Bard's Tale III: Thief of Fate

By Michael Chandler

Electronic Arts first hit the IBM role-playing adventure game market with the release of the Bard's Tale I, which had been a smashing success with the Commodore, Apple II series, and the Amiga. They followed that up with its sequel, the Bard's Tale II. Once again, the game play and puzzles were great, the graphics super, and the shelf life extensive. Now, finally, after two long years of wait, die-hard fans of this series have the third installment, the Bard's Tale III: Thief of Fate.

People who liked the previous two Bard's Tales will find the third to be much to their liking. The interface remains consistent with the other two games, with you creating a party of up to seven members who must undertake quests and explore deep dungeons. However, this game has several improvements that will increase its shelf life and give the player more variety.

"You can expect to play this for many, many hours."

First of all, there are hundreds of new monsters for you to destroy, from the puma cat to the metal masher. There are many more dungeon levels to explore, and many more places to go. Each character can now store up to twelve items at one time, therefore making it possible to have an EXTREMELY LOW armor class (AC). In one party I have, three members have better than a -20

"If only I'd brought jrNewsletter with me."

AC, without any magic assistance.

In comparison, Bard's Tale I would not allow a character better than a -10 AC. There are also two new classes of spellcasters, the Geomancer and the Chronomancer. The Geomancer is a converted fighter-turned-spellcaster who can cast some truly hellacious offensive spells, and can still use weapons as well. The drawback to this is that the fighter loses his special ability, such as multiple attacks, critical hits, etc.

The Chronomancer is a converted Archmange who has the ability to cast the teleportation spells necessary to transport the party to the seven (yes, seven) dimensions. The drawback here is that the Chronomancer forgets his previously learned spells, and can now only learn spells for his class. You must have one of these to win the game. Bard's Tale I and II characters are also transferrable onto the disks, so you do not have to "start from scratch" by making totally new party members, although this is always an option.

Restoring Skara Brae

The storyline of the game goes like this: Skara Brae, the town that was the setting in the first Bard's Tale, is once again the setting here. The problem is that it lies in ashen ruins after the Mad God Tarjan's assault (apparently he wasn't too thrilled by the forging of the Destiny Wand in the second Bard's Tale!). Your mission is to find the old man of the Review Board and follow his instructions. He will send you on different quests, such as killing the Mad God's henchman, the Bristhil ap Tarj, who still lurks in the shadows underneath Skara Brae, retrieving

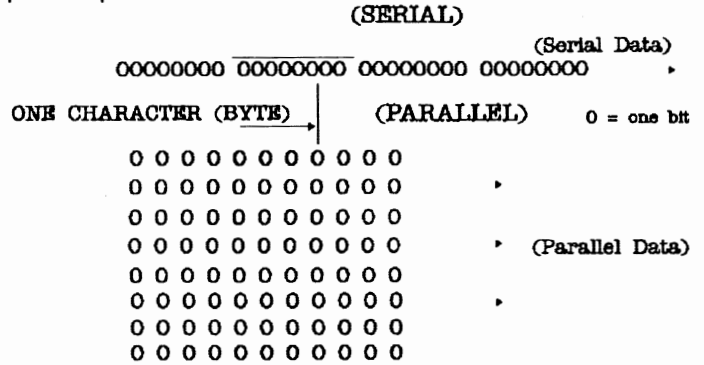## PCjr Lives!

Serial and Parallel — What's What?

By Larry Kaja

When communicating with a modem over a telephone line, data is sent in a **serial** mode. You may have also heard the term **parallel printer. Most PC printers communicate with the PC in parallel** mode. What does that mean?

First, let me talk about what "serial" is. In serial communication the characters (or bytes) are broken out into their single "bits" It take 8 bits to make a byte (character). These bits are sent (transmitted) over the phone line much like a line of ants running single file to an ant hive. Each ant represents a bit. With a 1200 BPS modem the "bits" travel at the rate of 1200 every second! Although this sounds fast, you can actually watch the lines of information being written to your display when you're hooked up to a remote BBS computer. Take a moment and study the illustration.

Parallel, on the other hand, is similar to members of a marching band. In the diagram you see row after row, 8 persons (bits to a row. Each row represents one character (byte). They move together, shoulder to shoulder. This is the method used to send information to your PC parallel printer.

```
                (SERIAL)
                                      (Serial Data)
        00000000 00000000 00000000 00000000    →

ONE CHARACTER (BYTE)  |      (PARALLEL)      0 = one bit

        0 0 0 0 0 0 0 0 0 0 0 0
        0 0 0 0 0 0 0 0 0 0 0 0    →
        0 0 0 0 0 0 0 0 0 0 0 0
        0 0 0 0 0 0 0 0 0 0 0 0    →  (Parallel Data)
        0 0 0 0 0 0 0 0 0 0 0 0
        0 0 0 0 0 0 0 0 0 0 0 0    →
        0 0 0 0 0 0 0 0 0 0 0 0
        0 0 0 0 0 0 0 0 0 0 0 0
```

The "Bit" Configuration of Characters.

For purposes of illustration, I've taken a few characters and broken them down into their bit configuration and added the ASCII value for each. Don't let the ASCII throw you. All you need to understand is that if you enter the three ASCII value numbers listed for each character then you GET that character displayed.

Character Value	Bit configuration		ASCII
A	01000001	(1=bit ON)	055
m	01101101	(0=bit OFF)	109
1	00110002		049
7	00110111		055
Degrees	11111000		248
Omega	11101010		234

Notice that the last 2 characters have the first bit in the string turned on. Also notice that the ASCII value for these **last two** characters is greater than 128. Characters with an ASCII value of 128 or greater use this "high order" bit.

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. Will the NEC V 20-10 work on the jr? I currently have the NEC V 20-8 installed.

A. The simple answer is "Yes." An additional comment is "It won't make any difference." Here's why: Inherent in this question is the matter of speed. The computer's internal clock chip and its crystal are the determining factors for the rate (speed) of cycles in any computer. Put another way, the NEC V20-10 is CAPABLE and TUNED to operate at the higher speed, IF the computer's internal clock chip/crystal generates it. The NEC V20-10 would be mandatory if a turbo board which actually changes the clock speed is installed in the jr. At least one of our advertisers sells such a board. Remember, all of the other chips in the jr such as RAM etc. should also be able to handle the higher speed. If you intend to turbo-charge your jr, be sure that you check with the supplier, and describe exactly what kind of expansion and set-up you already have. Some memory expansion boards cannot handle the increased speed in an error-free manner.

File Transfers by Modem

When you consider sending or receiving files electronically by modem, it's useful to know approximately how long the transfer will take. At 1200 baud, files are transferred at about 5,000 bytes/min. The rate will be a bit over one-fourth as great at 300 baud and almost twice as fast at 2400 baud. A disk full of shareware programs that you can buy for three to five dollars will take over an hour to download at 1200 baud. If it's a long distance call, perhaps you should consider mail order.

Q. I really have printer problems! Cannot seem to get the lines, symbols, etc to print on my printer as they appear on screen. I have an Epson RX-80 which does an otherwise excellent job. Something must be happening between the disk data and the printer, but I can't figure it out.

W. D. Roy, Jr.

A. Here's another case of un-clear directions. For the RX-80 to try to print the IBM extended character set (which is NOT included in the ROM of this Epson) you need to print an approximation of the characters. Characters with a value above ASCII 127 just kick this printer into italics because this is the alternate alphabet as seen on pages E-1 through E-11 of your Epson manual. Where you see italics, the IBM ROM set is the extended stuff like lines and box parts. We tested PRSWAP, a shareware program which turns the horizontal lines into hyphens, vertical lines into the double vertical bar, plus sign at the corners etc. and all automatically. This will even copy the screen if you use Fn-PrtScn! Interestingly GRAPHICS.COM assumes you have a totally compatible printer ROM, when printing text (more about Real Graphics below) which you don't so PRSWAP kind of makes up for it.

Now, here's a trouble-shooting trick I use with Epsons, and I don't know if it is documented, but if you HOLD both the FF and the LF buttons down, turn on the printer then let 'em up, the printer will print ONLY the ASCII VALUE (the CODE) of the characters sent to the printer but NOT the actual characters. The numbers are in pairs and are hexadecimal. This is the only sure-fire way to know if the escape char (27) really is sent to the printer. In DOS, to make a test with the jr keyboard: press Alt+Fn+"N" and hang on to the "N"... Now press "0" then "2" then "7" and THEN let up on the "N" This Is Esc (char 27 a tiny left-pointing arrow)! If you have a standard keyboard just press Alt+NumLock then 2,7 on the numeric keypad. Now do a PrtScn screen dump. Hex B1 (char 27) will be printed by the Epson, NOT an arrow, NOT the number 27.

If the screen is not a text screen then GRAPHICS.COM changes hats and will configure your Epson to its mode for graphics printing. This means that

Questions and Answers
(Continued from page 3)

ASCII letters and/or values mean nothing to it. Only information which tell it which PINS are to be activated are accepted. GRAPHICS.COM does just that and in this mode the RX-80 is identical to the rest of the IBM/Epson family. This is REAL graphics mode, not ersatz graphics which are actually characters with values above 127. Remember, too, that some shareware .DOC files may have been written on word-processors which have a set of control characters which DOS or GRAPHICS.COM cannot handle, so a Prt-Scrn just won't do when you try to print them nor would your own word-processor if it uses different controls.

PCjr Is A Good Tool For This Reader

I'm a happy subscriber who just renewed. I have an elementary question. I now have a monochrome monitor. Am considering color. How can I tell if my jr has a color card?

