

jr Newsletter

May, 1989

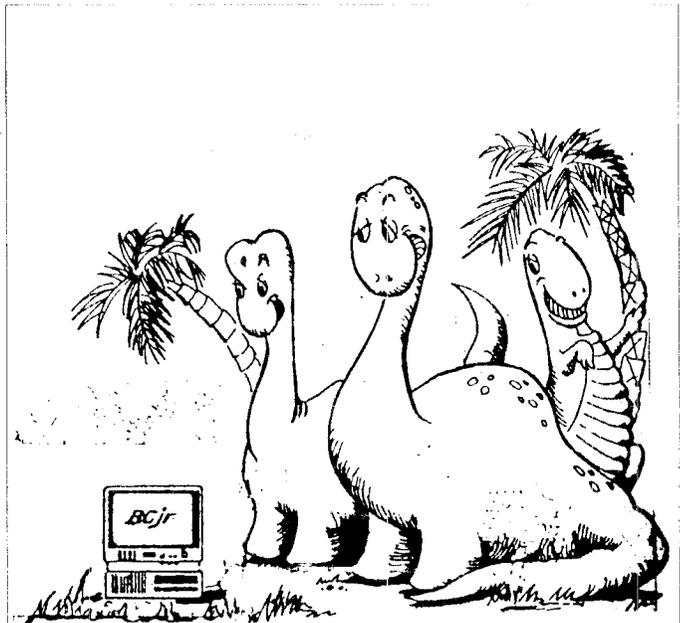
IBM Ends PCjr "Marketing" Will Make Parts 5 More Years

IBM has announced that it is no longer marketing PCjrs. This may not sound like startling news, but it's a milestone of sorts in PCjr history so we thought we'd tell you about it.

If you're interested in statistics, the official date was January 24, 1989. That's the date IBM officially ceased marketing the PCjr. The key word here is "marketing"-- you'll see why in a minute.

Another date in PCjr history is March 19, 1985. That's when IBM announced a halt to production of PCjrs. A month after PCjr production stopped, IBM took out ads in publications across the country promising to support PCjrs. The ad quoted Mark Twain, whose famous ragamuffin Tom Sawyer was thought to have drowned. "Rumors of my death are greatly exaggerated," he said upon returning to his home town alive and well. The IBM ad used this quotation in reference to the PCjr, and followed up this quotation by stating, "If you own a PCjr you can be sure it is still a well-cared for member of the IBM PC family."

What happened is that PCjrs became well-cared for (and well-loved) members of computing families across the country. An estimated 4-500,000 of them. But once IBM stopped making them, the little computer we've come to know and love so well disappeared from the pages of com-



*"I have no idea what it is, but
I'll bet the kids can figure it out"*

puter magazines. That's because the main concern of the major computer publications is to sell new computers for their advertisers. So they acted as though all the PCjrs had suddenly vaporized. In fact, hundreds of thousands of them were, and still are, in use. As you know from reading this newsletter every month, the PCjr is alive and well in many homes and businesses across the country. That's because PCjr users learned how to upgrade their computers so they can run over 90% of the software on the market today.

5 More Years for Parts

Perhaps IBM realizes that many of their orphaned computers are still in use, because the company seems to be keeping its promise, also made in that Mark Twain ad, to provide PCjr parts for five years. Don't worry, that didn't mean five years from the date of that ad.

An IBM spokesman told jr Newsletter, the five years would begin when they withdrew PCjrs from "marketing". That means PCjr parts will be provided by IBM until January 24, 1994, if IBM keeps its word.

We checked with the IBM Parts Order Center in Boulder, Colorado, and found they do have PCjr parts for sale. You can, for instance, get a new PCjr system board (Part#

(Continued on page 16)

INSIDE

Starting Up New Software	2.
Questions and Answers	3.
Reader Feedback	5.
Put Volume Labels on Disks	6.
A Junior-Loving Family	7.
What's So Fascinating About Computers?	8.
Reader Survey	9.
Low Cost Introduction to Modems	11.
How PCjr Memory Works	12.
Keyboard for Young Learners	15.
Facts About PCjr Keyboard	17.
Using Advanced DOS Commands	18.
PCjr Classifieds	20.
Software Store	21.

PCjr Lives!

Starting Up New Software

By Bruce Holmen

OK, you just got a program disk from your local Personal Computer Users' Group. You take the disk home to introduce it to your very own personal compute, and it's like the first time you set up a friend on a blind date. Nothing happens. Nobody knows what to say, or even where to start... Simply read on and in this very Newsletter, we shall present you with the keys to success in deciphering a disk!

1) Label the original disk, so you will know what it is. This sounds silly, but many people no longer know what programs they have.

2) Put a write-protect tab on the original, and make a DISKCOPY. This way you can experiment with the copy, knowing that your original is safe from harm.

3) Run a DIR to see what files the disk contains. If you want a hard copy directory listing, type DIR > PRN at the DOS prompt.

4) Look for a file called READ.ME or README or README.DOC or something similar. Such files are like the magic cookies that Alice carried with her in Wonderland. If the cookie says EAT ME, you eat it. If the file says READ.ME, you read it. How? Type this command at the DOS prompt > TYPE READ.ME and press Enter. If it scrolls by too fast to read, use the Fn Pause keys on the PCjr keyboard to stop it. Then any key to start it again.

5) Use the command COPY READ.ME LPT1: (or COPY READ.ME PRN) to get a printed copy. Be sure your printer is ready before you enter the command. READ.ME files are usually quite short, less than ten pages, and often one or two.

6) Read the READ.ME file. It may tell you everything you need to know about getting started. If not, read on...

7) Look for files with the .DOC extension. These are normally program documentation files, much larger than a typical READ.ME file. Some may run more than 80 pages. If you want to print a .DOC file, be sure you have plenty of paper. Then type copy (Filename).DOC PRN. You type the filename as it is listed in the directory.

8) Look for .BAT files. These are DOS Batch Command files that have been written to make your life easier. Try them! After all, you are running on a copy, not the original. What can go wrong? ...can go wrong? ...can go wrong?

9) Look for .COM and .EXE files. These are the actual programs that must run for the computer to do anything useful. Most disks will have both .COM and .EXE files, just to keep things interesting. If in doubt, try the .COM files

first, since .COM files can all (i.e. run) .EXE files, but not vice versa. All .COM and .EXE files will run when you type the word to the left of the .COM or .EXE.

10) If there are no files with .BAT, .COM, .DOC or .EXE extensions, look for files with the .BAS extension. Eureka! You have a disk full of BASIC programs. This is wonderful IF you happen to have BASIC on your computer. With a PCjr, this (normally) requires the BASIC Cartridge. With any other machine, it requires the BASIC that came on your DOS disk. Unless you are running a True-Blue IBM PC, you must have GWBASIC, Compaq BASIC, or some other version that can be run without the IBM proprietary ROM chips. Good Luck!

11) By now, you have either found something to run, or you have already formatted the disk and quit reading this spiffy article. It's a free country. I don't mind if you give up. But your computer will never let you live it down!

12) Try the silly program! After all, it is only bits and bytes. Besides, even if the program is a real dog, the bark is worse than the bite. (I can't believe I actually wrote that.)

Inexpensive PCjr Power

Lolir Computer has a supply of power transformers, the heavy black brick-like thing that sits behind your PCjr (or on the floor).

The price is so good, you may want to pick up a spare. They do burn out, especially if subjected to a power surge.

You can get one for \$9.95, plus \$4.00 shipping/handling from Lolir Computer, 2741 Beltline Rd., Carrollton, TX 75006 (214) 416-5155.

jr Newsletter is published monthly by Crider Associates, P.O. Box 163, Southbury, CT 06488. Tom Crider, Editor. Subscriptions are \$19 per year. Although every attempt has been made to insure that statements contained in this publication are accurate, neither the publisher, editor, or writers assume any responsibility for their accuracy. PCjr is a trademark of the International Business Machine Corp., which has no connection with this publication.



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. In a previous column you mentioned a book called Exploring the IBM PCjr by Peter Norton. Can you give more information such as publisher, etc.? Question asked by several jr users.

A. We are always pleased when people ask about books, so here is a selected list: These should be available by ordering through your local book-seller. Write to the publishers for catalogues of others.

Exploring the IBM PCjr Home Computer, Peter Norton

Microsoft Press ISBN # 0-914845-02-0

Discovering the IBM PCjr Home Computer, Peter Norton

Microsoft Press ISBN # 0-914845-01-2

The New jr: A Guide to IBM's PCjr, Winn L. Rosch

Bantam Computer Books ISBN # 0-553-34161-8

IBM PCjr User's Guide, Illowsky & Abrash

Howard W. Sams & Co. ISBN # 0-672-22302-3

The Peter Norton Programmer's Guide to the IBM PC.

(Mostly Assembler and Machine Language, but has excellent PCjr coverage!)

Microsoft Press ISBN # 0-914845-46-2

Compute! Publications, Greensboro, N. Carolina, has a series of books as follows:

Compute!'s IBM & Compatibles BASIC Program Selection

Compute!'s First Book of IBM (lots of programs, most in BASIC)

Compute!'s Second Book of IBM (slightly more sophisticated)

Compute!'s Beginner's Guide to Machine Language on the IBM PC & PCjr.

Compute!'s Mapping the IBM PC and PCjr

If there is enough interest we might do mini-reviews of selected books for our PCjr readers.

