Color p 10-11
Software Config Utility #82 p. 18


# The Junior Report

July 15, 1987 Volume 3 Number 7 The National Newsletter for PCjr Owners


*PCjr Hard Drive Vendors Experiencing Some Sales Problems*

# HARD DRIVES FOR JR - PART II

*Two months ago we discussed the advantages of owning a hard disk drive for the PCjr user. This month we will update the current PCjr hard drive situation.*

PCjr owners who anxiously watched the falling prices of PC hard drives, and longed for a likewise situation for the Junior hard drive prices need not wait any more. Though prices will not reach the level of PC compatibles, they have at least fallen from the ridiculous to the reasonable. More and more Junior owners are taking advantage of these storage wonders, but not as many as some of the manufacturers and vendors had hoped for. In other words, they are not selling that well. What we have are prices not low enough to satisfy the majority of PCjr owners. The problem is not price-gouging, but it is just the nature of the PCjr itself.

The PCjr was billed as the "home computer" in which you could take your work home to. A Lotus 1-2-3 spreadsheet would be no problem to a hard-working Junior nestled warmly in your den. How about a report due the next day? Just finish it on this IBM wonder. Bringing your work home did not mean bringing your entire office (e.g. databases on hard disk) home. So IBM did not have hard drives in the future of its Junior. Extra memory - yes, second drives - maybe, hard drives - no way. The bottom line line is that the PCjr was not designed for these mass storage devices.

Then along came some industrious young men in their thinking machines and said, "there are a lot of Juniors being sold, and no where a hard disk drive to be seen." Startup companies like Turning Point Logic laid the ground work - controllers with the needed custom circuits and new custom software that would make the PCjr accept the hard drives. Unfortunately, the tremendous price drops in the hard drives themselves had less of an effect on the PCjr units, because the controllers needed just as much work, time, and circuitry, and there-

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## They're Playing Our Song - On the Jr

*Beethoven, Buddy Holly, Jim Morrison, Elvis, and Liberace are gone, but not forgotten. But someone's got to take their place in the history of creative music, and you and your Junior may have been chosen. Jim Prossick takes a look at two music programs for the PCjr.*

It is time to strike up the band and make a little music with Junior. Two programs, *The Music Studio and Jr Music Machine*, allow PCjr owners to make their own kind of music with relative ease. The programs come from different ends of the software spectrum. *The Music Studio* is a commercial program developed by Audio Light Inc. and marketed by Activision with a retail price of $39.95. *Junior Music Machine* is a Public Domain program based on the shareware concept, and is available to any Junior Report reader from the Public Domain library (#57). It

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**Editor's Notes:** Good news department - we have been contacted by **two new companies** developing new products for the PCjr. One is producing software that takes advantage of Junior's special graphics and color capabilities, and the other has already produced new ROM cartridges to take advantage of those two slots in front of your PCjr. Stay tuned for the gory details.....due to several requests, we will be offering the **DOS 2.1 patch** on diskette for those of you that need it. Look for it in the shareware department very soon. This patch will solve some of the incompatibility problems associated with the PCjr.....we haven't even reached half way in the baseball season and we have already seen a slew of **new computer football games** for the PC and PCjr. We'll try to preview the best of them before the football season starts in earnest.....we have been asked on occasion why we haven't adopted the slogan "The PCjr Lives" as seen in some ads and other things. Our feelings are that the PCjr never died and has always been a great, capable computer. Anyway, we have enough martyrs.....you've probably noticed a difference in Compute! magazine the last few months, like a lack of enthusiasm. Well, here's the reason why. Look for a new version on the newstands in the next few weeks, called **Compute's PC Magazine**, a magazine exclusively for IBMs and PC clones, including PCjr's (that's what we have been told). This magazine joins the other Compute specific magazines such as the Apple, Atari ST, and Commodore versions.....we have said over and over again that the PCjr makes a great word processor, but little did we know that the PCjr owner would become such a prolific and talented writer. I guess the ease and friendliness of that Junior color monitor provides impetus to the creative thought. A few months ago you were informed (or warned) about quite a writing talent in Limerick, Maine, and this month we have received a sample issue of **The Ozark Happenings Newsletter** published by the Texas County Genealogical & Historical Society in Houston, Missouri. The editor is PCjr owner-user-lover Raymond Johanson. The 12 page monthly that supports and engages your genealogical interests can be contacted at P.O. Box 12, Houston, MO 65483. Unlike at The Ozark Happenings, the creative juices rarely flow here, but when it does, it drips all over the keyboard, the desk, onto the carpet, and.....we read in a recent issue of the Metro PCjr Users Group newsletter about a potentially-hazardous problem that PCjr owners can avoid. It seems that IBM made most of the PCjr nearly indestructible except the plastic channels in the back of your CPU into which your input devices, such as keyboards, joysticks, etc., are attached. If the cable from one of these is placed in a stressful sharp angle, it can break the plastic support, causing one of the pins on the connectors to bend or even break off resulting in quite a major problem. The problem was solved after a great deal of trial and error by having a tech friend who soldered a single pin onto the Junior motherboard, a pain in the derriere for anybody. So check those cables in the back of your PCjr.....while in the "library" the other day, one of our rank writers, and I do mean rank,

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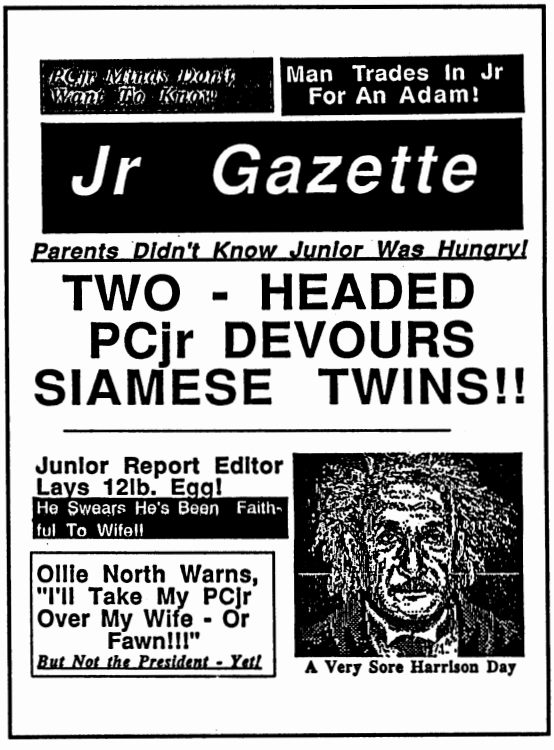
## Recreational Computer