I'm happy though little of your material is for me. I'm above the Beginner's Corner level, but not up to most of what you carry. For most of your readers, Jr is a toy, a hobby; for me, its a tool. I'm not interested in chrome plate, dual exhausts, and all the other bells and whistles. My needs are modest so I get along very well with 640K via Jr Hotshot, Deskteam, and one-disk programs: PC-Write 2.6, PC-File 4.0, PC-Calc, 3.0. One-disk versions all.

About the only frill I have was fixed for me by a friend: a self-booting PC-Calc workdisk with an autoexec file that loads PC-Calc files to a virtual Drive C. He says it cuts down on back-and-forth to disk. And all I've done, frill-wise, is to create formula cells for a PC-Calc spreadsheet that solves Peter Lynch's formula for assessing reasonableness of a stock's current price.

I do find things of interest in every issue. A few issues back a writer stated the meaning of the term "Escape Code." I've been pining to grasp that because I run across the term so often; my printer manual even has an entire chapter on Escape Sequences. But I couldn't get over the hurdle of what the hell the word escape has to do with anything. I don't expect to utilize that information, but I am extremely happy to have the terminology irritant eased.

George Elwers, Shenandoah, IA

EDITOR'S NOTE: Yes, PCjrs all have built-in color and can display 16 colors in PCjr CGA mode. Try calling Computer Reset (214) 276-8072. They usually have used PCjr color displays and other color monitors for sale.
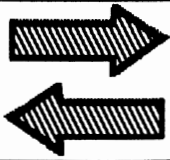
Reader Feedback
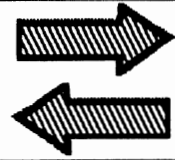
Calendar Keeper Problems
Crop Up, But New Version Coming

I recently tried to use Calendar Keeper with my 640K Racore expansion PCjr and found that while the program will run, it will not retain any data that you put in the database for your calendar. Additionally it requires that you tell it the configuration each time that you boot the program in the computer.

I used Compuserve to contact the originators of the program and was told that the program will not work on a PCjr. Additionally I was advised that a new version (3.0) will be out soon and will be usable on the PCjr.

I found no mention of this in your review of July 1990 but suggest that you advise any further purchasers of the program that this is the current situation.

Edward Spellacy, Jr., East Longmeadow, MA

EDITOR'S NOTE: We are checking into this and will report back to you in the next issue.

Super-expanded Junior
Runs the Latest Software

I'm pleased to renew my subscription to jrNewsletter. This past summer I upgraded with PC Enterprises Mega-Disk w/max memory. Now I have 736K RAM with over 400K on E:>RAM Drive. I use the "E" RAM drive for overlays on **PCTools Desktop** and **WordPerfect**. I also added Ed Strauss' 286 emulation board. It took 4 trips and experiments to get it working (he had business in San Jose so could help me personally) but got it working & I love it. It turns out I couldn't use any of PC Enterprise's Combo Cartridge except Quicksilver. Also verify has to be "Off" to access "A" drive.

Finally, this fall, I replaced 20 meg drive with Systems Peripheral Company's Seagate 251-2 40 MEG drive. Boy, is it fast! Now I have plenty of RAM, fast processor speed, and fast hard disk access speed. SPC was very helpful in helping me set it up. I've finished with my add-ons for now.

I use **Paradox 3.5**, **Quattro Pro 2.0**, **Word Perfect 5.1**, **the New Print Shop**, **Managing Your Money 6.0**, **Formtool Gold 3.0**, **PowerChurch Plus 4.3** (for church records and accounting), **PC tools Deluxe 6.0**, plus miscellaneous programs. I use the computer for spread-

sheets for work (I'm a supervisor), databases for both work and home, and to keep all church records and accounting (I'm treasurer for our church of 100). I also use it for home budgeting and use Prodigy for misc. information, especially weather, as my wife travels a lot.

The only problem I have is my clock/calendar (on my MA Systems 512 Expansion Module). It will not record years 1990 to 1995. It skips from 1989 to 1996, So I have to manually set the date. Any idea how to get in touch with MA systems? I haven't read anything in your newsletter about them.

Thanks again for your newsletter.

Wayne Peevyhouse, San Jose, CA.

EDITOR'S NOTE: MA systems was an early supplier of PC jr expansion units, but they have been out of business for the past 2 years and we have no information on how to contact them.

Junior User Happy
With New Hard Drive

The jrNewsletter has a definite impact on our suppliers. As a direct result of a letter published in jrNewsletter, Paul Rau Consulting lowered prices so that a 30 MB hard drive was offered for less than a previously advertised 20 MB hard drive. Since I had been considering a hard drive anyway, I leaped at the offer. At the same time I also ordered a 101 key keyboard and MS-DOS 3.3 (the hard drive required 3.1 or better). I saved enough to subscribe to jrNewsletter for years to come.

My dealings with Paul Rau Consulting were more than satisfactory. Service was excellent, instructions for installation of all equipment clear, and help for a minor problem was courteous and knowledgeable.
I now have DOS 3.3 installed on the had drive, along with Imageprint, Writing Assistant, and a considerable number of BASIC programs and random accessed data bases. My system has 640K (IBM sidecar), 1 floppy drive, the hard drive, Cartridge BASIC and a clock cartridge.

Thanks again, for the continued excellence of jrNewsletter. I know it's a big job, but, believe me, it's greatly appreciated. I have received a lot of help as a result of this publication.

Owen Barnes, Federal Way, WA

SPEECH. Make your Junior talk! With this software you can make your PCjr's internal speaker say anything you want. Very easy to use. No additional hardware required. (Reviewed 7/90) 128K ok. (Disk #114)

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)

TEXT UTILITIES. Includes V7.0 of List.com, the powerful text viewing software, which adds many handy new features in this version. Also on disk: A versatile directory listing and disk labeler; the fastest text searcher we've seen; a handy copying utility with many features; a memory resident protection against overwriting precious files. 256K Reviewed 2/90 (Disk #103)

TYPEWRITER. When you'd rather use a typewriter instead of a word processor, this is the one to use. Couldn't be simpler. Margins, tabs, type size all can be set. Disk includes two printer control programs for higher quality output. 128K ok (Disk #93)

Writing Essentials

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)

PC-OUTLINE. Organizes thoughts, notes, lists of just about anything. Powerful features create logical outlines, merge with your word processor, customizing allows you to rearrange and manipulate data. Outperforms many commercial programs, says PC Magazine. 128k. (Disk #17)

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. Fast, easy to use. 128k (Disk #76)

PC-WRITE. This extremely popular word processing software 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 and needs 256K to run without the spell checker, which needs 384K. Version 3.02, the most powerful, needs 512K. (Order Disk #1 for 128K V2.5. Order Disks #2A and 2B for V2.7. Order Disk Set #1 (3 disks) $12 for V3.02.)

SHARESPELL. Spelling checker that works independently of your word processor. Can check spelling of any text file with its 52,000 word dictionary. Will also use custom word list you make. Works with all word processors. 384K ok (Disk #94)

Reader Feedback

Reader Cites Favorite Software and Some Problems

I continue to find the newsletter to be an excellent source of information. The programs that I use the most are **Borland's Sprint, Quattro** (and now **Quattro Pro**), **Turbo C** and **Sidekick**. In addition I Use **WordPerfect 5.0, Mathcad, Generic Cadd, Foxbase +, Quicken** and **PC Tools Deluxe.**

I have been unable to install two other Borland programs, the upgrade of **Turbo C** to **Turbo C++** and the **Sidekick Plus.** I believe that Turbo C++ will require a patch as Turbo C. With Sidekick Plus the installation stops abruptly with a message that a path cannot be located and the screen locks up and I must reboot. Have any other readers indicated experience with these programs? I would appreciate any information that you may have.

My system has been upgraded with a Racore second drive (DMA) 640K and a clock, V-20 8 mhz chip, Paul Rau 20M Hard Drive system, Nickel Express, a Tiac daughterboard with a 8 mhz Math Co-processor, Logitech C-7 Mouse. The system is run using DOS 3.3, Config. sys and a small Autoexec.bat file with continue.bat on C drive and will boot in 45 to 50 seconds ready to load any of the above programs. I am in the process of adding a second 20 mg hard disk to my present box and changing one drive to a 3 1/2 in. disk drive. These last two to handle all my software on the hard drives and permit me to access other machines to transfer my files as they are only equipped with 3 1/2" drives.

Al Hayward, Winnipeg, Canada

Norton 5.0 and Autosketch 3.0 Both Winners, Dr. DOS Fails

I have had a chance to try the **Norton Utilities 5.0.** I am pleased to report that they work just fine on jr. The sheer volume of software takes a chunk of hard disk, but if you have the space, it is worth it. Lots of people would be happy with 4.5, as it is analogous to DOS 3.3, in that it is the complete set of basics that have all the bugs worked out. Version 5.0 goes the extra nine yards to be competitive with other products.

It is a pleasure to install Norton: they are very thoughtful people. I was able to use the windows-like menus without any problems. Context sensitive help is readily available. The software is also smarter in most

ways about my hardware, short of actually being intended for a PCjr. Every attempt to make my computer crash, failed, including loading the TSRs. TSRs are notorious for bringing down my system, and, as a rule, I don't use them. The cache software even worked, and I have tried many without success. Unfortunately, I have only 640 total memory, and after I fill the first 128K, I can't spare any more and still run my applications. There are some fancy things for jr owners with 768K of RAM.

The two problems I did find are only amusing, not annoying. The hard disk bench mark still says I don't have a hard disk, even though the rest of the hard disk software works fine. Norton recognizes I use a device drive hard disk system, and does some slick things with disk defrag and file protection.

The other problem (oddity really) is the cpu speed benchmark. Norton 4.5 knew I had a 10 Mhz NEC V20 and gave it a benchmark of 3.3 against the IBM PC. Norton 5.0 thinks my cpu is a 15 Mhz NEC V20 and only gives it a benchmark of 1.7. I think what is happening is the software is not comparing 8088 functions, but now is using something the COMPAQ 386/33 Mhz can optimize for and is comparing how slow everything else is. It shows this graphically at the speed check. I'm not concerned, I know my PCjr is more than twice as fast as a PC.

