# IPNEWSIETE!

### Now Your PCjr Can Have 736K!

It's hard to believe that the PCjr, once called the "Peanut," can have more continuous, DOS addressable memory than a PC, but it's true.

With a minor, though not for the novice, alteration to an IBM memory expansion unit, or the resetting of three switches on a Microsoft jrBooster, your jr's memory can jump to 736K. And what's even more significant, with software developed by Larry Newcombe that additional memory can be used by DOS.

In order to have more memory than 640K on a PC, an expensive EMS system has to be installed. And even then you won't have continuous, DOS addressable memory.

The real breakthrough here is not in the hardware modification necessary to add memory beyond 640K, it's in the software that allows DOS to recognize and address the additional memory. This makes it possible for you to pack your PCjr's memory with all your favorite programs, ram disks or whatever you want in your jr's brain and still have it all managed with good old DOS 2.1.

### irconfig.sys Does It All

Larry Newcombe wrote a public domain (now user supported) program called jrconfig.sys which does a lot

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"My PCjr makes life ever so much easier!"

of handy things such as install whatever additional memory you may have, set up a ram disk in the lower 128K of jr's memory so software runs faster, set your video display mode, turn your keyboard click and/or your Caps Lock on (or leave them off), adjust the size of video ram, - \* AND \* look for memory above 640K.

Larry explains that the ROM on the PCjr's mother-board checks to see how much memory is available every time you boot up, but it stops looking when it gets to 640K. Larry's program keeps looking, counting every 16 bytes, until it gets to 736K. "Then, whatever memory I find I put in the BIOS area and reboot," Larry says, using the first person as though when you use his program you've got him running around inside your computer.

He explains that since the top 32K is in the "logical video address" it is not usable RAM. So when you make the hardware modification you are adding about 96K of usable memory, giving you a total of about 670K to play with, after you've accounted for the memory taken up by DOS.

Larry, who has a degree in Computer Science, uses PCs at work and his PCjr at home. He says he is planning further enhancements for his software, including a screen blanking program and keyboard utilities, which should be available in a month or two. His first home computer was an 8K machine made by Ohio Scientific and he built much of the components himself. "In those

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### Tips for the New User

By Diana Fisher

When I bought a PCjr in December of 1984, I believed that owning a computer was comparable to owning a giraffe; it would be a nice conversation piece, but what would I do with it?

My children, however, were fascinated as the pieces emerged from the boxes. For a week I listened to Chopin's Funeral March play each time "Jumpman" fell from his game board to the bottom of the screen, and as I listened, my disenchantment with the computer grew. I was determined to find a legitimate use for a home computer, (other than teaching manual dexterity with a joystick) so when a friend gave me a box of blank disks, I courageously turned on the power and put them into the drive one by one.

The message "NON-SYSTEM DISK" appeared 10 times, so I threw them all in the garbage. Obviously this was either a faulty batch of disks or the computer didn't know how to do anything but play Jumpman. It wasn't until I did some reading that I realized disks must be formatted first. I did manage to write myself a note with a word processor and print it out.

I found the note this Christmas stuck in a bag in the attic; words full of frustration and anger for over-extending my budget to buy this awful toy. Reading it again brought a smile because the thought of living without our PCjr would be incomprehensible to any of us now.

While it's hard to find a new PCjr for sale anymore, there are probably still many people who bought them when they were available who have not yet fully explored their capabilities. Perhaps you've heard the words "word processor," "data base" and "spreadsheet" thrown around so often that you're embarrassed to ask how to begin.

### Starting Out With DOS

A good place to begin is the Disk Operating System User's Guide, the slim, paper-covered pink booklet included with the DOS Manual. With the help of the little yellow birdie (or chicken, or whatever that unidentifiable creature is) you can get started with simple DOS commands like FORMAT, DISKCOPY, ERASE and DIRectory (which allows you to find you what is on a disk).

