New PCjr Megaboard
Adds 1,024K To PCjr Memory

A newly developed expansion unit is capable of adding 1 Megabyte (that's 1,024K of memory) to the total memory already on your PCjr, for a maximum of nearly 1.8 MB.

This breakthrough has just been achieved by PC Enterprises, the PCjr specialists in Belmar, New Jersey. Pat Calabria, Chief Engineer, told jr Newsletter the "Megaboards" look just like other PCjr sidecar expansion modules, but can add up to 1 MB to the memory on a PCjr.

If your PCjr already has 736K, you could attach a 1,024K Megaboard for a total of 1,760K. This would make it possible to create a RAM disk to use for large software applications while still retaining the 736K for other purposes.

For example, you could load a program like WordPerfect, complete with its Thesaurus, into the RAM disk and get superfast performance. Pat says with WordPerfect loaded in this way it takes less than a second to access the Thesaurus and about five seconds to spell check a 10 page document. No mistakes in that document, we'll bet, but even so, that's fast!

The Megaboard can be used in many ways. Although it's capable of adding 1,024K to whatever memory you might already have on your PCjr, you can buy it with just 256K on it and add memory at a later time, if you wish.
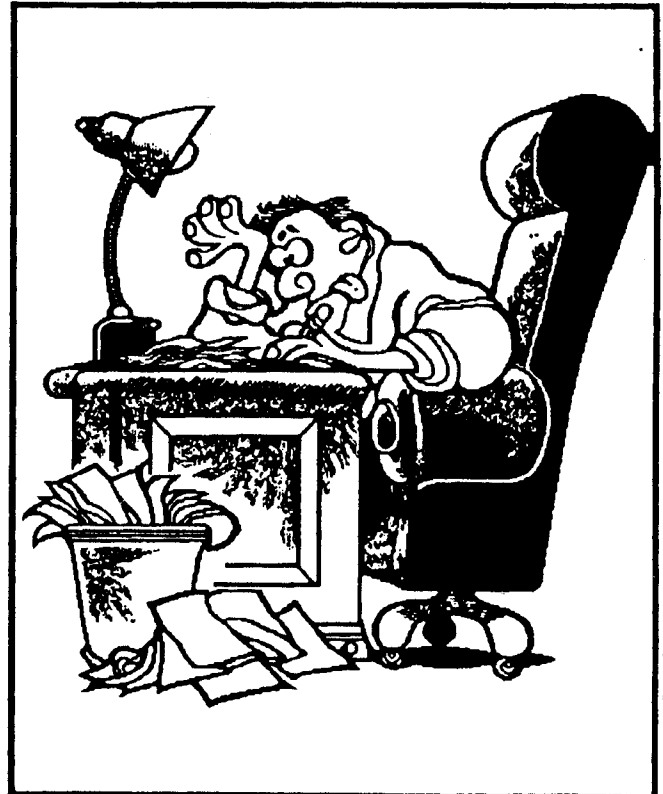
INSIDE

PCjr Lives!

"Why didn't I learn to use my PCjr?"

The Mesa 286J --
It's Hot! Hot! Hot!

By Craig Tregillus

If you don't have your MESA 286J speed-up board yet, place your order now. Nothing I can write will do it justice. Let's just say it's so fast it leaves all the other speed-up options for the Junior in the dust - and even many AT's.

Now your orphaned PCjr can run with an 80286 processor at 12 mhz. "Run," that is, as in Florence Griffith Joyner, or maybe Big Daddy Garlits. I might have mentioned Chuck Yeager, for that matter, except he keeps claiming he doesn't know me.

I used to wonder why some other Junior owners

Note To Former Junior Report Subscribers

The transition between The Junior Report and jr Newsletter, which started two months ago is still being perfected.

We ask those of you whose letters and orders to The Junior Report, which published its last issue in March 1989, to bear with us while we work the bugs out of the transfer of records.

For the most part, the transition has been smooth, but in some cases, letters and orders you sent to The Junior Report never reached us. We agreed to fulfill the number of issues remaining on The Junior Report subscriptions, but we have not assumed responsibility for all orders for software and memory upgrades placed with The Junior Report since they ceased publishing.

As we mentioned in previous issues, as well as in cards sent to The Junior Report subscribers, we have coded your names with an expiration date based upon the records we received from The Junior Report. You can tell when your subscription will expire by reading the code printed on your mailing label. The code is a combination of the year and the month in which you will receive your last issue of jr Newsletter. For example, a code of 8912 means the last issue you will receive is the 1989 (89) December (12) issue. If you have proof in the form of a cancelled check that the code on your issue is incorrect, we will be happy to correct it.

On another subject, The Junior Report at one time took orders for upgrading PCjr memory expansion sidecars. jr Newsletter does not do this modification. We suggest that if you are interested in expanding the memory of your PCjr, you contact one of the advertisers in this newsletter, all of whom are companies who specialize in PCjr products, repairs and upgrades.

We plan to fulfill those software orders placed with The Junior Report that were forwarded to us, as soon as we receive the master disks from The Junior Report's software collection, which we had not received as of the middle of October, when this issue was written. If you placed an order for software with The Junior Report, we ask you to be even more patient than you have been already. This is hard for us, too.

PCjr Compatibility Disk Update Now Available

Version 3.0 of the PCjr Compatibility Disk, Disk #60 in the Software Store, contains all software compatibility data we've been able to collect since Version 2.0 was released in March 1989.

The disk contains information on over 800 software titles. It lists whether or not the software runs on PCjrs, how much memory it requires and often includes comments on the quality of the software. Tips on how to get each title to run on your PCjr are provided, whenever we have been able to gather such information.

Also included on the disk are articles with information on PCjr compatibility as well as tips on how to set up your PCjr in order to get so- called "incompatible" software to run.

In our experience, over 90% of software made for PCs and compatibles will run on PCjrs, provided they have the required memory. Unfortunately, some software developers have chosen to ignore hundreds of thousands of PCjr users by allowing their software to be difficult if not impossible to run on PCjrs. We are currently waging a campaign to convince those companies to include PCjr compatibility in future titles and we hope this will cut down on the number of incompatible titles produced.

But the fact is, PCjrs are orphaned computers and those of us who own them, though WE know they are excellent computers, have to be aware of the fact that some software companies do not have our interests in mind.

The list on this disk is updated with information supplied by readers of jr Newsletter as well as by our own testing. We have been greatly helped in this effort by Dave Paules of the Metro PCjr Users Group, which serves the Washington, D.C., area PCjr users.

We are not able to test all new software titles, but we do try to include all reliable information we can obtain.

The PCjr Compatibility Disk V3.0 is Disk #60 in the jr Newsletter Software Store, page 23.

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. Did IBM build some surge protection into the PC jr? C Richardson, Kailua-Kona, HI.

A. The Tech. Ref. Manual information and schematic for the power supply show no protection. There is, however slo-blo fused and thermal protection. This would only react to loads from within the jr. not quick surges from the wall receptacle. There is always a bit of spike and RF protection in any transformer, (it's a choke, isn't it?) depending on frequency pass-band design but here it is minimal. We always recommend external protection, especially those with full surge, RF, noise and spikes handled. Both sides of the line to each other and to ground are the only worthwhile types. Prices start about $40.00. Cheap insurance!

Q. I have a Logitech Serial Mouse. They, (the company) will not support it on the jr! I have found a 'round-about' way to make it work, but am still looking for a real solution. I found that if I disconnect the mouse AFTER booting and installing the mouse driver then re-connect the serial port, it will recognize the mouse OK. Any suggestions? R. Volsey, Saskatoon, Canada.

A. This reader sent along his booting information which probably gives us the best clue. On our Software Store disk #52 is a utility called "SWAPCOM" which we did not find in the information submitted. When added to your AUTOEXEC.BAT file this utility will swap the port addresses to agree with the standard PC serial port COM 2: You then call your mouse driver (as you already tried) for "mouse 2" and the recognition will be complete. We are disappointed that Logitech hasn't the information (or the brains) to tell this very well-known method to its customers. Can't figure out why disconnecting and re-connecting triggers the recognition!

Q. PC DOS 3.3. Upon booting I get some colored squares on the screen, which WILL NOT GO AWAY when I run applications. Racore's staff informed me that there is a patch from IBM to fix this. How on earth does one get through the labyrinth of bureaucracy to request this patch, and what does it cost? Also is there anything else necessary to run PC DOS on the jr? The box clearly states compatibility with a jr minimally configured with 128K. What about using MS DOS instead? I also have an XT clone running MS DOS. P. Metzker, Jonesboro, GA

A. First, all GENUINE bug patches from IBM are free. Second, ANY IBM authorized dealer is required have it or to get it for you if it exists. If they refuse, call ANY IBM number and report them immediately! PC DOS 3.3 runs perfectly on a jr, but uses more memory for itself when installed. MS DOS also runs fine on the jr, but you MAY run into Cartridge BASIC problems if you program with this version. Programs used or developed on machines with MS DOS should be completely compatible on machines with PC DOS. IBM's PC DOS may not run on non- IBM machines such as clones, but MS DOS runs on IBMs with the above cautions. Best bet: PC DOS 3.30 on the jr and MS DOS 3.30 on the XT compatible; the applications, file formats etc. will run fine on both machines.