The rest is the techie information, given over several screens, may be interesting to hackers. I am mostly just interested in the disk utilities. I have always liked Norton, and now I like it even more. Norton 5.0 gets an A- for PCjr use. They don't get an A until they specifically recognize the PCjr.

The other question I had asked that I got an answer for myself is whether **DR. DOS** works on a PCjr. The Readers Digest version of the answer is NO. Plugging in the Startup disk and booting up gives nothing. Just for fun, I threw my front toggle switch wired to my speed-up board to have the firmware set the memory to 640K and video RAM to normal. I was then able to boot.

I followed the install program through about five menu screens before it crashed. Repeating this process, it crashed at different points, but you get the idea. I tried to work around that problem, thinking myself very clever. I formatted a floppy with system to boot from. I was back to a one floppy PCjr. Then I remembered what it used to be like to use jr in the original configuration. It wasn't a pleasant memory. I used my PC Enterprises disk for the 3.5" drive and ran the PATCH program. To my surprise, the software knew it wasn't patching a normal DOS (MS DOS/PC Dos) floppy, but asked if I wanted to experiment anyway. Of course, I said yes, (what's life without a little danger, after all, it was only a scratch disk) and the software proceeded. It worked. Once again I was impressed

Software Store
Art & Music

JR MUSIC MACHINE. If you want to write and play music on your PCjr, this program allows you to do it. Displays music as you write it using jr's 16 colors, and plays music back in three voice harmony. Features allow you to adjust key, tempo, note values, etc. Color Display required. 128K ok. (Disk #62)

PCJR MUSIC SAMPLER. A collection of classical music "concerts" performed with great precision to produce the highest quality sound you've ever heard on your PCjr. Disk includes a separate program to activate Junior's sound generator before running game software to get highest quality sound. 128K ok (Disk #119)

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. Requires Basic Cartridge. (Disk #39)

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)

PCJR MUSIC SAMPLER. A collection of classical music "concerts" performed with great precision to produce the highest quality sound you've ever heard on your PCjr. Disk includes a separate program to activate Junior's sound generator before running game software to get highest quality sound. 128K ok (Disk #119)

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)

PRINTMASTER LIBRARY. Two disk set full of graphic images for use with PrintMaster. (Disk Set #3 - 2 disks, $10)

Telecommunications

BOYAN. Selected Best of the Year by PC Magazine, this outstanding telecommunications program will astound you with its smooth functioning and innovative features. Supports all protocols. Need 384K. (Disk #61)

JRTELE V2.1. Excellent, easy-to-use telecommunications software made especially for PCjrs, and the PCjr modem. Ideal for beginners, but has enough power and features for most users. Supports 300 and 1200 baud. PCjr internal or Hayes compatible external modems. 128K ok. (Disk #86)

Reader Feedback

by the PCE programmers. I then proceeded to copy most of my usual boot floppy to the new system disk, making sure not to carry any PC DOS files. When I rebooted, it also worked, including the hard drives.

But as I continued to jump start various portions of the DR DOS, I realized it was pointless. My system kept crashing, almost at random, no matter what variation of setup I used. I hadn't even gotten to try my applications yet. As I read the manual more, I realized it was an enhanced operating system, but most of what I wanted from it I could already do by other software within PC DOS 3.3. So back into the box it went, and back to where it came. Besides, even when it was running, everything seemed to run slow. Maybe when Microsoft releases MS DOS 5.0, I'll try again. I know the 4.xx are just too buggie to bother with. It was refreshing to fire up PC DOS 3.3 again and go on with things without worrying about a whole new can of problem worms being opened up.

I finally got my **AutoSketch 3.0**. It is a recommended improvement over the 2.x versions. Unlike most upgrades, even though they give you much more code, it runs in less memory. Actually it allows larger drawings for the same memory. Lacking a coprocessor, (hint, hint, nudge, nudge, those of us with the PC Enterprises speedup board and using CAD would like the option to add one) redraw time is very slow. The new version is much faster with the same sketches. I would have guessed the opposite, but I'm glad it came out the way it did. I have used it for several days now, and have not yet had any problem relating to using it on a PCjr.

One more comment from the R&D angle of things (wish list). An engineer friend of mine mentioned that the PS/1 comes with MicroSoft Works built-in PROMS on the motherboard. There is speculation that other software such as LOTUS 1-2-3 might be an option. He thought it a shame that the PS/1 didn't have a cartridge slot like Hewlett Packard printers so a user wouldn't have to open the box up. I described my PCjr to him and he laughed. He said that was probably the reason IBM didn't put a cartridge slot on the PS/1. Then he said something profound. He said that the greatest value of the IBM PCjr project to IBM is what it needed to build a well conceived home PC computer was already reserved in the hardware and firmware designs of the PC family of computers. It is most amazing that nobody ever took advantage of these things to build a machine that would be set apart from the rest of the countless clones on the market. He was willing to wager that the firmware addresses of Mi-

croSoft Works in the PS/1 was the same as a PCjr cartridge. What do you think?

Joseph F. McLean, Worcester, MA

EDITOR'S NOTE: We have heard that the PCjr was the template for the PS/1, but have not heard anything about the PROM addresses for Works. We have many IBM employees as subscribers to this newsletter. Perhaps one of you would like to fill us in on the PCjr-PS/1 similarities.

JR User Provides Tips On Hard Drives, Mice, Software

I thought I would add just a few observations to the abundant information now accumulating in the jr Newsletter Library.

For those with some confusion still about adding hard drives to jr, I hope the following can help. I know there are several fine sources for hard disks for the PCjr. I chose the **Diskit-jr** from SPC because I could pick my own drives. It is called an ST-508 compatible. That means it uses any MFM type hard drive, the same kind as most standard AT clones have. Techies out there would appreciate this: the Diskit is actually a standard Western Digital dual hard disk controller chip wired simply to a PCjr expansion card that comes with a bug-free device driver. There is no noticeable performance hit because it runs on a PCjr with the DMA hardware. For a particular drive, just insert the proper parameters in the configuration file. One thing often overlooked is that it is a dual disk controller. Yes, two hard disks, different models, from the single controller. The price of the Diskit is the same as if you bought a hard drive controller for an AT. What more could a jr owner ask for?

One mouse left off your compatible list is the **PCjr Mouse** by Mouse Systems. I don't think any mouse could be more compatible. Not only does it plug into the serial port, but also the light pen port, using the light pen ROM BIOS. It is also a female mouse (optical mouse—you'll have to figure that one for yourself). Watch out for this one though, if you are marginal on the power supply. You may, as I did, find yourself switching to the PC Enterprises 150+ watt internal power supply, so as not to worry about such things ever again. It also requires you to buy the expansion chassis, but it's a nice looking, all metal chassis. It is also a nice place to mount your own hard disk being driven off of your own side car controller. Not exactly what PCE planned, but what the heck.

Software I have tested are the following: **Will Maker, ProComm Plus, Modem Doctor, Mathcad, Antix, Main Break,** and **DXBL**. All work without any problems.

Three new Games I tried are **Trek 2.8, Shades,** and **Gemini2.** These all work well. They also are games

which can be played over a modem with a partner. Somebody who is a local phone call and has a 1200 baud modem or faster is recommended.

I also got hold of a **688 Attack Sub** demo. Now this is a slick game. It works in both CGA and Tandy, and in Tandy uses the sound chip for things like listening to SONAR. I have my eyes open for a sale at the store for the real version.

Of special interest are **Quick Dos II, Norton Utilities 4.5**, and **PC Tools**. All work quite well on jr. The only exception is the bench marking of the hard disk, since Norton doesn't recognize the hard disk in this one function, because of the device driver method I use. The rest of Norton works, including defragmentation of the disk, and Disk Test for errors. **Spinrite** doesn't work, but you can't have everything in life. I suspect the same problem as the Norton benchmark test. Everybody with a hard disk should acquire something along these lines. I prefer a combination of Norton and Quick DOS, although many people would prefer just PC Tools.

DBXL is a commercial DBASE III Plus clone. Many serious DBASE programmers prefer it to DBASE III or DBASE IV. I find it much easier to use than DBASE III and I can do a lot more since I only use menus and commands to control the software. DBXL lets you do everything it can do by menus (with context sensitive help screens). Anybody who uses DBASE III Plus knows you can't really use it without programming. I used to program in PASCAL, BASIC, JCL, and APL., Someday I will go back to it, but I have sworn never to learn DBASE. DBXL works without any problems on jr. I always assume at least 640K of total system RAM, of course.

To be more specific, I fill up my first 128k with device drivers and other do-dads. Remaining RAM for programs is 524K. This makes things run faster (see other articles in Newsletters about slow and fast RAM). Those with more RAM are just in better shape.

One tip for those who already know what I'm talking about, use BUFFERS= in your config.sys to fill up the first 128K, instead of the FASTMEM command. It is better than letting precious RAM go to waste, and the speed increase by using more buffers offsets the performance hit by using buffers in slow RAM. Also watch the difference in how much data is grabbed per pass with a copy command or how much quicker program control is returned when something is sent to the printer. Simple DOS fundamentals are often overlooked by even the best PC computer gurus.

If you are pushing your PCjr to its performance max or just have gotten around glitches because of "incompatibilities" which give your jr a bad name, you obviously have developed the fine art of multiple specialized boot floppies.

Software Store

Telecommunications

Please Use Order Form on pg. 23.