Q. Can the 5.25" floppy drive in my jr be replaced with a 3.5" drive? Will I need more power if I have 640k via upgraded (512k) sidecar and a parallel printer port? T. Candy, Kearney NE

A. You can replace the floppy drive quite simply. Some of the companies advertising in our Newsletter have conversion kits, complete with chassis, face plates and/or controller cards to fit right in. They also include software to access the format(s) of the 3.5" disks for whatever version of DOS you are using. You will need no additional power as the 3.5" drives actually use LESS power to operate as does the 512k upgrade of the sidecar.

Q. Some of the simplest things are assumed to already be known by the writers of certain manuals. I am trying to print out a simple total in the included program but can't seem to get the hang of it. Can you help me? S. L. White, LaGrange GA

Here is an edited part of the program as submitted:

```

220 FOR X = 1 to 3
230 READ A, B$, N
240 PRINT A, B$, N
245 NEXT X
250 LET H = 0
255 LET H = H + N
330 PRINT "Total Cost..... =$", H: END
1000 DATA 1, DSW, 5
1010 DATA 2, BD, 10
1020 DATA 3, NBG, 15

```

The reason the total (H) always prints 15 is because the addition of H to N is only done AFTER the FOR-NEXT loop has finished, and though N changes while inside the loop ONLY the last value is retained when the loop finishes. Two things should be changed: First, put the "initializing" of H = 0 outside and before the entry into the loop. Delete line 250 and write a new line to be executed before the loop like this;

219 H = 0 (You do not need the LET part of the statement, nor should you use it, it slows down interpreted BASIC!)

(Continued on page 4)

Questions and Answers

(Continued from page 3)

Second you must have the "totalling" done INSIDE the loop, so insert the line:

242 H = H + N (Be sure to delete line 255. This will cause N to be added to H EACH time through the loop.)

FOR-NEXT loops for beginners are both a challenge and a pleasure, so let me expand on this. For program size and speed, use X% instead of just X. This makes the "loop counter" an integer instead of a floating-point decimal. Integers are manipulated more quickly by the 8088 and integers take up less memory. In your line 245 you should also remove the X of NEXT X. The BASIC interpreter will determine the X automatically and by itself instead of using up time to read it, assign it and use it!

To make a little test of these loop techniques, run the following:

```
10 CLS
20 T = TIMER REM (TIMER is a built-in BASIC
statement)
30 FOR X = 1 TO 5000
40 NEXT
50 PRINT TIMER - T; "First loop, time consumed."
60 T = TIMER REM (We do it again, with integer
X%)
70 FOR X% = 1 TO 5000 REM (Note X% in here..)
80 NEXT
90 PRINT TIMER - T; "Second loop, time consumed."
100 END
```

The second loop runs almost 20% quicker than the first! Try changing to 40 NEXT X in the first loop and note the time.

One more point: If you periodically type RENUM when programming, you will always have 10 steps between lines and the program will begin with line 10. This gets rid of the annoying line numbers such as 255 or 245 as you squeeze lines in as an afterthought. (RESTORE nn, GOSUB nn, GOTO nn, etc. will all be taken care of automatically.) Also, if you type AUTO before starting to program, BASIC will advance and print line numbers for you in steps of 10 each time you press ENTER at the end of each line. To get out of AUTO just type Fn-Break. See the BASIC manual for more on these conveniences.

Q. I have a jr with 640k and two drives. When using Procomm 2.4.2 or 2.4 the program downloads files fine, but always aborts when uploading. Is there a patch for this problem? L. Novell, Endwell NY

A. No patch is necessary. Procomm is one of the most trouble-free programs to run on the jr. except for HOST mode. First, even though Procomm will run with Termi-

nate-and-Stay-Resident programs, some are not compatible. Clean them out of your AUTOEXEC.BAT file and try again. If you make a RAMDISK for the file(s) to upload/download and change the default upload/download to C: the timing is improved and the COM: buffer can handle the transfer in both directions better. Also, be sure that the COM Parameters are set the same as the connected-to service or BBS. Procomm automatically switches to the proper parameters for XMODEM for example, but check how you set it up. Don't use any Translate characters except the Procomm defaults for the Enter, LF, and CR. By the way, your CONFIG.SYS must have FILES=20 and BUFFERS=20!

A different approach shown below, uses the B: drive for files to upload/download and still tests out fine on 512k systems:

This is called "GO.BAT" and is used after booting without any TSRs.

Press the Enter key where you see <Enter> and don't type what's in parentheses. You should have the programs COMSWAP and COMREST on the same drive.

COPY CON: A:GO.BAT <Enter> (Copy from Console and name it)

COMSWAP <Enter> (Use COM:2 in Procomm)

RAMDISK 200 <Enter> (or use SETRAM nn or your favorite RAMdisk)

ECHO OFF <Enter>

CLS <Enter>

ECHO ..Turn the modem on and <Enter>

PAUSE <Enter>

ECHO ...Now loading Procomm, one moment, please... <Enter>

COPY A:PROCOMM.* C: >NUL <Enter>

COPY A:MACROS.* C: >NUL <Enter> (To access the macros if you use any.)

C: <Enter>

PROCOMM <Enter>

A: <Enter>

COMREST <Enter> (Restore COM:1 port)

(Optional last command for GO.BAT:) RAMDISK OFF <Enter>

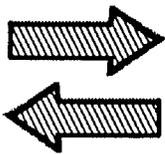
Now press Fn-6 to write it to disk.

If a parameter or phone directory change is made, and/or you want PROCOMM.LOG .HST .DIR .PRM etc. don't turn off the ramdisk until you have copied the changed PROCOMM files from C: to A: !!)

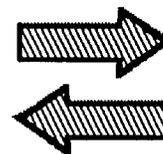
Q. When I boot with DOS 2.1 with my Impulse add-on board the clock/calendar comes on fine but with DOS 3.2 it is on default mode. Would disk #28 help? H. Seto, S. Jersey NJ

A. For clocks which are installed in the standard way,

(Continued on page 16)



Reader Feedback



He Revived His PCjr And Now He Loves It!

First I would like to express thanks for all the info from the *Jrnewsletter*. I have owned a Junior since 1984, but it was dormant for the past three years with question as to if it would ever be brought back to life. I continued to receive the newsletter as an item of curiosity. Finally, several weeks ago I began contacting the companies in the newsletter for upgrade products. OOwl software had very nice instructions for memory upgrade. I now have 640K RAM. I am also adding a hard disk, mouse, excellerator, HP PaintJet printer, and a 3 1/2 inch disk unit. In all, I am spending more than the price I paid for the computer at original 1984 prices. But I wouldn't trade it for a 286 AT I probably could buy. It is what it was designed to be, the ultimate home computer that is business operating system compatible.

What finally convinced me is the shareware and user group support available through this newsletter. This is actually more technical support than I could find from any new off-the-shelf machine. I hope it continues. You can consider me a life subscriber of your newsletter.

One useful tip I might add. I got a catalog of IBM software from a company called ACP (Advanced Computer Products) at 1-800-366-3227. I talked to a Rand Soper. IBM just got out of the software business and everything they have is firesale cheap. Included is the entire collection of educational software never before released to the public. I ordered some of this including the entire LOGO package. What you will find is most of it was written for the IBM PCjr! Many of the packages make use of the speech unit too! And *PC StoryBoard* makes the latest Microsoft *PC Chart 3.0* look silly. I have already made a demo run for my company and recorded it on VCR tape (using *Jr* of course). This is well worth asking for a catalog.

Joe McLean, Worcester, MA

Where To Get Monty's Scrabble

Monty Plays Scrabble is available through Timeless Expectations, P.O. Box 1180, Fairfield, Iowa 52556 for \$39.95 for Apple II family and IBM-PC (according to my latest catalog, Holiday 88). It took a bit of detective work on

my part to find it, as it was originally published by Epyx. If you like Scrabble, you will love Monty.

Edna Nagle, Portsmouth, VA

Write Your Own File Finder And Reboot from Command Line

Have you ever lost a file on your hard disk? Even a "hidden" one? If you don't have Norton Utilities FileFind, or a shareware or public domain version such as "whereis" you can write a batch file to do the same thing. It won't accept the * or \$ symbols for wildcards, but you don't really need them, simply specify the part you know, and let the batch file do the rest. All you have to do is either be in your "dos" directory, or have it in the path. The file (I call it *SEARCH.BAT*) will utilize the dos commands *CHKDSK*, *SEARCH*, and *PAUSE*. Give it a try!

```
ECHO OFF
IF %1!==" GOTO MSG
ECHO SEARCHING DIRECTORIES FOR %1
CHKDSK /V | FIND "%1" | MORE
GOTO END
:MSG
ECHO Enter FILENAME (or part) AFTER "%0"
:END
ECHO I hope you remembered to put "%1" in caps!
```

Did you know that it is possible to "reboot" your PCjr (or any other PC) from the command line without a special program? A one line basic program does it for you. The program, *REBOOT.BAS* is:

```
10 DEF SET=&HF000:RB=&HE05B:CALL RB
```

To run it, simply key in "BASICA REBOOT". This could also be included in a ".BAT" file.

Now I have a question for you, that probably is also asked by hundreds of other users. Exactly what do you, and your advertisers, mean by "card". The PCjr has three

(Continued on page 6)

Reader Feedback

(Continued from page 5)

slots in it, one for the disk drive controller, one for the 64K memory expansion card and one for the internal modem. Usually only the modem slot is available, and at least mine is taken up by a card from Creative Firmware that gives me a second floppy disk drive. Exactly what is a "Hotshot card" or other "card" that plugs into the PCjr?