Knowing what information a disk holds becomes quite important as you grow more familiar with your computer, and these listings or directories can be displayed in several ways. The most common way to display your directory is to type DIR at the "A prompt", which is the A > you see when you "boot up" the computer with DOS. Sometimes, however, there will be so many files on a diskette that after you type DIR the list of files will

disappear off the top of the screen before you can read them all.

In this case, issue the command DIR/P at the A>, and your files will fill up the screen and wait for you to "Strike any key when ready..." when you want to se the rest. A third way to look at your directory of files on a disk is to issue the DIR/W command at the A>. Your files will list in five columns ACROSS the screen, but you won't be able to see what size they are or on what date they were created. This is the fastest way to see all the file names at once on your screen.

Learning to do things like these directory commands can give you a wonderful sense of power!

Here's another simple, but almost essential tip for beginning users of PCjrs:

### Big Letters vs. Little

The PCjr comes up in 40 column mode on the display. These are big letters, and as you type, the beginning of your sentence will be forced off the screen to the left so you can no longer see it. In order for you to read what would normally print on one line if you sent your words to a printer, you must change the computer to what is called the "80 column mode."

This is done from the DOS A > by typing MODE CO80. Your DOS disk must be in the drive when you type this because the DOS disk has the MODE command on it. Many PCjr owners routinely start up their PCjrs in the 80 column mode because it is best for work processing and most other uses.

(Incidentally, the CO in front of the 80 stands for Color, which allows you to operate in color while in the 80 column mode.)

Commands like MODE CO80 and others that people would rather not type in each time they start up their computers can be grouped into one special file called an AUTOEXEC.BAT file. This file will AUTOmatically EXECute commands you write into the file so you needn't enter them from the keyboard every time you boot up the computer. Here's how to make an AUTOEXEC.BAT

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### READER FEEDBACK



### **Reset Button Installation**

As a subscriber to **jr Newsletter**, I want to thank you for the many interesting pointers and suggestions which you publish in your monthly editions. The lubrication of my disk drive did wonders to reduce noise and cut the "Read Error" message to virtually zero.

Your article in the April 1987 issue which discussed the installation of a reset button must have been written by an owner of the earlier version PCjr. Mine is a 128K expanded version and I found the terminals of the capacitor and resistors far down in the box and virtually impossible to solder because of the steep angle. So I used insulated, solid strand copper wire (Radio Shack) and looped the bare ends around the two electronic components. Them I squeezed the loops closed with needle nose pliers. On the other end I used a momentary contact switch (Radio Shack 275-1547) and the installation works quite nicely even though it is not 100% professional.

I use my PCjr for most of the "bookwork" in running 40 rental units. This includes the application of checkwriting, bookkeeping, and deposit return programs of my own together with several menu driven spreadsheets on Lotus 1-2-3. It helps in reducing the papershuffling time and in keeping all records on a very systematic basis, month after month. The programs I use most frequently are Basica, PC-Write, Lotus 1-2-3, and PrintMaster.

Keep up the good work with your publication of **jr Newsletter**.

Henrik H. Straub Mercer Island, WA

### No Need for Reset Button?

I don't understand why there is a need to install a Panic (Reset) Button on the jr. (April issue, "Install-It-Yourse Panic Button.") Every jr has a built-in reset button in the system, the cartridge slot. Next time your system locks up and Ctrl-Alt-Del doesn't work, don't turn off the power and turn it back on (which is a bad practice anyway). Get your BASIC cartridge (or any cartridge program) and insert it into one of the two slots, the system will reset. As long as you have a bootable disk in Drive A, the system will boot from the disk, not from the cartridge. Leave the cartridge in there and pull

it out half an inch the next time you run into the same problem again.

On the problem of running Burgertime (one of my favorites), I believe I have a solution. When you execute the program, the first screen is not readable and, therefore, you don't know what the prompt is. Press K (for keyboard operation) and then O (for option selection). The screen display will become clear and you can proceed from there. A few pointers for playing Burgertime. First, do not use Mode 80, because it may cause the keyboard to lock later in the game. Second, set up a RAM disk and run Burgertime from it. The disk drive will be constantly spinning when you play the game. Your disk drive may wear out very soon if you run from a regular disk.