PROCOMM PLUS TEST DRIVE. This is the upgrade of the already powerful and popular Procomm V2.42. It's got many new features including an improved host mode, context sensitive help screens, more powerful scripting. In addition to its power, it's very easy to use. (Reviewed 3/90) 256K (Disk #108)

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 log-on, 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)

Data Bases

3 X 5. An information management program that works just like a 3 x 5 card file. It offers speed, versatilityy 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)

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)

MR. LABEL. Extremely versatile, this software enables you to make labels ranging from the very simple to the very sophisticated. It's the best of many we've tried. 128K ok. (Disk #97)

NAMEPAL. An excellent utility program for maintaining and printing name and address lists, address books or mailing labels. Keeps business and personal references and allows user to maintain free-form notes as well. Requires 128K Memory. (Disk #70)

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)

Support Your Shareware Programmer

If you've purchased shareware from the jr Newsletter Software Store and you enjoy using it, please say thank you to the author of that software by sending in the requested registration fee. Shareware programmers need our thanks and support to keep on producing high quality software at affordable prices.

Menus for all Levels of Systems and Users

By Dorothy A. DeBisschop

Automenu is a highly versatile menu system which provides full access to software on your hard disk or your floppy disk collection. It can be run in three different modes, geared to three different levels of user skill: Novice, Intermediate, and Advanced. Regardless of which mode is used to set up the system, the end result is a professional-looking menu produced with a minimum of effort.

I recommend operating the program at the Novice level to start, and advancing to the Intermediate and Advanced levels as you feel confident and you need the special features provided in these modes.

Special Features

Automenu is easy to install and can be used on floppy-disk based systems, hard disks and LANs. It gives the user a fast, one-keystroke way to execute DOS commands, batch files or programs.

Automenu can be configured to prompt for user input and act on that input. This allows for maximum flexibility in operation.

The program allows the chaining of menu files to create menu selections limited only by the amount of space you have for your programs. Password control can be added to any or all menus or any or all programs. If security is a major issue, there is an optional encryption of menu files to keep them from prying eyes.

A major feature not available in other menu programs is the ability to set up unattended execution of menu selections by time of day.

The program is easily configured for colors, types of monitors,. and allows you to choose function keys, number and arrow keys, mouse or even voice controller to select menu options.

The program also includes a screen blackout which replaces an active screen after a specified interval.

Automenu For Floppy Disk Users

Automenu can be used with floppy disk systems. Those with two floppies can place Automenu on the boot disk in drive A, and configure Automenu to prompt the user to insert a specified disk into drive B for operating the programs. This configuration will keep your main DOS external commands and the menu available at all times.

The program requires DOS version 2.0 or higher. It requires only 32K of free memory. The program uses only standard DOS and BIOS calls, making it compatible with all versions of Microsoft Windows, and all the standard network operating systems, as well as PCjrs. So, however advanced or modest your computer system, no matter how limited or extensive your computer knowledge is, Automenu will help you make the most of it. You'll enjoy working with it.

How it Works

No matter what mode you operate the program, Automenu uses Menu Definition Files, called MDF files, which are simple ASCII files. For Advanced users, the MDF files may be created in any text editor. Novice and Intermediate users will appreciate the AUTOMAKE program, a menu-based program for creating custom menus.

Open the program by typing "AUTO", and select the menu option that reads "Menu Building Facility". This will bring you into the menu editor. You select the option to Edit a Menu Definition File. You can choose the MDF to edit or type in a new name.

In the Novice or Intermediate Modes, a display similar to AUTOMENU appears. To add a new choice in the menu screen, press the Insert key. You are asked if you want to add the new Menu Option before or after the current menu choice. AUTOMAKE then asks you for:
* the selection name,
* description,
* start-up command, and
* path or location of the program.

Getting into More Advanced Modes

Once you are comfortable with the Novice Mode, you will want to try using the Intermediate Mode. Making a custom menu in Intermediate Mode begins just as in the Novice section. You press Insert to indicate you want to add a new menu option. You will then be prompted to enter the selection name and the description. After you have done this, press the F10 function key.

This opens up an area in which to enter your commands for the menu item. For example:

```
+CD\DIRECTORY
+COMMAND
+CD\AUTOMENU
+AUTO
```

DIRECTORY would be the name of the program's subdirectory on your hard drive, COMMAND would be the name of the file which opens the program, and AUTOMENU is the subdirectory where Automenu is located.

After some experience on that level, you will probably want to experiment with the Advanced Mode. At this level of use, you will get a full screen display of your Menu Definition File. You enter your menu options by typing the text commands directly into the MDF file, using the automenu commands. In case you need a reminder, a list of the commands can be seen by pressing the space bar.

Automenu is disk #123 in the Software Store, pg. 23.

Bring The World Into Your Home

By David Wilson

One of the things that many people enjoy most about their computer is the ability to "go on-line" with it and "talk" with distant or not-so-distant computers about almost anything. This capability is realized through the use of a device called a MODEM (from MOdulator/DEModulator, which is all most of ever need or want to know about that subject), and the appropriate software. What you can do with this is expand your computing horizons from the room where your Junior sits to almost anywhere you can imagine — and quite a few places beyond that. Since the PCjr is unique in the way it handles the tasks it has to perform in telecomputing, you need to know about these differences.

Your PCjr was built with a "modem slot" designed to accommodate an internal modem without any fuss or bother. Just pop the top and slip the modem into the slot provided for it, replace the top, and dial that BBS in Anchorage, Alaska to get the results of the annual Iditarod dogsled race, right? Wrong. It's not **quite** that simple, but it's close. IBM, in that infinite wisdom you've heard about and admired for so long, elected to build the PCjr in such a way that it will accept ONLY the official IBM PCjr Internal Modem in its internal modem slot. And if that wasn't bad enough, they decided not to adopt the "Hayes Standard" command set in use by almost every other modem manufacturer around. IBM, trying to make their product unique, created a command set of their own that was so poorly received that they have abandoned it and gone to the Hayes Standard (which is what they should have done in the first place). And, as if **that** weren't enough, IBM put some very peculiar wiring in the Junior so that it doesn't process the information like any other computer. It's unique! Don't worry about it though — we can solve or ignore all the problems IBM left us with, and that's the purpose of this article and others to come.

We'll get into greater detail in later issues, but I want to touch on some of the terms we'll be using so that we'll at least be talking the same language when we discuss them. Here are some of the terms we'll be using:

BAUD RATE: The number of bits of information transmitted each second from one computer to another. The IBM PCjr Internal Modem has a Baud Rate of 300 — very slow - - but don't worry, your Jr is capable of much faster rates. The most prevalent rate now is 1200 Baud, and that is changing to 2400 rapidly. Many Bulletin Boards will no longer accept callers who have a baud rate of 300. There are also several other "parameters" or variable settings you'll have to set with your software, with exotic names like Data Bits, Stop Bits,, and Parity. These are important, but don't get bogged down in them. With very few exceptions, your settings will be 1200 or 300 Baud, No parity, 8 Data Bits, and 1 Stop Bit. Most software makes it very easy to get the correct settings in place.

BBS or BULLETIN BOARD SYSTEM: A computer that is set up to receive calls from other computers. Many BBS's run 24 hours a day, 7 days a week, so they have their own computer and telephone line dedicated to the BBS. They take up prodigious amounts of time and money from the Operator (SYSOP), but they provide you with the opportunity to carry on electronic discussions, play games, transfer files, and a host of other things at little or no cost to you. More on BBS's another time.

COM Ports (COM1: and COM2:) are the logical addresses the computer looks for when it tries to send or receive information from a distant computer. This is one of those unique IBM PCjr areas that can be confusing to most of us. We'll go into it in detail later in the series.

COMMUNICATIONS SOFTWARE: The programs you use to telecommunicate. This is one of the areas in which Shareware is at least the equal (many say the superior) of any commercial program. Some of the best-known programs are BOYAN, GT POWER, PROCOMM, PC-TALK, and QMODEM. There are others, in particular a dandy of a program written on and for the PCjr locally called JR TELE. I recommend it highly for those who need to conserve memory.

(Note: PROCOMM, BOYAN and JR TELE are all available in the jr Newsletter Software Store. Look for more beginner-level articles on telecommunicating with your PCjr in future issues.)

(The above article was originally published in the Atlantic PCjr Orphan Peanut.)

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."

How to Get the Most from Your Printer

(Part I)
By John M. King

If you use your computer to print letters, reports, labels, or lists, the appearance of final product depends upon how your printer is set. Sometimes a rough, "draft mode" printout is adequate. On other occasions, you will want the best quality possible. In this article, we'll look at how to set your printer so the output suits the job.

Some printers have a control panel on the front for setting options. If what you want is on the panel, that may be the best method. For options that are not available via the control panel, the only way to select them is to send control codes to the printer. It may even be easier to send control codes than use the panel since there are ways to set these codes up in advance. We'll cover ways to do this in this article.

We'll start at ground zero, so if you've never heard of "printer control codes", you won't be lost. On the other hand, if these codes are old hat to you, perhaps you'll find some new ideas on how to use them.

Why would you need to know anything about printer codes? Many word processors provide essentially automatic installation procedures for dozens of printers. You select your printer from a list, and the word processing software provides access to the full range of output that your printer can produce. There are keystrokes to set margins, line spacing, bolding, fonts, etc. If this is the only way you use your printer, you don't need to know any more about printer control. Unfortunately, not all programs are so obliging.

Quicken, a very popular check book managing program, provides rather primitive automatic printer installation. If you want to use any of the advanced features of your printer, you have to enter the control codes manually on a printer set-up screen.

If you need to print from DOS, rather than from an application, printer control is even more primitive. All DOS provides is MODE.COM which can only change line spacing from six to eight lines per inch and the number of characters per line from 80 to 132. These settings won't help when you are printing the documentation from a shareware disk and don't want the print to run all the way down the page and over the perforations between sheets. What you need is a way to send the "skip perforation" codes. In this article, we'll cover several ways to send codes to your printer.