I wish I could take credit for these tips, but someone else shared them with me, and I think that SEARCH would be valuable for any user with a hard disk. REBOOT may be of interest to somebody concerned with security, while operating their computer remotely, or somebody who just wants to reboot their PCjr from the command line or from a ".BAT" file.

Howard Griffin, Columbia, MD

EDITOR'S NOTE: A "card" or "board" is a rather untechnical way of referring to a piece of plastic that has electronic circuitry and other components on it. In the case of the jr Hotshot, there are memory chips and other things on it too, depending upon which version you get. The jr Hotshot plugs into the socket that contains the 8088 chip in the PCjr. Then the 8088 is plugged into the Hotshot itself.

PCjr User Recommends Ways To Reduce Eye Strain

I have been receiving your newsletter for a year and a half and must say I find it very informative. I read each issue from cover-to-cover the day it arrives in the mail! It definitely has put new life in my beloved machine.

I wanted to tell you about a product that I recently purchased for my PCjr color monitor that I have found very useful: the Curtis Anti-Glare Glass Filter. This glass filter dramatically improves both contrast and character resolution and has significantly reduced screen glare. Installation is very easy: the filter attaches to the front of monitor with adhesive velcro strips. I have been using PC Enterprises' Thin-Font Module for some time now, but the combination of it and the Curtis filter has drastically improved the viewing on my monitor and reduced eye strain. The Curtis filter comes in seven different sizes to fit virtually every monitor on the market (model GF-2 is for the PCjr monitor) and lists for \$59.95. I recently purchased it from PC Connection (1-800-243-8088) for \$39.95. I strongly recommend both this filter and the thin-font module for anyone using the PCjr color monitor.

Erik N. Christensen, Cambridge, MA

Volume Labels Are Helpful And Easy To Put On Disks

By Greg Smith

DOS allows you to put on eleven-character alphanumeric Volume Label on your disks (floppy or hard). The primary advantage of the Volume Label is in organizing your collection of floppy diskettes. Used in conjunction with diskette cataloging programs, the Volume Label lets these programs "see" which disk is in the current drive and thereby distinguish it from others in your collection.

Even if you don't use a cataloging program, it's often useful to use Volume Labels as a shorthand means of describing what is on a diskette. While paper labels suffice, sometimes they become a jumble of words that make little sense. A Volume Label like BUDGET88 is self-explanatory.

The Volume Label is like an electronic version of the paper label you put on your diskettes. You might also think of it as being like the numbers on the spine of each volume in an encyclopedia set. How would you keep all those volumes in order without the volume labels? If you only had one volume (like your hard disk), it would be easy. But if you use diskettes to store information as most of us do, consider giving each one a unique Volume Label.

The Volume Label can be as simple as 001, 002, etc. If you use the Volume Label feature, be sure also to put the same Volume Label on the paper label affixed to the disk itself. That way, both you and DOS (and your cataloging system) will be sharing the same identifier.

Putting a Volume Label on a disk is easy. All versions of DOS beginning with 3.0 have a LABEL command which allows you to add or change the Volume Label even if there are files on the disk. In addition, all versions of DOS allow putting the Volume Label on when you format a diskette, but only when you use the /V switch. See your DOS manual under the headings LABEL or FORMAT for more details. As always, be cautious with the FORMAT command. Don't use it until you're sure of what you are doing. It will erase (forever) all the files and any pre-existing Volume Label on a disk(ette)!

Disk cataloging systems provide their own means of putting a Volume Label on your diskettes. And for users of DOS earlier than 3.0, a public domain program called LABEL.ARC does what its DOS counterpart does. Labeling, like file naming, is an art. You get better at it with practice. Study other examples. If you just want to see, but not change the Volume Label on a disk(ette), use the DOS internal command VOL [d:] where [d:] is an optional drive parameter. For example, VOL A: will report the Volume Label for that drive. Using VOL without specifying the drive checks the Volume Label on the default drive.

Business and Family Run on Their jrs!

By Jack Jerome

The Junior is great. My unit #1 is a business machine and sits directly behind my desk on a 75 year old library table. Unit #2 is my "homework" machine when I can get the family to let me use it. I actually purchased a second machine after the Junior was discontinued (and got a fire sale price on it) to give my kids something to use so I could get some computer time.

Both machines have the jr Hotshot 512 memory additions and V20 chips. The #1 unit has a two floppy drive setup with either a 5 1/4" or a 3 1/2" choice. With the #2 machine a large ram disk seems to fill the bill and I have never added more drives.

My favorite program is one that has been largely overlooked by the trade press and is the **Electric Desk**. I find the integrated format with similar commands for spread sheet, word processing and data base easy to switch between and entirely adequate for my needs. I am not a real power user and spend most of my time in spread sheets with the Electric Desk cartridges almost a permanent fixture in the slots.

I am in a family wholesale business that has been in existence for some 60 years and my 83 year old senior partner and father is still active. Needless to say, computers are not his cup of tea and getting this Junior through the door the first time was a real struggle. We now keep our entire price book on the Junior, about 70 pages containing some 3000 items. By using a spreadsheet format I can enter costs and let the machine figure markups, bracket selling prices and individual item prices automatically. Typing alone is a savings of several hours a week and nearly all errors in copy are eliminated along with a lot of repetitive dogwork. That alone sold the system. The few letters I write come from the Electric Desk and we have done several mail merge personalized mailings to specific customers in our data base.

We use **Newsroom** to produce a flyer periodically to do some advertising. These have been good for us and our sales force and many new products have been introduced to our customers through this method. This is much more interesting reading than the typed page format.

I keep a set of books for the stock club that I belong to and run the portfolio report monthly in about 1/10 the time our broker takes for the same task. I'll never get rid of that job. I also keep the dues and tax records. My wife manages a similar club that she has joined with similar reports.

Junior, Electric Desk and Newsroom did the newsletters and mailing labels for my 275 classmates at our 30th high school reunion last year and the mailing list is being kept current by info fed to Junior. Previous reunions have

kept an army of typists busy but this system will produce a set of mailing labels in about 20 minutes. My wife is now working on a reunion for her high school class.

My wife and I are both avid collectors and keep records of our transactions on the Electric Desk data base. Insurance lists are a snap as he records are always as current as you keep them and sortable any way you want. Genealogy is another area my wife periodically works with and several of the family roots are traced here.

Business Accounts

In the business arena I keep month end numbers for the three wholesale houses we operate and run comparative month end statements and summaries easily. I use a SS format here to and file a column of numbers for each group each month. By using an empty mask and the overlay function of Electric Desk I can generate most any report I want. My CPA gets a big kick out of having one of his customers look over his shoulder (At least that's what he tells me) and I recently missed his bottom line total for a year's business by \$1.82 (that's on more than 2.5 million in transactions). I round off to dollars and he doesn't. I have also used this technique to summarize the books on a gravel pit and a 100 unit apartment partnership.

The American Cut Glass Association convention in New Orleans this summer will be identified with **Label Maker** name tags made on a Junior, as was the recent Camp Fire Zone Meeting in Kansas City. A recent display I did in Denver was identified similarly. The local chapter of the Daughters of the American Revolution had a handbook done last year on the Junior. They won an award with it
(Continued on page 17)

New Prices, New Speeds! SPC DISKITjr HARD DRIVE

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

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

XT compatible upgrades, no charge.

1 yr. warranty, customer references available.

\$15 shipping charge - None if prepaid.

Systems Peripherals Consultants

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

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

What's So Fascinating About Computers?

By Sidney Simon

I learned to fly airplanes at one time in my life. With a certain flair, I did landings and takeoffs, not necessarily in that order, and I came to know enough about navigation to be able to do some cross-country flying. I could stall and recover, I could fly "under the hood" and not see where I was going (or coming) and just with instruments, survive. Once I even did what they call a dead-stick landing. Those are useful if your engine dies. You dead-stick or you die.

All of this is told to you not to make me seem impressive, but to help raise the question: so what's this fascination with computers?

Because, you see, I could take flying or leave it. Actually, I left it. Because, to me, flying was boring. There was a lot to learn, of course, but learning it was somehow dull for me. And from day one, computers have never been dull and I can't see anywhere in the future where they will become dull.

Learning about computers has become totally engrossing, I would not have predicted that.

You sit in front of a glowing ersatz television screen, choosing to push your fingers around a tool, finding yourself alternately frustrated, tortured, filled with despair and

occasionally tasting disaster. This is fun?

Yes, it is. Among the grandest fun I have known. And I have had my share of fun, even if I have only played one computer game in my life. The fun is the learning.

Learning interests me. I have been a teacher all my life and after some thirty-seven years practicing, I am finally getting the hang of it. During all those years, I have struggled to intrigue, excite, even enthrall my students with the magic of the content, the wonder of the theories and the allure of the acquisition of learning.

My computer enthralled, intrigued, excited and captured me in a week. Without much charm or grace, it thoroughly enamored me and has made me a continued computer addict.

I am almost embarrassed to say no other learning I have ever done has been so completely engulfing. Certainly not learning how to fly an airplane. Not learning Spanish, not calculus, not even Piaget's developmental stages. And worse, I can't seem to figure out just what this all-devouring appeal of the computer is about. Have you figured it out? Has your wife waiting for you to come to bed figured it out? Have your children, when at a time of crisis they have to wait for you to solve a problem like how to get your printer to print in compressed mode figured it out? Has anyone figured it out?