Q. I am becoming interested in tele-communicating. I have the 300 Baud internal modem, but am afraid of "viruses" etc. How common and dangerous are they? Can I "immunize" my system? Sheiblin, Bloomfield, NJ and H. Straub, Mercer Isl., WA

A. You didn't mention software to use the modem, so we advise JRTELE, which is specifically tailored to the internal modem. It is Disk #86 in the Software Store. On the one hand viruses run from "jokes" to dangerous, and on the other hand are not at all common. Bulletin Board operators are a very conscientious lot, and they filter incoming programs pretty well before letting them out again. The commercial services such as GEnie, and Compuserve are beginning to do the same, so things are starting to improve.

Q. I have a jr. with a Hotshot 256k card. When using a program with a large Database I get the message "out of memory in 1940" presumably because of BASIC's 64k limit. Is there a way to "fool" BASIC to use some or all of

Questions and Answers

(Continued from page 3)

the unused memory I have? The program is only 50k in size! S. Gleser, Cincinnati, OH and others.

A. Is this 50k the size you read from the disk? If so, the program may be considerably larger once it is in memory! First, however, the 64k limit you mention is for Interpreted Cartridge or Disk BASIC, so the best solution is simple: get QuickBASIC version 1.xx, 2.xx or 3.xx. We don't think you can run versions 4.xx, you probably don't have enough memory. Compilers don't have the same Code and Data size limitations and can use ALL the free memory they can find. They have a zillion other enhancements -- and they run like lightning. Better yet, get a total of 640k and go for broke!

If you feel the financial pinch, and are very confident with the Interpreter, you could possibly use SEG then PEEK and POKE to get outside the 64K segment (the way BSAVE and BLOAD do) for the Database storage and manipulation, but be careful not to overwrite existing active memory. (See the next Q. & A for another technique, ie. Random Access Files Database which stay on disk and are loaded only one at a time as needed.)

Q. Is there a better SORT for random access files in BASIC than the Shell-Metzner sorting algorithm? If I sort a file of 500 80-byte records currently in ZIP Code sequence to Last Name sequence it takes about a half hour! O. Barnes, Federal Way, WA. and others.

A. This may be asking the wrong question, because the Shell-Metzner Sort is one of the quicker algorithms around. There are, however, a couple of other ways to get the sort done. It seems to us that you are actually sorting the Database strings! Moving strings around in memory or on disk is the least efficient way to do the job, in any computer language.

One method you should first consider (don't laugh) is the SORT command of DOS. Even this should do a sort of 500 records in a few moments! Just try this with DOS's SORT.EXE on the disk:

A:SORT <FILENAME.DAT >A:LNAME.DAT (This will sort on the FIRST letter or number of the FIRST field, if this is where the last name is, and write the sorted file to LNAME.DAT)

A:SORT /+75 <FILENAME.DAT >A:ZIP.DAT (This will sort on the ZIP field, if the zip code is 75 bytes into the record, and will write the sorted file to ZIP.DAT)

Now your BASIC program just selects either ZIP.DAT or LNAME.DAT to GET with a normal FOR - NEXT, WHILE - WEND, or IF NOT EOF(x) loop for printing, browsing, etc.

You should really make BATch files to do these sorts. Remember, you will ONLY have to do the sorts when and if you change or add to the original FILENAME.DAT (to which

your the BASIC program should continue to write.)

There's considerably more programming involved if you want the whole thing to be handled by BASIC. You will have to sort numbers (integers) in arrays in memory, each of which points to the random access records. Here's the rough theory to get you started:

Make a new array ZIP(P%) and initialize it to contain the numbers from 1 to 500 (or whatever is the total). This array will become the manipulated (sorted) record number. In other words, if the records are in Last Name alphabetical order already, when ZIP(P%) is called to print or list in ZIP Code order, the number in ZIP(P%) will be the record number which carries the correct ZIP code record. The GET statement can then GET ZIP(P%), the actual record desired. In effect, you have parallel arrays, and will NOT actually sort the random access records in memory or on disk. The sorted pointers do the selection, the Database is actually left alone!

A second array is set up and initialized as LName(P%), and only the numerical array LName(P%) is sorted. These two arrays ZIP(P%) and LName(P%) should be written to disk and saved. To use, just load and use whichever one is needed with a FOR-NEXT loop using P% for the counter. The Database is called from disk by GET ZIP(P%) or GET LName(P%) and the records will be called in the desired order. Sorting ZIP(P%) and LName(P%) will ONLY need to be done if the Database is added to or changed. Now here's the kicker: It will be fast when it does do the sort! Even the lowly Bubble Sort can be practical when used this way!

When you run the sort, read the ZIP Code and do the actual sort manipulation to ZIP(P%). Last Name sorting, of course, reads the last name and manipulates LName(P%) These are tricky in the Shell-Metzner algorithm, because the LNAME(P%) or the ZIP(P%) array is involved during the passes of the sorting.

You will find additional, useful techniques and complete algorithms in "Software Construction Set for the IBM PC and PC Jr." by Eric Anderson, Hayden Books, or "Fancy Programming in IBM PC BASIC" by Gabriel Cuellar, Reston Computer Books (Prentiss-Hall Pub). Check with our advertisers.

Q. After I patched DOS 2.1 I can run Lotus 1-2-3, Symphony and many other programs. I'm pleased about that because I have only one disk drive, however, I have problems with some high resolution (640 x 200) graphics pgms. such as PC-Key Draw which gives me an "out of memory" message and then shuts down. D. Hoene, St. Augustine, FL.

A. The reader goes on to enumerate various other, but similar difficulties. Here's the scoop... The programs you are running require different amounts of reserved video memory. PC Key Draw does not need the full amount of
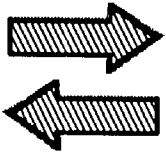
Reader Feedback
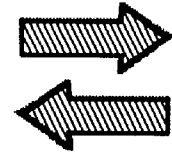
Reader Decides His PCjr Is Too Good To Give Up

I have owned my jr since 1985 and have always been pleased with it. Shortly after buying it, I realized that the original 128K was not enough and I decided to buy the IBM 128K memory expansion. In this time I have been using DOS 2.1, Crosstalk, Procomm, AsEasyAs, WordPerfect 4.1 (I print at work), and a variety of games. This combination has worked fine for me for several years and with all the people in your newsletter talking about the many things they have done with their jrs, I began to toss around the idea of expanding my jr or buying a new machine. Several factors led me to keep on with my jr.

First, new machines are relatively expensive. If I were to buy a new one, I would at least want a hard drive and better graphics (I would not step back to plain CGA). I knew that when I was done, the cost would be over $1,000. Considering that I use my jr to connect to the mainframe at my office, keep a spreadsheet of my expenses and play games with it, I already have the machine to satisfy my needs. I did not want to get caught up in the hype of 286 machines when I really wouldn't use it. I believe these machines have a place in the office but not necessarily the home. With this in mind I began the upgrades.

Since this summer I have replaced my 8088 with a V20 and have replaced my 64K dram chips with 256K dram chips on the IBM sidecar from instructions I downloaded from a bulletin board last year. The chips cost $4.25 each at MP Systems in Torrence, CA. (800-225-7010). I have also downloaded instructions from the jr Metro Users Group in Washington that showed me how to modify my floppy disk controller to handle 2 drives and I have performed the modifications. I still have to buy the drive which I intend to be a 1.4 meg 3.5 inch drive. From the letter by Dave Turson in the August issue, I realized that I can probably get away with branching off of the power from the original floppy since neither run at the same time. (Sounds good). As for the drive box, I will probably make it myself from scraps.

When I am all finished, I expect to have invested about $200.00 and will have a machine that has 640K, runs faster, and has a second drive that holds twice as much as the first. Hopefully someone will discover how to use the full 1.4 meg. In the process I have learned a lot and have enjoyed the satisfaction of seeing something I did pay off well.

What's on the list after this? Probably a parallel inter-face with clock and calendar and a quick silver combo cartridge. Maybe I do not have the hard drive, but I don't regret investing this much into my jr. It is certainly capable of filling the needs of the average home computer user. Besides, there was a file on the bulletin board on how to build an interface for a hard drive. Hmmmm.

Paul J. Eckert, Havertown, PA

Reader Notes That PCjr Power (The Black Brick) Has a Fuse

Your readers may want to know that the IBM brick power supply that isn't supposed to be serviceable actually has a fuse inside. This is no comfort to a buddy who threw out two of them before finding this out. We had to use a dremel tool to cut through the case to get to it to replace the fuse (easy enough once you open it up). So nice of IBM to "cheap out" and not put a fuse case through the body of the power supply.

Steven Douglas, Methuen, MA

Expiration Dates, Keyboard Problems, And Finding The Right Word Processor

I am one of the jr-philes you picked up from the Jr. Report. I certainly did enjoy the first issue and I'm glad I had just renewed my subscription. I have a couple of questions I need answers to.

No. 1 is how do I read the "expiration date" on the mail label. It seems to be in code of some sort or mine is 8-91?

No. 2, I have a DataDesk keyboard that I purchased about three years ago. I have some problems with keys not working at times. This generally doesn't last long but it's very frustrating when you're trying to type a "z" or use the arrow key and it seems dead. I've tried contacting DataDesk by phone and they are no longer listed. Any idea as to where they have gone? Not "under", I hope.

No. 3 is more complicated. I use word processing a lot

Reader Feedback

as I am a frustrated author and love to write. I received **Writing Assistant** with my jr, as did many buyers, and I like it but the documents are too short and it lacks many recent advances in the writing program art. I also have **Bank Street Writer** and like it but it won't read Writing Assistant files.