Printer Control Codes

What are printer control codes, and where do you find them? They are special characters you send to your printer to change its output temporarily. The change remains in effect until a new code is sent or until the printer is turned off. The codes are listed in the manual which came with your printer, usually in a way which defies understanding by those who need them most. We'll step through several examples to clarify how to use the codes.

The examples I have chosen will work with Epson compatible dot matrix printers as well as many others. If you have a different printer, and for features not covered here, you will have to consult your printer manual. After this introduction, the manual should make a lot more sense and be easy to use.

Let's review some basics. First, how does a computer keep track of all the letters, digits, punctuation, and other characters which it displays on the monitor or sends to the printer? Computers only use numbers internally, so a number is assigned to each character. A number between 0 and 255, called the ASCII value, represents each character. Why 0 to 255? Because the computer uses one byte (eight bits) of memory or disk space for each character, and the highest number you can count to with one byte is 255 decimal (FF in hexadecimal). Printer manuals usually have a table of all the ASCII characters. Don't worry if you can't count in hex, all you'll need to do is copy the codes from your manual.

Now, let's send a couple of characters to the printer. If I want to send my initials, JK, here's what happens. The upper case letter J is ASCII 74 decimal (4A hex) and the upper case K is 75 decimal (4B hex). When I type JK at the keyboard, the computer stores 74 75. When a print command is received, the computer sends the two bytes, 74 and 75 decimal, out the printer port to the printer. The Read Only Memory, ROM, chip in the printer converts the ASCII values into groups of pin pushes for the print head which forms the letters J and K on the paper. Now, let's look at how this works with printer codes.

Let's examine what happens when the printer receives a single character code, for example, the code to shift into compressed mode (17 characters per inch instead of the normal 10). When the computer sends ASCII 15 decimal (0F hex), the ROM chip in the printer recognizes that it is the code for compressed mode and switches the printer. Nothing is printed because ASCII 15 is a control code and not a printable letter, digit, or symbol. Other single digit control codes are linefeed, 10 decimal (0A hex) and formfeed, 12 decimal (0C hex).

Escape Codes

Another type of control code consistss of two or more characters starting with the Escape character, ASCII 27 decimal (1B hex). These longer printer codes are sometimes referred to as "Escape codes". The characters which follow the Escape character are often ordinary

printable characters. However, when the ROM chip in the printer recognizes the Escape character, it doesn't print the characters which follow that are part of an Escape code sequence.

The code to shift to emphasized, or bold, printing is Escape E, ASCII 27 69 decimal (1B 45 hex). Because the E follows the Escape character, it will not be printed, but the printer will shift to bold printing for all subsequent printable characters. Escape F will return the printer to normal printing. Note that the upper case E or F must be sent. A lower case e is ASCII 101 decimal, and Escape e means nothing to the printer.

If you are using a program like Quicken you are now all set. Look up the codes for the features you want and enter them on the program's set up screen. The program will send the control codes at the appropriate times. However, for printing from DOS, we still need a way to send codes to the printer.

Sending Printer Codes

We will discuss five ways to send printer codes. We'll cover three in this article: Printer Utilities, ECHO, and COPY. Next month we'll discuss two more: BASIC, and ASIC. (ASIC is a shareware BASIC compiler.) There are advantages and disadvantages for each method, so you will have to pick the ones that are best for you.

Small programs, or utilities, to set your printer are available from many sources, including the jr Newsletter Software Store. There are lots of these ranging from very simple to quite elegant for almost every printer ever made. Many allow you to select from a menu of features for your printer. You can have fun trying these, and you may find one that is just what you want. If you don't, you can use one of the other methods to set your printer.

You can use the ECHO command in a batch file to send printer codes. The only "trick" is that you must write the batch file with an editor or word processor that allows you to enter the Escape character and other ASCII characters with values less than 32. Check the documentation with your word processor to find out if you can do this.

You can't use the "COPY CON filename.bat" method because DOS won't let you enter Escape the Escape character, either with the Escape key or by Alt-27. Also, quite a few other keystrokes, such as ASCII 10, linefeed, and ASCII 9, TAB, will be acted on rather than included in the file. It's interesting to try COPY CON to see what the results are.

I use the Tiny Editor, TED.COM, from PC Magazine to write batch files because it will accept all the ASCII characters using the Alt-number method. (All versions of PC-Write in the jr Newsletter Software Store enable you to use all ASCII characters, too — ED) For example, to enter ASCII 15 for compressed mode, hold the Alt key

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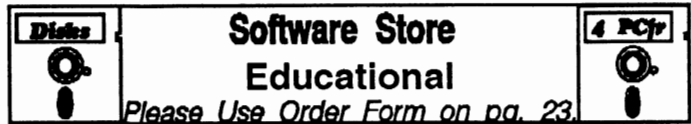
ARE YOU READY FOR CALCULUS? Excellent review of Algebra and Trigonometry skills you'll need before taking Calculus. Provides help in needed areas. Designed by professor in University of Arizona's Math Department. 128K ok (Reviewed 8/90)(Disk #117)

BIBLE QUIZ. Excellent quiz game tests knowledge of both the Old and New Testaments. Provides answers and biblical references for each question. For one to three players. 128K OK. (Disk #85)

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)

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)

CROSSWORD CREATOR V3.30. Make your own puzzles up to 36 columns by 22 rows. Many helpful sorting and placement features. Prints out on virtually any printer. 256K (Disk #71)

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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)

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)

HAPPY GAMES. Written by a mother to help her own preschoolers learn on their PCjr, this set of colorful educational games makes learning fun. Teaches colors, shapes, logic, eye-hand skills. 256K and joystick required. (Disk #88)

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

Printer Control

down, type 15 on the number pad, and release the Alt key. (If you are using the PCjr keyboard, you must first shift into NumLock mode with Alt-Fn N. This allows the number keys at the top of the keyboard to be used with the Alt key.)

Here is the line for a batch file to put the printer into compressed mode. Of course, you must hold the Alt key and enter 15 when writing the file. The greater than sign redirects the code to the printer.

ECHO Alt-15 > PRN

In TED and many other editors, the Escape key character can be entered either by hitting the Escape key, or by Alt-27. Just to show that the Alt-number method is not something special for printer codes, try Alt-74. The letter J will appear on the monitor because ASCII 74 is the letter J.

One disadvantage of the ECHO method for sending printer codes is that every line is followed by a carriage return and linefeed. Although the printer code will not be printed, the paper will advance one line. Often that throws off all the rest of the printing.

You can eliminate the unwanted linefeed problem by using the COPY command with a file which contains only the printer codes. Create the file in TED or another editor the same way you created the batch file. Enter only the printer codes, without hitting the Enter key, then copy the file to the printer. If you named the file with the Alt-15 character COMPRESS, this command will send it to the printer:

COPY COMPRESS PRN

Note that you do not need a greater than sign with the COPY command.

Now let's send the more complicated printer code which makes the printer skip over the perforations between sheets of paper. The command is Escape N number where number is the number of lines to skip at the bottom of the page. For a one inch margin at the top and bottom of each page, you must start printing 6 lines down on the first page and skip 12 lines at the bottom. The first 6 lines skipped are the bottom margin on the first page and the second 6 are the top margin of the second page.

In practice, you must advance the paper until there is a one inch top margin on the first page and turn the printer off and back on to make that the top of form. You can also send Escape @ to initialize the printer and reset the top of form. Finally, send the Escape N number command, and begin printing.

We already know how to enter the Escape character in TED. The letter N is simple, type the upper case N. That leaves only the number of lines to skip, 12, to be entered. You can't just type 12 because that's two characters, ASCII 49 and 50. If you did, you'd skip 49 lines and

print a 2 on the first page. You must enter the ASCII character 12 by holding the Alt key and typing 12. Only one character will be displayed, and you will skip 12 lines at the bottom of each page.

Here's a rule that I haven't seen written down anywhere else. For all printer control codes which accept a number that can be greater than 9, you must enter the ASCII character of the value desired. Use the Alt-number method with these codes. Examples are setting margins, page length, etc.

Other codes accept only numbers up to 9, many accept only 0 or 1. The code to turn on double wide printing, Escape W 1, is an example. The only other value which can be used with Escape W is 0 to turn off double width printing. You can use the Alt-number method or just type the number 1 or 0 for this code. This may seem peculiar, but it works. The ASCII values for the characters 0 to 9 are 30 to 39 in hexadecimal (48 to 57 decimal). The printer looks at only the left digit (lowest four bits) in these codes. Therefore, ASCII 0 to 9 and ASCII 30 to 39 have the same effect.

Writing Printer Codes in DEBUG

If you don't have an editor or word processor that will let you enter the necessary ASCII characters, you can do it in DEBUG.COM which is part of DOS. The easiest way to use DEBUG is to enter all the codes in hexadecimal. Since most printer manuals list the codes in hexadecimal as well as decimal, that usually won't require any extra effort.

Here are the DEBUG commands to enter the codes for the skip perforation example. Start DEBUG and then give the commands shown at the hyphen prompt. Press the Enter key at the end of every line. The letter N is ASCII 4E hex.

```
DEBUG (Enter)
A100 (Enter)
DB 27 4E 12 (Enter)
(Enter) RCX (Enter)
3 (Enter N SKIP12 (Enter)
W (Enter)
Q (Enter)
```

The 3 following the RCX command is the number of bytes which you entered. If you enter more or fewer bytes for other codes, adjust the number to match. After you have quit DEBUG with the Q command, you will find a file with the name SKIP12 on the default disk. Use the COPY command to send SKIP12 to the printer.

That's enough for this month. Look at your printer manual again and see if it doesn't make a bit more sense. You may find lines like LPRINT CHR$(27). These are BASIC code. We'll cover how to use BASIC and ASIC to set your printer in the next article. We'll even write a small printer utility which can be be the start of your own personalized printer control program.

