

# Jr Newsletter

March, 1989

## Jr Newsletter Launches Compatibility Campaign

PCjr users take heart!

Several major software publishers have expressed an interest in improving the PCjr compatibility of future software. And Jr Newsletter has started a campaign to try to convince software publishers that it's both in their interest and not too difficult to take PCjr users into account.

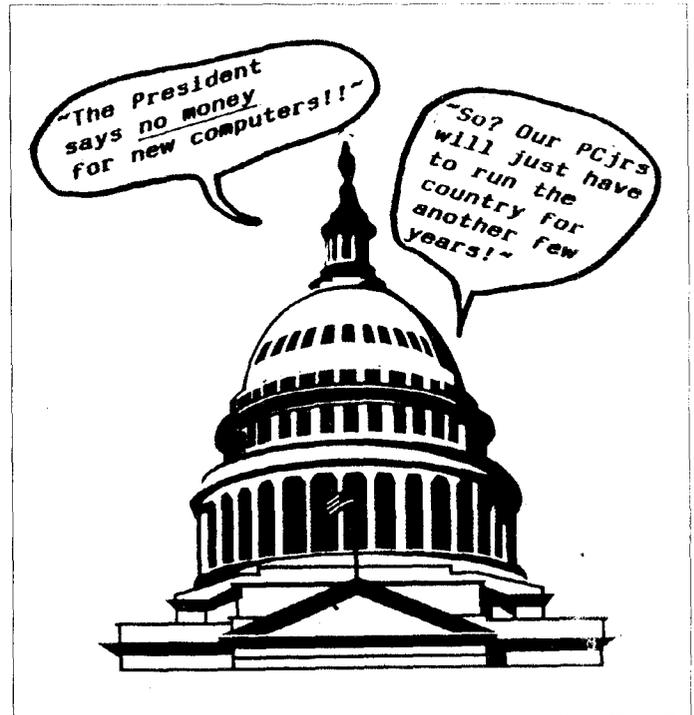
Our campaign consists of two parts:

1. Notify software publishers that there is a large, active group of PCjr users out here in "computerland." We may own orphaned computers, but they are very good computers and we intend to keep on using them!

2. Demonstrate to software publishers that it's not hard to include PCjr compatibility when new software is being written.

We already have some encouraging news from Sierra On-Line, makers of King's Quest, Leisure Suit Larry, etc., Microprose (F-16, Gunship, etc.), Epyx (Winter Games, California Games, etc.), and Accolade (Mean 18, Test Drive, etc.). We'll get to the details in a minute, but they have all expressed an interest in making PCjr users happy.

As for our second goal, we have asked several clever computer programmers to assemble a set of instructions for the writers of future software packages to show them how to include PCjr compatibility in their pro-



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PCjr Lives!

## PCjr Compatibility Disk Updated with New Info

Our PCjr Compatibility Disk (Disk #60) has just been updated with the latest information available on which software will and which will not run on PCjrs. The list has information on more than 800 titles now and it includes tips on how to run software that even the manufacturers think is incompatible with PCjrs.

There still is some software that won't run on PCjrs, but over 90% of the software that will run on PCs will run on PCjrs if you have enough memory. The updated PCjr Compatibility Disk has information from a variety of sources including a list prepared by IBM employees for their own PCjr use, data from the Metro PCjr Users Group, which has compiled its own compatibility disk, responses from Jr Newsletter readers, and our own software tests.

PCjr Compatibility Disk v.2.0 replaces the earlier version, which was compiled in February 1988. Although we have added new information periodically to it during the

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## Software Helps You Learn DOS

By Jim Patterson

The very nature of personal computing involves training, training and more training. Once a user has become familiar with the PC's hardware components, there is the matter of the software. For the IBM PC, a user's first exposure to software is in the form of DOS. And what a form DOS takes: A mysterious blinking cursor following an A> The plot deepens as we learn that some DOS commands are internal while others are external. Well, does this mean that certain DOS commands have slipped out of the PC's various orifices and are lurking among the peripherals? Of course not, I hope!

Seriously, DOS is a subject that remains puzzling to many microcomputer users even though it was introduced some six years ago. An abundance, nay an avalanche, of manuals, training guides, seminars, classes, monitor columns and consultants have not removed the shroud of mystery concerning DOS. To put matters to rest, Microsoft, the creators of DOS, have taken the task into their own corporate hands and released **Learning Dos**, in order to clear up once and for all the confusion surrounding the operating system standard.

The Learning DOS package consists of a 34-page handbook and four diskettes, including:

The DOS SAMPLER

Two Learning DOS tutorial diskettes, one for systems with hard disks and the other for floppy disk-based systems; and

A DOS Quick Reference.

### The DOS SAMPLER

The DOS SAMPLER sounded like an intriguing title so I decided to take a look at it first. After all, a new user might like to see some sample DOS commands to get a feel for what DOS is capable of doing. I entered DEMO to start SAMPLER and a menu appeared defaulting to a selection titled "Welcome to Microsoft". I accepted the default and immediately began receiving such screen output as "At Microsoft, we don't just write software. We run a business," and, "Microsoft - When you start with us, you can stay with us," and, "Microsoft was the first company to write software especially for Personal Computers," and, "Running our business has taught us a lot." Placing these silly slogans in a software review allows the reader to scan over them quickly; however, when they are displayed on the screen they seem to linger FOREVER. Fortunately, returning to the main menu is as simple as striking M.

SAMPLER also offers demonstrations of Microsoft business software, including: **Word**, as the name implies, a word processor; **Chart**, a business graphics program; **Multiplan**, a spreadsheet package; **Project**, designed for project scheduling and costing; **Access**, for communications; and **Windows**, an operating environment which allows you to work with multiple applications.

Hardware requirements are also given for each package.

Short and simple, SAMPLER is nothing more than an advertisement for Microsoft products; a commercial cleverly disguised as a pre-training disk. The user need do nothing more than press the space bar to keep the advertisements running. An insulting experience, to say the least. To make matters worse, this disk represents one-fourth the cost of the total package, or \$12.50 - and that is \$12.50 too much!

### Learning DOS Tutorial

After disposing of SAMPLER, I turned to the two lessons disks on DOS. First, I selected "Lessons for Systems without a Hard Disk." The program covers the basics such as backing up the DOS disk; formatting a floppy disk; running an application program; viewing files; designating drives; and naming, copying, deleting and backing up files. For a new user starting out with DOS, these are essential concepts. The material is presented in a structured, logical sequence. There is also a brief section on Settings and Hardware which presents the core concepts of

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# Questions and Answers

By Rene Waldron



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

**Q. I just received PCjr Colorpaint on a Cartridge. It works fine, but I am afraid it might get damaged. Could you tell me how to copy it to a diskette? Thank You. Sam Kalet (age 11) Milford MA**

A. This request has come up before, and we don't know of any all-purpose program to do what you would like. Please do not worry about damaging the cartridge, it is a much safer way to store the program than diskette. Here's our advice;

- 1) Don't drive over it with a truck or use it as a hammer.
- 2) Don't slide your feet on the rug until you can make sparks when you touch anything, especially the cartridge.
- 3) Don't take it in the bath with you, the soap might mess up some of the internal connections.
- 4) Don't store it in a place where it might be struck by lightning.
- 5) Don't put it in either a regular or microwave oven.

What we are saying is that ROM cartridges are really rugged devices, so enjoy Colorpaint just the way it is!

**Q. Why did they make the jr? Why did they discontinue it? How come IBM or any others do not make software or hardware for it? Where can I get DOS 2.11 or higher? (I have searched all my local stores.) Can you tell me how to display the time in DOS 2.1 without a ROM clock? B. Christmas Montclair NJ**

A. When the jr was introduced, a home version of the very successful PC was seen to be a potentially large market. It was designed to be DOS and BIOS compatible with the PC which was being used at work, and it surely was. The sound and enhanced graphics were included for the

purely home market and had nothing to do with the typical office applications of the time. In short, it was to be a relatively inexpensive combination machine.

In our opinion, it was probably discontinued for a number of reasons. The bad press given to the original chicklet keyboard and the invitation to third parties for second disk drives or hard drives and other add-ons were other factors. Unrealistic expectation of what the jr "should have been" by the fully hindsighted non-designers of the press was poured out almost daily. (Look at some of the press for the PS/2 and Microchannel today for an example.) By the time IBM generously gave new button keyboards to ALL purchasers and IBM and other add-ons began to appear, it was too late; the jr had a "bad name."

Lousy programmers began to write short-cuts into their software which did not adhere to the standard DOS, I/O and BIOS calls as specified in both the jr and PC technical references and the "incompatibility problem" arose.

Except for the most recent releases, IBM software DOES run on the jr! Perusing the advertisers in this newsletter should answer your question about the manufacture of hardware and software for the jr, including whatever DOS version you want. Remember stick to PC-DOS and not MS-DOS! Some of the DOS is already in ROM in the IBM family.

You can display the time, with or without a ROM clock, with the command TIME in any version of DOS. Just type in the word "time" then <Enter>. You could also have this in an AUTOEXEC.BAT file. Without a ROM clock you will then have the opportunity to enter the correct time. With a ROM clock, it should already be approximately correct. Just touch <Enter> for no correction in either case. The same exercise is used for the DATE command.

