 ea.; 3-Serial Cables \$10 ea.; 6-cassette Adaptor Cables \$8 ea.; 6-TV Connectors, \$12.50 ea.; 6-PCjr Cluster Att. \$50 ea.; 10-Cluster Cable Kits \$25 ea.; Chicklet Keyboard, \$10; 2-PC Cluster Attach, \$50 ea.; Cluster Software, \$25. CALL Tom Porpiglia (716) 544-8536 after 5 p.m. EST. (1)

WANTED -- IBM PCjr with 512K or 640K, two drives, color monitor, parallel printer (graphics), upgraded keyboard (Keytronic 5150, etc.) Lotus software, Peter Palker, RD1 Box 76E, Jeffersonville, VT. 05464 or call (802) 644-5796 (1)

PCjr LOTUS 123 1A for sale - Best offer. Also **WANTED** functioning Microcom ERA-2 Modem for PCjr. Call evenings (203) 431-0777 - phone messages will be answered. (1)

JR CPU, KEYBOARDS (2), TWO DRIVES - Jr. Hotshot card, 640K, Cartr. Basic, Mouse, Joystick, Printer attach, Serial Cable, TV Connector. Software: DOS 2.10, PCjr BASIC, 123 1A*, Multiplan 3.0, Electric Desk, Prokey 4.0, Microsoft Fit Sim, Dac-Easy Accounting 2.0 & Word II, Utilities, & more. \$795 (714) 845-3373 (1)

SOFTWARE FOR SALE, VP-planner, VP-Info, DOS 2.1, Dos 3.0, DisplayWrite 1 and 2, IBM Graphing Assistant, IBM Reporting Assistant, pfs file, IBM Filing Assistant, Easy Writer, Logo, Professional File, Professional Word, Multiplan, Personal Communications Manager. Various Versions of PC tools, 123 Report Writer, Disk Optimizer, SQZ!, Sideways, Lightning, Sidekick, Copy IIPC, other jr programs! Ask! Best offer evenings to 203-431-0777. I'll answer your messages in case you meet my machine. **HARDWARE**: Taxon amber composite monitor. Joysticks, Keyboards, Cables. (1).

IBM PCjr 640K, Legacy second drive, IBM PCjr Color Display, Okidata microline 182 printer. MS Dos with Legacy DOS version installed. Original containers. Used sparingly by elderly couple. Excellent. \$550.00. Will Witte, 12612 Glenwood Ave. SW Tacoma, WA 98499 (206) 584-4716 (1)

IBM PCjr, 128K, \$250; IBM Parallel sidecar, \$40; IBM Graphics Printer, \$80; or all for \$350. I have original cartons

and will pay UPS. Paul Peacock (317) 9626-0814 after 6PM ERT. (1)

GOLF SOFTWARE - for the PCjr. Mark's Course, 18 holes of golf features 16 color graphics, music, animation. Creates a new course with sand, water and rough every time you play. \$15. Also IBM compact serial thermal printer. \$50. Mark S. Foster 908 Panna Lane, Cleveland OH 44109 (216) 398-0489 (1)

WANTED TO BUY: Four IBM expansion sidecars -- one at a time or all four at once. Documentation not necessary. Will pay \$50 each delivered. Send COD or will send check upon receipt. Call Art Risser (712) 562-6000 anytime. (12)

PCjr 256K - IBM color monitor; Tecmar Jr. Captain; Clock/Calendar; Parallel Port; Mach III Joystick; Keyboard w/cable; DOS 2.1; Cartridge Basic; all manuals, cables and lots of educational & game software. \$450 or best offer. Will pay shipping. Jackie Appell (516) 937-6299 (12)

PCjr 640K - Tecmar Capt. & Cadet, clr monitor, int. modem, 2nd disk dr. voice synthesizer, microphone, softstrip reader, basic, jrVideo, & PCID cartridges, etc. PLUS Epson RX-SOF/T+ printer, all relevant IBM manuals, bound jr Newsletters from June, 86, 100's of \$\$ in software of all kinds, books, floppy disks, etc., \$1,000 complete to anyone who will pick it up. Dave Parry, 5903 Colgate Ave., Los Angeles, CA 90036. 213-938-3664. (12)

For Sale, PCjr 640K, with color monitor, new Fujica M2551 Disk Drive, Tecmar Jr. Captain, Sidecar, all manuals, programs galore, Joysticks, excellent, send S.A.S.E. for full details. Best offer T.D. Gosman, 9 Warner, Court, Huntington, NY. 11743. (12).

Manuals: Basic Personal Computer -- PCjr (Official IBM Manual); IBM DOS Version 2.1 (Official Manual); Technical Reference Personal Computer --PCjr (Official Manual); Hardware Maintenance and Service Personal Computer PCjr. Originally cost \$350 and are in new condition in their original binders. All for \$150 or negotiate on each one individually. J.W. Graves, Route 5, Box 1860, Palatka, FL 32077, (905) 328-2972. (12).

IBM PcjR - 128KB, color display, parallel sidecar, ProPrinter with cable, 2 joysticks, BASIC cartridge, DOS, Writing Assistant, Filing Assistant, Assistant Home Solutions. Touch-down Football and all software/hardware documentation. All with original packing for safe shipping. \$700 or best offer. Brian Beck, 1301 W. 22nd #305, Sioux Falls, SD 57105. (605) 335-9054. (12)

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 \$5.95 per disk.