48% of respondents voted in this category

| | |
|---|---|
| 47 | IBM PCjr, *IBM*<br>1000 N.W. 51st St., Boca Raton, FL 33432, 800/222-PCJR<br>List price: $1124 |
| 15 | Apple IIC, *Apple Computer, Inc.* |
| 12 | Commodore 64, *Commodore Electronics, Ltd.* |
| 6 | Apple IIE, *Apple Computer, Inc.* |
| 5 | Macintosh, *Apple Computer, Inc.* |
| 15 | Others |
| 100 | Total |

was reading the October 1985 issue of PC World Magazine. The issue contained the magazine's annual survey of the most widely used, "successful" products for the year. Some software and hardware winners were obvious, of course, like Lotus 1-2-3, dBase III, Hayes modems, and Compaq portables. But who do you think won the **favorite home computer** with 47% of the market? You got it, none other than the venerable PCjr. See above.....we've been telling you for several months now about Tecmar's decision to begin production once again on the Tecmar PCjr memory expansion units **JrCaptain** and JrCadet. That was the good news - now the bad. For some unknown reason Tecmar is pricing the JrCaptain with 128Kb at $395. and the JrCadet with 384Kb at $595.!! Wow. I like the JrCaptain very much, but I really can't see any one buying memory expansion at that price, with all of the less expensive alternatives now available for the PCjr owner. I suppose, though, that the uninformed may still purchase a few of the units, but in the long run, you may see Tecmar stop production on these absurdly priced units again.....our art contest has received lukewarm response since we have eliminated the new Porsche as the grand prize. So in an attempt to revitalize the competition, we will be awarding (along with a hundred dollar software gift certificate) a brand new, gold Rolls Royce!!! Yep, just send us your best artwork produced on a PCjr, and you may win free software and that **new gold Rolls Royce**! (Matchbox series #23532).....it seems that quite a few of you that read last month's article are going into several of the NYNEX Business Centers asking about the surplus PCjr's that are for sale, according to NYNEX spokesman Steve Bornett. There seems to be some confusion, as well, so we're going to "clear the air" right now. As stated in the June article, **NYNEX does have extra PCjr's for sale**, but not at each individual business center location. Each center, however, can find out the whereabouts of the Juniors, and can order one for anyone that wishes to buy one. The cost of the PCjr systems hasn't been decided yet, but may be by the time you read this. We're hoping the prices will be reasonable, that is, in the range of the great PCjr deals in the past. At any rate, the NYNEX people have been very nice to us and they are the only major company that is actively selling new Juniors that we know of.....Finally, I was standing in the grocery checkout counter the other day, a noticed the latest, hottest issue of the **Jr Gazette**, a paper I find very amusing, and is reproduced to the left. Since I normally let my wife do the shopping, I will miss an issue now and then. If any one sees one that's pretty funny, write and let me know.



# LETTERS

I have a 640K (IBM sidecar "fixed" to 512K) with two drives (second from Computer Reset hooking into modem slot). Now I want a third drive, but I want this drive drive to be a 3.5" drive compatible with my IBM PC Convertible. I've never been sure which end of the soldering iron is which so this drive needs to be of the "can be installed by an idiot" variety. Ever seen such an animal? Got any clues?

By the way, my latest Junior adventure has been hooking up Managing Your Money (by Andrew Tobias) to Chase Manhattan Bank's Spectrum service. I enter all my banking information into MYM (who to pay, how much, etc.) then call the Spectrum toll free number. I insert my MYM disk and Spectrum picks up all the information and leaves any new news about my account on the MYM disk. Then Spectrum writes my checks, addresses the envelopes, licks the stamps, and even goes to the post office for me! (For a modest little 5 bucks a month.) Meanwhile, MYM takes the information from Spectrum and asks me if it looks OK, then reconciles my account. I set up my Chase accounts and Spectrum without ever visiting their offices or incurring a telephone toll charge so it can be done from anywhere in the country (start up can take some patience, however.)

S. Dennis
Norwalk, CT

*Dear Ms. Dennis,*

*Thanks so much for the fascinating look at banking from your home. You have merged three great sources - Managing Your Money, Chase Manhatten Bank, and the PCjr, and still survived. Seriously, though, I can't think of a neater way to use your Junior than to bank electronically from the comforts of your den. I think everyone would like to avoid bank lines, writing checks, licking stamps, etc., and we would appreciaie very much if you could provide more details in a future letter, perhaps, if time and energy permits.*

*We see the advantages that a third drive, especially the 3.5", 720 Kb drives would add to your system. Instead of buying IBM's grossly expensive 5 1/4" external drive to transfer files, your PCjr can perform the job quite nicely. We have several readers with more than two drives (not more than four) connected to their Junior systems, so we know it is possible. Each, however, has done so with a little tinkering of drive cards, etc., but with proper instructions, anyone, especially anyone who can balance their account electronically, should have no problems in doing it. If any of you out there who has done this procedure could write to us, we can speed up the process of connecting a 3.5" drive to Ms. Dennis's Junior system. Hopefully, we can get an article on that addition as soon as possible. Meanwhile, we would suggest file transfer of some files between your Junior and PC Convertible through modems.*

We bought our PCjr almost a year ago to use in our small business....keeping track of customers, addresses, serial numbers and such. And for preparing advertising flyers. So why am I writing this on my SCM maual? Because my Junior is in the shop. (Warranty repairs fortunately).