Well, here are a few things I have identified as part of what has fascinated, thrilled, harmed, captivated, mesmerized and occasionally enslaved me to that thing called computer.

The Appeal of Instant Gratification

In computers, if you get it right, the computer gives you a precious gift by instantly rewarding you with the right answer. In a world which is increasingly bewildering, where politics confuse us, where the media uses us, where relationships are storm-tossed and careers unpredictably chaotic, what a comfort it is knowing that \$p\$g will bring you up a prompt that you can believe in and that \$p\$g will do it every time. Carefully you weigh the alternatives, make a decision and results magically appear, the printer dances and gratification abides in your heart, instantly.

So it is with everything about computers. If you get it right, the gratification will be instant. The first time you make a directory, for example (MD\SALVATION) and it works, even if it comes out \SALVATIO, it's instant gratification. Do you remember that thrill?

Do you remember typing something single spaced and then wanting the whole document to be double-spaced? When you hit the right keys the whole thing, instantly, was double-spaced. What greater moment of instant gratification can there be than that?

The Dependability of Predictability

That's the second thing I get from computers--predictability. Instant gratification is nice and sometimes over-

(Continued on page 14)

EXPAND YOUR PCJR

jr. Hotshot 512K Memory	CALL
Racore Drive II Plus w/DMA & 512K Memory	\$509
Quick Silver Cartridge	\$ 30
AT Style 84 key Keyboard, w/adaptor	\$ 88
20 Meg External Hard Drive System	\$579
1200 Baud External Modem	\$ 99
JR-RS232 Modem Cable	\$ 19
3.5" External Disk Drive	\$299
Nickel Express Jr 8MHz Turbo Board	\$ 79
Siamese Slots (cartridge expansion)	\$ 25

For a complete list with monthly specials send a stamped, self-addressed envelope to:

Paul Rau Consulting

260 N. Lincoln Way * Galt, CA 95632

(209) 745-9284 (pst)

voice 9 a.m. - 4 p.m. / data 5 p.m. to 8 a.m.

This Survey is Worth \$5 Off Any Disk Order

In order to make sure jr Newsletter keeps on serving you well, we ask readers every year to tell us about themselves. Please join with your fellow jr users and provide us with information we need in order to plan future articles. Our thanks to you for taking a few minutes to answer these questions will be a \$5 discount on any software order. Just enclose this completed survey and deduct \$5 from the total on your software order.

Name _____

Address _____

City _____ ST _____ Zip _____

1. Please describe your PCjr - (Memory, drives, modem, etc.)
2. Please list what software you use and like best.
3. What subjects would you like jr Newsletter to cover in future articles ?
4. What do you use your PCjr for ? (Personal letters, games, business, study, telecommunicating, etc.)
5. Do you plan to expand your PCjr and if so, how?
6. Have you had any hardware problems with your PCjr?
7. What software, if any, have you had problems with?

Please use the other side of this page for questions and comments you would like to add. 

Cut out this page and send it with the software order form on page 23 with your \$5 discount subtracted from the total.

PLEASE USE THIS SIDE OF THE
READER SURVEY FOR COMMENTS AND QUESTIONS:

After you have answered the questions on the other side, please cut out this page and send it to:

jr Newsletter
Box 163
Southbury, CT 06488

Don't forget to include your software order with a \$5 discount for helping us to find out more about our readers.
Thank you.

An Easy, Low Cost Introduction To the Fun of Using Modems

There's an easy, inexpensive way for PCjr users to introduce themselves to the world of telecommunicating. The internal modem made for PCjrs is available for under \$30. And JrTele, the easy to use software developed especially for PCjrs is now in our Software Store (Disk #86).

With a modem your computer can receive and send data through the telephone line in your home or office. You can also set up an automatic phone dialing system, much more sophisticated and extensive than any automatic phone can handle. A modem connects you to the vast and varied world of Stock Market monitoring, computerized shopping, electronic mail, downloadable software, game playing, chatting with new-found friends, and other services from Compuserve, Genie, The Source, and others.

PCjrs are compatible with any type of modem currently on the market that uses a standard RS232 serial port. When installing an external modem, a PCjr adapter is required for the connecting cable. But IBM made a modem especially for PCjrs, which plugs directly into an internal slot. This is the PCjr internal modem. The internal modem does not work well with most telecommunications software. But it works like a charm with JrTele. Even though the internal modem only operates at 300 baud, pretty slow by today's standards, it's adequate for most uses.

With JrTele, it's easy to explore BBSs, upload messages, download software, and do most of the things you'd want to do in the way of telecommunicating. The software has built-in commands for the PCjr internal modem, and runs well on PCjrs with just 128K.

JrTele is also automatic for Hayes compatible external modems, and will check to see which type of modem you have, adjusting itself without any need for your input. This is clearly the easiest software for beginners to use.

The user's manual is on disk and consists of just 20 pages of instructions (as opposed to 75 or more for Procomm, Boyan, and other software more powerful than JrTele). Even though it's easy to use, JrTele has many features and supports several uploading and downloading protocols. It operates at either 300 or 1200 baud, which means you can continue to use it even if you decide to upgrade from the PCjr internal modem to an external 1200 baud modem.

JrTele V.2.1 is being added to the Software Store this month (Disk #86). It is shareware by Ueckert Software Systems, and this version was updated February, 1988. Registration fee is \$20.

Check with the PCjr companies advertising in jr Newsletter for those that carry the PCjr internal modem. Or, if you know other PCjr users, you may be able to get a used one for next to nothing.

Owl Software

1435 Burnley Sq. N.
Columbus, Ohio 43229
1-800-322-0219

COMPLETE 2ND DISK DRIVE ADDITIONS - Both 5.25" and 3.5"

2ND DISK DRIVE ADDITION KITS - \$44.95. Drive hardware also available.

jrHOTSHOT MEMORY UPGRADES -
256K or 512K w/Clock and Cal (*Call*)
256K or 512K Memory Alone (*Call*)
Combination Drive and Memory PRICES (*Call*)

RAM-DISK Software included **FREE**.

SPECIAL - FREE software packages included with memory purchase.

STAR NX-1000 PRINTERS - 144 cps draft, 35 cps NLQ-\$189.95 plus shipping.

MODEMS 300/1200 BAUD HAYES COMPATIBLE - \$135.95 plus shipping. Cables are available.

IBM CARTRIDGE BASIC - \$79.95 plus \$4.50 shipping. (LIMITED SUPPLY)

★ **NEW** ★ **PARALLEL PRINTER PORT** - \$79.95 plus \$3.50 shipping.

KEYBOARD ADAPTER with keystroke buffer. \$45.95 plus \$3.50 shipping.

SIAMESE SLOTS - TWO cartridges in one slot. \$24.95 plus \$3.50 shipping.

QUICKSILVER CARTRIDGE - \$29.95 plus \$3.50 shipping.

CLOCK/CALENDAR CARTRIDGE - \$38.95 plus \$3.50 shipping.

PCjr JOYSTICKS - \$27.95 or 2 for \$54.00, plus \$4.00 shipping.

V20 CHIPS w/INSTRUCTIONS - Just \$16.00 plus \$3.00 shipping.

KRAFT MOUSE - Optical 3 button mouse. \$59.95 plus \$4.50 shipping.

MOTHERBOARD MODIFICATION - Remove soldered in 8088 and replace with socket. \$29.95 plus \$6.00 shipping.

■ MUCH SOFTWARE AVAILABLE ■

*Many specials each month, plus
much more hardware and software.*

Call or write for your **FREE**
1989 CATALOG.

How PCjr Memory Works: Part 1

By John King

The memory is one of the most fascinating parts of the modern computer. Everything the CPU (central processing unit, 8088 chip) is instructed to do must come from somewhere in memory. When a program, which is just a series of instructions for the CPU, is loaded from the disk drive, the information is transferred to the memory chips. When characters or graphics are sent to the monitor, the CPU is following instructions and sending data from memory.

In a series of articles, I plan to discuss how memory is used in the PCjr and explain how you can look into memory with a few, easily obtained utility programs.

In this first article, we need to cover some basic terminology and see how information is stored in memory. Then, we can list what is in memory when you first boot up your computer. Next month, I'll cover briefly the function of these items. Then, we'll compare "memory management" programs which are needed when extra memory is added to the basic 128K PCjr.

To start, a digital computer (which is what the PCjr is) actually stores only a series of high and low voltages in memory. The high voltage results when a switch is turned ON, and the low voltage when the switch is OFF. Early computers used mechanical switches, relays. Today's computers use transistor switches. The memory chips in your PCjr contain thousands of these switches with clever circuitry which allows them to be set on or off in any desired combination.

The high and low voltages are used to represent numbers. Since the switches have two states, on and off, they can be used for binary counting. To count in binary, an ON switch is represented by a one, and an OFF switch by a zero.

zero	one	two	three	four	five
0000	0001	0010	0011	0100	0101

One switch is called a "bit", eight are called a "byte", and 16 bits are a "word". A word is also two bytes. A kilobyte, the ubiquitous K, is 1024 bytes.

You only need to know how to count to 15 in binary; but if you try it on your fingers, you'll find you can count to 31 on one hand. This is why computers use binary: it's simple and efficient. All the instructions and data the CPU needs to run your program can be coded into binary numbers for storage in memory.