Shu S. Liao

EDITOR'S NOTE: The only problem we see with Shu's suggestion to use a cartridge as a reset switch is that you may damage the cartridge pins if you use it often. Otherwise, it is an easy way to reboot occasionally.

### New Additions to Assistant Series

I am a subscriber and faithful reader to your magazine. But I have not seen any write-ups about IBM's Assistant Series new release Version 2.00. I found out about the Filing Assistant through the ads IBM ran in PC Magazine. They advertised about it doing math, which my Version didn't do. Wanting that feature, I asked around and found out about the new release. But no one could tell me what new features the other Series had, that would make it worth the \$75.00. So I went ahead and got the four Series that I use.

There are probably a lot of your readers out there who use the Assistant Series and do not know of the new release. They may also want to know what's in the new release, before laying out the \$75.00.

All I expected to get, all that was necessary to get, was a new disk and new pages to insert into my old book. But instead IBM sent a new 3-ring hard cover binder, holder and whole new instruction manual. Also included is a 3.5" diskette as well as the 5.25", which is nice if you're considering getting a portable or laptop.

There are separate programs you use, backup/install and quick menu/setup. With backup/install you can make backup copies (only two allowed). Or if you're

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### Reader Feedback

Continued from page 3

lucky enough to have a 1.2MB disk drive, or hard disk, you can install all your Series programs on one disk (five times allowed), and never have to change disks, to go from one to the other. The quick menu program does this for you. It starts a program by selecting it from a menu. When you exit that program it drops back into the menu/setup. Then you can select another program and start it without ever going through DOS. The setup part is for date/time format, data path, printer type (only 3 choices), work drive, screen colors. I like the old screen color method better (shift-F3). There are too many colors to choose from and if you don't like the colors, you're stuck with them. Unless you want to quit just to change the colors.

The menu pages of the Assistant Series now are overlay or like windows. You can select a number or move the cursor and enter to select. The next menu screen appears, hit ESC and you back up one. Most of the options on the menu screen are the same as before. The GET and SAVE file menu is changed. Another menu screen comes up which displays the Drives, the Directory and the file names in that directory as well as the size, date and time of the files. You can move the cursor around and select any of these you want.

Some of the "F Keys" have changed their functions. The "F1" is still the help key. The help function is much slower now because all the help is separate files on disk. When you call for help there is a delay while it reads the disk. On the good side, more help has been added. Some of the "F Keys" now display a window, from which you can select several options. This has combined the Shift-F and another F key together and has opened that F-key up for another added function.

### WRITING ASSISTANT:

The allowable size of the document has been increased. You can now make the right margin 250 characters.

### SPC DISKITIT HARD DRIVE

DISKITjr 10C (10MB)			 					. \$595
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### SYSTEMS PERIPHERALS CONSULTANTS

9747 Business Park Ave., San Diego, CA 92131 1-800-345-0824 or (619) 693-8611 Ask for Bob or Shelly.

A quick save F-key has been added. A synonym has been added to the proof operation. Printer control codes have been added to the print option. You can still imbed print control codes in the document too. You can add your own page breaks and do indented margins. PLANNING ASSISTANT:

Two big improvements—math function and a general search backwards. Can do basic add, subtract, multiply, divide of values in fields based on formula in fields.

In search mode you can now search/update all records forward and backward. Or you can do specific searches. You also stay in the search mode. When a specific search is done, it goes back to the search spec screen for another entry, rather than go to the main menu like it used to.

### REPORTING ASSISTANT:

Haven't found any new features or added functions yet. Not worth the \$75.00 for the upgrade. I have a problem getting this program to work in PCjr. In the setup menu you can specify a work disk. In reporting it uses this work disk as a temporary storage area to generate a report. For some reason this doesn't work in my computer, even though I have a B: drive and told it so in the setup program.