When we bought it, I was under the impression that it had 512K memory. But as I became more acquainted with it, I began to wonder. Here's what my invoice lists:

IBM - A719D
Racore 128/384 memory expansion(B721U)
Racore Junior Drive Expansion(F797D)

128 plus 384 is 512 right? But when I turn it on it only reads up to 256K. I have been telling myself all along it has 256K in the IBM portion which shows on the screen and another 256K in the Racore add-on which does not show on the screen. But the serviceman says it has 512K, it will show 512K. Perhaps the salesman said "It is <u>expandable</u> to 512K", not "it <u>has</u> 512K".

The serviceman is having some problems repairing it. He evidently has not had much experience with the Junior. He replaced the A Drive first, which appeared to solve the problem so I took it home.....but had to take it right back. Everything worked fine when reading. But it would not write to disk. I use Writing Assistant and Filing assistant mostly. I've been playing

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## Letters.....

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with PC File III and may eventually figure it out.

If you can clear up my misconceptions about this memory thing or shed some light on my Junior malfunction, I would surely appreciate it. Also, from reading your Junior Report I get the impression there's more than one way to skin a cat.....or expand a PCjr. Given the stuff I have, what would be the most logical way to expand if I should develop the need?

Joetta Larsen
Powell, Wyoming

*Dear Joetta,*

*The best way to check to see how much "real" RAM that is available in your PCjr system is to type CHKDSK with your DOS in Drive A and enter. The screen will display exactly how much RAM your system can use for applications. The screen count that appears upon booting-up is inaccurate. Just because a screen will count up to 256 or 384 or 512K does not mean that Junior has that much memory available. The memory is accurate, however, if you use the reconfiguration software that comes with your Racore expansion units. The PCjr must be "told" upon booting that 1.it now has two drives, 2.there is extra memory, and 3.it must reconfigure the memory in a way that the Junior can utilize the extra RAM properly. This is always done with software that comes with expansion units, such as Racore, Tecmar, Legacy, etc. The software that is described on page 18 (#82) JrCONFIG.SYS would do nicely for your system if you are unable to use the software that came with your units.*

*If after CHKDSK, you have 256K of free memory, we must assume that you have reconfigured your PCjr memory properly (if it wasn't, you'd show only 128K). The Racore 128/384 has the capability to have up to 384K of memory installed in it. In other words, you may not have all of the RAM chips installed in it to give you the maximum memory. The store or person that sold you the unit should really tell you exactly how much RAM is in your Racore unit. After some investigation, and you find that you are supposed to have all the RAM chips in your expansion unit, then check the board or card in your unit for a malaligned chip which could throw off the extra memory. A cracked card can also cause loss of memory in the unit. Any technician, experienced with Juniors or not, can help you with the examination of the card.*

*You fail to say if B Drive works properly or not. If it does, why not boot from the A Drive, and place your data diskette in Drive B for now, until you can solve the other problem? We really can't tell what is wrong with your Drive A from here, but we do know that some replacement drives drives do not work well in the Junior, namely the early Tandon 65-2L models (Part # 211845-002) as reported by Bob Horan of the Metro PCjr Club. Later versions of the same drive (#211845-108 and #211845-208) fit and work well in the PCjr. There are also switches on the drive that must be set properly to work with the Junior. Let us know what comes up with your adventures.*

I would appreciate any information you can give me on Pascal that can run on my PCjr. It seemed to me that all the Pascal software needs to be compiled then linked into an executional file before I can run it. It is very hard to find the error and correct it. Is there any Pascal software that works like BASIC that you can directly run it without going through the trouble of compiling it? My PCjr currently has 128K and I would like to expand it to 256K. What kind of memory expansion chassis would you suggest me to buy? I also wanted to buy a Hayes 1200 Baud Smart Modem. Would it fit into my PCjr system? Do I need to buy any hardware to attach it to?

Thank you for any information you can provide me.

Wo-Jen Yang
Houston, TX

*Dear Mr. Yang,*

*As far as we know, there are no "interpreted" Pascal programs. However, there may be, and we just don't know about it. There are some "C" interpreters if you interested in a higher language. So you're basically stuck with Pascal compilers. However, Turbo Pascal by Borland is very fast, very cheap, and best of all, very PCjr compatible. It also has the advantage of*

*(Continued on next page)*

## Letters....

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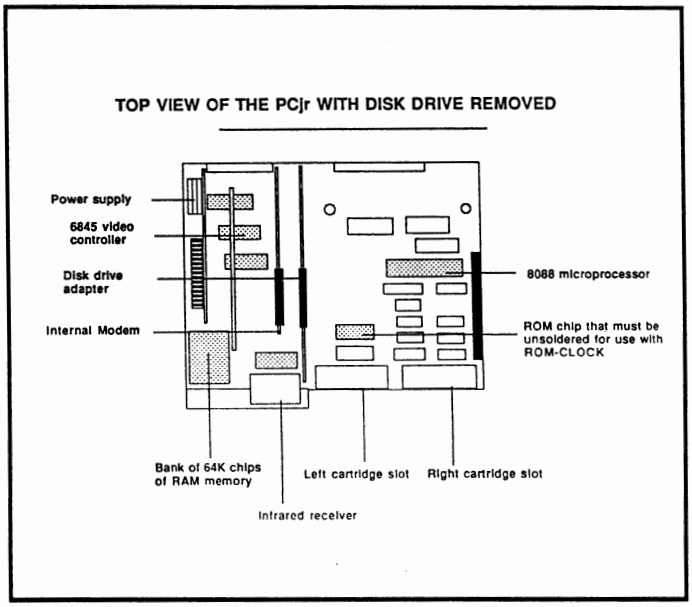
*being able to compile in RAM and executional files. If the errors in Pascal still bother you, take heart because you'll improve. The errors are always confusing at first, but after you see them a couple of times, they'll get easier and easier to debug as you go on. A Pascal class at a local community college would benefit anyone immensely.*