* **NEW * SCOUT.** Excellent memory resident (or not) file manager, DOS shell. Move, copy, rename, volume label, search, sort, printer control, view files, and more - fast and easy. Best we've seen. (Disk #81)

* **NEW * SPELLING BEE.** A game that builds spelling skills from Grade 3 level to adult. You are an Olympic athlete representing your country. Excellent color graphics. Four skill levels from very easy to very difficult words. Fun way to become a spelling champ! 128K ok (Disk #82)

* **NEW * MEAN 18 GOLF COURSES.** Three excellently designed courses for those who play "Mean 18," the commercial golf game. Disk #79 has Boca Woods North, Boca Woods South, both with especially challenging water holes, and Kearsage Valley, with fall foliage in full color. Disk #80 has TPC of Avenel, TPC of Sawgrass, with massive sand traps and a tough 17th green on an island, and TPC of Woodlands, which may be the most challenging of all. (Disk #79 and #80)

* **NEW * PLAYER'S CHOICE.** Six different card games, some easy, some hard, but all excellent. Youngsters can have fun playing Memory or Even-Out, which are quite easy to master. Blackjack is hard to beat, and Poker, which has the ability to modify its play in response to your methods, is a real challenge. Also two fine versions of Solitaire, one with great graphics. 128K ok. (Disk #78)

* **NEW * FILE EXPRESS.** (V4.22) Very easy to use database manager. Extensive menus and prompts to guide you. Excellent choice for maintaining mailing lists, etc. Many powerful features. 256K (Disks #83 and #84)

* **NEW VERSION * PCJR PATCHES V.3.0.** Patches to fix software that ordinarily won't run on PCjrs. V.3. adds patches for Flight Simulator, V.3. Also for Arctic Fox, Managing Your Money 3.0, Autocad, King's Quest II, Turbo C, QuickBASIC, Starflight, Advanced Flight Trainer, Double DOS, Bard's Tale (16 colors), Turbo BASIC, and BASICA. (Disk #56)

AS EASY AS. Excellent, easy to use, spreadsheet program. Works like Lotus 1-2-3, with all spreadsheet functions. Can load and operate 1-2-3 files. 256K ok (Disk #67)

GALAXY. One of the easiest to use word processors we've ever seen, Galaxy has all the features you need to write letters and do most word processing. It has many, but not all, advanced features. Its strength is its simplicity, with help menus always ready to assist you. You probably won't even have to read the manual. 128K ok. (Disk #69)

PC-STYLE. Perhaps the best of many programs that help you make what you write more readable. Jim Button made this a very slick, useful tool for improving your writing. It reads and analyzes what you write, then gives you a detailed analysis based upon several useful standards. Fasy, easy to use. 128k (Disk #76)

COMPUTER TEACHER. For those who want to learn how to use DOS commands and to understand basic computer hardware terms, this interactive software will help you become computer literate. Helps you better understand those manuals and computer magazines, as well as how to do more with your computer. 128k (Disk #77)

RAMDISK. Use ADJRAM to create a RAM disk of any size and adjust its size at any time without losing the contents. Or use JRCONFIG to set up your PCjr. Both programs with complete instructions for creating and using RAM disks on your PCjr. Need 256K. (Disk #75)

MIND READER. Experience the wonders of artificial intelligence! Use a full-featured word processor that guesses the words that you're about to type. Works like a charm! 128K ok. (Disk #74)

IMAGEPRINT V1.5. Produces near 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)

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)

(Continued on page 22)

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)

EQUATOR. An excellent way to learn and review 35 basic equations used in math, finance and science. Learn to compute the volume of a cylinder, compound interest, or average velocity and much more. Manual on disk. 128K (Disk #20)

TIME TRAVEL IN HISTORY. A maze adventure game in which you have to answer questions about different periods of American History in order to get gold pieces--and save your life! 128K (Disk #21)

BRAIN BOOSTER. Includes IQ Builder, a program that both teaches and tests your ability to solve number, analogy, synonym and antonym problems like those on IQ and SAT tests. Also includes Algebra and Chemistry programs. For high school and up. 128K (Disk #43)

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, subtract, 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. Need Cartridge BASIC (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)

GAMES FOR EARLY LEARNERS Young children like Teach Tot's alphabet and counting games. Other activities teach spelling and telling time. For Preschool through

grade 3. Cartridge BASIC, 128K. (Disk #63)

LANGUAGE TEACHER. Helpful exercises for both French and Spanish language students. Hundreds of vocabulary words and verb conjugations. 128K ok. (Disk #72)

GAMES

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

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, the hardest one of all. 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)

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. Need Cartridge BASIC (Disk #34)

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)

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)

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 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)

PC-CHESS. Two great chess games on one disk! A full-color, many featured chess program with four levels of

play, allows such things as switching sides, setting up the board yourself, validity checking, en passant, etc. The other works on color or monochrome, has window showing options it considers before moving, adjustable difficulty level -- but a powerful opponent at any level. 128K ok for one, 256K for other. (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. Need Cartridge BASIC (Disk #31)

CASTAWAY/S. AMERICAN TREK. Test your survival skills as the survivor of a shipwreck 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. Need Cartridge BASIC (Disk #55)

COMPUTER JOKER. Disk full of jokes, wisdom, and visual tricks to play on your computing friends. 128K ok (Disk #64)

DOUBLE TROUBLE. Two of the most challenging, highest quality arcade style games we've seen -- Amazing Mazes and Willy the Worm. Ten different mazes and five levels of play will tie your brain in knots. And Willy, who is the fastest, jumpingest worm you'll ever see, will beat you for sure! You can even modify Willy to give yourself more (or less) trouble. 128K ok. (Disk #68)

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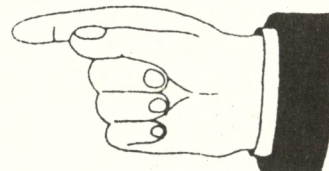
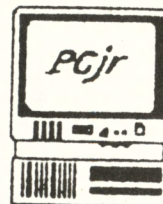
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