I.A. Wahl Trussville, AL

### PCir Lives!

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### Questions and Answers



Q. I recently made a new copy of my original DOS disk, but I find I don't have enough space left for some of my other utilities that I like to keep on my DOS disk. I had enough room on my old DOS disk, so I don't understand.

A. You probably made your new copy using DISKCOPY. The DOS 2.1 disk supplied by IBM is single-sided, so you end up with another single-sided disk. Try again, only this time format a blank floppy, using the /S parameter to make sure the hidden files are transferred. Then use Copy \*.\* to move the other DOS files to your new disk. You'll have plenty of space left over.

### Q. I get sick of having to retype an entire DOS command when I make a mistake. Is there an easier way?

A. Several! The last DOS command can be recalled by just hitting the F3 key; it's surprising how few PC users know about his. You can also edit the last DOS command by hitting F3 to repeat, then F5. A symbol will appear at the end of the command. Then hold down the right cursor key and your command will begin to repeat on the line below. When you come to the point where you want to make an insertion, first hit the INS and make your insertion. To delete, use the delete key. Then continue with the right arrow key until the command is correct and complete. Then hit Enter and it will execute. Try it! There is also a public-domain utility called DOSEDIT.COM that will store DOS commands in a buffer and allow you to scroll back through them, edit them and reissue them. (DOSAMATIC Disk #49 in the Software Store takes the work out of DOS too.)

## Q. I use IBM Writing Assistant ver 1.01 but even though I've got expanded memory, I can't get the program to load fully into memory. It still goes to the disk all the time and it's very slow. And it will only allow about a 12K file. Is there any solution?

A. There is a separate version of the main program, WRITE.EXE, on the sampler disk that comes with Writing Assistant. Delete the original version of WRITE from your workdisk (or hard disk, if that's what you have) and copy the sampler version in its place. Then delete from your workdisk a little program called WRITE.SWP. Into its place, copy a program from the

sampler called WRITE.NON. Now your program should load fully into memory and run much faster. And this should also allow you to edit larger files, although you must make sure you have enough disk space by calling your files "B:filename.ext." When DOS sees the "B:" designation, it will prompt you to insert a separate disk "for drive B" when you save the file and then prompt you for the program disk "for drive A" when the file has been saved to disk.

### Q. Are there any IBM bulletin boards for kids?

A. While many BBS's have games, the National Geographic's BBS also has good educational programs in geography, astronomy, modern languages, etc. The phone number is (202) 775-6738.

Q. In the back of the March issue of Personal Computing, a user asks how to use his 1200-baud Hayes modem at his office, using Smartcom, to communicate with his PCjr at home. The magazine says he has to have a 1200-baud on his jr to do this and also says Hayes Smartcom won't run on a jr. Is this true?

A. It's all wrong. First of all, you don't need a 1200-baud modem to communicate with a Hayes 1200, since the Hayes can also run at 300-baud. If he already has a Hayes 1200 at home, he can use Smartcom, which runs fine on a PCjr.

### Q. Are books on the PCjr out of print?

A. Probably, but a good selection is available from PC Enterprises in Belmar, NJ. Call 1-800-922-PCJR for details or a catalog. They list seven books and the IBM Technical Reference Manual and Hardware and Service Manual at good prices. Also, Mapping the IBM PC and PCjr, published by COMPUTE! magazine is a bit technical but is valuable in its detail on the differences between jr and the PC. It can still be found in some bookstores.

(These questions and answers were originally published in the Metro PCjr Journal.)

### Tell Us When You Move

The Post Office will not forward your copies of jr Newsletter when you move, because the newsletter is mailed via Third Class Mail. So please notify us immediately when you change your address.

### Tips for New Users

Continued from page 2

file that will put your computer in the 80 column mode automatically every time you start up or reboot (using the Ctrl-Alt-Del combination to wipe your computer's memory clean and start up again).