*As far as memory expansion is concerned, we feel it is just as easy to expand your PCjr to 640K as it is to go to 256K, with the benefits of the extra memory to be extremely important. Right now we prefer three methods to expand your PCjr memory, each not any better than the other two.*

*The Racore expansion system seems to provide the greatest PC compatibility, especially when one gets it with the DMA feature (Direct Memory Access). It is still probably the most expensive way, but not by that much anymore.*

*We really like taking a used Tecmar JrCaptain (with 128K) and boosting it to 512K on the board, giving a total of 640K on the PCjr. We feel using a ramdisk with this setup provides an almost ideal PC setup for most purposes. In fact, some of the writers here prefer a PCjr with a ramdisk over a physical second drive for many of our computer applications. We say "used" because buying a new one is not cost-effective as far as we are concerned.*

*The jrHotShot expansion system is also a nice, relatively inexpensive way to go, provided your PCjr 8088 microprocessor is socketted and not soldered (see diagram below). The main advantage of the jrHotShot is that it goes inside your Junior and not on the side of it. All three of these units will make your PCjr a more productive computer.*




*Many of our readers are using a Hayes Smart Modem (1200 baud) successfully with their PCjr's. You will need a serial port adaptor for your PCjr, which is available through several of the vendors advertising in this issue. To the PCjr serial port adaptor you would connect a conventional serial cable and the Hayes Smart-Modem.*

I received my first copy of The Junior Report and I found it most interesting and informative. One of the first items I read concerns added memory in my Junior and not being able to use it. A friend of mine and I added the additional chips to give my PCjr 256K memory, however, when I tried to use Lotus 1-2-3 with the install program supplied by Lotus, I got the message that I did not have enough memory.

In your reply to Mr. Frank Sattizhan, you noted that there is software available to relocate the Jr's memory. Since the additional memory was done by myself, is there any software that I can purchase to accomplish this?

Joseph Tarica
New York, NY

*Dear Joseph,*

*We're glad that you're using the special PCjr driver that is required for you to run this program on your PCjr. Some programs, especially spreadsheets and heavy duty databases, not only require that the PCjr recognize the extra memory, but also that this extra memory to be in one large "contiguous" piece and not segmented. This can be done quite nicely with the software available on page 18. Again we assume you are not using any memory resident programs like Borland's SideKick that steal quite a bit of your free RAM that is available for your software applications.*

*Out of curiosity, how did you increase your PCjr's memory yourself? If it wasn't with an expansion sidecar, we would certainly like to know.*

## Hard Drives for Jr.....

*(Continued from page 1)*

fore just as much money as before. It is remarkable that the prices have dropped as much as they have. But, as with anything electronic, the prices will come down even further as clever people find cheaper and cheaper ways of developing that circuitry. Remember, the prices of hard drives today, whether it's PC or PCjr compatible, have dropped dramatically over the last couple of years. The prices quoted below may seem a bit high to you, but they are bargains compared to those a year ago. In addition, competition between manufacturers and sellers always benefit the consumer, and this has helped the PCjr owner as well. And there is plenty of competition. Below is an update to our previous article. Please refer to the first part for more vendors and information.

Computer ReSet (Box 461782, Garland, TX 75046, 214-276-8072) is run by Richard and Monique Byron, and offers many PCjr products besides hard drives. The Computer ReSet hard drive is a 20 Megabyte manufactured by Seagate, the world's largest producer of computer hard disk drives. The controller is produced by Turning Point Logic, one of the first innovators of PCjr hard disk technology. It is not self-booting, that is that a DOS diskette must be in your Drive A when you boot, and is currently priced at $750. However, Richard has told us that a price reduction is anticipated in the very near future, dropping the cost of a 20Meg PCjr hard drive to the $699. range. This includes the hard drive, controller, chassis, power supply, and all of the cables needed to get your PCjr hard drive system up and running.

J&M Systems (15100-A Central SE, Albuquerque, NM 87123, 505-292-4182) was one of the first commercial companies to offer a hard drive for the PCjr. At its introduction a year ago, J&M offered a 10Megabyte drive for $895. Since last month, J&M has already dropped the price of their 20Meg drive to $995. from a rather hefty $1090. The J&M model comes from Fuji and includes all of the necessary equipment to put your Junior to work, including their "host adaptor kit" needed to utilize their system. The drive is not self-booting. Though the sales of their hard drives has slumped somewhat in the last few months as competitors have entered the market, we were told by a spokesperson that J&M will continue to support the PCjr owner.

Legacy Technologies (4817 N. 56th St., Lincoln, NE 68504, 800-228-7257) is one of the original manufacturers of PCjr add-on products. Along with a 20Megabyte hard drive, Legacy still produces memory expansion products, second drives, and even a PCjr daughterboard to house an 8087 math processor to speed up math-intensive software applications. The Legacy 20Megabyte drive is priced at $1095. and is manufactured by Teac, and includes everything needed to install and use the drive. Unlike the first two described, this drive is now self-booting, which means that all you have to do to start up each session, is to turn on the power. A DOS diskette is not needed in your PCjr A Drive. From what we have learned, do not expect to see their price drop, however. Legacy may be concentrating their efforts toward other projects besides PCjr 20 Meg drives.

Solid Rock Electronics (1311-B Knight St., Arlington, TX 76015, 817-467-7878) produces a very comparable 20 Megabyte hard drive also from Seagate and priced at $749. Like the drive from Computer ReSet, everything necessary, including all reconfiguration software, is included in the price. The drive is not self-booting, as well. Sales of the drive have been slow, according to a spokesman. He did not say whether the drive would drop in price.

Racore Corporation (800-325-1833), the world's largest manufacturer of PCjr add-on products, produces a 20 Megabyte hard drive that requires both a Racore expansion chassis and their DMA card. Racore has priced this Seagate unit in the mid-range at $895., and has the advantage of being self-booting. Racore, which was first in the PCjr hard-drive market, was the only company that expressed a degree of enthusiasm for the mass storage market for the Junior, though we were not sure whether the enthusiasm was merely a hype job or not. Nevertheless, since 1985, they have sold 10,000 hard drives according to a Racore spokesperson. That's a lot of DMA's and hard drives. This

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## Hard Drives for the Jr.....