**Q. Can you tell me how to get my Koala Pad repaired? I wrote to the company in Santa Clara CA but the Post Office forwarding order has expired. My trouble is that the pad sometimes gives a false signal when I lift the stylus off. P. J. Metz Newton MA.**

A. Perhaps the pad does not need repairs! Remember, the pad works much like a joystick. It reads resistances as if always starting from one corner. Do you notice the direction of the false signal is always in the same direction? When there is no pressure on the surface it acts the

*(Continued on page 4.)*

# Questions & Answers

(Continued from page 4)

way a joystick would if it was parked or "spring returning" to the corner.

You only need to remember to press the button for whatever control you want to do BEFORE releasing the stylus. Our Koala Pad acted this way from the first day we started using it. One other thing, have you tried using a joystick in place of the pad while the Koala Paint program is loaded? You will have limited movement, depending on the manufacturer of the stick, but you will learn a lot about how these input devices work. We are sorry, but we are still trying to find the latest address of Koala Technologies for our readers.

**Q. I wrote a short Basic program for printer control and compiled it with QuickBASIC 4.0 on my jr. A friend who has a standard PC tried it out and it doesn't work at all! It works fine on other machines just like his, and nothing is weird or non-standard about his PC. Do you have any ideas? Is this another compatibility problem with the jr? Help call, Member, Boston Computer Society.**

A. The jr is NOT at fault! Check to see if the other PC is still running DOS 1.xx. The latest versions of QuickBASIC, 4.0 and up, are leaving DOS 1.0, 1.1, etc. behind. Apparently the early DOS versions do not have the necessary advanced calls or parameters required by the latest Microsoft compilers. Though there are probably plenty of them out there, we don't personally don't know of many users still using DOS 1.1 but it is worth remembering that only the versions of QuickBASIC up to 3.0 will run in the first versions of DOS. If you upgraded from an earlier version to get to QB 4.0, or 4.5 you can re-compile the source code with your earlier version. Link it with /EXEPACK and SMALLERR to keep it small, tight and fast. You can make it even smaller and tighter with /EXEPACK, SMALLERR and also NOCOMM but only if your printer control program doesn't use the serial port. Take out any advanced BASIC statements if errors show up during the re-compiling and write your own equivalents. For a printer control program though, there shouldn't be any. The program will then run in all DOS versions.

Really, you should have your friend upgrade to a later version of DOS...

By the way, for other readers interested in QuickBASIC 4.5, you should have a hard disk to use the Advisor and Help files or you'll be swapping disks 'til doomsday. Other than that, the product is fantastic and a major upgrade.

**Q. Is there a way to add EMS memory above 640k to the jr while in PC mode? I have tried the IBM sidecar as outlined in the May issue of the Jr Newsletter, but this does not work well with Writing Assistant and other pro-**

**grams I have tried. I have tried various CONFIG.SYS files to try to get it to load above the first 128k but never succeeded in booting without garbage on the screen.**

A. The way to add EMS memory above 640k requires both the software and the special wiring which Paul Crumley does to IBM sidecars. Remember, he and others mention that the STANDARD memory increase above 640k (especially the increase to 732k) is ONLY for the jr. PC mode may defeat this if the software reads that you have a PC. The normal PC can only read memory to 640k then it jumps to EMS because the various video cards for the standard PC were designed to be in the intervening memory addresses. The PC jr however can read memory uninterruptedly all the way to 732k via DOS. You will have to read the instructions and information which comes from Mr. Crumley about the set-up for EMS and if this will work in the PC mode. The commercial software you choose to run, once EMS is installed in your machine, must also be able to use this memory. Some of the software simply hasn't been upgraded to recognize the additional memory of EMS and cannot take advantage of it.

Without knowing exactly what is in your CONFIG.SYS files we cannot determine why you are getting garbage on boot-up, and if the garbage disappears leaving no other problem, you could ignore it.

**Q. I have attempted to hook up a 3 1/2 drive, using DOS 3.3 but all it would do after program adjustments was read the directory - I couldn't get the drive to do anything else. Is this because of the step rate? David Brenchly, Pocatello ID**

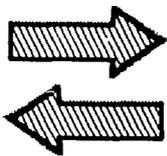
A. Though you gave us an excellent description of the changes you have made to your system, there is no reference to the type of disk drive controller you now have in the Racore Drive II chassis. It must be the type which can handle 3 1/2" micro-drives. DOS 3.3 is not the sole answer; as a matter of fact DOS 3.3 is not always necessary because there are drivers with some 3 1/2" kits which we understand are for DOS 2.xx. The factors seem to be whether the disk is expected to be 720k, 1.2MB or 1.44MB.

There are also incompatibilities with some controller / drive combinations. Cross-manufacturer variations are the culprits here. Racore should know which types and manufacturer's drives will be compatible with their controller card.

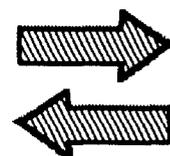
The step rate (a minor problem compared to these) can be corrected with STEPRATE.EXE on Jr Power Pack II (Disk #65) available from the Software Store.

**Want to get your child  
excited about writing?**

Try WORD PROCESSING FOR KIDS  
Disk #41, page 23.



# Reader Feedback



## More PCjr Compatibility Info

I am writing to find whether **Police Quest II** by Sierra is compatible with my PCjr. The system includes a Racore Drive Two Plus with DMA and memory expansion to 640K. Some other Sierra software which runs without problems include:

Winnie the Pooh in the 100 Acre Wood  
Donald Duck's Playground  
Mixed up Mother Goose  
King's Quest I,II,III,IV  
Space Quest I,II  
Gold Rush  
Police Quest I

The Police Quest II package states it will run on "IBM PC, compatibles, Not PCjr." The software is evidently too new to be included on your **Compatibility Disk #60**, but I'm hoping you have received some feedback from others. Thank you for your help and a fine newsletter.

*Robert Peck, Prospect, CT*

EDITOR'S NOTE: Yes, Police Quest II does run on PCjr's.

## Reader Shares Experiences With New Software Titles

Still love the jr Newsletter - getting better all the time! It's good to see some folks around who treat us jrs as computers and not relics.

I've got two questions and one answer for you. First the questions: I bought several Davidson programs for the kids for Christmas in spite of their label that said they didn't run on the jr. Some of the programs run alright with some lock-ups but we're really getting hung up a lot with **Math Blaster Plus**. It's a great program and I can't believe that the jr won't run it. I called Davidson and they told me to buy an IBM!!! I set them straight and registered a complaint. They said that the jr's error handling routine is in a different address every time it boots up which is why it works sometimes and not others. I never heard this one before. Do you know what might make it work?

We also got **Where in Europe is Carmen Sandiego?** and can't get 16 color. The Tandy option comes up in 16

colors but with black stripes!

A while back you printed a list of Epyx compatible programs. Epyx is dancing around the compatibility issue with **Print Magic** by saying not all expansion boards are 100 percent IBM compatible. They also said you need 640K. We have a Racore expansion chassis (which they said PM wouldn't work with) and it does indeed work and with 512K. It works with DOS 2.1 but only with a mouse. It works perfectly with DOS 3.2. It's a nice program if you enjoy customizing greeting cards. It is a lot of work but has some great features. Also there are many, many public domain graphics available with that, with a conversion program can be used with **Print Master**, **Newsmaster**, **Newsroom Pro**, and **Print Magic**. I have over 2000!

Hope this helps some.

*Mary LeCompte, Manassas, VA*

## Loose Sensor Solves Problem Easily

Mr. Pierce's letter in your January issue came to my attention because of some of his hardware problems sound familiar and with a little luck I may be able to offer a simple solution.

I discovered one day that my Junior would not DISKCOPY. Upon the advice of the local Sears Business Systems (where I bought my system), I removed the cover and inspected the drive. As they suspected, I found that a sensor had popped out of its socket. I re-inserted the sen-

*(Continued on page 6)*

### JrNewsletter Welcomes Questions

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

## Reader Feedback

(Continued from page 5)

sor and Junior was back to normal. The location of the sensor in question suggests that it reads the timing hole in each diskette (this is the small hole near the center). Total time to make the repairs was just a few minutes, and it was not necessary to remove or dismantle the drive.

While on the subject of DISKCOPY failure, sometimes it seems to be a problem in reading the source diskette, especially if the source turned out to be a DOS 1.0 diskette. In some cases, COPY \*.\* will work when DISKCOPY will not (but watch for subdirectories or hidden files).

*Lester A. Zischke, Grandville, MI*

## Reader Confirms Praise For Money Counts

I would like to second Ms. Barbara M. King, Meriden, CT both concerning the jr Newsletter and Money Counts 5.0. I am in the midst of completing my preparation of income tax data for my tax accountant. I am sure he will be quite surprised and pleased at the professional look of Money Counts double entry system.

I have found jr Newsletter great help in working on my jr. I operate in the PC mode most of the time and now find many PC disks usable; many of my choices came from your pages. I also use DOS 2.1 and 3.3.