I want to buy a better word processor and, I hope, one that won't require a 90 day college course to operate. I want one that will read my old Writing Assistant files as well as ones from Bank Street Writer. Can you offer any suggestions?

I heard **PFS Professional Write** would do this and took them up on the "free trial disk" offer. I got ripped. The enclosed letter said it wasn't copy protected and to share it with your friends.

Well, I used it one time, for a few minutes, to see if it would load and it did. I decided to wait until I had more time to "play" with it and put it away. About a week later, when I tried to load it, I got "Disk Drive Error" every time. I used the original and the copy and got the same message. I do not get this error message any other time so I suspect the program had been "protected" even though they said no.

I wrote them but, of course, received no answer to my query. So much for PFS. Any other program read IBM's files?

In case you're wondering, my jr has 640K via a Tecmar Jr. Captain board that I had upgraded locally. I have two 360K drives and when one goes I will add a 3 1/2 drive. I also use a Combo Cartridge and the Thin-Font module, which I really like.

I only wish someone would offer us hard drives without the benefit of a home equity loan. I just don't want to put another six or seven hundred dollars into jr at this time as I am retired. Two or three hundred would be acceptable as I see them advertised all the time for PCs and compatibles.

I might as well air another of my grievances against the establishment. Computer magazines such as PERSONAL COMPUTING have left the PC and compatible owner which they claim to serve in the lurch. All they cover now is the 386, 386SX and other megabuck systems. They also think everyone needs OS-2 and/or Windows, which won't run on anything less than a 286 machine with megamemory.

They say that 60% of all computers in service are still PCs, XTs and ATs. For most of us, the cost of these superfast machines isn't worthwhile. I guess I'll have to drop PERSONAL COMPUTING and look elsewhere for articles that I can use.

Jack D. Goetz, Houston, TX.

EDITOR'S NOTE: We'll try to answer those in order.

1. Your address label has a code number on it which indicates when your subscription expires. The first two numbers are the year, while the last two are the month. For example, 9006 means that the last issue you will receive is the June (06) 1990 (90) issue. Since we've assumed the subscribers of Junior Report, we've added an R or J after the number so we can keep track of who was originally a Junior Report subscriber (R) and who a jr Newsletter subscriber (J).

2. The keyboard problem sounds like a failure of specific keys due to dirt or other loss of contact. Keyboards should last for many more than three years, although your warranty period is probably up. DataDesk is at 7651 Haskell Ave, Van Nuys, CA 91406. (818) 780-7317.

3. Here are a few tips that might help you with your word processing. First, you can increase the size of files with Writing Assistant if you use a PC-ID Cartridge, which fools WA into thinking it's running on a PC. These cartridges are available from most of our advertisers. Second, when one word processing program won't read the files of another, you should try saving the files in ASCII format. Sometimes this is called "text", "document" or "unformatted" format. Most word processors can do this. Then the other software will most likely be able to read the files and convert them into its own format. There are so many excellent word processors now that it's really a matter of personal preference, mixed with pocketbook considerations, which will determine which is best for you. We use PC-Write, which you'll find in our Software Store, and WordPerfect, which costs a bundle, unless you can find WordPerfect jr somewhere. It's a nice, compact version of the larger one.

4. PFS Professional Write is another excellent, though pricey, word processor.

5. We have noticed for several years that the big computer magazines seem to have abandoned the average user. We try to provide articles on the level that most users can appreciate. You won't find any plugs for 25 Mhz 386 computers here.

Reader Seeks Info on MIDI Interface

I appreciate the free copy of **Jr Newsletter** that I received the other day. It was very interesting with even more new ideas on how to stretch the usefulness of my PCjr. I would like to subscribe and am sending my check with this letter. It seems more people continue to fall by the wayside, but I for one still enjoy flipping the switch and computing with a machine that can still do all I need it to do. Almost. The reason for this letter is to find out from other readers if they use or heard of someone who has figured out how to set up a MIDI application on their PCjr. I have a PCjr with a fully loaded Hotshot board along with a Thomsen 4120 monitor. I use the composite outlets to tap into my stereo

for a better sound, but I would like to use my MIDI keyboard and a sequencer to make my own music. If anyone has heard of an application for a MIDI interface to Junior I would appreciate someone sending it to me at the following address: Stoney Samons, RT 2, Box 473, Mayfield, KY 42066.

Stoney Samons, Mayfield, KY

EDITOR'S NOTE: We had an article on MIDI interface for PCjr in the Sept-Oct 1988 issue. If any readers have more recent information, please let us know.

Fuse Blows in PCjr Monitor, User Group Dies But BBS Lives

Alas, jUMP (jUNIOR USERS of the MONTEREY PENINSULA) is no longer in existence. I still maintain the bbs (jUMPIN), and still support the PCjr with the board. To the best of my knowledge, all the files I have on line will work on jr in one of our many configurations. The club died because of lack of interest or participation. A club is only as active as its members, and we had a lot of inactive members.

I now support 300/1200/2400 on the board, and am on line 24 hours a day. Validation is required, but that usually takes place within 24 hours. PCjr users even get extra time on my board!

Third, I know that there are still a lot of folks who are just being introduced to the jr. There are also a whole lot of us who have had jr for a long time. I would like to see some more technical and maybe some trouble shooting articles printed. Maybe the "newcomers" can just save the articles till they need them. A lot of us "old timers" are coming up with some weird problems and could use some help.

Case in point. A few weeks ago, my monitor died. Nothing on the screen at all. It acted like a blown fuse, but there is no fuse visible. All across the back, there are warning messages saying something like "No user or field serviceable components inside". Well, out of desperation, I ignored the warnings and found a blown 3.15A fuse. I do NOT recommend that anyone can open the back of the monitor, because there is a lot of VERY high voltage in there and if you don't know what you are doing, you CAN get hurt. I had called the SF jr users bbs and asked if anyone knew what could have been my problem, and no one had had anything like that happen, so I did go ahead and took the monitor apart. There is a fuse there, you just are not supposed to change it in the field (I guess).

In closing, let me thank you again for your continuing support of the PCjr, and more importantly, your support of us PCjr users! I run my bbs on an XT clone and have access to several other machines, but none of them causes me to grin when I boot it up. My jr gets me to smile whenever I boot it up, even on "those" days that we all have once in a while. What a great machine!

George Layton, Seaside, CA, BBS (408) 394-8842.

Grand Slam Bridge Version Without Copy Protection Is Compatible

There was a question asked by a G. Olsen of Camano Island, WA in your Sept - Oct 1989 issue about running **Grand Slam Bridge** from Electronic Arts on the IBM PCjr.

When the original version came out, that was copy protected, I could not get it to run on my machine, and had to return it to the store that I had purchased it from. At that time, I wrote to Electronic Arts to explain the problem and to see if they could help me. There was no response to my letter.

However, subsequent to that time, I purchased the later version that came out, that is not copy protected. There is no trouble running this version at all with my set-up. It works fine and is a terrific program for learning and practicing the game of bridge.

For this person's information, my set-up is as follows:

Reader Feedback

(Continued from page 7)

IBM PCjr with the PCjr Color Display, IBM Graphics Printer, DOS 2.1 with Cartridge Basic, Racore Drive II w/o DMA - 2nd Disk Drive, Racore 512K memory board making a total of 640K.

I enjoy your newsletter and hope I have been of some help to this individual. My machine is used constantly, mostly for investment, business statistical and word processing work. Sometimes I get a chance to play a game on it, but mostly it is used for word processing, spreadsheet or database work. I have no problems running almost any type of software that I have tried with the above setup.

Stanley P. Blacher, Providence, RI

EDITOR'S NOTE: Quite often the copy protection system is what makes some software fail to run on PCjrs. dBASE III is another example. So it is a good idea to get the non copy protected version whenever possible. Fortunately, copy protection seems to be less popular now among software companies than in the past.

Reader Traded "Up" To PCjr But Has Trouble With A Patch

HELP! I recently purchased Disk #56 to patch **King's Quest IV, Leisure Suit Larry - #2, and Police Quest - #2.**

King's Quest IV works wonderfully. But on LSL2, I keep getting the message "Oops, you have found an error." And on PQ2, all I get is a "blow-out" -- meaning, I load it and af-

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ter the screen goes solid color nothing else happens.

Could you please help me? Now, if the patch didn't work on any of the games, I would know I made a mistake. But the fact that it works on KQ4 only makes it frustrating when I try to figure out why it won't work on the other two games.

To give you a brief rundown: I originally purchased a Packard Bell 30 Meg hard drive. After a month of using it, I found that I was not learning anything about computers -- but only punching in the letter to this or that. As great as the computer was, I was not satisfied because it took no "brain work" on my part. I traded for a fully stocked PCjr (and some money naturally) and dearly love the jr. It has everything on it that it could possibly have except for a hard drive. I'm not "afraid" of my jr, as I was the hard drive. And, it is a learning tool for both myself and my children. For one moment, never have I been dissatisfied with this trade. I wanted to learn with my computer and on the PCjr, that is just what I am doing.

BUT, this problem with the patch for the games just really has me puzzled. Could you please tell me how to correct the problem -- or even send me a copy of the first disks of LSL2 and PQ2 that have been patched properly. Naturally, I would pay for this.

My boss is somewhat of a "genius" on computers and even he can't figure it out. We've even made "fresh" copies of the first disks from his and still get the same problem.