### Preparing A Boot-up Diskette

To create a convenient disk to use for everyday booting up, you can use DISKCOPY to copy the contents of your DOS master disk onto a blank disk. The DOS User's Guide page 4-9 will tell you how to DISKCOPY. When you have finished the DISKCOPY you will be asked if you wish to copy another disk. Type N and hit the Enter key.

Put your original DOS disk as far away from children, pets and visitors as you can, then insert the new copy of DOS in the drive. At the A > type COPY CON AUTOEXEC.BAT and hit the Enter key. On the next line, type MODE CO80 and hit the Enter key. On the third line, type DATE and hit the Enter key, and on the fourth line, type TIME, press F6 (the key marked Fn and the number 6) and hit the Enter key. You will see the message "1 file copied". Now re-boot (CTRL-ALT-DEL) and your new AUTOEXEC.BAT file will set your display in 80 column mode, ask you for the date and time and start you on the way to the many wonderful things you can do with your computer!

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### King's Quest III Raises The Challenge to New Heights

King's Quest III: To Heir Is Human takes more time and skill to master than the previous two programs in the King's Quest series. You don't have to have played the first two in order to play King's Quest III, although it might help you just because of the practice you would get by solving the earlier versions.

In this one, you are Gwydion, the evil wizard's slave. Your challenge is to learn enough magic in order to escape from Manannan's (the wizard's) control.

You start off in Manannan's home, where he commands you to do household chores and to provide food for him. When he is not controlling your actions, he will be sleeping or away performing some evil deeds. This gives you the chance to find things in his house that can help you. But it's not easy to find things in a wizard's house.

### Get That Map!

One of the most important things you have to find is a map of the countryside, which will help when you go exploring. Fortunately, the game allows you to SAVE what you have accomplished at any point in the game. It's a good idea to do this regularly because you can very quickly find yourself back at the beginning when you make a mistake.

Taking a path down the mountain from the wizard's house, you will meet Medusa, who has the same power to turn you to stone by her ugliness as the Medusa in Greek mythology. There are also Bandits who will rob you, or you can have fun in the house of Three Bears with Goldilocks, and if you can get past the spider, an oracle will give you something useful.

Then, if you have enough money and have outwitted the wizard by using magic, you can board a ship which will take you to more excitement. For instance, some pirates will try to end your quest and keep you from finding the buried treasure. If you get past the nasty pirate on the beach, you then have to climb up past an abominable snowman in order to get to the Kingdom of Daventry. Here you can get some information from an old gnome and then try to free the princess being held prisoner by a dragon.

In the final challenge of the game, your ability to use the magic spells you learned will come in handy. If you save the princess, you can congratulate yourself on having mastered the most difficult quest yet!

### Have a Comment or a Tip?

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



### jr Power Pack Offers Enhancements for Your jr

After months of collecting programs we've heard about from readers and other PCjr owners (plus a few we knew of already), we now have a disk in our Software Store that we call the "jr Power Pack" because it's packed full of power for your PCjr.

We won't refer to the programs on this disk as utilities because many PCjr owners recoil at that term, thinking that utilities are only for the advanced computer users. Let's just say this disk has several programs that every PCjr owner would find useful and which will certainly make a PCjr easier and more enjoyable to use.

First of all, the disk contains Larry Newcombe's jrconfig.sys, the program described in detail on page 1 of this issue. It does too many things to repeat them all here. Please refer to the article on page one for a listing of the things jrconfig.sys can do for you.

### Poor Man's Mouse

As you may have discovered, a joystick is a lot less expensive than a mouse. This program effectively turns any IBM specification joystick into a mouse.

The features of Poor Man's Mouse include variable speed cursor movement, user definable typematic speed and user definable joystick buttons. The program takes up about 19K and is compatible with programs using bios read calls.

The author has tested PMM with Lotus 1-2-3, Multimate, Personal Editor, Professional Editor, Easy Writer II, PC-Write, XY Write 1 and other programs and has not found any compatibility problems. There may, however, be some programs that PMM cannot work with.