So, how does the computer store all these bits, bytes and words? Each PCjr memory chip can store 64K (65,536) or 256K (262,144) bits. The design of the PCjr requires eight chips for each bank of memory. To understand the design, imagine eight 65,536 story buildings side by side, each with one room per floor. A bit is stored in a room by turning the

light on or off. An eight bit number is stored by turning the lights on or off on the same floor of each building. For example, to store zero on the fourth floor, you would turn the lights off in all eight fourth floor rooms.

The PCjr is a 16 bit machine which means the CPU handles numbers 16 bits at a time in its registers. How are 16 bits stored using only the eight memory chips in each bank of memory? Easy, we use two floors. The first eight bits are stored on the floor above the second eight. Since 8 bits are a byte, there is a high byte and a low byte for this 16-bit word. Figure 1. shows how the 16-bit number 1111111100000000 would look stored in memory.

Figure 1. Physical memory diagram.

	Memory Chip								Number Absolute Address
	1	2	3	4	5	6	7	8	
^									
									00003
									00002
	1	1	1	1	1	1	1	1	00001
	0	0	0	0	0	0	0	0	00000

Every byte in memory has an address and can be retrieved by reading the data at that address. The "absolute address" is just a count of the bytes starting with zero at the beginning of memory. It corresponds to the floor number in the mental image of eight buildings. The eight bits, or byte, on any floor can be changed without changing any other bytes.

Continuing our image of the eight buildings, additional memory is like eight more buildings built on top of the first group. The floor numbers, or addresses, of the buildings on the new level continue from where the ones below end. How high can we go? Well, the 8088 CPU can address a total of 1024K bytes, one megabyte, of memory. That's eight 64K-story buildings on each level stacked 16 levels high.

Some of this memory can be changed as needed by the user and is called Random Access Memory, RAM. This is what the 128K refers to in the usual PCjr. This memory starts with address 00000, and goes up to 128x1024 = 131,072 bytes. Expansion memory starts at the end of this first 128K. Up to 768K of RAM can be installed.

A Second Type of Memory

Another type of memory cannot be altered by the user. This is called Read Only Memory, ROM. Instead of

**Table 1. Contents of PCjr Memory
Before Memory Management**

Memory Contents	Starting Address Bytes	(Hex)
ROM BIOS Image (data area)	0K	00000
IBMBIO.COM	1K	00500
IBMDOS.COM	5K	01500
CONFIG.SYS Files	20K	05000
BUFFERS		
DEVICE DRIVERS		
COMMAND.COM (resident portion)	21K	05400
Program Area	24K	06000
Your program runs here.		
COMMAND.COM (transient portion)	88K	18900
PCjr Video (128K memory unit)	112K	1C000
Expansion Memory (128-512K added)	128K	20000
Reserved (used by EGA video)	640K	A0000
Video on other IBM PCs		
Monochrome	704K	B0000
Color	736K	B8000
Special Purpose ROM		
Impulse Board ROM	768K	C0000
Hard Disk ROM	800K	C8000
Cartridge ROM (games/programs)	832K	D0000
Cartridge ROM (games/programs)	896K	E0000
PCjr Basic	928K	E8000
General ROM		
PCjr ROM BIOS	960K	F0000
ROM Diagnostics	968K	F2000
Basic ROM	984K	F6000
ROM BIOS	1016K	FE000
Top of Memory	1024K	FFFFF

transistor switches which can be turned on and off, think of wires permanently connected or cut. ROM is used for the ROM BIOS, a program which is permanently in memory to get the computer up and running. This is located at the top of memory, ending at one megabyte, or 1024x1024 = 1,048,576 bytes.

When the PCjr is turned on, the ROM BIOS (Basic Input Output System) takes over and copies part of itself into the bottom of RAM. Then it checks for a disk in the disk drive. If it finds a system disk (one with the hidden files IBMBIO.COM and IBMDOS.COM), it transfers control to the disk to continue loading programs. Table 1. lists what is at the various memory addresses after an uncomplicated boot.

The starting address for each of the items normally in memory is shown both in kilobytes and in hexadecimal notation. If you are not already familiar with Hex notation, ignore it for now. I'll explain it in a later article.

Next month, we'll discuss these items and examine memory management software. In later months, I plan to cover hexadecimal and segmented addresses so that you can look into memory with DEBUG.COM which is on your Supplemental DOS disk.

If you want to read more, excellent references are Peter Norton's books, Exploring the IBM PCjr Home Computer and Programming Guide to the IBM PC.

(The above article was originally published in the San Francisco PCjr User Group Newsletter. John King is President of the Group and can be reached at (415) 472- 7035.)

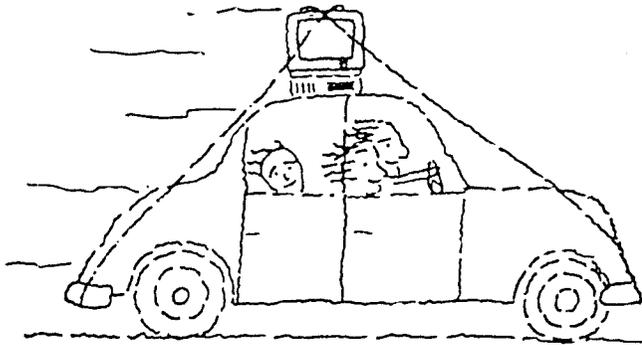
Hard Disk Users Beware

Beware of "initial" programs and "install" batch files because many automatically create or append to your CONFIG.SYS file and/or AUTOEXEC.BAT file. In some cases, the authors are so inconsiderate that a new AUTOEXEC.BAT or CONFIG.SYS file is created without looking to see if one already exists - which wipes out that one on the disk.

Before you begin installing new software on a hard disk, it is best to either back up the above two files or rename them so they can't get wiped out. Then, after the installation, you can use an editor or word processor to merge the files and adjust for any differences between your original files and those created by the installation software.

STOP! - Go back to page 9 and get your \$5 software discount!

Moving?



Please send your new address to us at least one month before you move. The Post Office will not forward your newsletters.

PCjr SPECIALS

IBM PCjr internal Modem with Software	\$ 29
PCjr Traveller Kit - Carrying case & TV Adaptor	\$ 39
New IBM PCjr Computers	\$350
MEMORY & DISK DRIVE UPGRADES	
512k jrHOTSHOT Internal Memory Expansion	Call
512k jrHOTSHOT with Clock & 2nd Floppy Disk Drive	Call
512k jrHOTSHOT with Clock & 2nd Drive Control; without 2nd Floppy Drive	Call
2nd Disk Drive Add-On with Disk Drive (no memory)	\$198
2nd Disk Drive Add-On Semi-Kit (you supply drive)	\$ 45
2nd Disk Drive with Case - for Semi-Kit	\$155
RACORE DRIVE II - with DMA and 512K Memory	\$509
20 Megabyte Hard Drive (complete system add on)	\$700
FREE: RAM Disk and Utilities with Memory Upgrades	
ROM Cartridge Clock	\$ 43
ACCESSORIES	
IBM PCjr JOYSTICK (hard to find)	\$ 29
Keytronic Numeric Keypad (originally over \$100)	\$ 39
Adapter Cable for Serial Devices	\$ 15
IBM Power Attachment	\$ 55
Parallel Printer Port	\$79-with clock \$ 85
IBM PCjr Keyboard Cord	\$ 15
I Love My PCjr - Bumper Sticker \$2 (No Shipping Charge)	
SOFTWARE/BOOKS/PRINTERS/REPAIR/USED EQUIPMENT	
No Credit Cards - \$5 Minimum Shipping - Add \$2.75 for COD	
Many More PCjr Products Available - Write/Call for List	

COMPUTER RESET

P.O. BOX 461782, Garland, Texas, 75046-1782
Call Voice Line (214)276-8072
Open BBS (214) 272-7920 - 300, 1200, & 2400, 8-1-N

Fascinating Computers

(Continued from page 8)

poweringly nice, but it is when the instant gratification is dependably predictable that computers begin to be addictive.

It is comforting because it is predictable. At this level of my computerhood, I can insert something into my AUTOEXEC.BAT and know that if I did it right what I inserted will produce a predictable result.

So, instant gratification and predictability are two of the factors with which the computer has me hypnotized.

The elegance of solutions

I know I must be simple-minded, but after almost fifty years on a typewriter, I was dazzled and remain dazzled by how the little letters can be juggled on a computer. And it is always with such elegance. Anyone who writes knows what I mean. You arrogantly insert an adjective and watch the little letters jump ahead of it in perfect order, never losing a space or comma--that's elegance.

Finally, there is one last fascination, nay mesmerization with this thing called computer. I don't know if this is what fascinates you, but it is clearly one of the most enthralling things for me. Flying had some of that and so did Spanish, but nothing like the opportunities to learn that a computer user is provided.

Can you imagine ever running out of something to learn or try with a computer?

So what is the appeal of the computer for you? Are you captivated by the thrill of *instant gratification*? Is it the *predictability* in an otherwise unpredictable world that fascinates you? Is it the *elegance of solutions* that charms you? Or is it the fact that you will *never run out of things to learn*?

Flight Simulator Correction

In "Navigating With Flight Simulator" on page 9 in the April issue, a sentence was omitted. The article should have read: That means that your aircraft is sitting on the 094 TO or the 274 FROM radial out of Bridgeport. Now reset to 060 degrees so your VOR will line up with Bridgeport after takeoff. (The last sentence was missing from the article. We apologize for any confusion this may have caused PCjr pilots.)