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was the only hard drive we have actually looked at in the past, and it performed very much in the class of an IBM XT. As previously stated, however, there are less expensive PCjr hard drive alternatives with fewer restrictions that will fit quite well into your system and more importantly, into your budget. We will being looking at the Computer ReSet hard drive in detail in about two months, and hope to examine the others in the coming months.

There are few hardware restrictions in the hard disk drive world of the PCjr, with the exception of the Racore systems with DMA that require their own hard disk units, and vice-versa. From what every other manufacturer has told us, each of the hard drives listed in this issue's article should work with your PCjr setup. However, it is always a good idea that when buying an expensive add-on to get the vendor's assurance of compatibility in writing before you purchase.

In reality the only restriction for most PCjr owners is the restriction of cost. So far, the price of a hard drive unit for the PCjr has not fallen to a level compatible with the Junior owner's pocketbook. However, we feel right now that these prices are probably at a level that are cost-effective, considering the incredible advantages that hard disk drives provide. Whether the "average" Junior owner takes advantage of these add-ons in the coming year is the big question that faces this struggling but vital add-on market. It will a very interesting time coming up as the players in this game jockey for position to grab a yet untapped but very financially rewarding segment of the PCjr market, so keep your eyes and ears open for the next few months. And if you're really lucky, your pocketbook may not have to open as wide for that new hard disk drive.


# OOwl Software

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|---|---|
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| 512K MEMORY ALONE | $189.00 |
| 256K MEMORY ALONE | $149.00 |

**RAM DISK SOFTWARE** included free. Shipping is $3.50 U.P.S. ground and $1.50 C.O.D.

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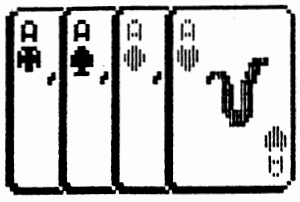


**SOLITAIRE**

Seven separate programs chained together for ease of play. Canfield, Klondike, Warehouse Fitz, Progression, and Wenzel. Main program is 55K and 10K of instructions. Easy single key operation. The cards look like cards. Sound too. $20.00

**POT SHOT**

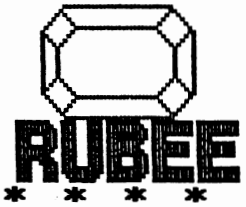
Move over parlor games, the computer will do it now. For 2 or 3 players. A Player knocks his opponent home, the computer takes shots at everyone. 16 colors, 20 wide screen, 18K, and lots of graphics. The computer changes the play of the game after each turn. $20.00

**DIE PER ADD**

A math game that incorporates add, subtract, multiply, and divide to score points. Play against the computer or gather up to five friends. 16 colors, 40 wide screen, 23K, on screen help, plenty of sound and of course lots of graphics. $20.00

**BALL FALL**

A marble game computer style. 2 players try to maneuver their marbles down through slots in the board. Some slots are player moveable and others are fixed. 4 colors, 40 wide, 14K, on screen help, sound and graphics. Need to use some strategy here. $20.00

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SOFT WARE

# PUTTING SOME COLOR IN YOUR PCjr'S LIFE

**By John E. Wilson**

*What's black-white, black-white, black-white all over? Why it's your PCjr DOS screen of course. But it doesn't have to be that way, and fellow Juniorite John E. Wilson shows you how to put some color in Junior's life.*

Would you like to change your black and dull-white DOS screen to one which has cheerful colors? With the program listed below, you can view your disk directories, make copies and do other work in DOS with any of the 16 colors available on your PCjr. The program also clears your screen and sets it to 80 column text mode.

Use a pure ASCII text editor to write the 23 line program file given on page 11. Most word processors will produce an ASCII file (PC-Write does), although some may require you to use a special file-save mode. EDLIN, the text editor that comes with DOS, will work if you are not too sure about your word processor making a pure ASCII file. It is traditional to give a file such as this an extension of SCR (for script). I called this one COLOR.SCR, but actually any name will do.

You do not need to include the semicolons or the remarks to the right of the semicolons. These remarks are included to help someone see how the program works. You might want to include, however, the remarks for the lines that set the colors in case you want to change the colors in the future. Otherwise type in the program exactly as shown (It can be either upper or lower case and the exact number of spaces between the instruction and the operands doesn't matter.) including the blank line after the "int 20" line. The name that the program will be saved as is in the third line from the bottom. You can give the program another name but it must have the COM extension.

In this listing I have selected bright white characters on a blue background (in line 7) with a blue border (in line 14). The border color will always have a zero in front of it. The color numbers are the same as the color numbers in the BASIC manual, but they are in hexadecimal base. Below is a chart of the colors and their hexadecimal number so that you won't have to convert.

For example if you wanted red characters on a light cyan background, you would change line 7 to:

**mov bh,b4**

And if you wanted a magenta border to complete this colorful screen, you would change line 14 to:

**mov bh,05**

*(Continued on next page)*

| Hex Number | Color | Hex Number | Color |
|---|---|---|---|
| 0 | Black | 8 | Gray |
| 1 | Blue | 9 | Light Blue |
| 2 | Green | A | Light Green |
| 3 | Cyan | B | Light Cyan |
| 4 | Red | C | Light Red |
| 5 | Magenta | D | Light Magenta |
| 6 | Brown | E | Yellow |
| 7 | White | F | Bright White |

## Color on Your Junior.....

*(Continued from previous page)*

To assemble the program copy DEBUG.COM (on your DOS supplemental disk) to the disk that contains your script file and type:

**DEBUG < COLOR.SCR**

Be certain you have the arrow pointed towards DEBUG. The file will appear on the screen, automatically be saved and then exit from Debug. That's it.