### File Scanner

Vernon Buerg has written what has become a classic shareware utility called List.com. This is a great little program that allows you to quickly scan any text file. It is like the DOS TYPE command, in that it brings the words up quickly on your screen, but it is much more powerful and full of useful features. We use it all the time to scan word processor and database files.

To use List.com, you type LIST and the filename you want to see on your screen. Once it has brought the file up, it gives you many options. You can jump to any given line in the file, or move sideways if the lines of the file are wider than your display (you can also ask it to wrap the lines in that case as well).

One of the most useful features of List.com is its ability to scar and find any word or group of words (up to 31 characters) in the file. When the text is found, the line containing the text is displayed as a high-intensity line so

you can pick it out quickly.

### Screensavers

jr Power Pack also includes two screensavers specifically designed for PCjrs. Blankjr.com blanks the PCjr Color Display after two minutes with neither kb input or screen writes. It blanks the screen regardless of the screen mode, including all the extended PCjr modes.

Unlike some blanking programs this one will refuse to be loaded twice, which means it won't hang your machine. The author, Z. Hogus, says Blankjr.com has not been tested on all software, but "no instance is known of conflict at present."

### Set Your Screen Colors

Kolor.com lets you set the colors on your screen from DOS. The program can set foreground (letters), background and borders with a simple command, which can either be given from DOS or included in a batch file.

The author, Tim Mason, says Kolor com keeps its color attributes even when the screen is cleared and other programs try to reinitialize the screen. Therefore it can add color to programs that otherwise are in black and white.

The program can be deactivated by typing "KOLOR". This will restore the original screen attributes.

### PC Compatible Keyboard

Another program, called Typo.com, will make the jr keyboard PC compatible. This program alters the keyboard input so that software written for the PC will recognize this input as coming from a PC. Most software is not sensitive to the few differences between the PC and the PC keyboards, but this program will come in handy in those few cases where keyboard input is a problem.

jr Power Pack is full of many other programs that could prove useful to you. There's one to keep the disk drive spinning when you use a diskcleaner, another that allows you to use BASICA without having cartridge BASIC installed, a user-definable print spooler to enable you to use your computer while your printer is operating, hush.com, which solves the disk drive grinding you get when using DOS 3.1, a program to set up a ram disk of any size (which jrconfig.sys does, too) and several other programs that we have selected for their usefulness to PCjrs owners.

Jr Power Pack is Disk #52 in the Software Store. See page 9 for ordering information.

Are you reading someone else's copy of jr Newsletter? If so, send \$18 for a copy of your own for the next 12 months to jr Newsletter, Box 163, Southbury, CT 06488.

### jr Newsletter Software Store

This software is the best public domain and user-supported software for the PCjr we've been able to find. All the programs in this collection have been tested on our PCjrs and are highly recommended. Some of these programs are equal to or better than commercial programs costing hundreds of dollars.

The programs in this collection are available for \$9 per disk or \$7 per disk, if you order four or more.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

### **GAMES**

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

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

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

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

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

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

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

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

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

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

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

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

PHRASE CRAZE. Based on the TV show Wheel of Fortune, you get to be the guest who guesses the mystery phrases and wins piles of money! The wheel spins to select the amount of money you win for correct guesses. It gets harder with each round you play. You can add your own phrases to this game or try to guess the ones provided

on the disk. Lot of fun for adults as well as older kids. 128K. (Disk #46)

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

### **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 five and up. Word match games, find-a-word puzzles, word scrambles, etc. made for PCjrs by school teachers. 128K. (Disk #32)

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

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

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

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### **Boosting Your Memory to 736K**

days," he says "it cost \$350 for a disk drive and another \$100 for a power supply. That was just too much for a toy."

Now he programs using a combination of C and Assembler, which is what he used to write jrconfig.sys. At first jrconfig.sys was available on a public domain basis, but Larry says he got many requests for modifications and now in the latest version he asks for a payment from those of us who find his software useful. "I'm never going to get rich with this, but at least it might compensate for some of the time I put in," he says.