By the way. In trading to the PCjr, I find it remarkable that it does almost everything that my PB hard drive did. I didn't expect it to be so versatile. AND, I am very pleased with it. Surely hope ya'll plan to stay in business for at least 20 more years .. or at least 10. The jr I have is a dual floppy with a 3 1/2 drive. I can use my same programs on it as I was using on the 30 Meg hard drive. Wish there wasn't that "stigma" attached to owning a jr. I tell friends what I have, after trading, and always get the strangest replies. I end up having them come over to my home, use the computer, and they leave knowing why I am so satisfied with this trade.

Nancy Philo, Milton, FL

EDITOR'S NOTE: Glad to hear you decided to get a good computer and save some money, too. There are many versions of Leisure Suit Larry II and Police Quest II (although you can't tell from the packaging which one you have). If you were successful at patching King's Quest IV, it sounds as if it's probably not your fault you failed with the other two. You may have versions that this patch, which was written especially for the early non-PCjr-compatible version of KQ IV (but proved effective with at least one version of LL II and PQ II) can't handle. We suspected this might happen, which is why we didn't promise patches for LL II and PQ II

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in our description of the JR PATCHES Disk in our Software Store. We did, however, suggest that it would work on all three games in our on-disk introduction. We'll change that to say that it MAY work for LL II and PQ II, but no guarantee.

Paper Hole Protector
Stops Sidecar Shorting

I recently came across a problem which other people may well have without knowing it. I have 736K on my PCjr via two sidecar, one straightforward 512K modification of an IBM 128K sidecar, and the other a slightly modified 128K sidecar. The computer had acted up occasionally, but inasmuch as I had read that modified sidecars sometimes did this because of poor contacts on the jr's side, I thought nothing of it. A few days ago, however, I had a complete "whiteout". Removing the sidecars indicated that the problem was in the 512K memory extension. Further investigation revealed that tightening down the lower front screw would stop the machine in its tracks.

I went over the board with a 14X hand lens and discovered some questionable places where many leads passed between the pins of the memory chip sockets, so I cleaned these all off, rebrushed everything and reassembled it. Everything worked well until I retightened that lower front screw, and the computer abruptly stopped again. I went looking, and I found what I believe has been the problem all along.

The standoff is circular, and it's supposed to be covered with an insulating paint. My problem was that the paint wasn't thick enough there (or had abraded), and the standoff itself was shorting out two solder pads on the card. One could actually see where the outer standoff had squashed down half of one solder pad and clipped the corner off another one. Some paint remained, and I suppose that this was why the defect was intermittent. I discovered that this wasn't the only place where the standoff contacted conductors, but the ones not soldered are covered by resist. Still, this seemed like asking for trouble, so I found some of the rings that one uses to reinforce the holes in page punching. The internal hole was almost exactly the size of the actual central pillar whereas the outer diameter was that of the diameter of the standoff on which the card sits. I put one on each of the standoffs, and the machine's been running fine ever since. Of course, I tried screwing down that same corner tightly (not that I recommend this as a general practice), but no short showed up at all.

I should say that I had noted this sensitivity to screw tightening previously, but I had assumed that it was due to board warping. In this case, at least, examination at 14X

Reader Feedback

showed the squashed pad parts clearly. It seems rather poor design to have solder pads within the area contacted by the aluminum cover even if it's normally covered by a layer of paint. Perhaps it's OK if the board is not often removed from the sidecar, but mine has been out several times for several reasons.

My hard drive sidecar adapter arrived recently from SPC, Inc., and I've been involved with it ever since (the 10 MB hard drive works beautifully), so there's not been time to examine the other sidecars to see if this problem could occur with them.

Inasmuch as this intermittent problem caused me a lot of grief over the years, I thought the readers of jr Newsletter might like to know about it.

My layout has one internal floppy drive, one external 5 1/4 drive and one external 3 1/2 drive along with the PRO-PRINTER, the standard PCjr monitor and now the old IMI 50120H 10 MB hard drive. Also installed is PC Enterprise's COMBO Cartridge, version 2.0 and Integrity Technology's Clock Cartridge. The PC Enterprise THINFONT video ROM has greatly improved the legibility of the monitor when doing text, and I'd heartily recommend it. Installation took all of two minutes, and it works without trouble. I modified the floppy's drive card, again using Paul Crumley's instructions, and it works perfectly. I also have installed a program called DRIVBASE which allows me to format disks at 10 sectors/track instead of 9, and which allows me to specify 42 tracks (or 84 for the 3 1/2 drive) instead of either 40 or 80. This raises the capacity of not nominally 360K disks to 420K and that of the 720K disks to at least 840K (with some disks and/or one can use 85 or 86 tracks and thus go to 850 or 860K). Although such disks cannot be read on other machines (unless DRIVBASE is installed), my machine will read standard disks and extended disks indifferently. An additional 120, 130 or even 140K on a 3 1/2 disk is sometimes a great help.

Jim Harrocks, S. Burlington, VT

Some Thoughts On Prodigy And Disk Drive Cleaning

Every time I read, either in the jr Newsletter or the Junior Report, that the **Prodigy** service software won't run on the PCjr, I have to shake my head a little in sadness. It isn't true, at least not in my case! The Prodigy software ran just fine (albeit, in CGA B&W graphics) on my jr. (However, at 1200 baud, even with the Nickel Express board installed on my jr, it ran so slow that I didn't use the Prodigy service all that much. It runs only somewhat faster on my 8 Mhz XT clone with VGA graphics. You really need a faster machine and/or 2400 baud modem to use the Prodigy service effectively.)

The Racore Drive II Plus on my jr is equipped with the DMA option. This gives the jr true DMA (Direct Memory Access) which the jr otherwise lacks as most jr owners are aware of. This may be the key to why I have been able to run Prodigy on my jr. From what I gather, folks who can't get Prodigy to run on their jrs don't have the Racore DMA option. I don't know for a fact that this is the reason, but it does sound likely. At any rate, it seems obvious that the blanket statement that Prodigy doesn't run on the PCjr, while it may be true in many cases, isn't true in ALL cases!

I was horrified to read in the Q&A department of the July issue where you recommended cleaning disk drives on a monthly basis. Cleaning a disk drive this often is the surest way to bring on the early demise of your drive! Just one disk cleaning is equal to a month of spinning disks in your drive. (If you don't believe me, read the last paragraph on page 64 of PC RESOURCE, June 1989.) Excessive disk cleaning can damage the read/write heads on the drive. In actuality, drives should not be cleaned more than once or twice a year, if that much. They don't even have to be cleaned, unless they are located in an extremely dirty environment, at all until you start getting numerous read/write errors. Then you'd want to make sure the problem isn't due to dirty heads before replacing the drive (which is actually cheaper than having the old one repaired). In my case, I've never had any problem with dirty heads on my jr's drives even though I never clean them more than once or twice a year. I've had my XT clone nearly a year and have yet to have any problems with the 5 1/2 drive even though it has never been cleaned either! You'd be doing yourselves a big favor if you stop cleaning your drives so often!

Finally, it is with great sadness and sense of loss that I must report that your fellow jr publication, The Junior Report, has apparently ceased publication. Neither I nor any of the other jr owners I know on Compuserve's jr Forum has received an issue since last March. As with the jrNewsletter, The Junior Report was an indispensable source of information on the PCjr and how to get the most out of this great little machine. It will be sorely missed! I only hope that you will continue in publication for years to come since, if The Junior Report has gone out of business, it means that the jrNewsletter is now the only national newsletter for PCjr owners! If you were to go out of business it would be devastating, especially for jr owners who do not belong to a PC users group with a jr section! Here's wishing you long life and success!

Steven S. Miller, Grand Terrace, CA

EDITOR'S NOTE: In our articles on Prodigy, we did not mean to imply that no PCjr user could get it to work. It does work in four colors on PCjrs with 640K. The patch we provide on the JR PATCHES disk #56 allows you to run Prodigy in 16 colors, which is what most people want since Prodigy's graphics are great. PCjr users also find that after a while the system freezes up and they are cut off. This problem is solved by NOBEEP, also on Disk #56.

As for disk drive cleaning, there are many differences of opinion, and yours is quite valid. First of all, everyone agrees, don't use the abrasive "dry" type of cleaner, which is like sandpapering your drive heads. The kind that come with a solvent that you apply to the soft material inside the disk casing is the safer choice. How often you clean your heads probably does depend upon how much dust, smoke or other air-borne particles you have in your environment as well as how often you get error messages from DOS when your PCjr attempts to read or write to a floppy disk.

Finally, thanks for your statement of support. We do plan to be around for a long, long time.

Slots On Legacy Board
Cry Out For Expansion

I was certainly very pleased to become a subscriber to your newsletter as it certainly breathed new life into my jr. I have found many of your hardware and software suggestions very helpful and have implemented many of them with success.

My PCjr was enhanced several years ago with a Legacy Technologies expansion chassis. The four-slot bus gave me visions of expansion that I could not resist. The bad news is that Legacy Technologies informed me that they are not developing any new boards for the Legacy II expansion unit. Do you know of anyone designing or producing expansion boards for the Legacy units? Or do you think the PCjr community could possibly pressure Legacy Technologies out of the low-end clone market an back into cutting-edge junior enhancement? I have acquired a bread board for development purposes, but I don't want to re-invent the wheel regarding hard disk controllers, co-processors, or multi-function boards.