Prodigy - Is It a Good Idea?

By Heidi Monson
Monterey Bay PC User Group

You've heard about Prodigy. You may have seen it demonstrated at a recent MBUG meeting. There's been an upsurge of press reports about it. So you've wondered, "Is it worthwhile?" The answer to that is a definitive, "Yes, but. .."

First, what is Prodigy? Formed by a consortium of IBM and Sears, it's a packet of services and advertisements and advertisements and advertisements (Did you catch an attitude there?) that you can access via your modem and software provided by Prodigy. Through it, there are zillions of things you can do - at least, that's the impression that Prodigy wants you to have. Yes, there are a lot of features. A large percentage of them are related to shopping. These are not the previously-referenced advertisements; they're considered features and are promoted as such. Beyond that, there are games, shopping, bulletin boards, shopping, Dow Jones quotes, shopping, the ability to do on-line banking (with some banks and for extra fees), shopping, brief news reports (remarkably current), shopping, weather reports (not very current), shopping, electronic mail (E-mail), shopping, a myriad of other things, and of course, shopping. How does Prodigy do all this for the low-low fee of $12.95 per month? The idea was to pay for it with the advertisements. So far, though, it hasn't worked out. In spite of having over half a million subscribers - Prodigy's claim - it's been losing money. Therefore, Prodigy raised its rates from $9.95 per month to $12.95 per month.

That wasn't too bad, most Prodigy users understood and accepted that increase. But Prodigy raised more than that. After claiming that it would always be a flat-fee service, Prodigy decided to start charging 25 cents per E-mail message after the first 30 in a month. Prodigy, of course, did not actually announce the new E- mail charge. They hid it several levels down in their rate-increase announcement. They continue to advertise that the service is offered for a flat rate.

There are those of us (rebellious types, I'm sure), who take the view that a flat rate means that our bill will be the same every month. In fact, some of us (insurgents?) have taken the attitude that Prodigy had no right to do it. Claims have been made insinuating false advertising and bait-and-switch tactics. Get people onto Prodigy, get them hooked on E-mail, let them develop long-distance friendships, play E-mail chess and Scrabble, encourage them to continue discussions privately instead of via the bulletin boards. Then, once they're hooked, start charging them for using it!

In the October 1, 1990 issue of PC Week, William Zachman's Up Front column carried the following comments:

"In pursuit of some Ozzie-and-Harriet-style 'perfect family' of middle-American consumers, Prodigy has recently managed to royally tick off its current users with higher rates and a per-message charge on E-mail that blatantly violates the promise of a low- priced, fixed cost service.

"Prodigy has thoroughly alienated its most enthusiastic supporters. The result is a proposed boycott of Prodigy advertisers and a rash of bad publicity just as Prodigy tries to reach out to middle America."

Now, the Prodigy tale grows tawdry. Some of those nasty insurgents have actually followed through on their threats of boycotting advertisers. They do have a sense of fair-play, though. Many of them (literally, thousands) have written and E-mailed advertisers about their intentions. Prodigy didn't like that, though. But, do you think that a consortium of Sears and IBM is likely to listen to its subscribers? (One naivete award if you do.) Of course not! Prodigy got mad and pulled the plug on the insurgents it was able to catch. The inevitable followed: The news media "discovered" the story. (Actually, the media has been kept quite well informed about the proposed boycott by the insurgent subscribers.) When Prodigy discovered that it was receiving bad press, in its eternal benevolence it "invited" the insurgents back, but only if they behave themselves!

What does all this tell us? In spite of the irritation of advertisements and shopping, Prodigy is a fine service. All those subscribers who have been willing to take their time to keep the service and its billing structure honest have done so because they love, and have come to rely on it. However, knowing the business practices, including coercion, that Prodigy has employed to stop honest - and legal - protest, and knowing of Prodigy's blatantly false advertising, it is impossible to recommend it.

[Reprinted from MBUG Newsletter December 1990]

What's In A Filename?

A filename is simply a collection of letters or numbers which identifies a file stored by DOS. A list of filenames will appear when you type DIR at the DOS prompt.

A file can have one or two parts to its name. The first part, called the root name, can be from one to eight characters long. Every file must have a root name. The second part is called the extension. It must be preceded by a period and can be from one two three characters long. The extension is optional. It doesn't have to be there.

Example of a filename:
COMMAND.COM

Back Issues of jr Newsletter

The following back issues of jr Newsletter are available in limited supply. In addition to regular features, such as the Beginner's Column, Questions and Answers, software reviews, letters, etc., some of the feature articles in each month's issues are listed here to help you select issues of special interest to you.

You can obtain articles from issues not listed here by ordering Best of jr Newsletter Disks. See Software Store listings for more info on these disks. To order back issues, please fill out the form below.

June 1988: Reader Survey Results * PCjr Patches * Solution to Socket Damage * Finding Lost Files * Install a V20 Chip * PCjr's Self-Check.

July 1988: Customize Your Boot Disk * The Amazing PROMPT * Compatibility Tips * Using JRCONFIG * Inspect Contents of Cartridges.

September - October 1988 (double issue): New PCjr Turbo Board * Color Programming * Rotate Your Disk Drives * The Word Processor That Knows! * CAD vs. Paint * Troubleshooting Tips * Printing Koala Pics * Adjustable RAM Disk * Modem Tips * 1-2-3 Shortcuts.

November 1988: Flight Simulator 3.0 * Add Cartridge Slots * PC-Outline * Merging Files * Improve Your Writing * Learning DOS.

December 1988: XT/AT Keyboard Adapter * Friendly Database * Run BASIC Without Cartridge * What Is ASCII? * Card Games.

January 1989: Using A Modem * PCjr BBSs * How Video RAM Works * Ink Jet vs. Laser Printers * Great File Manager (Scout).

February 1989: Using A Mouse * Flight Simulator Instructions * The Best Games * More Readable Font for Your Monitor * Ramdisk Software.

May 1989: IBM Support To Last 5 More Years * A jr-Loving Family * Low Cost Introduction to Modems * How PCjr Memory Works (I)* Keyboard for Young Learners * Advanced DOS Commands.

June 1989: New 80286 Board for PCjrs * Books for PCjr Users * Favorite Games for PCjrs. * How PCjr Memory Works * Great PCjr Hard Drive * New PCjr Shareware.

September-October 1989: Jr Newsletter Welcomes Junior Report Readers * PCjr 286 Boards Now on the Shelves * Cookbook Software * Flight Simulator Scenery Disks * PcCalc Plus * How to Start a PCjr Users Group * Fix Disk Drive Problems * PCjr Compatibility Guidelines * Battlechess Review * Install DOS on PCjr Hard Drive * How PCjr Memory Works (Part 4) * Software Compatibility Notes.

November, 1989: New PCjr Megaboard Adds 1,024K to PCjr Memory * Mesa 286J * PCjr Compatibility Disk Updates * Solution to Sidecar Shorting * Beginners Guide to Shareware * Rocky Makes Learning Fun * Games III * Five Ways to Play Trivia.

December, 1989: Many Options Available for Boosting PCjr Memory * How to Fix a Techmar Sidecar * Great New Sierra Game — Hero's Quest * Lotus 2.2 and the PCjr * PCjr Compatibility Update * An Introduction to Databases * WWII Sea Battle Game.

January, 1990: How to Make PCjr Software Patches * Printshop is Better than Ever! * 3.5" Boot Drive for Your PCjr * The Ultimate Utility, 4DOS * How to Care for Diskettes * Accolade's Test Drive II - A Winner * Tricks to Use When Copying.

March, 1990: Would You Believe a PCjr with 80 MB Drive, EGA, and Fax? * Mixed-Up Mother Goose * Procomm Plus Test Drive * Genealogy Software * Byte Your Tongue * 25 Upgrade Projects for Jr * Software to Improve your Printer.

April, 1990: Software Compatability Update * PCjr Fn Key Tips * Racore Memory Upgrades * What a PCjr User Must Know * Printer Utilities Review.

May 1990: Jr Expert Thoughts * Identifying Socketed Chips * Overcoming Compatibility Problems * Keyboard Controls for FS

V. 4.0 * TSR's Paths and Memory.

June 1990: Why Tandy Modification Is Essential * Telecommunication Hints (including Prodigy) * Exploring Your Jr With DEBUG * Jr Toolkit Upgrade.

July 1990: Mesa 286j Is Reborn * Thexder * Exploring Jr With DEBUG (Part II) * Patch BASICA.COM * Make Your PCjr Talk * Print Calendars * Disable DMA on Racore Units * Playroom Review.

August 1990: PCjr Survey Results * Booting 33 Meg Hard Drive * Turbo Pascal 5.5 * Favorite Batch File Commands * New 20 Meg Hard Drive * Word Craze * Calculus * Tetris.

September 1990: Jr Users' Favorite Software List * Understanding Compatibility Problems * Is PCjr Obsolete? No! * Classical Music For PCjrs * How To Turn On 3 Voice Sound.

October 1990: 1,001 Uses For PCjrs * Microsoft Works Review * LZEXE Reduces Program Size * Monitor-Drive Interference * Guide To Computer Terms.

November 1990: Get Super Sound From Your PCjr * Stick Bear Software Review * Let Jr Help With Christmas * Software to Help Save the Planet * Why PCjr Is Worth Supporting.

December 1990: Get Super Sound From Your PCjr (Part II) * Many Mice Work on Jr * Inexpensive BASIC Compiler * Compatibility Update * Sierra's New Games * Resume Software * Cyberpunk Adventures Reviewed.

Bard's Tale III: Thief of Fate

the noble Valarian's Bow and Arrows, and obtaining the Crown of Truth and Alliria's Belt. Successful completion of all the quests will result in the defeat of the Mad God and the restoration of Skara Brae.