### Hardware Modifications

The simplest way to boost your PCjr from 640K to 736K is to add a Microsoft jrBooster to your system. The Booster has three switches which can easily be reset to give you the additional memory: Switch #1 OFF, #2 ON, #3 OFF. The IBM 128K Memory Expansion Unit can also be modified by cutting a track, soldering a jumper and closing all switches. This is a job best left to technicians unless you are very proficient with a soldering tool. Both Microsoft and IBM have stopped selling memory expansion units for PCjrs and we were not able to find any dealers who were selling either one. So if you want to go to 736K you're probably going to have to find a used sidecar.

If you can locate an IBM sidecar, the following companies will modify it for you: Solid Rock Electronics, 1311-B Knight St., Arlington, TX 76015 (817) 467-7878; Computer Reset, Box 46182, Garland, TX 75046-1872; and MSC, 4764 Elison Ave., Baltimore, MD 21206 (301) 325-6417. Cost of the modification is \$20-\$30.

### Hardware Compatibility

So far in this relatively new PCjr development the addition of modified IBM or Microsoft expansion units has worked wll with PCjrs that have already been expanded to 640K with Tecmar, Legacy and jrHotshop memory expansion systems. We haven't heard of anyone who has tried it with a Racore, Quadram or other systems, although we know of no reason why it would not work with these systems. We would like to hear from anyone who has attempted the memory expansion to 736K with these systems and we will report on any new information we obtain on this subject in future issues.

### Power Deficiency Possible

In order to expand your PCjr to 736K you must have

an adquate power supply. The best way to be sure, is to add up the power required for each of the components you have on your PCjr and see if your power supply is adequate. If not, you will have to buy another power supply for your additional expansion unit.

Racore, Legacy, Quadram and Tecmar expansion units come with their own power supplies, so you shouldn't have a problem if your memory is expanded to 640K with one of these. If, however, you have several IBM or Microsoft sidecards and an internal modem installed, you may blow your power supply if you add another sidecar without also adding additional power. Microsoft jrBoosters and internal modems, particularly the early versions, are "power gluttons."

Aside from the possible power deficiency we have heard of no other problems with the PCjr expansion to 736K. The hardware modification along with jrconfig.sys work flawlessly and provide extra memory that can allow you to perform memory intensive operations that you might not be able to handle otherwise.

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**EPSON - PRINTER INTERFACE CARTRIDGE** P/N 8690A for direct connection of Epson LX-90 or Home'Writer-10 Printers to PCjr Serial Port. Brand new with manual, cable, and connectors - \$25. Paid \$55. Phil Barboni, 2280 Shirley Way, Upland, CA 91786. (714) 981-7773.

**IBM 128K MEMORY EXPANSION SIDECAR** Paid \$199 for it new. Will sell for \$75 complete with disk and documentation. Bernie Rubenzer, 933 N. Marshall, Milwaukee, WI 53202. (414) 278-8168.

**OLIVETTI PR 2300** ink jet printer w/ manual, cable, graphics disk, and extra ink. List price \$470. Must sacrifice for \$200. Kent Smith, 512 W. Jeneau St., Tampa, FL 33604.

**TECMAR jr Captain** — Will sell for only \$75. Jim Babcock, 1141 Dover Ct., Safety Harbor, FL 33572. (813) 725-4829.

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

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

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

IBM PCJR upgraded with Racore Drive Two Plus, including 2d disk drive, addit 512K and DMA. Two original keyboards, keytronics keypad, Legacy synchro cartridge and 8088 repalcement chip. NEC 80col. amber monitor, assorted software. Asking \$1200. Michael Tufariello, RFD 1 Box 416B, Northfield, MA 01360 (413) 498-5740.(7)

**IBM PCJR** with color monitor, parallel port, Legacy II, 384K. DOS 2.1 plus some software. \$650. Clyde Witt, 527 meadow Creek La., St. Louis, MO 63122 (314) 822-0647. (7)

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