Thank you in advance for any assistance you may be able to provide.

John Tasley, Oklahoma City, OK

EDITOR'S NOTE: The four slot bus on the Legacy unit should be further exploited by someone. Perhaps Steve Jacob of Legacy will be inspired by seeing this letter published. Or, who knows, any of you Legacy users out there got any ideas to share?

Spelling Checker Needs More Memory Than We Listed in Software Store

Just received **ShareSpell** (disk #94). I thought I was ordering **Spellr** as described on page 13 of the August newsletter. According to its documentation, ShareSpell seems to do more than Spellr in some ways but not as much as Spellr in others - for example, there's no explanation of how to add your own dictionary via an ASCII-created file.

Thought maybe you substituted what you considered a better program for the one you mentioned in the August newsletter. If so, that was a good intention. But you know about the road that leads to you know where ...!

Trouble with ShareSpell is that you ABSOLUTELY need two drives to run it! Since I have only one drive, I thought I could fake the program out by using a RAM disk. Nothing works.

I tried several things with various setups with and without ASSIGN and PATH alone and together. No matter

Reader Feedback

which of many setups I use, up came the message:

Runtime Error 204 at 02DE:0032.

In the words of General Halftrack (Beetle Bailey): Now What?

I know it would be appropriate to write direct to Acropolis Software, but if other subscribers have problems, you'll be getting more flack so I thought I'd let you know ASAP.

(By the way, I brought this program because I couldn't get Writing Assistant's Wordproof to run from a RAM disk without the main program!)

Philip T. Bonday, Maywood, NJ

EDITOR'S NOTE: We replaced Spellr with ShareSpell for several reasons. Sharespell allows you to make the corrections right in the document, rather than having to go back in to make changes, and Sharespell has a significantly larger dictionary. We discovered Sharespell a few weeks after we had written about Spellr and added it to our Software Store. Since it did the same thing better, we just made ShareSpell Disk #94 instead of Spellr. We tested it on a one drive system and found that it works very well. The error message "Runtime Error, etc." that you mention is caused by too little memory. We have to apologize. We listed ShareSpell as ok with 128K, but it requires 384K, and may require more to work with very large text files.

As for making your own dictionary with ShareSpell, you're right, the manual does not tell how to do it. But ShareSpell, unlike Spellr, allows you to add any word or words it finds in a document to its dictionary simply by pressing F9 when the word is highlighted. This is a very desireable feature. Spellr did not have the ability to do this. So we believe ShareSpell is vastly superior to Spellr and it's the one that deserves to be in the Software Store.

Anyone who purchased this disk thinking that it would operate on 128K can return it for exchange or refund.

Some Say Publish It! Is Great While This Reader Says It Fails

I just got the August newsletter and found that PCjr owners have been using **Publish It!** I tried to use Publish It! and could not get it to run. I also tried **Publish It Lite!** and could not get it to run either.

My PCjr has been enhanced with a Racore Drive II Plus with a total of 640K of memory and DMA and a Mouse Systems mouse.

I have tried your compatibility disk (#60) and it does not mention either Publish It! or Publish It Lite! I'd appreciate any help your newsletter's readers could provide.

Tom Holley, Kansas City, MO

EDITOR'S NOTE: Publish It! was cited by at least two PCjr users who responded to our 1989 Reader Survey as among the software they "use and like the best." That's why it was listed in our August issue along with other software that readers cited in their survey responses. Sometimes some PCjr users will say they love a program while others report it doesn't work on their computers. This may be because people who can't get it to run have not expanded their PCjrs enough. But it's even more likely that they just haven't used the right methods to get the software to operate. We listed some of these methods in the April 1989 issue of jr Newsletter, and they are also described on the PCjr Compatibility Disk #60. Even these methods can fail, however, and we'd like to remind you to only buy software from dealers who'll allow you to return it if you can't get it to run on your computer.

We'd like to hear from more readers about Publish It! because we understand it is an excellent, low cost, desktop publishing program.

Quadram Owner Seeks Info Sources

I have a PCjr with 128K, and a **QUADRAM QUADjr Expansion Chassis**, for a total of 512K. I have never seen this particular expansion module for the jr mentioned in your magazine. I am fairly new to PC computing, and the documentation that comes with the jr leaves a lot to the imagination, as does the QUADRAM documentation. I have two questions. Is there a technical manual for the PCjr - explaining things like memory expansion, adding peripherals, hard disks, etc.? Also, does the jr have any expansion slots, or do any of the expansion modules provide expansion slots for the jr? This may seem stupid since all I have to do is open up the jr and look, and I did open it up and look, and I still can't tell! What can I say, I'm a novice...

Anyway, thanks for a great magazine for new computer owners, and the only decent source of information for PCjr owners. Keep up the good work!

R. Dix, Birmingham, MI 48009

EDITOR'S NOTE: Quadram expansion units for PCjrs were made by Racore, and distributed by Quadram, which is no longer in business. Since you already have the documentation, you probably won't find out anything from Racore. But if you need repair or technical support, the Racore people could probably help. Their number is (800) 596-0370. Most of the manuals written for PCjrs were written before the

expansion suppliers really got rolling. One exception is "PCjr Power", recently written by Oowl Software. It has information on the expansions you mention, plus a lot more information that PCjr users can use. It costs $18.95, plus $3 shipping from Oowl Software, 1435 Burnley Square North, Columbus, OH 43229.

Reader Needs Info
On Prelude Side Car

I have a Prelude PCjr Module side car. It has 128K of memory, a parallel printer port and a clock calendar. The problem is I don't have the manuals for it. Everything works, but I can't find how to access the clock. Could you publish this to see if any of your readers know where I can get a manual or more information on this side car.

Thomas Van Slyke, 1123 North 17th St., Blair, NE 68008

EDITOR'S NOTE: We have checked our lists of PCjr hardware manufacturers and can find no information on Prelude. We hope a reader may be able to give Thomas some help.

Downloading "Errors"
Are Probably Harmless

When downloading files from your favorite BBS, you may see errors being reported by your telecommunications software. But, in most cases, you don't need to worry.

Errors are reported when your modem picks up electronic noise in the phone lines. Noise is fairly common, so you're likely to see these "errors" regularly if you do a lot of downloading.

However, the most commonly used file transfer protocols, XModem, ZModem and Kermit, detect and correct most errors.

How does this work? Each packet of data received by your modem is given a CRC value, which stands for Cyclic Redundancy Check value, based on the contents of the packet. This value is compared with the CRC value transmitted by the modem on the other end. When they don't match, an error is reported.

When the modem on the receiving end (yours, if you're downloading) detects a CRC error, your software sends a signal to the software doing the transmitting, which then retransmits the last packet of data. This will be done as often as the errors are reported, or until your software gives up and suggests you try again when the lines are less noisy.

First Publisher
Runs Well On PCjrs

In a recent issue we erroneously reported that you need a hard drive on your PCjr to use First Publisher. Although a hard drive does come in handy running First Publisher, or any other desktop publishing software for that matter, it is by no means necessary.

First Publisher is an excellent choice for PCjr users needing an easy to use, versatile, desktop publishing program for producing brochures, flyers, newsletters, etc.

Version 2.0 requires 512K and two disk drives. It will run on a single disk drive, but you'll be swapping disks a lot. More memory will allow you to use more fonts.
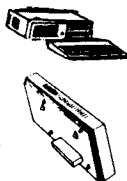
We hope our error regarding the hard drive requirement did not steer anyone away from this excellent software. If you want a desktop publishing program for under $100, you can't go wrong with First Publisher.

PCjr Lives!

Beginner's Guide To Using Disks In Our Software Store

Many readers of this newsletter have already experienced the pleasure of using the software in our Software Store and probably don't need to read this article. But others may be new to using public domain and shareware programs. This article is for you.

Probably the first thing you will notice when you get a disk from the jr Newsletter Software Store is the label. It usually tells you to insert the disk in drive A:, type the word GO, and then press Enter. When you do this, you will receive some brief instructions. Often these are just to tell you how to read the instructions provided by the author of the software, which are included in a file on the disk. In a few cases, the introduction you get when you type GO will include some tips on running the software.

In case you are confused right off the bat by the first type of instructions -- how to read the instructions, here are some further tips:

Public domain and shareware programs usually come with some instructions. They are located in their own file on the disk. If you put the disk in Drive A: and type DIR you will see a directory of all the files on the disk. If they go by too fast for you to read, or there are too many files, try typing DIR/W. This will put the names of the files in columns on your screen.

Look for a file with a name like README (sometimes READ.ME), MANUAL.DOC, MANUAL.TXT or some file with the extension .TXT or .DOC. These files usually contain the instructions. You can read them on your screen by using the TYPE command. For example, if you saw a file named MANUAL.DOC and you wanted to read it on your screen, you would type at the A> prompt:

TYPE MANUAL.DOC

It's not necessary to use capital letters. Just type the word "type" followed by a space and then the filename, including the extension. The extension is the letters after the period. In the above example, the extension is .DOC.

After you've done this you will see your screen fill up with words. Sometimes they will go by too fast for you to read. If this happens, just press Fn Pause, if you have a PCjr keyboard, or Ctrl NumLock if you have another keyboard. This will stop the words from "scrolling" up your screen. Once you've read what's on your screen you can see more of the words by pressing any key and then pressing Fn Pause or Ctrl Numlock to stop the scrolling again.