Have you heard that the State of Arizona is also an IBM orphan? Many of my neighbors are IBM employed and will be moving, retiring or grabbing the separation pay that for some will be about \$75,000.

*Jack C. Everhart, Sonoita, AZ*

### New Prices, New Speeds! SPC DISKITjr HARD DRIVE

DISKITjr 22H (now 29ms)	<del>\$685</del>	\$595
DISKITjr 33H (now 29ms)	<del>\$745</del>	\$695
DISKITjr 42H (25ms)	<del>\$985</del>	\$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

## Manhunter and Battletech Both Run Fine on PCjrs!

1. **Manhunter** from Sierra-on-Line is superb on the jr. I think it's one of the best games of the year, and the end is a real surprise. It takes 256K but during the game I ran across some disk errors but I just hit return and the problems went away so I would recommend maybe 384K or higher.

2. **Battletech** from Infocom does indeed work on the PCjr in beautiful 16-colors. I recently called the company and they said it would not work. I laughed in the phone and hung up. If you can not load yours try erasing the \$ERIFY.EXE. That's what I did.

*Brian Christmas, Montclair, NJ*

## Comments on Quick BASIC And PC-Write's New Version

This is a follow-upon my letter published in the Nov. '88 issue. At the time that issue arrived, I was checking out a corrected version of **Quick Basic** 3.000 (ver 3.00b) and the "Out of memory during CHAIN" problem went away. In fact all of my previous problems went away. DOS 2.1 works fine. The INT 9 problem wasn't fixed, but we have a fix for that so still no problem. Now have version 4.000 but haven't had a chance to spend much time with it. The manual is on a disk now. You can load it while in QB. The problem is that all of these "new improvements" require more memory and disk space.

I finally received version 3 of PC-WRITE. The version from Quicksoft is up to 3.02 as of Dec. 13th. Everything that I've tried so far works as advertised. I configured with the "Experienced User" help file to conserve space in memory. It seems to be more than adequate. The spell checker is improved over 2.71. I will use it. Before I used Turbo Lightning, because of the inadequacies of the 2.71 spell checker. Since you will be publishing a review, won't (sp even accepts contradictions!) say any more. Also has a column feature which works.

*Robert F. St. John, Las Cruces, NM*

## Reader Likes Home Inventory But has Trouble with Galaxy

Thank you for your helpful publication. Being the owner of a jr is sometimes like whistling in the dark and as time goes by it may become more like the Dark Hold. So hang in there with us and keep the news coming.

I have a suggestion regarding your software order forms. Why don't you print the date of the publication in which the disk was reviewed by your magazine along with the blurb. Sometimes I am slow to order disks and I cannot remember what the review said. Consequently I must search through all the back issues in order to find any information.

I have started putting my household items on **Home Inventory** (Disk # 58). This is a great program and very user friendly. I cannot seem to say the same for **Galaxy**. For some reason, we have not gotten along well. Part of this may be due to the fact that the menu is divided on the screen with the left side of the words being on the right side and vice versa.

*Patricia Baston, Nacogdoches, TX*

**EDITOR'S NOTE:** We appreciate the complements as well as the suggestion regarding printing review dates in our Software Store. We feel, however, that the Software Store already takes up enough space in each issue. You may have noticed that a few months ago we started printing half of the titles one month and the other half the next month, rather than printing the entire list in every month's issue as we had been doing. If we were to add the review dates and page references, that would add a few lines to our already tight space. But, we won't rule it out at some time in the future if other readers express an interest.

As for your problem with **Galaxy**, we have not had the same problem. **Galaxy** runs fine on our PCjrs. But you might be interested to know that we recently updated **Galaxy** to V2.4, which has a much simpler installation procedure along with some new features. We haven't had a chance to write a new review for it, but it may cure your problem. (We sent Patricia a free update as this issue of **Jr Newsletter** went to press.)

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## Uses for CLS Command

The purpose of DOS CLS command is to clear the screen of all information it may be currently displaying.

Some people think it also clears the memory of that information, but the CLS command does not affect the memory, it only erases the active video display.

If you have set the foreground and background colors using ANSI control codes, they will still be in effect. If you haven't set them, the screen will revert to dark background with light characters. The cursor goes to the "home" position in the upper left corner of the screen after the screen has been cleared using CLS.

## Expanded PCjrs Can Use Cartridge BASIC With BASICjr.COM

The three issue of **Jr Newsletter** I have read are excellent and contain useful information, but in the article on page 16 of the December, 1988, issue you say it is impossible to use Cartridge Basic in expanded memory and this is not correct. Mr. Blair Bleser has written and donated to public domain a program named BASICjr.COM. Since I started using his program to call Cartridge Basic in my jrHotshot memory I have had no problems. You can get a copy of BASICjr by sending a stamped, self-addressed envelope to:

Mr. Blair M. Bleser  
1517 W. 9th Street  
Apt. 23  
Lawrence, KS 66044

Thank you.

*William D. Johnson, Sulphur Springs, TX*

**EDITOR'S NOTE:** Our article in the December issue meant to point out the fact that a PCjr with expanded memory can't run BASIC in any form without some sort of patch or modification. We mentioned several ways around this, but did not mention BASICjr.COM. Thank you for adding this information. We have added BASICjr.com to **JR PATCHES v4.0** (Disk #56).

## Scrabble Enthusiast Looks for Best Software

I agree with reader Edna Nagles who praised **Electronic Arts Scrabble** as a great game. I did not, however, have the same luck running it on my PCjr, also with 640K: whenever I was about to beat the computer everything stopped cold. When I called E.A.'s customer service to ask about it they informed me coolly that they did not support the jr and advised me to return the software to my dealer.

I wonder if any of your other readers have developed a patch for this program. If not, perhaps Edna could advise me who puts out **Monty Plays Scrabble** which she also recommended in her November letter.

*David Parry, Los Angeles, CA*

**EDITOR'S NOTE:** We don't know of a patch for E.A.'s **Scrabble**, but we'll try to come up with one.

## Compatibility Update

Here is a list of software compatibility notes that we have not previously reported on in this newsletter. It's just a partial listing to help you keep up with software that is compatible with your PCjr. If this type of listing proves to be popular with readers, we intend to continue it.

**First Publisher v.2** is compatible, as were earlier versions. To run v.2 you should have at least 512K. More memory will make it run faster and provide more fonts. Two drives are recommended.

**Star Fleet II** is compatible and requires at least 384K.

**Grand Prix (Accolade)** is compatible (in 4 colors) on PCjr's with at least 384K.

**4th And Inches (Accolade)** is compatible, but we have no information on memory required.

**Battletech (Infocom)** is compatible with 256K.

**Manhunter (Sierra)** is compatible, no information on memory required.

**Sailing Simulator (North Sails) v.2.2** was supposed to be incompatible, but reportedly works ok with 640K.

**EasyCad (w. Microsoft Mouse) v.2.05** compatible with 640K PCjr's.

**Managing Your Money v.5.0** is compatible, as were earlier versions. This one needs 640K, though.

**Learn The Alphabet (Spinnaker)** is compatible. 128K ok. Use with one joystick or no joystick. Two won't work in spite of what instructions say.

**American Challenge** is another supposedly incompatible program that WILL run on PCjr's. 128K ok.

That's the compatibility update for this month. For a complete listing of PCjr software compatibility, get the newly updated PCjr Compatibility Disk v.2 (Disk #60). And please, keep us informed about your experiences with new software so we can share the info with other PCjr users.

**PCjr LIVES!**

## Shareware "Deskteam" Outperforms Sidekick

*By John King*

PC-Deskteam is a Sidekick clone which outdoes the original. Deskteam provides nine utilities: alarm clock, calculator, phone book, auto-dialer, appointment calendar, DOS commands, notepad, printer control and type-writer. Deskteam can be used as a stand-alone program or made memory resident, in which case it occupies 64K bytes. I use it both at home and at work. Here are some highlights of the various features.

The alarm clock is the first I've seen which puts "10:41 pm" on the screen without anything blinking or changing every second. You can turn it off entirely or just have it chime on the hour.

The calculator is a four banger with one memory. In addition, if you type a list of numbers into your word processor and call up the calculator, it can enter the numbers without retyping them and print results back to your document.

The notepad, phonebook and calendar use the same, simple commands which are all available on help screens. The notepad is great for writing batch files quickly with full screen editing and for making notes while doing something else with Junior.

The DOS commands are: Dir, Copy, Del, Rename, Type, Print, ChDir and a check on available disk space. You can't format a disk or run another program within Deskteam.

The printer control makes is easy to set up on/off toggles for five printer functions of your choice. Complex, multiple codes can be sent if necessary. Configure files for Epson and Okidata printers are provided.

Typewriter turns your \$2,000 computer into a \$250 correcting typewriter. Why? Because its great for addressing envelopes!

Finally, the options in setting up the clock display, calculator, dialer, printer, and screen colors can be changed easily at any time.

There is a fifty page manual available on the disk. Look it over, but don't bother printing it out. This program is so well done, with such good help screens, that you won't need it.