"The challenge of battle is everywhere."

The first quest is undertaken within Skara Brae, but the others must be carried out in the other "dimensions", which can only be reached through teleportation. These dimensions are Arboria, Gelidia, Lucencia, Kinestia, Tenebrosia, Tarmitia, and Malefia. You are given the quests in order and cannot skip from one to the next without first solving it. These quests are very difficult, but they are not impossible by any means.

Where Bard's Tale II relied strongly on the game player's creativity in puzzle solving (to the point that I found the game unsolvable without some major assistance), Bard's Tale III relies a little more on the raw power of your party, such as the fighter's strength, the bard's more powerful songs and weapons, and the spellcaster's proficiency and array of annihilating spells.

The thief, however, is the one member of your party who is much more important than he was before. So important, in fact, that the game CANNOT be won without an exceptional thief. His stealth allows him to hide in the shadows and sneak up on groups without being seen. With this, the thief can attack (his fighting skills by way of critically hitting opponents is exceptional) without being attacked at all. For instance, if your thief successfully hides in the shadows, he is perfectly safe from the Witherfist spell cast by an enemy wizard, while the other members of your party are not. This greatly increases his durability, for it's a fact of the game that thieves get less hit points than almost every other class of character.

Super-parties Are Challenged

One of the best features of a role-playing game such as this is its shelf life. Super-parties transferred from other Bard's Tales will encounter far more difficulties than anticipated, even if the characters were "untouchable" in the other game. Therefore, the game will still take several hundred hours to complete. If new characters are created and used in this game, expect the game to last a season, at least! These games are notorious time-consumers and are very addicting. It can take weeks or even months to build up a party from scratch that can have an actual chance for survival in some of the higher dungeons, so don't expect this to be a short-term project by any stretch of the imagination. My very formidable party has already experienced times where all but one or two of my characters were killed off, and I am only barely past the halfway point of the game. The challenge of battle is everywhere.

The Bard's Tale III: Thief of Fate works exceptionally well on a PCjr, just as the first two did. The game requires either the Jr to Tandy hardware mod (which I have), or a patch similar to the ones done on the other two, to work in the 16 colors which I believe is a must for this game. Copying the patched graphics driver for the Bard's Tale II and replacing the Bard's Tale III Tandy graphics driver with it should do the trick for those Jr users out there who haven't done the hardware modification yet. The game requires 512k and two disk drives are recommended, although not required. Also, as a sure delight to those of us Jr users tired of hearing IBM's internal beep speaker attempting to churn out music, Jr's three-voice sound is supported. It sounds really good, and is a welcome addition. Bard's Tale III: Thief of Fate sells for around $40 at most Babbage's, Egghead, and Electronics Boutique software dealers nationwide.

CHECK OUT THE NEW ADDITIONS TO OUR SOFTWARE COLLECTION. GREAT SOFTWARE FOR $5.95!

Bus Mouse Frees Up
PCjr Serial Port

PC Enterprises has designed a new type of mouse especially for PCjrs, which runs from a sidecar.

The jr-Bus Mouse does not use the PCjr serial connector, leaving it free for an external modem, serial printer or other device. The mouse is made by Microsoft and comes with Microsoft Mouse Drivers. PC Enterprises designed and manufactured the PCjr interface.

The bus mouse sidecar plugs into the PCjr's sidecar expansion bus and is compatible with IBM, PC Enterprises, and most other brands of PCjr add-on products. Before buying the jr-Bus Mouse, ask to make sure it will be compatible with your system.

The jr-Bus Mouse is capable of 400 points per inch resolution and requires a postage stamp sized area of desk space to move anywhere on the screen.

PC Enterprises is offering the jr-Bus Mouse for $149, or for $169 with Microsoft Paint software included. This software requires 512K and two disk drives or one hard drive. PC Enterprises can be contacted at (800) 922-PCJR.

Some Facts About DISKCOPY

The DOS command DISKCOPY is one way to copy the information from one diskette to another, but keep these points in mind:

It makes a "carbon copy" of the diskette you are copying from. This means if you use a single sided diskette as your source, your copy will be formatted as a single sided disk, too. (So you won't be able to add files to it once the single side is full.)

Also, unlike the COPY *.* command, if there are any bad sectors on your target diskette, DISKCOPY will still try to write to them and will give you a copy that may be imperfect.

The preferred way to copy diskettes is to FORMAT first and then use the COPY *.* command. It's slower, but your copy will be more reliable.

Help Spread The PCjr Network

Please help us to serve as many PCjr users as possible by sending us the names and addresses of any PCjr users you know. We will be happy to send them a free copy of jr Newsletter so they can get to know us. And you'll have the satisfaction of knowing you've helped a friend. Send names and addresses to: jr Newsletter, Box 163, Southbury, CT 06488.
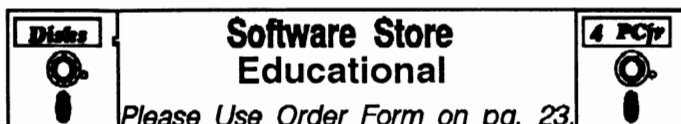
(Continued from page 17)

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)

WORDCRAZE. Create your own word search puzzles and print them out for friends and family. Just make the list of words you want in the puzzle and it's printed out for you. Or try Quotefall, a unique type of scrambled word puzzle. And then there's a high-level version of Hangman. Just try escaping from the noose in this one! 256K (Update review 8/90) (Disk #87)

Games

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)

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

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)

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

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)

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)

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)

DUOTRIS. Two great Tetris-like games on one disk. Similar to the popular Russian strategy game, both of the versions add new twists of their own. Written in Turbo Pascal, both are high quality games. 128K ok (Reviewed 8/90) (Disk #116)

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)

GAMES I. 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)

GAMES II. A wild bunch 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. Need Cartridge BASIC (Disk #34)

GAMES III. Kingdom of Kroz, an award-winning arcade action game. Go-Moku, a challenging Japanese strategy game, also known as Pente. Zigsaw, the first really good on screen simulation of a jigsaw puzzle. All three on one disk. 256K Reviewed 12/89 (Disk #101)

GAMES IV. Turbo-Car tests your skills at driving a fast car on a two lane highway. Can you keep from crashing? Return to Kroz is a colorful, exciting arcade-strategy sequel to Kingdom of Kroz on Games III. Trek Trivia tests and expands your knowledge of Star Trek. Three great games on one disk! 256K Reviewed 2/90 (Disk #106)

GOLF/SAILING. Two great games! 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)

Reader Feedback

(Continued from page 9)

pies. Try going to work and creating specialized boot floppies for the 286 AT clone. Of course, it's not necessary, but try it anyway. Most people don't even have an optimal boot setup. Nobody, even the best I've seen, use boot floppies to specialize the system for an application. You will notice a performance increase if your applications use widely different parameters. This was a common technique in computer science for PDP minicomputers before the days of the PC. You will also have lots of people ask you how you did it. Be sure and tell it came from using a PCjr. Yes, I do love my jr.

Of great curiosity is if anybody has tried any of the following products on a PCjr: DeskView, DR DOS 5.0, BASIC Professional Development System, or GeoWorks GEOS. The last one is very interesting. GEOS is a Windows clone for 8088 systems with 512K, which is supposed to be hot stuff. It is putting egg on the face of some fine talent in Redmond. You may not see it anywhere yet, but you will.

The ASIC compiler sounds interesting, though I haven't tried it yet. Could it be modified to be a compiler for Cartridge BASIC? Maybe it would just be easier to emulate Cartridge BASIC with C library extensions. Is that possible? I wish I were a better programmer.

BPDS (Microsoft's BASIC Professional Development System) is not cheap, but in possible range as an upgrade to **QuickBASIC.** It marks the return of BASIC as a professional platform. The code generated by it is about as small and fast as the Microsoft C compiler, which is to say smaller and faster than most other C compilers. It is for a growing number of people who want to just write applications that use the computer, not play with how the computer itself works. It also has none of the silly memory restrictions of QuickBASIC and GWBASIC.

If you write to MicroSoft they will send you a catalog of companies who sell enhancement packages to QuickBASIC and DPBS. Things like a full command set to replace DBASE III+. It is called **db/LIB** by AJS Publishing, Inc. It is faster than even Clipper- compiled DBASE, has LAN support, and reads/writes DBASE III format data files. Another package allows you to write TSRs which can be run up to ten at a time in friendly coexistence that you control on the fly. Not exactly OS/2, but maybe close enough for most of us.

Tip for the day: My local software store at the shopping mall, COMPUTER, ETC, has a discount rack for PC games at $10.00 or less. They are Commodore and Amiga games that have been converted. A taste of things to come maybe?

Joseph McLean, Worcester, MA

(EDITOR'S NOTE: Joseph wrote such a long letter, we'll have to print the second half next month.)

ZAP!
by Dave Schubert

A couple of times now, I have written about the problems of static electricity on computers. This is a real problem and should not be taken lightly. The 10,000+ volts that sparks from your finger to the computer case can cost literally hundreds of dollars in repairs, plus lost data on a disk drive is sometimes irreplaceable.

Wintertime means the inside of your home or office is going to be heated with a system that, besides warming the air, also dries it out. Normally moisture prevents dangerous static electricity from developing. But Electric heat and other devices, such as dehumidifiers, can cause the moisture to dry out carpets and clothing. Synthetics, such as nylon carpeting or clothing, are the most susceptible. These materials will store a charge that could either discharge over a period of time, or could discharge instantaneously under certain conditions. If you or your clothing become charged, the next time you touch or get near something that is electrically grounded, ZAP!! - a spark of static electricity is transferred, sometimes painfully for the human or humans involved.