The program will only use 37 bytes on your disk. To run the program just type COLOR and your screen will clear, be set to 80 column text, and turn to the colors you selected. If you happen to use the DOS command CLS, or go to some application program and then return to DOS you will have to re-run COLOR.

This program uses the BIOS video interupts in ROM to set the screen colors and the screen mode. The interupt function that sets the border color is available only on the PCjr. If you look through Chapter 12 of COMPUTE!'s book Beginner's Guide to Machine Language on the IBM PC & PCjr and follow through the remarks below you can see how the program works, and, if you are so inclined, you can see how to modify the program to set your screen to the 40 column mode.

*We thank John for this program and encourage other PCjr owners to let us know about other programs or tips that might make life more productive for the rest of us.*

### SETTING DOS COLORS ON THE PCjr

```
a 100
mov   ax,0003          ; screen mode 3 (80 columns and color)
int   10               ; call video interupt
mov   ax,0600          ; scroll screen up function
mov   cx,0000          ; upper left corner of window
mov   dx,1950          ; lower right corner of window (row 25, col 80)
mov   bh,1f            ; background/foreground colors  (blue/bright white)
int   10               ; call video interupt
mov   ah,02            ; set cursor position function
mov   dx,0000          ; to upper left corner of screen
mov   bh,00            ; page number
int   10               ; call video interupt
mov   ah,10            ; set pallet registers function (PCjr only)
mov   al,01            ; set border color option
mov   bh,01            ; border color  (blue)
int   10               ; call video interupt
int   20               ; return to DOS

r cx
25
n color.com
w
q
```

## THE GUGGENHEIM COLLECTION

Welcome again to the hallowed walls of our world famous art collection. This month we have an "original" from that talented family in Mira Loma, California known simply as The Rectors. Bob, Stella, Jamie, Donna, and Diana created this masterpiece on a 256K PCjr with a Microsoft booster, Mouse Systems mouse, and a Epson LX-80 printer using the IBM PCjr Color Paint software program. Less we forget, two other important members of the Rector family, their dogs Ginger and Tootsie provided much of the directing. They did a very good job.

# SPECIAL ITEMS FOR THE PCJR OWNER

## "IBM" BRAND ACCESSORIES

| | |
|---|---|
| PCjr JOYSTICK (hard to find) | $ 29 |
| 128K MEMORY EXPANSION | $ 140 |
| WORD/SOUND " Speech " ATTACHMENTS | $ 189 |
| ADAPTER CABLE FOR COLOR DISPLAY (connects PCjr to a standard RGB color monitor) | $ 15 |
| ADAPTER CABLE FOR SERIAL DEVICES | $ 15 |
| Cartridge BASIC | $ 75 |
| POWER ATTACHMENT | $ 55 |
| PARALLEL PRINTER Port | $ 79 |
| 300 baud INTERNAL Modem (with software) | $ 79 |
| Keyboard CORD | $ 15 |
| CARRYING CASE (great for VCR or tools also) | $ 25 |
| CASSETTE CABLE (usable for joystick adapter) | $ 12 |
| CHICKLET KEYBOARD (the origonal) | $ 19 |
| CHICKLET KEYBOARD OVERLAYS (pkg of 5) | $ 1 |
| ENHANCED KEYBOARD (standard PCjr keyboard) | $ 55 |
| REPLACMENT POWER TRANSFORMER | $ 19 |
| HARDWARE MAINTENCE MANUAL (how to find problems) | $ 55 |
| TECHNICAL REFERENCE MANUAL (has schematics) | $ 39 |
| TV ADAPTER (connect PCjr video/audio to TV/VCR) | $ 25 |

## RACORE PRODUCTS

| | |
|---|---|
| DRIVE II PLUS (with Direct Memory Access-DMA) | $ 330 |
| DRIVE II PLUS ( without DMA ) | $ 290 |
| 512K memory board for the DRIVE II PLUS | $ 130 |
| 384K memory board for the DRIVE II PLUS | $ 80 |

Racore Drive II's add a 2nd floppy drive, clock, and parallel port in a nice looking expansion chasis on top of the PCjr - expanded memory mounts inside

## 2ND FLOPPY DISK DRIVES

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**2ND DISK DRIVE - JRHOTSHOT SYSTEM**
Controller board mounts above microprocessor chip. Can be used with IBM PCjr internal modem. Includes 360k drive with power in a free standing case $ 234

**2ND DISK DRIVE - DO IT YOURSELF SYSTEM / KIT**

| | |
|---|---|
| Modem slot controller kit | $ 95 |
| jr HOTSHOT drive control kit | $ 79 |

*Kits include: control card, 2 drive signal cable software and installation / setup instructions you must supply the disk drive & power supply*

## JRHOTSHOT INTERNAL PLUG-IN UPGRADES

**SINGLE FEATURE UPGRADES**

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|---|---|
| 512K jrHOTSHOT Fast Memory Only | $ 189 |
| 256K jrHOTSHOT Fast Memory Only | $ 149 |
| JrHOTSHOT Real-Time Clock | $ 59 |
| jrHOTSHOT Floppy Disk Drive Control & Cable | $ 79 |

**DUAL FEATURE UPGRADES**

| | |
|---|---|
| 512K jrHOTSHOT Memory & Real-Time Clock | $ 238 |
| 256K jrHOTSHOT Memory & Real-Time Clock | $ 188 |
| 512K jrHOTSHOT Memory & 2nd Drive Control | $ 238 |
| 256K jrHOTSHOT Memory & 2nd Drive Control | $ 198 |
| jrHOTSHOT Real-Time Clock & 2nd Drive Cont | $ 108 |

**FULL THREE FEATURE UPGRADES**

| | |
|---|---|
| 512K jrHOTSHOT Memory, Real-Time Clock and 2nd Disk Drive Control & Cable | $ 269 |
| 256K jrHOTSHOT Memory, Real-Time Clock and 2nd Disk Drive Control & Cable | $ 229 |

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Program Reviewed
Financial Planner - Volume 1 in Sylvia Porter's
Personal Finance Series

Publisher
Timeworks, Inc.
444 Lake Cook Road
Deerfield, IL 60015

Cost List $129.95
Mail order about $60.00

Reviewer
Jim Streator

Do you want an easily used financial planning program that does exactly what the advertisments say it will do and which runs on a single drive system with 256K memory? If your answer is yes, consider Financial Planner. Planning and budgeting do not rank up at the top of my fun things to do but this program does help by providing you with an organized approach. It does not become any easier to plan but you are forced to think of items you might forget. Along the way, Sylvia Porter's treats you to her golden nuggets of financial planning.