Deskteam is a shareware program. You can copy it freely; and if you like it, Alternative Decision Software, Inc. P.O. Box 307 Lancaster, NY 1408, phone (716) 684-2423, asks that you register your copy for \$25. (Deskteam is Disk #22 in the Software Store.)

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# Navigating With Flight Simulator

By Carl Haub

Last month, the first part of this two part series discussed the basics of flight, using Microsoft Flight Simulator to its full potential. Congratulations on your first successful landing! (We hope). This month's installment will get into navigating and flying in bad weather. FS is more of a flight management program than it is a game and reflects the real world with amazing precision.

This article is based upon the older version of FS, version 2.X and does not assume the reader owns any of the newer Scenery Disks or FS 3.0. Only geography included in FS 2.X will be used. But, be advised that at least one Scenery Disk is worth buying if you have an older version of FS which produces fuzzy instruments in 16 color mode. The Scenery Disks will update your FS (when they're loaded) to a much easier to read instrument panel. Also, one joystick is definitely recommended for flight controls and a second for throttle is helpful.

FS simulates the real world so exactly that real fans will want to buy the actual "sectional" charts used by pilots. These give far more detail than the skimpy maps in the manual and will greatly enhance your flying experience. These are published by NOAA, Dept. of Commerce, and cost \$3.50 each (when I last bought some). Each covers a fairly wide area; there are 37 for the entire "lower 48." They can be purchased at the Flight Service Stations (FSS's) at many airports or write to: NOAA Distribution Branch, N/CG33, National Ocean Service, Riverdale, MD 20737 for a catalog. "Terminal Area" charts are similar and give more detail for major cities. Lacking a sectional chart, you can also use something as simple as the Rand McNally Road Atlas or some other map to figure out just where you are.

## Finding Your Way Around

The two primary aids to navigation (navaids) are the VHF Omnidirectional Range stations - called VORs or "omnis" and the ILS, or Instrument Landing System. VORs help pilots navigate about the country and to some larger airports while the ILS will lead right to the end of the runway no matter (almost) what the weather. We'll deal with VOR navigation first.

Open to the back of the manual and pull out the New York and Boston Area chart. The VOR stations are shown by their "compass roses." Note that each circle is 10 nautical miles in radius. Tuning to one of these stations will give your heading from or to the station. It will show what radial you're flying on. You can be on a radial without flying either directly to or from the station. This may not be crystal clear, but can be illustrated with a sample flight.

For a first flight using navaids, we will fly from White

Plains, N.Y. to Bridgeport, Conn. The distance is about 27 miles as the crow flies, but we won't be doing it that way. If you don't have any other maps, White Plains is located about where the last letter "A" in "La Guardia" is on the New York and Boston Area chart. Bridgeport (Sikorsky Memorial Airport) is shown.

Enter the editor by pressing "Esc" and then North 17226 and East 21065. Enter 159 for heading and 439 or 0 for altitude. You can always enter "0" for altitude in FS and it will avoid early crashes if the value you entered is too high for the exact field position. Then set the time to night by entering 24 for "hours." Bridgeport airport looks rather nice at night.

Hit "Esc" and you will be pointed straight down the runway on a heading of 159. Now turn to the airport diagram for Bridgeport. Notice that one runway is labelled "6" meaning that it's oriented on a 60 degree heading. This is our destination, Runway 6. Also notice that taking off directly on a heading of 159 from White Plains, and holding that heading, will eventually intersect with the 60 degree heading TO Bridgeport.

## Presetting Navaids

While sitting on the runway, preset the navaids. Hit "P" to pause the program and shut off the annoying "engine sound." Press Shift-N to set the frequency on NAV 1. Set it to 108.8 for Bridgeport. To set the decimal part of the frequency, hit Shift-N-N in rapid succession, then use the plus or minus keys (shifting those is not necessary). Notice that the DME indicator now reads 26.6. "DME" stands for Distance Measuring Equipment. This instrument gives a continuous readout of distance to the VOR station. This means that White Plains is 26.6 nm from the VOR station at Bridgeport (NOT the very end of the runway). Now press Shift V and hold down the plus key. The vertical bar in the NAV 1 display will eventually move. Center it in the circle. It will center when the heading at the top of the indicator reads about 094 or 274. That means that your aircraft is sitting on the 094 TO or the 274 FROM radial out of Bridgeport.

Now tune in NAV 2 to the Carmel VOR. Hit "Shift-N-2" to change the setting to NAV 2. Then set a frequency of 116.6. Hit "Shift-V" and then use the plus or minus keys to set a heading of 170 at the top of the NAV 2 indicator. On both NAVs, notice how the reciprocal course is indicated at the bottom. The reciprocal, of course, is 180 degrees in the opposite direction. Again, if you wish, change the NAV heading until the needle is aligned in the center. This will

*(Continued on page 10)*

# Flight Navigation

(Continued from page 9)

indicate the heading you would fly if you wanted to fly directly to the Carmel VOR. Put the heading back at 170.

Time to go. Takeoff from White Plains and climb to 2000'. Reduce power to 2000 RPM at 1000' and reduce to 1700 as you approach 2000'. While flying, try to stay as close as possible to 2000' by varying RPM. If the joystick is not perfectly centered (check the aileron and elevator indicator) they can be "trimmed" with the adjustment wheels on the IBM PCjr joystick.

As soon as possible, turn left to heading 140 and sit back for a bit. The Connecticut Turnpike (red and yellow line) will pass below and Long Island will be straight ahead. This leg will take a bit. You are flying a course of 140, looking to intersect the 60 degree radial to Bridgeport. You are, therefore, closing on the Bridgeport 60 at an angle of 80 degrees, and therefore slowly drawing closer to the airport. Got that?

As you near the North Shore of Long Island, the needle on NAV 1 will slowly begin to deflect from the right side of the indicator to the center. This will take a while and the movement of the needle will be a bit erratic at times. The basic idea is to turn to course heading 60 degrees just as the needle centers. You can hold a course heading of 70 degrees as the needle is centering itself and then quickly adjust course to 60 degrees. The passengers may not like such an abrupt change - but, then, there aren't any!

After coming to course 60 with the NAV1 needle centered, you should be about 21 -23 miles DME from Bridgeport, depending upon the exact course you flew. As you continue on to Bridgeport, the NAV1 needle will periodically drift left and right. When the needle is to the right, the course to Bridgeport is to your right, so turn toward it slowly, making gradual course corrections. Obviously, if the needle drifts to the left, the course is to the left, so turn toward it. From this comes one basic rule of thumb of instrument flying - fly toward the needle.

About when you are 17 DME from Bridgeport, the needle on NAV2 will begin to center, indicating that you are crossing the 170 degree radial FROM the Carmel VOR. Knowing that you are already on the 60 TO Bridgeport and crossing the 170 FROM Carmel "fixes" your known position exactly since those two radials intersect only at one place. Thus, VORs can be used not only to fly a course to or from a station, but can be used to answer the age-old question "where am I?"

## See That Beacon ?

Looking ahead, Bridgeport airport should appear as the blue patch on the shoreline and its green-white

(Continued on page 12)

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# DOS Tutorial Software

(Continued from page 2.)

"autoexec.bat" and "config.sys."

Since I was working on a system with a hard disk, I turned next to "Lessons for Systems With a Hard Disk." Introductory information on DOS of the type from the previous lessons disk is also a part of this disk. In addition, we learn how to make directory structures, work with directories, remove directories and other directory skills such as managing files between directories. Other topics include how to establish a PATH, running installed applications and backing up a hard disk.

The lessons fully explain DOS concepts and commands, and allow the user to practice while learning. The lessons feature brief explanations, helpful diagrams and guided practice sessions. If you make a mistake as you practice, Learning DOS will explain what you did wrong and give you a chance to try again. When you finish the course, you'll know how to use DOS to run your applications and to effectively manage the work you produce on your computer.

## DOS Quick Reference

Tutorial programs and training packages like Learning DOS are of limited utility in that, as the material is mastered, the packages become dust collectors. However, the Learning DOS packages includes a DOS Quick Reference, which is one of the most comprehensive disk based manuals on DOS that I have seen. Long after the rest of the package is retired to your archives, you will likely still be using the DOS Quick Reference.

Quick Reference may be installed on a hard disk and invoked by entering HELP. Quick Reference displays a two-screen index of information on DOS. The first reference displays 27 of the more common DOS commands such as DIR, COPY, DEL, to name a few. The second reference section lists 11 basic DOS topics; for example, internal command or wildcard, which the Quick Reference will describe in detail. Reference section number 3 displays 37 advanced DOS commands which include FIND, MORE, SHELL and others. The final reference section is devoted to advanced DOS topics such as batch files, autoexec.bat, piping, and config.sys among others.

Within Quick Reference, there are three options available:

1. PgUp and PgDn can be used to browse through the four sections described above;
2. You can enter any DOS command, such as PATH, or DOS topic, such as Redirection, and a screen is displayed with the desired information (complete syntax is listed for all the DOS commands); and
3. Whenever you press enter, the DOS prompt will reap-

pear. Unfortunately, the DOS line is repositioned at the bottom of the screen and the syntax of the DOS command requested from Quick Reference remains displayed on the screen.