Can you imagine the havoc that goes through a computer when static is discharged? Many of the components in a computer are highly sensitive "CMOS" devices, made to survive no more than 5 volts. So, a static discharge going across these components is extremely likely to damage the device beyond use.

Here are three ways to avoid static electricity problems:

1. Spray the area around your workstation with an anti-static spray, usually available from most computer retailers. Radio Shack has an inexpensive spray that will help discharge static for about two weeks per application. Or, fill a spray bottle with 10% to 20% liquid fabric softener and the remainder water. Always shake the container for a few seconds prior to use; apply at least weekly.

2. Install floor mats specifically labeled "static free" under the PC and under your chair. If the mat has a grounding wire, always hook it to the electrical ground of the same outlet the PC is plugged into. This will provide a safe path for any static discharge. Be careful, if the manufacturer doesn't say the mat is static free, assume it isn't.

3. Have a grounded, three-wire electrical strip located so that you can use it as a "touch plate" to allow you to discharge yourself before touching the keyboard. Then get in the habit of touching this grounded place BEFORE you touch the computer EVERY time you sit down to it. It is better to zap your fingertip than zap your keyboard, disk drive, or circuit board.

These three steps have been tested over a period of time and found to be the easiest and safest way to avoid equipment damage from static.

[Reprinted from Bits & Bytes, Newsletter of the South Jersey IBM PC Users' Group - Dec 90]
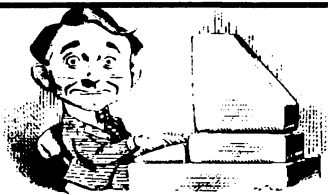
Need Help?

The following disks from the jr Newsletter Software Store can help you to get the most out of your junior. To order, see the coupon on page 23.

PCJR AUTOSETUP. A beginner's dream: Just select from a menu to make separate boot disks especially for each type of software you use. Automatically creates the right config.sys and autoexec.bat files for RAM disks, games, word processing, telecommunications and other software to run at maximum power and efficiency on your PCjr. Designed especially those who haven't mastered the art of customizing their computers. This one does it for you! 256K (Disk #99)

JR TOOLKIT V2.0. A collection of 30 upgrades, modifications and repairs. Some easy, some require experience. Includes adding second 5.25" drive (easy) or 3.5" drive (easy), PCjr to Tandy 1000 Mod (harder), power supply upgrade (harder), reset button (harder), V20 speedup chip (easy), how to quiet drives (easy), adjust monitors (easy), plus many others. (Reviewed 3/90 & 6/90) (Disk #110)

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

JR POWER PACK II. Disk full of programs to make your PCjr more useful and powerful. Fix compatibility problems, set up ram disks, tiny word processor, set up 3.5" drives, use DOS easily, and more. Need 256K for some, 128K ok for most. (Disk #65)

PCJR COMPATIBILITY DISK V3.5. Lists hundreds of software titles, along with info on how they run (or don't run) on PCjrs. Includes many tips on how to make software PCjr compatible. Powerful search feature finds titles quickly and easily. 128k ok. Updated April, 1990. (Disk #60)

PCJR PATCHES V6.0 Patches to fix software to run on PCjrs. Most enable 16 colors. V6.0 adds patches for 1 on 1, 688 Attack Sub, Battle Chess, Battle Tech, Boxing II, Genius Mouse, Grand Prix, Indiana Jones, Jack Nicklaus, Knight Games, Paperboy, Prodigy (thru V3.1),Shanghai, Silpheed, Sim City, Space Rogue, Steel Thunder, Strip PokerII, Test Drive II, Tetris, The Games (Summer), Ultima IV, plus new patch to stop disk drive spin. Dozens of older patches, too. (Reviewed 2/91) (Disk #56)

jr Newsletter Software Store

The software in the jrNewsletter Software Store is the best public domain and user-supported software for the PCjr we've been able to find. All software has been tested on our PCjrs and is highly recommended. Some of the programs are equal to or better than commercial programs costing hundred of dollars. These are offered for you to try at $5.95 per disk. Some shareware requires additional payment if you continue to use it.

Software Listings In This Issue:

Utilities - page 6
Writing Tools - 6
Art & Music - 7
Telecommunications - 7, 9
Data Bases - 9
Educational - 13, 17, 19
Games - 19, 20

Disks	Software Store New Releases	4 PCjr
	Please Use Order Form on pg. 23.	

* NEW * AUTOMENU V4.7 Make your own menu system to greet you every time you start up your trusty Junior (or PC,XT,AT,PS/2). This is perhaps the easiest menu system to set up, and yet it has advanced features if you want them. Uses only 32k. (Disk #123)

* NEW VERSION * PCJR PATCHES V6.0 Patches to fix software to run on PCjrs. Most enable 16 colors. V6.0 adds patches for 1 on 1, 688 Attack Sub, Battle Chess, Battle Tech, Boxing II, Genius Mouse, Grand Prix, Indiana Jones, Jack Nicklaus, Knight Games, Paperboy, Prodigy (thru V3.1),Shanghai, Silpheed, Sim City, Space Rogue, Steel Thunder, Strip PokerII, Test Drive II, Tetris, The Games (Summer), Ultima IV, plus new patch to stop disk drive spin. Dozens of older patches, too. (Reviewed 2/91) (Disk #56)

* NEW * RESUME SHOP. Makes preparing a professional looking resume easy. Guides you through all the steps of the process with a series of menus and suggestions. One page limit. 256K (Reviewed 12/90) (Disk #121)

* NEW * ASIC. Excellent BASIC compiler turns your BASIC programs into executable COM or EXE files. A shareware alternative to costly compilers. 128K (Reviewed 12/90) (Disk #122)

* NEW * BEST OF JR NEWSLETTER IV. For your handy reference, disk has the most informative articles, columns, and tips published in Jr Newsletter from June 1989 through May 1990. Easy to use search utilities provide quick ways to find any subject of interest. 128K ok (Disk #118)

jr Newsletter Software Store

Disks   **4 PCjr**

Please circle the diskette #'s of your choice
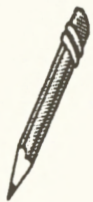
SET DISK SETS
1. PC WRITE V3.02 (3 disks-$12)
2. PC CALC PLUS. 512K (2 disks-$10)
3. PRINTMASTER LIBRARY. (2 disks-$10)

 # TITLE
1. PC-WRITE V2.5 (128K)
2a. PC-WRITE V2.7 (256K), Disk 1
2b. PC-WRITE V2.7 (256K), Disk 2
3. PC-FILE III. 128K
4. PC-FILE III. 256K
5. PC-CALC. 128K
6. PC-CALC. 320K
8. GAMES I
9. DUNGEONS & WARS
10. PINBALL RALLY
12. REFLEX POINT
14. ADVENTUREWARE
15. PROCOMM
16. BUSHIDO
17. PC-OUTLINE
18. TYPING INSTRUCTOR
19. 3 X 5
20. EQUATOR
21. TIME TRAVEL IN HISTORY
22. PC-DESKTEAM
23. PC-PROMPT
24. PC DOS HELP
25. PC-CHECK MANAGER
26. BATCH FILE UTILITIES
27. MINICALC
28. SUPER UTILITIES

29. MORE SUPER UTILITIES
30. ARCADE GAMES
31. BOARD GAMES
32. PLAY AND LEARN
33. FAMILY HISTORY (128K), single
33A. FAMILY HISTORY (256K), need both
34. GAMES II
35. NEW KEY
36. PIANOMAN
37. PC-KEY DRAW
38. PC-KEY DRAW DEMO
39. ORIGAMI
40. DOS 2.1 FIX
41. WORD PROCESSING FOR KIDS
42. MATH FUN!
43. BRAIN BOOSTER
44. PC-CHESS
45. ZAXXON/GALAXY TREK
46. PHRASE CRAZE
47. GOLF/SAILING
48. EARLY LEARNING
49. DOSAMATIC
50. IMAGEPRINT V3
51. PRINT HANDLER
52. JR POWER PACK
53. CASTAWAY/S. AMERICA TREK
54. THE BEST OF JR NEWSLETTER I
55. SUPER BOARD GAMES
56. PCjr PATCHES V.5.0
57. HOME BUDGET MANAGEMENT, 128K
57A. HOME BUDGET MANAGEMENT, 256K
58. HOME INVENTORY
59. CHECK PROCESSOR
60. PC-JR COMPATIBILITY DISK, V3.5
61. BOYAN
62. JR MUSIC MACHINE

63. GAMES FOR EARLY LEARNERS
64. COMPUTER JOKER
65. JR POWER PACK II
66. THE BEST OF JR NEWSLETTER II
67. AS-EASY-AS, V.2.05 (256K)
68. DOUBLE TROUBLE
69. GALAXY
70. NAMEPAL
71. CROSSWORD CREATOR V3.30
72. LANGUAGE TEACHER
73. BAKER'S DOZEN
74. MIND READER
75. RAMDISK MASTER
76. PC-STYLE
77. COMPUTER TEACHER
78. PLAYER'S CHOICE
79. MEAN 18 GOLF COURSES-1
80. MEAN 18 GOLF COURSES-2
81. SCOUT
82. SPELLING BEE
83. FILE EXPRESS, DISK 1
84. FILE EXPRESS, DISK 2
85. BIBLE QUIZ
86. JRTELE V2.1
87. WORD CRAZE
88. HAPPY GAMES
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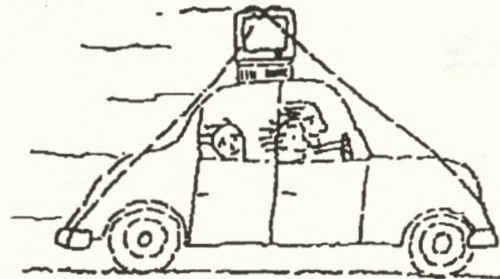
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