Are you reading a friend's copy of jr Newsletter?
Make it easy on yourself - send \$19 for a year's subscription to jr Newsletter, Box 163, Southbury, CT 06488.

Keyboard for Young Learners

By Jack Anderson

One of the most difficult obstacles that must be overcome before young children can effectively use the PCjr as a learning tool is the keyboard. No, we are not addressing the alleged poor quality of the original nor the merits of it's replacement. The difficulty is that the keys are laid out to be used by a touch typist! Children, on the other hand, are taught the ABC's by us adults in straight alphabetical order. "B comes right after A, that's what Mom told me and that is how the song goes." So, no wonder my young son Keith, who can recite the ABC's, was so confused the first time I tried to help him play an early learning game on the family PCjr.

That was before Sunburst Communications joined forces with Koala Technologies and Jim Henson, the Muppet guy. They have produced a keyboard for young learners. Want to make the computer do something? Press the big green "GO" key. Had enough of that action? Press the stop sign shaped "stop" key. Cursor control, up, down, left and right is achieved by pressing one of the four points on the large compass. On Miss Piggy's "HELP" key, she is tied to a railroad track and is yelling "HELP!". This key brings up Uncle Kermit, who demonstrates the use of this keyboard with out saying a word!

A ruler, oversize naturally, lays across the top of the letter key area and displays the numbers from zero to nine. This ruler also shows the traditional one-eighth inch increments that most of us learned about on our first, wooden, grade school ruler.

I have always liked my PCjr's ability to display sixteen colors. So, I was happy to see that color selections could be changed by pressing one of the keys disguised as a color cup in a child's water color paint set. Selections are; black, white, red, orange, yellow, green, blue or violet.

There are some keys that older children would use too. The punctuation marks of "!", "?", ",", and "." are included with the math symbols for addition, subtraction, multiplication, division and equals. The "OOPS!" key will move you back one step if you change your mind. And then, there is my youngest son's personal favorite the "ERASER" key. By pressing it Eric can clear the screen and start from scratch. The "ZAP" key causes the program to restart.

The Muppet Learning Keys comes with a very interesting three part program for learning the letters that make up our alphabet. Each program is a "stage" on which to perform a different learning activity. First is the DISCOVERY STAGE. Any key the young learner presses in this program will cause something with a name that begins with that letter to appear on stage with motion and sound. Pressing the "A" causes a alligator in straw hat to dance a jig; press the

number "4" and three others join him. An easel board at the side of the stage shows the letter (upper or lower case) or number that has been pressed. The associations established during this first stage are maintained through out the other programs. This is important because on the LETTERS STAGE the alligator is presented and the player must press the correct key. The NUMBERS STAGE works much the same way as the LETTERS STAGE. You'll see a screen full of archways. Pictures appear one at a time until a number from one to nine is represented. Your child is challenged to count the pictures and press that number on the ruler. As always, the correct response causes animated action and music. Incorrect actions cause the PCjr to make a little noise, politely requesting another try.

Each stage will play just as shipped. You can also customize the activities to fit your own child's needs by using the Parent Control screen. Some Parent Control options available are:

- Upper or lower case letters
- Sequential or random order of presentation
- Letter selection grouping
- Number selection grouping

The Muppet Learning Keys keyboard is not compatible with any IBM computer except the IBM PCjr. It connects to the number one joystick port. One item not covered in the documentation is that this keyboard wants to be the only peripheral connected to a joystick port. Your regular keyboard can stay plugged in and is still usable, but you must disconnect any other item from the joystick ports. Software installation is a fairly straight forward matter. There is a "driver" that must be used so that Junior will recognize input from the keyboard. It is placed into your CONFIG.SYS file either automatically by the INSTALL program or manually.

Fortunately, Sunburst worked in a conversion file that will allow the Muppet Keyboard to be used with just about any program. You simply select this option from the main menu, or invoke the file from your AUTOEXEC.BAT file. My children have successfully played "Mixed up Mother Goose" and many other early learning programs with this great keyboard.

I became interested in buying a Muppet Learning Keys keyboard after seeing one at my son's school. The only source I know about at the present time is Sunburst Technology in Pleasantville, NY. An order can be placed at 1-800-431-1934. This is the one purchase that will make Junior a real learning machine for the young children your family.

IBM Announcement

(Continued from page 1)

8654225) for \$342, less \$112 for your old system board. The number to call if you need a replacement part is (303) 924-4100. You must have the part number when you call. Part numbers are listed in Section 6 of the PCjr Hardware Maintenance and Service manual. If you're not a do-it-yourselfer or your local computer repair shop won't work on your PCjr, you can contact one of the advertisers in this newsletter, many of whom specialize in repairing PCjrs.

Although IBM has continued to provide PCjr parts, as of February 24, it stopped providing live support on its PCjr Hotline. If you call it now, you will get a recorded announcement telling you to call an 800 number to find your nearest authorized IBM dealer. The recording also gives the number for the Parts Order Center and lists a few PCjr support companies, including several of the ones who advertise in this newsletter. As for help with software, the announcement says "software support should be obtained from the manufacturer." They mean the publisher of the software. The reason IBM gives for discontinuing the PCjr Hotline is that it was established to provide setup assistance to those who purchased PCjrs from IBM authorized dealers. With that limited purpose in mind, it's a wonder IBM continued the hotline as long as they did.

Questions and Answers

(Continued from page 4)

there is no difference in the way DOS 2.1 and DOS 3.2 read them. If software is supplied for a particular clock or board/clock combination, then the software to initialize and set the clock must be used and the software to read or set the clock must be in both versions of DOS. Remember, different DOS versions use memory and addresses differently. Normally, the DOS command TIME reads the clock, whether it is battery powered or not and DATE does the same. Is there some special file supplied by Impulse which is in your DOS 2.1 and which you haven't put in your DOS 3.2? Look in the AUTOEXEC.BAT file of DOS 2.1.

Q. I have been thinking of upgrading to an AT 286 system and wonder if my jr's monitor can be used as it will save me some expense. I have talked to three different companies about this possibility and have three different answers. One says "No problem," two says "If you purchase a device for about \$25.00 it will work," and the third says "It won't work and there is no fix." Can you please give me a straight answer? H. M. Winter, Canaan NH

A. A straight answer? Sure...all three are right. Details

make all the difference. The jr's monitor is a standard CGA RGBI monitor. The cable is made to plug into the jr only. The \$25.00 "device" (a little high?) referred to must be the adapter cable (available by mail-order from some of our advertisers) which allows the monitor to plug into the rest of the IBM family of computers except the PS/2 line. That takes care of companies one and two above...

Company three is probably thinking that the AT will be (as most are) used with a Monochrome "CGA", a VGA, EGA or Hercules Enhanced Graphics card, in which case, the jr monitor "won't work and there is no fix." The jr monitor is a CGA (Color Graphics Adapter) RGBI (Red Green Blue Intensity) standard monitor. VGA cards require Analogue, not Intensity input, and though they may sound like the same thing, they aren't. Also, the vertical sweep of the VGA, EGA and Hercules cards puts more horizontal lines on the tube than the CGA cards, and that is what the jr monitor doesn't handle well. Monochrome-only "CGA" cards do the same thing; too many lines. We hope that helps.

PCjr Owners

Everything you'll ever need!

- o Memory sidecars which increase memory to 736K
- o Second & third disk drives which snap on top
- o Disk drives which read & write 1.2 MB AT diskettes
- o 3 1/2" disk drives which store up to 813K
- o 20 MB hard disk drives which are DOS compatible
- o ROM's which make your display easier to read
- o Upgrades which expand 128K sidecars to 512K
- o Speed up & pseudo DMA cartridges
- o Clock modules, printer ports & speech attachments
- o Joysticks, optical mice & light pens
- o Adaptors to use your PCjr monitor with a PC
- o Switching boxes for monitors and/or serial devices
- o Full size keyboards & numeric keypads
- o Keyboard, modem, printer & monitor cables
- o Basic manuals & other PCjr books
- o Game cartridges & other PCjr software

PLUS MUCH, MUCH MORE!!

Write to us or call our toll free number to receive a FREE catalog of PCjr add-on products.

PC ENTERPRISES

"The jrProducts Group"

P.O.Box 292, Belmar, NJ 07719

Order Line
(800) 922-PCJR

Customer Service
(201) 280-0025

Some Fascinating Facts About jr's Keyboard

Some people, including the editor of this newsletter, like the feel of the jr keyboard much better than that of most other computer keyboards. While some people complain that you have to pound the keys when word processing, those of us who grew up with mechanical typewriters developed a pounding approach to transferring words from brain to paper. So the resistance that jr's keyboard puts up to the initial touch of a key is considered to be GOOD by some of us.

In reading through a book on the jr, called "The New jr: A Guide to IBM's PCjr," by Winn L. Rosch, some fascinating facts about jr's keyboard can be found. For instance, Mr. Rosch points out that jr's keyboard "was the first major product to use AID's (Advanced Input Devices) ErgoKey technology, a new keyboard mechanism that combines very few parts (keeping its cost down) with long life and most important, near-perfect tactile feedback."

The Hidden Construction

He goes on to explain that there is a resilient rubber boot under each key which is designed to offer initial resistance to being collapsed when your finger first pushes the key, but which becomes more easy to press as it approaches the bottom of its travel. The high initial resistance keeps you from accidentally pressing a key with light pressure while the lower part of the stroke almost "pulls" your finger down once you have committed to that keystroke.