Quick reference is probably the best part of Learning DOS. It is a very usable, practical program. My only complaint is that the PrintScreen function of the keyboard is disabled during Quick Reference, thereby preventing any of the reference material being printed.

## Summary

For users of IBM and compatible microcomputers, there is no alternative to learning DOS. The time you spend mastering the operating system will be, without question, some of your most valuable and important experiences in microcomputing. While Microsoft's Learning DOS is not the final, nor the greatest, chapter in the topic of the operating system, it does provide a useful and worthwhile training experience.

Learning DOS is manufactured by Microsoft Corporation, 16011 N.E. 36th Way, Redmond, WA 98073, (800) 426-9400. The suggested retail price is \$49.95.

EDITOR'S NOTE: Before you buy Microsoft's Learning DOS (\$49.95), you might want to try Computer Teacher (Disk #77) from our Software Store (\$5.95).

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# Navigating Tips

(Continued from page 10)

alternating beacon should also be visible. At 8 miles DME, reduce power to 1600 RPM and settle on a descent of not more than 500 feet per minute. Hit "4" periodically to check your position. At 4.5 miles DME, reduce power to 1500 (you should be passing through 1500 feet altitude) and at 3 DME, lower flaps 10 degrees by hitting "N." At this point, the NAV1 needle may begin to deflect to the right. Ignore it now since the runway is in sight. Remember, the VOR is off to the side of the runway. It's job is to get you near the airport, not to the end of the runway.

## Now Try Bad Weather Flying

Once you've landed (and after last month's installment, it's no sweat, right?), try it again, only this time try "bad weather." Set cloud bases to about 1000' and tops to about 2000'. It's a lot of fun to break out of the clouds and find the runway dead ahead when you do. For another good drill in using VORs, take off from any airport - with clouds so that your view is obscured. Let the plane fly around for a while at 3000' or more until you're totally lost. Then tune in two VORs and rotate their headings until both needles are centered. You'll know just where you are.

## The Real Thing: Instrument Landings

An ILS landing differs from the use of VORs in only two ways. One, the ILS will lead you right to the end of the instrument runway and, two, it also uses the horizontal bar in NAV1 (the bar you've seen floating about earlier) for glideslope. The "needle" indicates course, whether or not you're left or right of approach, the glideslope tells you if you're too high or too low. So with those two pieces of information plus the DME's information of the exact distance to touchdown, there's nothing else one needs to know for a nearly "blind approach". We'll try this on a flight from Danville, Ill. to Champaign, one of only four Flight Simulator airports with this feature.

In the editor, enter North 16471 and East 16685, altitude 0 and Heading 210. Set hours to 24 again since it looks rather neat at night. This will place you on the runway at Danville. Take off from Danville and turn to a heading of 230, levelling at 3000'. Now set NAV1 to the Champaign ILS for Runway 31 to 109.10. Set NAV2 to the Champaign VOR at 110.0. There will be no DME reading yet, but you're about 32 miles from Champaign. Turn to the map on p. 127 (hit "P" to pause the action here if you wish).

Notice that the airport diagram for Champaign also has an "approach plate" above it. In the corner is a side view of the approach we'll make. It indicates that entry is at 2600' and begins at 0.5+5.5NM, i.e., 6 NM from the runway. The

heading is 313 on final, but we can only set it to two degree accuracy on FS. Set NAV1's heading to 314 and NAV2 to 310. You are now flying southwest, looking to intersect the 314 radial TO the approach end of Runway 31.

At about 21-23 miles, NAV1 will pick up the ILS and the DME will kick in. Also observe NAV2 as it will also eventually center its needle and point the way to the airport (but not exactly to runway 31). When the NAV1 needle begins to center, turn your course to align with it. Champaign Airport, with its blue taxiways and green/white beacon will soon appear. "Fly the needle" until you're at about 8 DME. Reduce power a bit to try to arrive at 6 DME and 2600' altitude at the same time. At about 7 DME the glideslope bar will activate. This far out, it will drop to the bottom of the indicator, telling you that the correct glideslope is below.

When you're at 6 DME, the "outer marker" horn will sound (LOM on the chart). At this point, reduce power to 1500, set 10 degrees flap, and make sure that the glideslope bar is centered or a little below center. Do that by adding or subtracting power. (Don't forget to put the gear down). If the glideslope bar rises above center, you're too low and will only plow a farmer's field. After this procedure has become familiar, try it in bad weather. But, remember that Champaign's field elevation is 754', not sea level. FS's cloud heights are always set with reference to sea level, however.

## Think In Three Dimensions

Instrument landings, then, are a three dimensional process. The needle tells you how much left or right you are, the glideslope how high or low you may be, and the DME how far from touchdown. A perfect ILS approach would have both needles centered all the way from the outer marker to a "one beep" FS touchdown. It can be done with practice and patience. I hope that this series of two articles will make your journey to a "perfect" FS flight both a little shorter and more enjoyable.

## Mode 80 or CO80 ??

The correct use of the DOS MODE command is somewhat confusing. One problem is, you would think you would use MODE CO80 in order to operate programs in color. But plain old MODE 80 will give you color, if the software provides it. In fact, you will get color if you type MODE BW80. The distinctions between these commands were made in order for IBM PC owners to be able to switch between their monochrome and their color graphics boards (which jr owners don't have to worry about).

Jr owners might find the MODE BW80 command useful, however, if you want to see a more readable display on a black and white monitor. The color graphics adapter in jr sometimes translates colors into unreadable shades of gray.

## Loading Scenery Disks With Flight Simulator 3.0

**EDITOR'S NOTE:** Here is some important information for you pilots. This letter from Deb Israel of SubLogic, the makers of scenery disks, appeared in a recent issue of Personal Computing Magazine. We thought it would help you to know about it.

We have been swamped with phone calls from owners of Microsoft Flight Simulator version 3 concerned that the product will not support SubLogic Scenery Disks.

The following information is crucial for loading and operating Scenery Disks with Flight simulator and applies to Europe Scenery Disk and Scenery Disks #1 and #7, Japan and San Francisco.

Although Flight Simulator's manual does not include any reference to Scenery Disk support outside a mention on page 75, a README.DOC file on the disk itself does explain the procedure for converting a Scenery Disk to a scenery file and loading the file to a hard disk.

You can load a Scenery Disk in either of two ways: as a copy-protected disk from drive A or as a scenery file loaded into the same hard disk subdirectory as Flight Simulator. To load the Scenery Disk from drive A, you must first load Flight Simulator from the hard or floppy drive (preferably on drive B, but you can operate both from drive A in a pinch).

When you're positioned for takeoff, press shift-E to bring up the Scenery Library menu. Choose option 1 (floppy disk in drive A) or the number associated with the scenery file you wish to use. Then invoke the NAV/COM menu and choose selection A to set your position within the scenery area. This should have Flight Simulator soaring through the scenery in no time.

If further assistance is required, the SubLogic customer support department can be reached, toll free outside Illinois at (800)637-4983 or (217) 359-8482 within the state.

## Yes, v20 Loves jrHotshot

In answer to questions from a few readers, the V20 speedup chip can successfully be combined with the jrHotshot memory add-on.

Both are installed in the place where the original 8088 chip is located in the off-the-shelf jr. This led some people to wonder whether they can be used together.

Installation is the same. Just treat the V20 as you would the original 8088 chip. In fact, if you do them at the same time, you'll save yourself some effort.

## Watch Out for Static Electricity When Installing a jrHotshot

**EDITOR'S NOTE:** We recently received this information from Albert Allen of OOwl Software, one of the best PCjr support companies, and we thought you would be interested.

Many people are installing jrHotshot memory expansions and causing some problems for themselves. If, when installing the memory, they allow static electricity to arc into the computer, I have found that the area most likely damaged is the 64K upright memory card. If this card is damaged the POST will not appear and a double beep will be heard from the speaker.

You can test to see if this is the board damaged by simply removing it and see if a 64K POST will appear. I can still get some 64K replacement cards if this should happen to some of the readers. If the people keep their feet off the floor when installing the new memory card they can avoid this problem. Also they should let the machine warm completely if it is brought in from the cold as this same type of arcing problem can occur from the plug-in points on the cards having condensation on them.

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# Lotus 1-2-3 Enhancements Work Wonders--And They're Free

By Gene Weisskopf

A while back, Lotus announced that it would be participating in the 1-2-3 add-in market by releasing two enhancement programs of its own. The process took longer than expected, but the programs are now available and free of charge.

The first one, called SpeedUp, gives 1-2-3 the ability to perform an "intelligent recalculation." This means that only cells that need to be recalculated will be. MacIntosh Excell, PC Excel and Quattro all use this type of recalculation, and it is something that will be expected of all future spreadsheets.

The second add-in is called Learn and it acts as a kind of 1-2-3 SuperKey. As you type into cells or execute 1-2-3 commands, Learn records your keystrokes to a range of cells. If you then simply name that range, it becomes a useable macro.

Both of these programs are significant additions to 1-2-3.