Another way to read the documentation files is to print them out on a printer. An easy way to this is to use the COPY command. Make sure your printer is on. Then, if the file you want to print is called MANUAL.DOC, type at the A> prompt:

COPY MANUAL.DOC PRN

If the file you want to print has a name other thar MANUAL.DOC, just use the name of the file you want, including the extension, instead of MANUAL.DOC.

It is important to read the instructions provided by software authors, particularly if you are a beginning computer user. Sometimes it takes a lot of patience to do it, but usually it pays off. You avoid the frustration that comes with not being able to get software to work.

All of the software in the jr Newsletter Software Store DOES work on PCjrs. We have tried all of it on our PCjrs and we have asked other PCjr users to try it and report any problems to us. So if you have trouble with software from the store, you either have a disk that has been damaged in the mail or you simply have not followed instructions.

We must admit, in some cases the instructions are not as clear as they should be. In others, you may have to teach yourself some things as you go along. But you will be rewarded for your patience with many hours of computing pleasure. Or you will experience the reward of having software do something for you much more easily and quickly than you have been able to do before. These are the rewards of patience and taking the time to follow instructions.

The main programs on disks usually have the extensions .EXE or .COM and can be run simply by typing their filenames, without the extensions. In other words, to run the program SCOUT.COM, you would type SCOUT and then press Enter (the Return key).

Sometimes software is "menu driven" which means you may not see any .DOC or .TXT files on the disk. Instead, once you have started the program, you will be given instructions on your screen. Often you will be asked questions to which you can respond and get the software installed and running to your satisfaction.

If you get a disk with files that have the extension .BAS, those programs are written in BASIC. To run BASIC programs you need to have Cartridge BASIC installed, or you need to have a modified version of Disk BASIC (you can get this on Disk #56). To run a program with a name like FUNGAME.BAS, you should type at the A> prompt:

BASICA FUNGAME

You should wait until you see the OK on your screen and then press Fn 2 (or F2 if you have a PC keyboard).

If you are a beginner, this information should help you get started with some of the public domain and shareware programs in the jr Newsletter Software Store. There are many exciting games, great educational programs, excellent word processors, programs for telecommunications, spreadsheets, databases, genealogy, and many other useful things you can do on your PCjr. Most of this software is equivalent to software costing much, much more. In the case of shareware, you are expected to send the author a very reasonable payment if you like the software. This is the "try before you buy" principle of shareware. We hope this article will help you get the most from our software.

"Rocky's Boots" Makes It Fun To Learn

By Mary LeCompte

A good children's computer program is one they will use. A great program is one that teaches them as they use it. Rocky's Boots, from The Learning Company, is a great one.

I have heard several teachers comment that computers are good, not for teaching, but only for reinforcing rote skills such as multiplication. Rocky's Boots proves that computers can not only teach, but it can make learning some very useful skills, entertaining and fun. Specifically, Rocky's Boots teaches basic electrical circuit design and Boolean logic, the logic involved in computers, among other things, to children as young as nine years old.

Rocky's Boots contains six separate activities. The first, "How To", imparts the basic skills needed for the other five. The player, whose position on the screen is indicated by a box, proceeds through a series of rooms practicing skills such as picking up items and turning the sound on and off. In the last room the player takes a key, moves it to a lock, opens a door, enters, and takes a skeleton. The skeleton, which fascinates younger players, can be carried around.

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*"I like Rocky's Boots because
it entertains as it teaches."*

The second activity, "Building Machines", teaches the basics of designing electro-mechanical machines from input devices (sensors), wires, and output devices (clackers, thrusters, punching gloves, and kicking boots). Text is presented about each new device as encountered in a maze of rooms. A sensor is a box that is activated by a target that has a certain combination of color and shape. A wire is a line that carries a signal from its input end (a circle) to its output end (an arrow). Output devices move or make noise when a signal is applied to them. The box that indicates the user's position supplies current to show how individual devices act, reinforcing the text. Assembly requires picking up devices and wires and moving them close together in the arrangement desired.

The "Practice Room" has a conveyor which carries colored objects (targets) past the sensor to test the machine. When the colored object matches the sensor's combination, the sensor produces a signal and the designer observes how the current is carried to the output device. This testing allows the user to check the logic of the design. Machines can be disassembled for modification using a tool called a splitter.

The third activity, "Logic Gates", is an extension of "Building Machines". AND, OR, and NOT gates are added

to the device set to permit design of more complex machines. A gate requires two inputs. For example, two color sensors may be attached to the inputs of an AND gate, and a clacker to the output. When the machine is tested, only targets with both colors will activate it. "Rocky's Boots" is the fourth activity, a culmination of the first three. It consists of eight goal-oriented games for which the player builds a machine with a boot that is activated by a specified condition. For example, the player might be asked to build a machine that is activated by circles. If properly constructed, the machine kicks each circle target as it passes. Correct objects are assigned numbers that add up to 24, and incorrect objects are assigned negative numbers. For a perfect score, Rocky the Raccoon does a dance.

The fifth and sixth activities involve more complicated concepts. "Flipflops", activity five, teaches about switches and timing circuits. "Rocky's Challenge", activity six, is a very challenging version of "Rocky's Boots". There are 31 challenges plus an option for building a personalized game. If you think this program is just for kids, try "Rocky's Challenge". The seven "teasers" in the last game-room are a bit of a challenge even for adults. To be honest, I haven't

Boost Memory to 1.8 MB

Some of the memory on the Megaboard can be used at the DOS addressable level below 736K.

So, for example, if you own a PCjr with 128K and you bought the Megaboard with 1,024K, your computer would have 736K of DOS memory and 416K of additional memory. DOS is capable of using a maximum of 736K. It takes special software to utilize memory above 736K. Software is provided with the Megaboard for this purpose. PC Enterprises is currently developing software to enable this extra memory to be used as a print spooler or as EMS memory, the standard above-DOS memory used by many memory-hogging software programs.

As this article was written, in early October, the price for the Megaboard had not been set, but it will be about $275 with 256K. Add about $50 for each 256K additional, up to $425 for 1024K. You can purchase your own chips and add them to the sockets in the Megaboard yourself.

When this article was written, the Megaboards had been tested for compatibility with all PC Enterprises products, including disk drives, hard drives and memory expansion units. IBM brand expansion units were also tested and found compatible. Pat said he did not expect compatibility problems with any other units, except perhaps for Racore with DMA. We suggest you ask about compatibility with your particular setup before you buy.

PC Enterprises can be contacted at (800) 922-PCJR.

PCjr 286 Board is Hot!

moved on to newer models when report after report said the Junior was one of the best designed, most reliable and most versatile computers IBM ever built. Then my office swapped its XT computers for AT's this summer. Suddenly Junior was painfully slow. But no more. Now it's faster than my office AT.

Six Times Faster Than XT

Ed "jrHotshot" Strauss of ES Quality Products in Reno, the wizard who has given us the MESA 286J after writing the book on the 286 chip for Intel, conservatively claims a Norton SI Rating of only 11.5. I get 11.8. According to PC Tools Deluxe, the MESA 286J is running my Junior at 680% of the speed of a Big Blue XT. The 10 mHz AT I use at work rates only an 8.3 SI, and is just 375% faster than an XT.

What do these numbers mean in real life? No more sitting around waiting forever for programs to load or recalculate! Remember how long Managing Your Money makes

you "Wait" while loading on a regular Junior? Maybe 20 or 30 seconds, but it seems like forever? With the MESA 286J, its about 12 seconds and feels like an instant. Most of the delay now comes from the time it takes Junior to read the hard drive.

Even Word Perfect dawdles a bit on a regular Junior. It takes about 8 seconds to load. But not with the MESA 286J. Try 4 seconds! The MESA 286J cuts the loading time for PC Tools Deluxe Version 5.5 from close to 15 seconds to about 8 before you see the opening shell window. And you wouldn't believe how fast your favorite Sierra heroes can fly around if you forget to turn the cache off, although the music does get a little weird.

I'm not much of a spreadsheet or database user, and don't have the big name programs that would let me provide useful comparative times. I'm sure the MESA 286J will provide much faster recalculation for those of you who are heavy number crunchers, but there's more good news. It will also accommodate an 80287 math coprocessor if you need it, provided you order the special heavy duty power supply the 287 chip needs.

Fully Pipelined Design

How does the MESA 286J produce such a speed-up? Part of the secret is its 0 wait-state read _and_ write cycles, achieved by a fully pipelined design, writeback controller and asynchronous handshaking latches. The rest is due to the 16Kb self-flushing static ram cache that is software controlled.

If all this somehow reminds you of high-school hot rod lingo - bored, stroked, raked, etc. - what it all means is that the MESA286J processor doesn't have to wait for anything, and can make full use of the 286 chip's potential speed and power. Most other AT's aren't that well designed, and

that's one reason your office AT can easily be slower than a Junior with the MESA 286J.

The speed ratings you get may vary a bit from mine, of course, depending on your Junior setup. Over the years, my Junior has acquired 640K of memory with a Racore Drive II with DMA, 512K of expanded memory from Paul Crumley, a RIM hard drive connected through the internal modem slot from Paul Rau, and MSC's Hardbios cartridge Version 1.00 that allows Junior to boot from the hard drive.

Although Racore DMA usually creates major compatibility problems, my MESA286J installation came off without a hitch. To my amazement, given some of my problems with other add-ons, it worked right out of the box - no problems, no worries. But it is still a good idea to back up your hard drive first, just in case.