Inside the rubber boots, which are molded together into a matrix under the keys, there are carbon buttons that connect two electrical circuits on a printed circuit board when the keys are depressed. Most other keyboards operate by detecting changes in capacitance or inductance so they are always drawing electricity. Not so with the jr keyboard, which only draws power when keys are used, thus enabling it to operate more efficiently on battery power.

The author also pointed out that unlike the PC keyboard, which is considered a non-serviceable item by most repair persons, jr's keyboard can be repaired. But, due to its design, which renders it almost completely unaffected by moisture (unlike the PC's again) jr's keyboard is much more durable than most others.

Tip for Modem Users

The call-waiting feature on some phone systems can interfere with downloading of BBS files. Fortunately, there is a toggle feature that works on most systems.

Dialing *70 on 12 button phones, or 1170 on 10 button phones should turn off the call-waiting feature. Repeat the procedure when you want to turn call-waiting back on.

Family Loves Its PCjrs

(Continued from page 7)

too! Mailing labels for local info are done here also.

My middle daughter, Ann, has completed her WoHeLo in Camp Fire projects and results in a 3" thick notebook covering several years of effort.

I keep my financial statement on an Electric Desk spreadsheet and find it is easy to update and keep current. My wife keeps income and transaction records on two trusts involving family members and stores tax info too. While we have access to a P/S 2 model 50, we find no shortcomings on the Juniors. We bought Ann a model 25 to take to college and boy is that thing slow.

Things like **FormTools**, **Generic Cad**, a few games and some public domain software also creep into the picture occasionally. The graphics are great and the color is very nice to have. Recently a friend watched me put out a new product flyer and went out and bought the program. Such a shame--it wouldn't run on his PC clone in monochrome.

I guess this poor little peanut still has some stuff left after all. To say we like and use our juniors would probably be an understatement!

Sail the Dangerous Bermuda Triangle And Get Teed Off -- All On One Disk

A challenging golf game combined with a chance to sail the Bermuda Triangle are both offered on Disk #47 in the Software Store. "Teed Off" offers golfers three courses to choose from (Novice, Professional and Sadistic).

Club selection, direction and swing are all controlled by the player, who also has to watch out for water, trees, hills on the green and other hazards. The swing is controlled by the length of the backswing and the point of impact, which determines whether you have hooked, sliced or hit the ball straight. Ranges of the clubs can be modified by the player. The game is colorful and well designed by author Keven Hendricks, who also supplies some hints on how to master the techniques involved in keeping your score respectable.

Even non-sailors can be hooked by Sailing the Bermuda Triangle, a game that tests your ability to maneuver through storms, gravitational vortexes, and alien crystals while trying to pick up stranded swimmers along the course. Your sailboat is equipped with radar, rudder, sails which you must trim or extend, and an engine for times when there is a lull in the prevailing South wind. It takes considerable skill to sail all three legs of the triangle, picking up the swimmers and rafters along the way, without being overwhelmed by the mysterious forces that await you in the Bermuda Triangle.

Both Teed-Off and Sailing the Bermuda Triangle are on disk #47 in the jr Newsletter Software Store, page 23.

Using Some 'Advanced' DOS COMMANDS

by David Dapsos

Pipes, filters, and I/O redirection are very powerful features of DOS. Pipes let you string commands together, with the output of one becoming the input of the next. Filters accept data from the input, manipulate or modify the data, and write the revised information to the output device. I/O redirection lets you modify the standard data source and destination devices. You can use these features together to execute multiple sequential functions with little effort.

The Pipe Command

The "Pipe" command is a vertical bar (|). It allows you to give the system more than one command at a time. You place the pipe symbol between commands or program names within a string of commands, and the output of one automatically becomes the input to the next.

Filters

DOS has three standard filters: Find, More, and Sort. They are used to manipulate ASCII text files.

"Find" is a filter that searches a file for a given text string, and displays or counts the lines that contain the specific string.

The syntax is: `FIND[/c][/i][/n][/v] "string" [drive][path]`

The switches are:

`/c` : Prints only the number of lines that contain the string.

`/i` : Ignores letter case in the search.

`/n` : Precedes each line by its relative line number in the file.

`/v` : Displays all lines not containing the specific string.

The "Sort" filter reads an input file, sorts the data, and writes the sorted data to an output device.

The syntax of the sort command is: `SORT[/r][/+n]`

The switches are:

`/r`: reverses the sort (z to a)

`/+n`: sorts the file with respect to the character in column n.

The sort command does not distinguish between upper and lower case letters.

The "More" filter displays a file, one screen at a time. This command is useful for viewing long files.

Redirecting Input or Output

The standard DOS input defaults to the keyboard, and

the standard output defaults to the screen. The redirect commands allow you to change the input and output devices. For example, you can input data from a disk file, or a serial port, and output to a disk file, a serial port, or an LPT port. The greater-than symbol (>) redirects a program output, and a less-than symbol (<) redirects a program output. In addition, the symbol '>>' adds a program's output to the end of a new or existing file. Programs that work with the pipe command, will also work well with the redirection symbols.

Examples:

Send the directory to LPT1: `Dir > lpt1`

Send the directory to an output file: `Dir > out.txt`

Append the directory to an output file: `Dir >> out.txt`

Send file to the screen a page at a time `More <filename`

You can also redirect the output to "nul." This will send the output to oblivion. This is useful in suppressing screen messages, and introducing time delays in batch files.

For example, you can copy multiple files, and suppress the "file copied" message that appears after each one by redirecting the screen message to nul.

`COPY A:*.DOC C: >NUL`

You can introduce a time delay in a batch file by typing an ASCII text file to nul. The time delay will be dependent upon the length of the file.

`TYPE FILENAME.DOC >NUL`

Putting It All Together

To see your directory one screen at a time, you can pipe your directory into the "MORE" filter. `type DIR|MORE.`

If you want to print a sorted list to the printer, you can pipe a file to the sort filter, and then redirect the output to the printer.

`TYPE FILENAME|SORT>LPT1`

Another method that will yield the same results is to redirect the file to the sort filter, then redirect the sorted output to the printer. Note that a file must be typed when it is being piped, but not when it is being redirected as an input.

`SORT <FILENAME>LPT1`

To print a sorted directory to LPT1, you can pipe the directory to the sort filter, and then redirect the output to lpt1.

`DIR|SORT>LPT1`

The directory cannot be redirected as an input to the sort filter, directly. You must perform an intermediate step of sending the directory to a file. Then you can redirect that file to a filter.

`DIR >DIR.TXT`

`SORT <DIR.TXT>LPT1`

You can list all of the files that were created or last edited on a certain day, by piping the directory to the find filter.

`DIR C: | FIND "4-11-88"`

This final example combines everything that we have learned. It uses multiple pipes, multiple filters, and output redirection. An input file is piped into the FIND filter. This output is piped into the SORT filter. The sorted output is redirected to lpt1.

`TYPE FILENAME | FIND "STRING" | SORT>LPT1`

As you can see from these examples, pipes, filters, and redirection work very well together, and are extremely powerful. Command input can come from the previous filter, standard input, or another input device via redirection. Output can go to the next filter, standard output or to a redirected output device.

(The above article was originally published in the Boston Computer Society's PC Report.)

PCjrs Run Faster With More Memory

You will find that a 128K PCjr will run faster after its memory has been expanded. The speed increase is quite noticeable, particularly if you add enough memory to allow software to run in the "higher memory" above the lower 128K. This is easily done by filling the lower 128K with a small ramdisk, thus forcing software to operate in the expanded memory.

Additional memory also allows you to use a ramdisk, which is not really a disk, but rather a portion of the computer's memory set aside to act like a disk. When you do this, disk access is actually faster than it would be if you owned a hard disk. This is many times faster than using a standard "physical" disk drive.

You can also speed up your stock PCjr just by replacing its 8088 chip with a V20 chip, which costs about \$19 and plugs right into the 8088 chip's socket. The fastest results seem to come from both increasing your memory and adding the V20 chip. Test results we've seen show that this combination will make the PCjr considerably FASTER than a PC, and in some cases faster than an AT or XT.

Wondering how to run new software on your PCjr?

Get the latest version of the PCjr COMPATIBILITY DISK -- Disk #60, page 23. It has compatibility info on more than 800 titles!

Avoid Using Menu System In Baker's Dozen Utilities

Baker's Dozen, Disk #73 in the Software Store, can be operated with or without the menu system that comes on the disk. Some PCjr users have experienced a problem with the menu, so we suggest you simply not use it.

The disk comes with 13 very powerful and useful utilities, each of which is really designed to function on its own without the menu system. The instructions in the file called READ.ME mention this, saying the menu system was provided simply as a convenience, but that it is in no way necessary. For those who have already purchased Baker's Dozen, we suggest printing a copy of the instructions by typing `COPY READ.ME PRN`. Then, to use any of the utilities, simply type its name (without the .EXE or .COM extension).

Baker's Dozen is well worth having. It includes the following useful features:

- Powerful one page spreadsheet, complete with help screens.
- Programmable date calendar that can be memory resident.
- Extensive disk analyzer and repair utility which allows you to restore lost files, change file or directory date or time, patch files, modify the FAT, and more.
- File comparison for ASCII files which produces detailed output on similarities and differences.
- Keyboard information
- press key to get hex and decimal table of ASCII characters, scancodes.
- Find any file(s) on disk or find in which file(s) a given word (or string) occurs.
- Print files at 90 degrees (sideways). Great for spreadsheets.
- Redirect information sent to printer to a disk file of your choice.
- Remove subdirectory, including all files and children directories.
- Set screen and border colors.
- Take "snapshot" of any 80 column screen (not graphics) in any program.
- Switch COM ports or printer (LPT) ports.