To quote Sylvia "As you continue to learn about money management ... this program will keep pace with you. Like any invaluable tool, it makes your task much easier - but requires your own diligence for the result to be successful. If you apply yourself to your personal financial planning... your goals will be reached."

Modules are loaded from three program disks. Unfortunately, you have to use disk one to run the program, even from a hard disk. Fortunately, there is room on disk one for DOS and an auxiliary program to create a ramdisk. This allows you to use disk one as a boot disk. You need disk one infrequently once the program has started. Not being able to back up the boot disk bothers me. Programs like Print Shop allow the user to make one backup and Financial Planner should do the same or furnish you with a backup disk. Better yet, do away with the protection scheme. Shame on you Timeworks!

The size of this program is quite large. The sum of all modules is nearly one megabyte. With data files, it would be easy to use 1.5 megabytes to store all the needed material. I tried this program on a hard disk system and found it ran more smoothly than on either a double floppy PC or a single floppy Junior.

If you have a single disk Junior, then memory over 256K should be used as a ramdisk. If you do not use one, the potential for swapping six or seven disks exists. With a ramdisk, three disks still have to be swapped but all data can be put in ram. You must remember to transfer data to a floppy at the end of a session and you have to remember to transfer files to ram before booting the program.

Regardless of the method you use, prepare yourself! Initializing a disk consists of setting up room on a disk for data. One of the modules sets aside 98K for one part of one data file. Files of this size will quickly fill a disk, especially a ramdisk. Make sure you have enough room for your data.

What can you do with the program? You can set up a financial plan, integrate your plan with your budget, keep track of your cash flow, write checks on preprinted forms and prepare a

*(Continued on next page)*

## Financial Manager.....

*(Continued from previous page)*

variety of statements. Along the way, you can graph your information to see your spending in chart form or as percentages of the total. You can send data to other Timeworks programs such as Word Writer. You can play with the on screen calculator and write yourself notes as you go along and do screen dumps at will. However, I never did find a way to send printer commands through the program. Fortunately, my printer has setup keys on the printer otherwise I would have had to use the draft 10 cpi default.

I found the future planning section was interesting any potentially useful. It lets you create a data base with spreadsheet functions. For example, you are asked to choose a category for your planning. Then you are asked to give an amount needed, a year in which an event -such as retirement- is to occur, funds now available, and an estimate of inflation and interest rates. You can then see how much you need to save per year in order to reach a goal. All your stated goals can be added up to see if you can reach them in the times you choose. You quickly see if you need to search out some insider information in order to succeed. By changing amounts, you can find how to realistically match your plans with an expected income.

I found the printing of checks worked well but is not very useful. In order to need this feature, you would have to buy special checks or design your own form. Unless you have many checks to write at a given time, it is a lot easier to write them by hand. However, you certainly could impress your creditors with computer generated checks. (How's that for motivation!)

The program guides you through various selections and provides a number of convenient features. If you make a mistake, just press ESC and move backwards in the program. The pull down menus are clear and keep you on the right path. Graphic presentations and easily used and well laid out. If your budget or items in your budget are the same from month to month, just tell the friendly program to copy the data from last month.

If you get the impression that you can do many things with the program, you are right. However, do not expect a very flashy or particular elegant program. You plod along doing what you set out to do, make a financial plan. The manual is clear and gives you some hints as you proceed. Everything runs well on the Junior although disk swapping is required.

**...The real question you have to ask is if you need the program. Though many people do about the same thing without a computer, it is very nice to correlate items and it is also convenient to do some grouping for tax purposes on your PCjr....**

The real question you have to ask is if you need the program. Though many people do about the same thing without a computer, it is very nice to be able to correlate items and it is also convenient to do some grouping for tax purposes on your PCjr. I do some of this using a data base and a spreadsheet. I am not sure I would want to spend the time needed to set up a computerized plan a la Sylvia. Remember that just because your plan is on a computer, the best laid plans can still go astray. Sylvia also tells you this.

I suspect that this program would be excellent for someone who wants to get organized. Someone who is fairly well organized but wants to play some what-if games might also like the program. The organization required to set up a financial plan could be as helpful as the plan itself. If you see yourself in either of these categories, go find Sylvia and see if she can help you.

# Jr Music.....

*(Continued from page 1)*

costs the user the price of a disk up front and a $10.00 donation is asked if the program is found useful.

Both programs make music-making a fun and easy proposition on the PCjr. *The Music Studio* is driven by joystick only and uses the point and shoot icon method of manipulating the program. The program has two basic screens; The Main Composing Screen and The Paintbox. The Main Composing screen uses the traditional notes and signature for composing, while the paintbox foregoes all that by employing a simpler paint and play by number technique. In contrast, a joystick isn't needed to run the *Junior Music Machine*, a standard PCjr keyboard will do. It is a menu driven program as well, but the menus are of the Pre-Machintosh era: 1 - HELP, 2 - PLAY MUSIC and 3 - STOP. *Junior Music Machine* does all its composing with notes and signature, the traditional way. Both programs take advantage of one of Junior's strengths - the ability to output in three distinct voices. *The Music Studio* has a lot more flexibility by allowing a wider selection of predefined instruments to be used for each of the voices. On the other hand, *Jr Music Machine* has three choices only. *The Music Studio* also allows for the modification of preexisting instruments and the design of new ones in the Sound Engineering Room.