## Speedup

When typical spreadsheets recalculate, every formula in the worksheet is updated, whether it has just recently been recalculated or not. While a total recalc ensures that all formulas are absolutely current at any give point, it creates intolerably long calculation times. For example, a worksheet with 1,000 formulas is impossible to use without Manual recalculation and long waits whenever you press the F9 (RECALC) key.

"Intelligent recalculation" only calculates formulas that need to be calced. With SpeedUp, if you enter a number into a cell that is referenced by just one of the 1,000 cells, then just that one will be recalced, and it will take only an instant.

The SpeedUp menu consists of three choices. The first two, Optimal and Standard, simply toggle the intelligent recalculation process on and off. I'm not sure why you would ever want to turn it off and return to "dumb" recalculation--and for that matter, why Lotus didn't do it this way in the first place.

The third menu item is called Highlight. When you are in Manual recalc mode, turning this choice on will highlight any cell that has been changed since the last recalc. I don't see any need for this, either, as the formulas that reference the cell you've changed aren't highlighted, just the cell itself.

SpeedUp takes about 6k of conventional RAM, and that memory can later be regained by detaching it from 1-2-3. A bundled-in sample worksheet gives a fair representation of the increase in speed. Basically a few hundred for-

mulas all refer to one cell in the worksheet, such as @sin(\$B\$2), and an equal number refer to no other cells, such as @sin(10).

Attaching SpeedUp and toggling between Optimal and Standard produces some interesting results. If the value of B2 is changed while Optimal is on, only the first group of formulas need to be updated.

## Learn

Learn records keystrokes as labels in worksheet cells that can later be read as a macro. This feature has become a standard in many Lotus competitors, including SuperCalc 4 and VP-Planner, and will be included in Quattro and Excel. Indeed, even Symphony has a Learn command under the {services} S{ettings} L{earn} menu. The range can be cancelled using the command Cancel. Finally a No choice and a Yes choice toggle the Learn function off and on. As in Symphony, the Alt-F5 also serves as a quick toggle for the Learn mode.

Learn takes about 5K of RAM, but you cannot use Detach or Clear to regain that memory. For some reason, once it is Attached, it must stay there until you Quit from Lotus. When it is toggled on, every keystroke you type will be entered into the Learn range in a string of text. When a line of recorded text grows to 40 characters, the recording continues in the cell below. When the range is full, you will get the error message "Learn range is full" and it will be turned off.

Recording keystrokes will prove most beneficial in several distinct circumstances. Beginners will find it much easier to create a keystroke macro when the keys that are needed are entered for them as they type. More experienced users will avoid a lot of the note-taking-while-typing that is often necessary when creating macros. Experienced users will certainly find times when Learn will be needed, such as when creating "quick and dirty" macros for editing a column of cells to change one formula in each. With Learn, you do the job once, name the macro, and let it fly.

## Learn Drawbacks

Learn does have a serious limitation: none of the macro command language keywords ({Branch}, {Menubrand}, {let}, {if}, {get}, {for}, etc.) are accessible through it. Therefore, in order to build any kind of an application, there will always be extensive editing to do. Learn does record calls to keyboard invocable macros, such as \M (the call is stored as {\M}, a gosub routine), but that's it for extended commands.

Also, the output in the Learn range is not in a particularly readable format and will also need to be edited afterwards. All cell pointer movements are recorded as individual moves; instead of recording {right 4} (as does SuperCalc 4) it strings four {right}s together or individually down the column (as does Quattro).

As I said earlier, after 40 characters, it will always start

*(Continued on page 18.)*

# An Interesting Owners' Manual

EDITOR'S NOTE: The other day we found this Owner's Manual on the basement floor under some old computer equipment boxes we had been saving. We decided the equipment had proved itself reliable and that we could throw out the boxes now. After reading this manual, we decided to keep them. But, for some reason, we couldn't find the box that went with this manual.

## CONGRATULATIONS ON BUYING YOUR NEW PULENBERE FRASHED!

READ THIS FIRST! Congratulations! You have purchased an extremely fine device that would give you thousands of years of trouble-free service, except that you will undoubtedly destroy it via some typical bonehead consumer maneuver.

Which is why we ask you to PLEASE FOR GODS SAKE READ THIS OWNER'S MANUAL CAREFULLY BEFORE YOU UNPACK THE DEVICE. YOU ALREADY UNPACKED IT, DIDN'T YOU? YOU UNPACKED IT AND PLUGGED IT IN AND TURNED IT ON AND FIDDLED WITH THE KNOBS, AND NOW YOUR CHILD, THE SAME CHILD WHO ONCE SHOVED A POLISH SAUSAGE INTO YOUR VIDEOCASSETTE RECORDER AND SET IT ON "FAST FORWARD", THIS CHILD ALSO IS FIDDLING WITH THE KNOBS, RIGHT? WE MIGHT AS WELL JUST BREAK THESE DEVICES RIGHT AT THE FACTORY BEFORE WE SHIP THEM OUT, YOU KNOW THAT?

We're sorry. We just get a little crazy sometimes because we're always getting back "defective" merchandise where it turns out that the consumer inadvertently bathed the device in acid for six days.

So, in writing the instructions, we naturally tend to assume that your skull is filled with dead insects, but we mean nothing by it. OK? Now let's talk about:

1. UNPACKING THE DEVICE. The device is encased in foam to protect it from the Shipping People, who like nothing more than to jab spears into outgoing boxes. PLEASE INSPECT THE CONTENTS CAREFULLY FOR GASHES OR IDA MAE BARKER'S ENGAGEMENT RING, WHICH SHE LOST LAST WEEK, AND SHE THINKS MAYBE IT WAS WHILE SHE WAS PACKING DEVICES. Ida Mae really wants that ring back, because it is her only proof of engagement, and her fiancée, Stuart, is now seriously considering backing out on the whole thing inasmuch as he had consumed most of a bottle of Jim Beam in Quality Control when he decided to pop the question. You see, it is not without irony that Ida Mae's last name is "Barker" if you get our drift.

WARNING: DO NOT EVER AS LONG AS YOU LIVE

THROW AWAY THE BOX OR ANY OF THE PIECES OF STYROFOAM, EVEN THE LITTLE ONES SHAPED LIKE PEANUTS. If you attempt to return the device to the store, and you are missing one single peanut, the store personnel will laugh in the chilling manner exhibited by Joseph Stalin just after he enslaved Eastern Europe.

Besides the device, the box should contain:

- \* Eight little rectangular snippets of paper that say "WARNING".
- \* A little plastic packet containing four 5/7 inch pilfer grommets and two club-ended 6/93 inch bxcar prawns.

YOU WILL NEED TO SUPPLY: a matrix wrench and 60,000 feet of tram cable.

IF ANYTHING IS DAMAGED OR MISSING: You IMMEDIATELY should turn to your spouse and say "Margaret, you know why this country can't make a car that can get all the way through the drive-through at Burger King without a major transmission overhaul? Because nobody cares, that's why." WARNING: This is assuming your spouse's name is Margaret.

2. PLUGGING IN THE DEVICE: The plug on this device represents the latest thinking of the electrical industry's Plug Mutation Group, which, in a continuing effort to prevent consumers from causing hazardous electrical current flow through their appliances, developed the Three-Pronged Plug, then the Plug Where One Prong is Bigger Than The Other. Your device is equipped with the revolutionary new Plug Whose Prongs Consist of Six Small Religious Figurines Made of Chocolate. DO NOT TRY TO PLUG IT IN! Lay it gently on the floor near an outlet, but out of direct sunlight, and clean it weekly with a damp handkerchief.

WARNING: WHEN YOU ARE LAYING THE PLUG ON THE FLOOR, DO NOT HOLD A SHARP OBJECT IN YOUR OTHER HAND AND TRIP OVER THE CORD AND POKE YOUR EYE OUT, AS THIS COULD VOID THE WARRANTY.

3. OPERATION OF THE DEVICE. WARNING: WE MANUFACTURE ONLY THE ATTRACTIVE DESIGNER CASE. THE ACTUAL WORKING CENTRAL PARTS OF THE DEVICE ARE MANUFACTURED OVERSEAS. THE INSTRUCTIONS WERE TRANSLATED BY MRS. SHIRLEY PELTATER OF ACCOUNTS RECEIVABLE, WHO HAS NEVER ACTUALLY BEEN OUT OF THE COUNTRY BUT HAS SEEN A NUMBER OF FOREIGN FILMS.

*(Continued on page 18)*

# Compatibility Campaign

(Continued from page 1)

grams. We aren't yet sure that this will be welcomed by software publishers, but we're going to push it anyway.

The key to our success, if we have any, may well be the high degree of similarity between the Tandy 1000 and the PCjr. Some say the Tandy is a "clone" of the PCjr, but that may be going too far. However, unlike the PCjr, Tandy 1000s are still being sold. So software publishers are more interested in making sure their new titles are compatible with Tandy 1000s than they are with PCjrs.

You may have noticed that when you select the Tandy set-up option with some software it will run just fine on PCjrs. (Sometimes the PS/2 option works, too.) So it would seem to be an easy matter for software writers to slightly modify the Tandy 1000 option to include PCjrs.