Easy Installation

Installation is very straightforward, with some of the best documentation I've seen for Junior upgrades. There are photos of what the inside of your Junior should look like at each step, and only three easily accessible plug-in chips need to be replaced. Better still, the ribbon connector that goes into your 8088 processor plug allows you a clear view of what you are doing, unlike boards that cover the plug entirely.

While Ed Strauss hasn't had time yet to diagram the added 20 address lines for hobbyists who might want to make the MESA 286J compatible with DMA (which many Racore users now leave off anyway to avoid conflicts with other add-ons and programs), he has included a special driver for compatibility with expanded memory, a particularly nice feature for those who have it. There have been some reports of problems with the old Racore keyboard adapter, but I'm reliably informed that the Synectics internal keyboard adapter works fine.

The biggest problem for those of us with 65 millisecond hard drives is that they now seem much too slow by comparison, even though the MESA 286J actually seems to speed them up a bit. Lou Davidson, of MSC, is reportedly working to upgrade the Hardbios cartridge with faster ROM, which should greatly improve the situation.

The new cartridge may also help solve the mystery of why some customers haven't gotten the MESA 286J to work with their Hardbios. They can still use the MESA 286J if they backed up their hard drive, just by reformatting the drive, installing a device driver and booting from a floppy. These reports really puzzle me, however, since my Hardbios still works just fine.

Few Software Problems

I haven't run into any major software incompatibilities yet. The instructions warn of possible conflicts with PCjr Basic in the on-board ROM, and recommend use of GW Basic. A couple of my programs that require the Basic cartridge (which uses Junior's built-in ROM Basic) seem to work okay, but there may be some that won't.

The run-time module of Windows 286 works with the MESA 286J installed.

If you've previously obtained a major add-on for your Junior, you undoubtedly know that a few glitches are the rule, not the exception. There are just too many different Junior upgrade configurations out there for any new product to work perfectly in every system. Still, I'm amazed how few I've been able to find in the MESA 286J - a lot fewer than normal for my Racore system.

Support Good PCjr Upgrades

In case you haven't guessed, I'm very impressed with the MESA 286J. I wrote this article because I think we all need to do what we can to alert other Junior users to good new products. It's important to encourage the people who make valuable upgrades for our Orphan by getting the word out about them. Otherwise, it won't be worth their while to keep working on new projects.

So if your relationship with your Junior has become slow and tedious, consider putting a little flash in your romance with a MESA 286J. At about $350, it's roughly $1500 less expensive than a 16-color AT system, and should buy you several years of happiness until 386 systems become more affordable. The MESA 286J is available from its inventor, and from most jrNewsletter advertisers.

Rocky's Boots

been able to solve any of them. But I'm working on it!

I like Rocky's Boots because it entertains as it teaches. Lights and bells are conventional ways to illustrate current flow, but kicking boots and fiery rockets are more fun. There is a secret room in "Logic Gates" with a hungry alligator. An "alligator detector" provides some excitement. To say more, however, would spoil the surprises. Rocky's Boots will keep the kid's attention, and they probably won't know they are learning.

This program emphasizes mutual reinforcement of reading and doing, recognizing that people learn in different ways. Written instructions can be tested immediately using the current supplied by the player's position box.

Another strength is the wide age range to which the program appeals. The kids won't outgrow it. Children younger than nine will be able to move around, explore, pick up objects, experiment, and make simple machines. They particularly like the skeleton and the alligator. Although the program is complex, it is divided nicely into progressively difficult activities.

To run Rocky's Boots on our PCjr, I boot up with a plain version of DOS 2.1, without any autoexec or config files. So it runs fine on the original 128K, without needing additional memory.

Questions and Answers

video memory as say, Cartridge BASIC, so you need to set up some new booting disks. It may take some experimenting, but it should solve your problem(s).

Make at least three booting disks, starting with reserving the LEAST amount of video reserved in the CONFIG.SYS, such as PCJRMEM.COM with nothing else on the command line. (This sets aside 16k) Next one could be PCJRMEM.COM /E (setting aside 32k) This might be the most useful for you. Then PCJRMEM.COM /C (96k) for the configuration which is normally used for 16 color medium res. The standard CGA card does not support this, so you may not need it for your applications. If you are using JRCONFIG in one of its evolutions instead of PCJRMEM.COM, you simply change the -v number to 16, 32, 64 or 96 to accomplish the same set of config.sys disks. (Yes, this is on our Power Pack II diskette and no, we do not recommend one brand or advertiser over another in this column even though we keep telling you to NOT buy copy-protected software.)

Once done, you'll have to boot with the selected disk for the programs you intend to run for that session. It does mean re-booting (warm or cold) if you "mix" programs which have different needs. We don't see any relationship between the DOS 2.1 patch and your "out of memory" problem.

Q. Now Look! Do we or do we not oil the rails on our disk drives?? Confused.

A. OK. Some of you jumped on us on for this one. Reading the various materials you won't find as much conflict as you think.

1) Teflon bearings should not be lubricated, only cleaned.

2) The hard-to-get semi-dry lubricant that was listed is specifically used by manufacturers of sliding mechanisms which will be used in harsh environments including those with plastic bearings. The oil was listed as safe to use on plastic. Periodic cleaning is still recommended, of course.

3) A thorough cleaning technique is the most important part of the whole procedure.

4) Keeping the rails and bearings clean is the next most important thing, no matter what kind of material is used. Cigarette smoke can develop an incredible film, for example, so avoid letting such airborne particles get sucked into the drive.

5) The word "never" should be used sparingly, if at all, and only when dealing with (in this case) one model of one manufacturers drive.

4) Our own four drives (from various manufacturers) are thoroughly cleaned and, yes, lightly lubed once a year, whether they need it or not. (None of 'em have Teflon bearings.)

Q. Do you know of a way to copy Writing Assistant to a diskette with 9 sectors/track? That way I could put all my data on the same diskette, saving me considerable time. I only have one drive so I'm constantly changing diskettes to spell and edit. V. Bizovi, West Hurley, NY.

A. Copy-Protection is the culprit again. If you have the memory, you could make a RAMDISK, (C:) install Writing Assistant to C: then try to copy those files back to the 9 track diskette. Be sure to look for "hidden", read-only or write-only files on the C: drive and be sure they also get copied to the 9 sector diskette. Sometimes it works on other programs, so it's worth a try. The other solution is to use the RAMDISK for Writing Assistant and the A: drive for all your data.

If the program itself won't install on the C: drive, then use C: for your data instead. At the end of your session be SURE to copy that data to a floppy. Remember, when a ramdisk disappears, so does the data, permanently! If you're pinched for memory, use a small (64k) RAMDISK for data and boot up with minimum video RAM reserved.

"Chicklet" Keyboards
Provide Replacement Circuits

The original PCjr keyboards, referred to as "Chicklet" keyboards because the plain white keys without letters and numbers on them look like the chewing gum, can be used to repair the enhanced PCjr keyboard that most PCjr owners use.

Although these keyboards are nearly indestructible, they can malfunction, in which case the Chicklet can come to the rescue.

The circuit board which lies under the keys, complete with jack, and battery contacts, are identical so they can be removed from the Chicklet board and put in the enhanced keyboard, giving it new life.

Chicklet keyboards are available from advertisers and sometimes in classifieds, for $10 to $15.
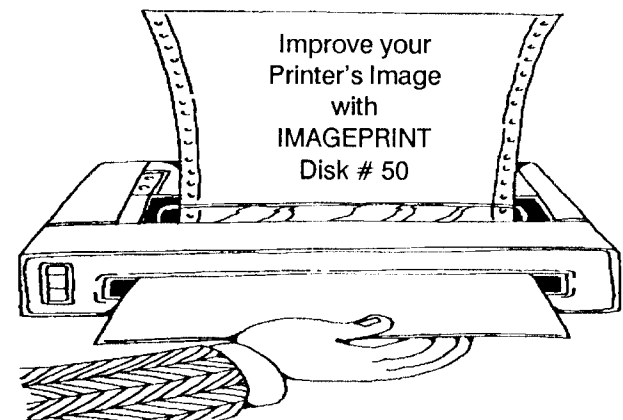
New Game Variety Disk Has Three Good Ones

The latest game variety disk, Disk #99, added to the jr Newsletter Software Store this month, has three high quality shareware games -- Kingdom of Kroz, Go-Moku, and Zigsaw.

Unlike some of our other game disks, where we have collected similar games, such as card games (Player's Choice - Disk #78), board games (Super Board Games - Disk #55) and others, all three games on this new disk are quite different. For want of a better description, we're calling this one Games III.

Kingdom of Kroz

The most action-packed game on this disk, Kingdom of Kroz, was developed by Scott Miller, who won a national programming contest for this game. It's easy to see why. The arcade-like action of a character moving through obstacles and being pursued by enemies is complex and interesting. There are 25 different levels, each one with a new layout and a different combination of help and danger. You must try to maneuver through these levels, picking up valuable objects, trying to keep robbers from taking your gems, and using your only weapon, a whip, to ward off enemies and break through walls.

Kingdom of Kroz has three skill levels, a pause feature that allows you to survey the scene without having to fight attackers, an ability to save and restore games at any point, and a 15 players high score honor roll.

Scott provides a special feature for PCjr keyboards, allowing you to use letter keys to move, rather than the keys on a numeric keypad.