How to Submit Classified Ads:

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

* * * PCjr CLASSIFIEDS * * *

IBM PCjr - 384K, Racore Drive II Plus w/DMA, PCjr Color Monitor, mouse, Datadesk AT-style keyboard, V-20 CPU, Epson R-80/FT printer w/NLQ board, 2 joysticks, DOS 2.1, Cartridge BASIC, IBM Assistant Series, games and much more, all w/docs. Asking \$950 complete. Call George at (414) 442-2128 (5)

640K PCjr - PCjr Color Display, 2 joysticks, Parallel Printer Attachment And Cables. Cartridge Basic, PC Enterprises Video Cartridge, Various Game Cartridges & Programs, DOS 2.1 & All Documentation. Asking \$500. Call Ken: (201) 334-3044 (5)

WANTED - IBM sidecars: 128K memory, parallel printer adapter, and power pak. Also need IBM joystick and mouse. I'm interested in some programs for my grandchildren. Tom Candy, 33 S. Central Ave. Kearney, NE 68847 or call M-F daytime (308) 234-8364, after 6:00 pm & weekends (308) 234-6329. (4)

WANTED TO BUY - jr Newsletters from June 1986 thru October 1988. Keytronics KB 5151jr or KB5151jr Keyboard. PCID & Quicksilver cartridges. Send COD or will send check upon receipt. Confirm prices with Les Helmus, 203 Sandringham Road, Cherry Hill, NJ 08003. (4)

GOLF SOFTWARE - for the PCjr. Mark's Course. 18 holes of golf features 16 color graphics, music, animation. Creates a new course with sand, water and rough every time you play. \$15. Also IBM compact serial thermal printer. \$50. Mark S. Foster, 908 Panna Lane, Cleveland OH 44109 (216) 398-0498. (4)

IBM PCjr SYSTEM - Excellent condition. Includes IBM Color Display, Improved PCjr keyboard with keyboard cable, 128K memory, 360K floppy disk drive, DOS version 2.1. IBM Filing Assistant Software, PCjr Guide to Operations and Hands-On Basic manuals. Asking \$225 or best offer. Russell Stark, 3100 Cambridgeshire Drive, Carrollton, TX 75007 (214) 492-2721 after 5:30pm cst. (4)

WANTED - Additional memory for my PCjr. Would prefer Jr. Hotshot, but others will be considered. Ken Elkins (404) 327-1444 or (404) 571-8513

IBM PCjr - 128K, PCjr color monitor, one drive, V-20 processor, all documentation, manuals and software that originally came with it including IBM DOS 2.10 and IBM Writing Assistant. All excellent+. \$375 + UPS. All of the foregoing plus Racore Drive II Plus with DMA and 512K added mem-

ory, with complete original documentation, also excellent+, \$725 + UPS. Call Bill at (703) 451-1751 after 8:30pm. (4)

IBM PCjr - 640K, 2 drives, parallel printer port, cartridges that allow true "IBM PC" compatibility and operation, cartridge expansion slots and Microsoft mouse - \$550. Also, Brother M1009 dot matrix printer and parallel cable - \$90. All original documentation available and jr Newsletters since May 1986. Call Rick at (214) 907-6716 days and (214) 985-9772 eves and weekends. (4)

FOR SALE - jrVideo & Quicksilver cartridges. IBM Compact Printer. Internal 300 Baud Modem. Make me an offer. Software for sale: King's Quest I, Space Quest I, Wizardry I, plus many more! Write me for a complete list. Jim Carter, 585 W. Sierra. Apt 236, Fresno, CA 93704. (4)

BRAILLE PROGRAM - We are looking for a program to run our jr to act as a Brailer. Call (716) 586-9029 or (716) 381-3101, Karl or Susan. (4)

WANTED TO BUY - PCjr, also interested in buying accessories for PCjr. Jack Vinik (407) 276-2116. (4)

PCjr 128K - Disk Drive, 2 Compact Printers with \$50 worth of paper, Manuals, Games, Typing, Copywrite, and other software in original cartons, \$300.00, Shipping Pd Call Doug Keeler (209) 834-2722. (4)

PCjr JOYSTICK (2) - jr Parallel Printer Sidecar, jr Color Display Cable, BASIC & Clock cartridge. DOS 2.1, many more .. Larry Young (408) 262-8640. (4)

FOR SALE - 20 Meg SPC Hard Drive for the IBM PCjr. Includes driver software. Also, Microcom 300-1200 baud internal modem for the PCjr. Includes software and manuals. \$500.00 for both, OBO. (Will split up.) Dave Vollmer, (414) 921-5349 eves or (414) 929-5818 days. (4)

PCjr 2 DRIVES - 512 RAM, Color Monitor, PC style keyboard, joystick, 300 baud internal modem, serial adaptor, RS-232 switch box, original keyboard, Keytronic key pad, Cartridge Basic, DOS 2.1, IBM Technical Reference Manual, IBM Hardware & Service Manual, clock & parallel port, some software. Call Murphy Horner (303) 226-5467. (4)

*See page 19 for details on
how to submit classified ads*



jr Newsletter Software Store



This software is the best public domain and user-supported software for the PCjr we've been able to find. All the programs in this collection have been tested on our PCjrs and are highly recommended. Some of these programs are equal to or better than commercial programs costing hundreds of dollars. The programs in this collection are available for \$5.95 per disk.

*** NEW * 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)

PCjr COMPATIBILITY DISK v2.0. Lists over 800 software titles, along with info on how they run (or don't run) on PCjrs. Also tips on how to make software PCjr compatible. 128K. Updated Feb. 1989. (Disk #60)

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)

PCJR PATCHES V4.0. Patches to fix software that ordinarily won't run on PCjrs. V.4.0 adds patches for the 512K version of King's Quest IV, for using Cartridge BASIC with expanded memory, and for running Loderunner with a V-20 chip. Also patches for Flight Simulator V.3, Arctic Fox, Managing Your Money V.3, Autocad, King's Quest II (PC version), Turbo C, Quick BASIC V.3.0 and 4.0, Starflight, Advanced Flight Trainer, Double DOS, Bard's Tale (16 colors), Turbo BASIC, and BASICA. (Disk #56)

GALAXY V2.4 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. 256K. (Disk #69)

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

FILE EXPRESS (V4.22) Very easy to use database manager. Extensive menus and prompts to guide you. Excel-

lent choice for maintaining mailing lists, etc. Many powerful features. 256K (Disks #83 and #84)

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

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

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

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

EDUCATIONAL SOFTWARE

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

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

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

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

(Continued on page 22)

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

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

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

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

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

GAMES FOR EARLY LEARNERS Young children like Teach Tot's alphabet and counting games. Other activities teach spelling and telling time. For Preschool through grade 3. Cartridge BASIC, 128K. (Disk #63)

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

GAMES

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

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

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

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

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

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

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

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

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

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

PC-CHESS. Two great chess games on one disk! A full-color, many featured chess program with four levels of play, allows such things as switching sides, setting up the

board yourself, validity checking, en passant, etc. The other works on color or monochrome, has window showing options it considers before moving, adjustable difficulty level -- but a powerful opponent at any level. 128K ok for one, 256K for other. (Disk #44)

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

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

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

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

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

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

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

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

**See April Issue
for Additional
Software Titles.**

jr Software Order Form

1	2a	2b	3	4	5	6	7	8	9	10	12	14	15
16	17	18	19	20	21	22	23	24	25	26	27	28	29
30	31	32	33	33a	34	35	36	37	38	39	40	41	42
43	44	45	46	47	48	49	50	51	52	53	54	55	56
57	57a	58	59	60	61	62	63	64	65	66	67	68	69
70	71	72	73	74	75	76	77	78	79	80	81	82	83
84	85	86	87	88	89	90	91	92	93	94	95	96	97

_____ disks @5.95 each = \$ _____

Shipping & Handling = \$ 3.00

Add 7.5% sales tax in CT \$ _____

TOTAL \$ _____

Name _____

Address _____

City _____ State _____ Zip _____

Prices are U.S. funds.

Make check Payable to jr Newsletter.

Send to:
jr Newsletter
Box 163
Southbury, CT 06488

**SUBSCRIBE NOW
to jr Newsletter**

1 yr. (12 issues) only \$19
2 yrs. (24 issues) only \$34

Name _____

Address _____

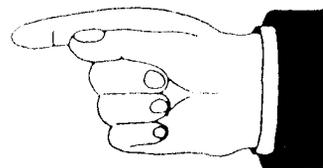
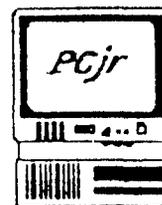
City _____

State _____ Zip _____

Satisfaction guaranteed or your money back for all un-
mailed issues. All prices U.S. funds. Add \$8/yr. for delivery
to Canada.

Send order with payment to:

jr Newsletter
Box 163
Southbury, CT 06488



jr Newsletter
P.O. Box 163
Southbury, CT 06488

Bulk Rate
U.S. Postage
PAID
Permit No. 31
Southbury, CT 06488

Address Correction Requested