We expect to have some success in persuading software publishers to take these extra steps. Our primary weapon in this battle is the fact that an estimated 500,000 PCjr were manufactured and sold by IBM before they were discontinued. That means there are a lot of us PCjr users, folks, and we should make our presence felt!

One way you can help in this effort is to write or call the publishers of software that you use or are interested in buying. (We've got a list of names, addresses and phone numbers at the end of this article.) Ask them to please make sure their software is compatible with our computers. And when you buy software, return the warranty card with "IBM PCjr" clearly marked on it.

## An Encouraging Story

Here's a heartening story about one intrepid PCjr user who stood up for his PCjr and made a difference:

Randy Pratt of Monroe, NY, an avid player of the King's Quest series, has persuaded Sierra On-Line to continue supporting PCjrs. Although the 256K version of King's Quest IV runs well on PCjrs, most versions found in stores are the 512K version, which will not run without a special patch. Neither will Leisure Suit Larry II or Police Quest II. Thanks to Randy Pratt, future versions of KQIV (512K version), Leisure Suit Larry II and Police Quest II will not have a built-in PCjr detector that was installed in earlier versions as a "public service" to PCjr users, warning us that the games would not operate on PCjrs.

Here's how Randy scored some points for us PCjr users:

Randy says he enjoys participating in the Gamers Forum on CompuServe. One day last fall he saw a notice offering prizes for people who solved King's Quest IV by a certain deadline. "I decided I'd better get it to work on my jr so I could win one of those prizes," Randy said. So he figured out how to patch the game to run on his jr, and went

on to play, and eventually "solve" the game. (We have a similar patch for KQ IV 512K version on the latest version of Jr Patches Disk #56.)

He then started communicating with Ken Williams, the founder of Sierra On-Line, and Al Lowe, who wrote Leisure Suit Larry for Sierra, both of whom participate in the CompuServe Gamers Forum. We talked with Al, who said the folks at Sierra were quite impressed with the "hacking" Randy had done to get the 512K version of KQIV to run on his PCjr. "He really did a spectacular job of cracking the code," Lowe said, adding, "I'm the developer and I wouldn't try it myself."

According to Lowe, Randy got them to rethink their original policy, which was to "disable" the newer games -- KQIV, Leisure Suit Larry II and Police Quest II -- so they could not be run on PCjrs. The problem, Lowe said, was that they were using a new, more elaborate software development system, which creates greater demands upon the hardware running it. This new system runs more slowly on PCjrs. Lowe says they thought PCjr users would not want deal with an adventure that unfolds in slow motion. Randy Pratt replied, in effect, "Why not let us decide for ourselves?" And Sierra has relented.

In fact, Lowe said, Sierra has made changes in KQIV, Leisure Suit Larry II and Police Quest II to speed them up on PCjrs. He says Leisure Suit Larry II and Police Quest II both run at more acceptable rates of speed on PCjrs now.

Ken Williams was out of the country so we could not contact him before writing this article to find out whether they plan to make sure all future Sierra On-Line titles are PCjr compatible. We hope to reach him soon and report back to you next month.

## More Encouraging News

Although we don't have anything close to promises yet, there are signs of progress from MicroProse, Accolade, and Epyx too. Another PCjr newsletter, The Jr Report, stated recently that the head of Accolade's technical support department said they are interested in making their software PCjr compatible whenever possible. We recently spoke with Gary Almes, communications coordinator for Microprose, who said essentially the same thing. He provided us with a copy of Gunship, a relatively new Microprose game that MicroProse says is not compatible with PCjrs. We've heard from our readers that it is. We told Mr. Almes that this often happens. A manufacturer thinks software is incompatible with PCjrs (and sometimes even labels it so) when it does, in fact, run on PCjrs. We will use Gunship to try to come up with specific recommendations for Microprose to make future software compatible with PCjrs.

## Tandy Modification

The easiest way out of the compatibility dilemma is to modify your PCjr so it will behave like a Tandy 1000. This can be done quite simply and it does, in fact, work very well. We

have been researching this modification for the past few months and will give you a full report, including instructions for making the modification, next month.

However, we suspect that relatively few PCjr users will use this way out. The modification takes some skill and should not be attempted by people with no experience in electronics. It can easily be done by just about anyone who has this skill, but we suspect many PCjr users would rather live with the software that PCjrs can operate, rather than lugging their computers down to the corner electronics shop.

This means most PCjrs will continue being PCjrs. And if we want to continue to enjoy a wide choice of software in the coming years, we'll have to persuade software publishers to consider our desires.

You can help in this effort by writing or calling some of the software publishers listed below. This listing represents only a few of the major software publishers. By all means, contact others who produce titles that interest you.

You will notice that most of the companies listed specialize in games. This is because games make heavy use of graphics, which is usually what causes incompatibilities. Publishers of word processing software, spreadsheets, databases and other types of productivity software do not need to be contacted because when they make their software compatible with IBM PCs and clones, they are almost without exception making them compatible with PCjrs, too. So concentrate your efforts where we need it most -- on the entertainment software publishers.

Sierra On-Line  
P.O. Box 485  
Coarsegold, CA 93614  
(209) 683-6858

Spinnaker  
One Kendall Square  
Cambridge, MA  
(800) 826-0706

MicroProse  
180 Lakefront Dr.  
Hunt Valley, MD 21030  
(301) 771-1151

Microsoft  
16011 N.E. 36th Way  
Redmond, Wa 98073  
(206) 882-8080

Spectrum Holobyte  
2061 Challenger Dr.  
Alameda, CA 94501  
(415) 522-3584

Accolade  
20813 Stevens Creek Blvd  
Cupertino, CA 95014  
(408) 446-5757

Epyx  
600 Galveston Dr.  
Redwood City, CA 94063  
(415) 366-0606

Broderbund Software  
17 Paul Dr.  
San Rafael, CA 94903  
(415) 492-3200

Scholastic  
730 Broadway  
New York, NY 10003  
(800) 541-5513

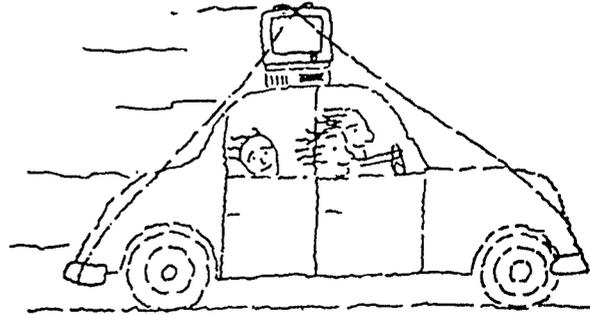
Infocom  
125 Cambridge Park Dr.  
Cambridge, MA 02140  
(617) 492-6000

Electronic Arts  
1820 Gateway Dr.  
San Mateo, CA 94404  
(415) 571-7171

Mindscape  
3444 Dundee Rd.  
Northbrook, IL 60062  
(312) 480-7667

Activision  
2350 Bayshore Pkwy  
Mountainview, CA 94043  
415) 960-0410

## 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	
<b>COMPUTER RESET</b>	
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	

# PCjr Compatibility Disk

(Continued from page 1.)

past year, this is the first major update. It includes information on current software titles (when available) as well as new information on many older titles. For your convenience in quickly finding the information you need, we've included Vernon Buerg's LIST utility on the disk. With its powerful search feature, you can jump to any software title on the list in a flash.

## Compatibility Tricks

There are several techniques you can use with software that doesn't seem to operate on your PCjr. Often these tricks will amaze you. Just a small change in your config.sys file or the use of a special patch will get it running. Notes on which of these tricks to use are included on the disk.

Since it would be impossible for us to test all software and since the information contained on this disk has come from such a variety of sources, we cannot claim 100% accuracy. But we have done our best to provide up-to-date, reliable information so PCjr users will be able to answer the inevitable compatibility questions as easily as possible. To order this new version see page 23.

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## Lotus 1-2-3 Enhancements

(Continued from page 14.)

recording in the next cell down, but before it reaches 40, it usually breaks to a new cell because a command was finished (/cA1~B12~), or perhaps because the cell pointer was moved. You will need to edit these rows to keep each line a reasonably logical unit of commands.

1-2-3 capitalizes the movement commands (e.g., "{RIGHT}"), where I much prefer them in small letters, leaving capitals for cell addresses and range names. So these also need editing in my worksheets.

### Conclusion

The features in SpeedUp and Learn have been near the top of most people's 1-2-3 wish lists. SpeedUp is so worthwhile that it will probably become an auto-invoking add-in on most copies of 1-2-3. Learn has great value for new and intermediate users, and is a good tool for advanced users, even if used infrequently.

### Ordering Information

Lotus is supplying its retailers with the add-ins for free distribution to 1-2-3 users and probably anyone else who is interested. Bring a disk so you can copy them over. However--typically--I have yet to hear from anyone who has found a store that has them.