Go-Moku

The ancient Japanese board game, called go-moku, is a test of your strategy skills. On a grid 19 by 19, you try to place five pieces in a row before your opponent does.

Also known as Pente, this games is a deceptively simple game, which can be played by both children and adults. Like checkers, strategy can be at a very basic level, or it can become quite complex when two experienced players face each other. Or when you try to play against the computer, who is quite good at this.

Zigsaw

We added Zigsaw to this game disk because it's the first good quality puzzle simulation we've seen among shareware games. Although it displays in black and white, the graphics are quite well drawn, and the procedures used to place pieces is very smooth.

This demonstration version of Zigsaw has one puzzle, but others are available for those who register with the author. Registered users also get a program to convert BSAVE, .PIC and .RLE files to zigsaw format so you can create your own puzzles.

You can select from three skill levels, replace pieces put in the wrong locations, view the end result whenever you need to (which was quite often in our case), and save the puzzle at any stage so you can come back to it later.

Games III is Disk #99 in the jr Newsletter Software Store, page 23.

Five Forms of Fun Offered in Trivia Game

The new trivia game being added to our Software Store this month, "Tommy's Trivia" (Disk #98), provides five different ways to play the popular question and answer game.

The first three are for one person matching wits against the computer. The second two, called "Double Dare" and "Volleyball," are for two players.

The individual player can play "50 Questions" and try to beat the high score recorded so far. Or you can play "Beat the Clock," by answering as many questions as you can in 300 seconds.

The third method of individual play is similar to the popular tv show "Jeopardy." You get several series of questions, each with different money values. You are also given two randomly selected double-or-nothing chances during play and one at the end.

The game for two players, called "Double Dare," give each player a chance to either answer his question or double dare his opponent to answer. "Volleyball" is played with a point system named after the ball over the net version. The first server is chosen by the computer. The person being served to must then answer a trivia question. If the answer is right, side out and the serve switches; if the answer in wrong, server scores 1 point and another question is asked. Game is 15 points and the winner must be at least two points ahead to win.

The 2500 questions provided on this disk seem to be pretty evenly mixed up from a variety of categories including tv, motion pictures, history, nature and others. The level is suitable for teenagers and adults.

If you like the game and want to add more questions, Tommy's Toy Box, the company that made the game, will send you 11,000 more for $19.95. This game is distributed commercially, but has been released as shareware in order to gain publicity for the company. This is a new twist to shareware, and a fortunate one for us game players because this game is of excellent quality.

Tommy's Trivia is Disk #98 in the Software Store, page 23.

* * * PCjr CLASSIFIEDS * * *

IBM PCjr 640K color monitor, 1 drive (new), int modem, parallel port w/clock, cal, 2 PCjr joysticks, spare IBM power supply (sidecar), Mouse Syst. mouse & PC Paint, Compact Printer w/3 rolls paper, orig manuals, disks and Basic cart, tech ref manual, PCjr books, etc, etc. - $500 + ship; also Lotus 123 V1a for PCjr $100. Call Roger (213) 438-5663 (11)

IBM PCjr 384K, IBM color monitor, cordless keyboard w/cord, internal modem, IBM parallel printer and 2 power expansion attachments, 2 joysticks. Adult use only. Excellent Condition. MS DOS 2.10 plus all IBM PCjr manuals. Some Software. $575. With IBM Proprinter included a bargain $700. Call Mike (508) 528-2066. Boston area. No Ans Lv Word On Ans Machine. (11)

PCjr Color Monitor Cable Converter. Use your PCjr monitor with an IBM or compatible color graphics board (CGA) in a standard PC. Difficult to find. Quality discounts available. $34.95 each, postpaid, check or M.O. - S.E. Gruninger, 6629 N. Whipple St., Chicago, IL 60645. (11)

IBM PCjr 640K, color monitor, parallel port, internal modem, clock/calendar, joystick, cartridge basic, DOS, all manuals and cables and lots of software. $500. Excellent condition. Call Jeff at (714) 731-7924. (11)

IBM PCjr 640K, Hot-Shot mem, parallel printer port, IBM graphics printer, joystick, cartridge Basic, Writing Assistant, Tech. Ref. Manual, Turbo Pascal, jr Newsletters from Feb. 87, Misc. games and educational software. All in excellent condition. $425 OBO or trade for wind surfer. Bernie Corwin. (415) 968-4675 or (415) 966-4322 (11)

IBM PCjr 384K with Microsoft Booster with mouse and internal clock/calendar, enhanced keyboard, parallel port, IBM power attachment, internal modem, monitor, DOS 2.1, cartridge Basic, software and all documentation. Contact Ron Sigrist at (919) 996-1614 or via Compuserve 74116,2765 (11)

PCJR, 640K, two 5 1/4 drives, PCjr color monitor, two original keyboards plus new AT style keyboard, two new

joysticks, Mannesmann Tally Spirit 80 dot matrix printer, DOS 2.10, Basic, Lotus 1-2-3 and all manuals. $900. Call Connie Mathes, (209) 962-7667. (11)

FOR SALE: Chicklet keyboards, $10.00 plus ship, IBM 128K side $195.00 plus ship, IBM 300 bd. internal modem $20.00 plus ship. Wanted: Defective IBM color monitors for PC and PCjr. Picture tube must be intact. Will pay $50.00 for repairable units. Hank Kennedy (512) 255-2812, 813 Chisholm Vly. Dr. Round Rock TX 78681 (11)

384K jr w 300 bd. modem, enhanced keyboard with cable, color mon, parallel port, graphics printer, manual, DOS, all IBM, $700.00. Also available, pcjr mouse and software, 3 joysticks, enhanced keyboard and other software. Call Joe after 4, if no answer, please leave message. (203) 852-9959. (11)

Integrity PCjr Stock Purchased by Computer Reset

Richard Byron, owner of Computer Reset, reports that he has purchased the PCjr products manufactured by Integrity Technology of Malpitas, CA.

Integrity made ROM Cartridge kits and PCjr Clock Cartridges. The company has stopped making these items and their remaining stock is now be available through Computer Reset.

Richard says the Clock Cartridges, which fit into the PCjrs cartridge slot and provide a battery powered clock, are available for $34.

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 V3.0. 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 ok. Updated October, 1989. (Disk #60)

* NEW * TOMMY'S TRIVIA. Excellent trivia game with 3 ways to play against computer, 2 against human opponent. 2,500 questions in many categories, from entertainment to history. More Q's available. 16 colors on PCjr. Need 256K. (Disk #98)

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

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

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

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

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

BAKER'S DOZEN. 13 powerful utilities by shareware star Jim Button. Recover zapped files, save screen to files, print sideways, sort files, file management, locate text, pop-up calendar, powerful one screen spreadsheet, set screen colors, and more. (Disk #73)

BATCH FILE UTILITIES. A tutorial on how to create batch files and six utilities to use. 128K (Disk #26)

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)

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)

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

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)

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

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

CHECK PROCESSOR - Easy to use software for financial record keeping. Balance checkbook, print expenses by category, etc. 128K (Disk #59)

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

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

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

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

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

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

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

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)

EDNA'S COOKBOOK. Will organize your recipes by subject, allowing for quick retrieval. Print out sorted collection for your own cookbook. 128K, 2 drives. (Disk #96)

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

FAMILY HISTORY. Includes complete manual on disk with how-to info on tracing and setting up your family tree with detailed genealogical information. Easy to use and modify as you gather more data. New compiled version runs faster than previous version. 128K order Disk #33 alone. 256K order #33 and #33A.

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)

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

GAMES 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)

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

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

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)

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

HOME BUDGET MANAGEMENT SYSTEM. Easy-to-use system for keeping track of income and expenses. Create separate accounts for income tax categories and get a summary at end of year. Provides chart of accounts, transaction reports, sorted ledger entries, etc. 128 K. (Disk #57) Or v. 3.13 for improved screenwriting and disk access speed. 256K. (Disk #57A)

HOME INVENTORY. Taking an inventory of your home might even be fun with this easy-to-use software that takes you through the process step by step. Gives a complete record for insurance purposes. Also good for listing collections. 128K. Cartridge BASIC required (Disk #58)

IMAGEPRINT V1.5. Produces near letter quality print on dot matrix printers. IBM Graphics Printers, Proprinters, Epsons and compatibles. Contains many format features, three quality levels, interfaces with word processors. 128K ok. (Disk #50)

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

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

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

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

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

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)

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)

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)

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

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

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

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

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

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)

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

PC CALC PLUS. V2.0 More advanced than PC Calc (Disks 5 and 6), this is a very powerful spreadsheet program which includes graphing features. Excellent. 512K (Disk Set #2 (2 disks) $10.)

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

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)

PC-DESKTEAM. Provides memory resident notepad, alarm clock, appointment calendar, typewriter, calculator, phone book, auto-dialer. Some say better then Sidekick! Quick, easy, powerful. (Disk #22 V1.04)

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

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

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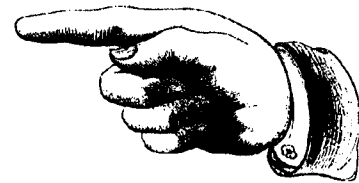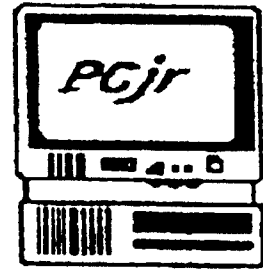
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