Lotus will also mail both programs, plus an instruction

booklet, directly to you for \$20; call 800/635-6887

If you have a modem, the add-ins are available on the "World of Lotus" section of CompuServe, in a file named SPDLRN.ARC and Lotus is also allowing all BBSs to carry them, so check your local boards

## Owner's Manual

(Continued from page 15)

INSTRUCTIONS: For results that can be the finest, it is our advising that NEVER to hold these buttons two times!!! Except the battery. Next taking the earth section may cause a large occurrence! However, if this is no trouble, such rotation is a very maintenance action, as a kindly small vire-point from Drawing B.

4. WARRANTY: Be it hereby known that this device, together with but not excluding all those certian parts thereunto, shall be warrentied against all defects, failures and malfunctions as shall occur between now and Thursday afternoon shortly before 2, during which time the Manufacturer will, at no charge to the Owner, send the device to our Service People, who will emerge from their caves and engage in rituals designed to cleanse it of evil spirits. This warranty does not cover the attractive designer case.

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(Originally published in the "Big Picture" by the  
Ryerson Polytechnical Institute Computing Center,  
Toronto, Ontario)

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## Unprotecting Basic Files

By Colin Tuttle

If you have saved a BASIC file, for example, YOURFILE.BAS with the protected P option, you can easily deprotect the file using the following command: (from BASIC)

```
NEW
BSAVE "ZAPPER.BAS", 1124,1
LOAD "YOURFILE.BAS"
BLOAD "ZAPPER.BAS"
LIST
```

The program will now be listed on your screen. If you want to unprotect the file forever, make sure you resave YOURFILE.BAS in the unprotected mode, else you will have to go through these steps again every time you want to list the file. The file named "ZAPPER.BAS" is created by the BSAVE command, and can be called anything.

# Back Issues of jr Newsletter

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

You can obtain articles from issues not listed here by ordering Best of jr Newsletter Disks I or II. See Software Store listings for more info on these disks.

To order back issues, please fill out the form below.

**May 1988:** Compatibility \* DOS Tips \* Printer Maintenance \* Useful Batch Files \* jr Fanatic \* As Easy As \* Jr Power Pack II.

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

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

**August 1988:** New Combo Cartridge \* Low Cost Computer Gadgets \* User Friendly CAD Software \* Using DOS's PROMPT \* Language Tutor.

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

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

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

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

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

# Don't Give Up on Our Games!

Some people have returned game disks to us, saying they can't get them to operate properly. Although disks sometimes do get damaged in the mail, the games in our Software Store all will operate well on PCjrs. It just takes a little patience, sometimes.

One thing to keep in mind is that some games are written in BASIC. You can tell which ones they are by looking at the disk directory (type DIR). If the name of the game is followed by .BAS, it is in BASIC.

To run these games you need Cartridge BASIC or a patched version of BASIC. At the A:> prompt, type BASIC (filename)

The game should then run. Occasionally you may get a message that says "error in Line 123" (or some other number). To get rid of this message, type in the number and press Enter. When you see the OK message on the screen, press Fn 2 (F2 on PC keyboards) and the game should run fine.

# Write and Play Music On Your PCjr!

All you need is JR MUSIC MACHINE  
-- Disk #62, page 23. --

## Back Issue Order Form

Please circle the issue(s) you want:

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10/88     11/88   12/88   1/89    2/89

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**Total**      \$ \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_ Zip \_\_\_\_\_

Add \$5 for Canada. Must be U.S. Funds.

Send to: jr Newsletter, Box 163, Southbury, CT 06488.

\* \* \* **PCjr CLASSIFIEDS** \* \* \*

**DESPERATION SALE** - Mint condition PCjr, 256K, Tecmar jr Captain, IBM Color Monitor - All with original boxes and manuals. Software included. Asking \$350 - Make me an offer. Tom Hosea (713) 499-6351 (please leave a message) (3)

**FOR SALE** - IBM PCjr enhanced with 640K & two disk drives. Panasonic printer, enhanced keyboard, joysticks & mouse attachments. Asstd. software programs & walnut finish PC table & printer stand included. Asking \$1200. Call am/pm (203) 744-2890 (3)

**SOFTWARE FOR SALE** - PFS: Write, Plan, File, Report plus Keymaster (typing tutor), Typewriter, Widespread (prints long spreadsheets sideways) and Sign Designer (prints simple banners for parties, etc.). All originally purchased as PFS: FIRST SUCCESS. Asking \$125 or best offer. Also Newsroom Professional which includes 3 graphics disks for \$50. Call Rod (717) 444-3526 (3)

**IBM PCjr** - Racore Drive II Plus w/DMA, 640K, Color Monitor, Complete documentation; Basic & I.D. cartridges; Joystick; Cables; DOS & many programs. Perfect condition! (Also IBM 128K Sidecar) Don Barshinger (215) 296-3975 after 6:30 PM P.O. Box 1875, West Chester, PA 19382 Complete - \$625 (3)

**PCjr CLOCK CARTRIDGE & ROM CARTRIDGE KITS** - INTEGRITY TECHNOLOGY, 105 Serra Way, Suite 230, Milpitas, CA 95035. (408) 262-8640.

**IBM PCjr** - 128K, Color display, OKIDATA 82A, IBM joystick, BASIC cartridge, DOS, Writing and Graphing Assistant, COMBO cartridge, all documentation. \$500. Gary Anderson, 2819 Wildcrest Lane, Stillwater, MN 55082. (612) 439-8971. (3)

**640K PCjr w/PCjr Color display**, 1 joystick, parallel printer attachment, serial & cassette cables, DOS 2.1, Cartridge BASIC, Kings Quest I, all documentation, \$550. 384K board for Racore or Quadram, \$55. KB 5149jr numeric keypad (new) \$25. Call Mark at (518) 383-4909. (3)

**Use your PCjr to learn a Japanese art form!**

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

**PCJR-640K**, NEC V-20 chip, 10 MB Racore hard drive, 2-Racore floppy drives, Racore PC ID cartridge, IBM 300 baud internal modem, 2 IBM joysticks, PCjr color monitor, Brother DX-15XL LQ daisy wheel printer and stand. All cables, power packs, manuals. Thousands of \$\$ software. Call Steve Sharek COLLECT at (707) 938-8706, or write at 424 3rd St. W., Sonoma, CA 95476. (3)

**IBM PCjr COMPACT PRINTER** good condition with 2 rolls of paper \$40 UPS paid USA. Original chicklet keyboard \$15 UPS paid USA. Lawrence Allan, 700 Chestnut St., Neenah, WI 54956 (414) 722-2192. (2)

**TECMAR jr Captain** sidecars with manuals and software for \$60. Also have a PC Enterprises PCjr monitor adapter that change PCjr monitor to PC for \$15. James Read, Voyles Rd., Rt 3 Box 361, Pekin, IN 47165 (812) 967-2498. (2)

**IBM PCjr Racore 2nd drive**, 512K, Racore DMA, DOS 2.1, 2 IBM keyboards, plus one XT style keyboard. Original Hayes 300 baud modem, Koala Pad, cables and adapters, tons of software. Will ship COD, ask for price. Call Hermann Reiner at (212) 608-5920 and leave message on machine. (2)

**WANTED FOR PCJR** - 1) 2nd 5.25 disk drive with installation instructions. 2) 256K or 512K memory upgrade with instructions. Call Bill Bizovi (914) 679-8874 from 7-11 EST. (2)

**WANTED TO BUY:** Cartridge BASIC and manual, if any; Wordstar Install (1.00) disk for PCjr. (I accidentally erased my original) and Castle Wolfenstein game by Muse for DOS 2.1. I have 256K memory. Maureen O'Connor, (617) 522-9523. Leave message on machine and I'll return call. (2)

**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



# 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 VERSION \* 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)

**\* NEW \* 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)

**\* NEW VERSION \* 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)

**\* NEW VERSION \* 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. 128K ok. (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. Excellent choice for maintaining mailing lists, etc. Many powerful features. 256K (Disks #83 and #84)

**AS EASY AS.**

Excellent, easy to use, spreadsheet pro-

gram. 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)

**COMPUTER TEACHER.**

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

**RAMDISK.**

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

**MIND READER.**

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

## 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

*(Continued on page 22)*

average velocity and much more. Manual on disk. 128K (Disk #20)

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

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

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

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

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

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

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

## GAMES

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

**PINBALL RALLY.** A colorful collection of amazingly realistic pinball games. Using the Shift keys as flippers, the games get more and more complex until you get

to Twilight Zone, the hardest one of all. Runs on 128K. (Disk #10)

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

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

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

**REFLEX POINT.** Patterned on the TV show Robotech, this game follows the show's storyline, with the Freedom Fighters trying to reach the Reflex Point and destroy the evil Invivid 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)

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

**SUPER BOARD GAMES.** Excellent versions of two popular board games Monopoly and Risk. Very much like the board versions, except your computer keeps track of everything for you. All you have to do is make

the right moves and have fun. 256K. Need Cartridge BASIC (Disk #55)

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

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

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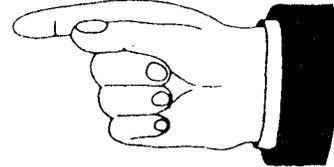
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