**.....*Junior Music Machine* is made for the budget minded Beethoven.....**
**.....*Music Studio* wants to be great, but falls short.**

There are good points and bad for both programs. Let's start with the bad, so as not to end on a sour note (no pun intended). Neither *Music Studio* nor *Junior Music Machine* were designed with an expanded PCjr in mind. More simply, the programs do not recognize or accept any memory over 128K. Trying to use extra memory will have disasterous effects, such as system overload on *Junior Music Machine* and screen distortion on *Music Studio*. This is an easy problem to get around on *Junior Music Machine* by making the program self-booting with straight DOS 2.1. *Music Studio* is copy protected and makes no provision for adding DOS to the program disk, so it remains a two disk operation. The first disk being an unmodified DOS disk. Still, occasional problems result with *Music Studio*. A call to Activision gave this sage advice, pull the plug on the memory boards and if that doesn't work, disconnect them. Those folks at Activision are sure a forward-thinking bunch. The second problem common to both programs is the inability to recognize the presence of a second disk drive. Again it is not a big deal with *Junior Music Machine,* since there is plenty of room on the program disks to copy those hot tunes to disk. When one disk is full, just make a new program disk, simple as diskcopy A: B:. *Music Studio* on the other hand requires the switching of disks to save those hits. Makes this two drive junior owner wonder why.

This raises an interesting question - have the after-market hardware advances of junior surpassed the software being designed specifically for junior?. In this case yes, too much memory is none too good. That is not too disconcerting when considering *Junior Music Machine*, since it is a public domain program put on the market to be enjoyed and hopefully supported and improved by the users. It *is* disconcerting when considering a commercial program like *Music Studio*. Activision has not recognized that many juniors have grown up. *Music Studio* makes no provision for additional memory, use of a second drive, or even the use of a mouse with the PCjr. That is sad, since these capabilities are realized for the Tandy 1000 on the same disk.

Even with these problems it is refreshing to see new software designed with the PCjr in

*(Continued on next page)*

## Jr Music.....

*(Continued from previous page)*

mind. For total ease of music composition for the tone deaf, tin eared, squeaky voiced, musically naive the award goes to *Music Studio*. Just put the different size and color boxes on the staff and let her rip. Using the Music Paint box is just that easy and who cares if that tune never makes it to the top ten. If copying the old favorites to disk for later computer regeneration is the goal, then *Junior Music Machine* is the program. Its format is best suited for turning the PCjr into a computer juke box. *Junior Music Machine* places the notes on the staff by way of the cursor keys. Using the joystick on *Music Studio* makes note placement a little more troublesome, since the cursor seems to wander at times even after centering the joystick. This glitzy menu driven program is in search of a mouse, but trapped by a joystick.

*Music Studio* has some powerful features missing on *Junior Music Machine*. It has the ability to add lyrics to your songs. Unfortunately there is no bouncing ball, so that old Sing Along with Mitch feeling is kind of lost. Seriously, it is a nice feature and even nicer is the ability to print the notes to paper allowing those masterpieces to be shared in other musical formats. That is a step forward towards true musical composition. What about the frustrated musician who is short on talent but still wants to have fun? May I suggest a trip to The Sound Engineering Room where new instruments are created and wild sounds originate. Having some experience in sound generation, it is amazing how far technology has come in ten years. In college it took a 12' by 12' room filled with one of the original moog synthesizers and plenty of extras to do much of what can be done today on little old Junior, and better yet, it costs a lot less in greenbacks as well.

Editing on *Music Studio* is also easy. The user can move copy and insert blocks while operating in the Main Composing screen. These features are not available on The Paintbox Screen. So for the neophyte composer to take advantage of the best of both worlds he must switch between the two screens. This is as easy as hitting the black button on the joystick. However, jumping between screens will occasionally cause the dreaded "Menu Madness", that is, the screen will be distorted with menu selections on the right and lists of options appearing out of sync to the left.

*Junior Music Machine* has no real editing tools other than the use of insert and delete. Both programs allow a note to be erased by repositioning a note over the present one and pushing the red joystick button on *Music Studio* or the enter key on *Junior Music Machine*. Selection of all the standard musical nomenclature such as notes, rests, time signature, key, tempo and volume is available to the user on either program. The adding of measures is controlled by the user on *Music Studio* and by the computer on *Junior Music Machine*.

Neither of these programs are headed up the charts with a bullet, but they do a good job of making Junior sing. *Junior Music Machine* is made for the budget-minded Beethoven, and with time and user support should grow and improve. In its present state it is a fine program with no apparent bugs and is a good way to start making music with your computer. *Music Studio* wants to be great, but falls short. All its powerful features definitely make it new wave, but even if you turn the volume down there are some minor headaches. The program still occasionally hangs up even with the memory disabled and the joystick interface makes moving around the screen shaky business. But, if you're into more serious composing or tinkering with sound, then you've got to like *Music Studio*. It's your choice - make your own kind of music.

## NEW SHAREWARE

### MAHJONG (#77):

This fascinating game from the Orient, that became a craze in the United States in the thirties, now comes to your PCjr screen. This game, still one of the most popular games in the East, employs extraordinary graphics to display the tiles, and has extensive documentation for the beginner. Allows you to play against three simulated opponents, and has levels of play from beginner to expert.

### AMY'S FIRST PRIMER - PCjr Version (#78):

This is a great collection of six games designed to teach basic skills to a pre-reading child. Includes a sing-along alphabet, a letter matching game, an alphabet tutorial, a numbers counting game, a maze game, and a pattern matching game. The program stresses positive reinforcement of these basic skills to promote a "learning is fun" attitude. Colors on a PCjr color monitor are outstanding and are sure to keep the littliest one in awe for many hours.

### ORIGAMI (#79):

This well written and fun program introduces the PCjr owner to Origami, the ancient art of paper folding. It starts with the basics, and then proceeds to show you how to create fascinating paper sculptures with step-by-step graphic instructions. Sculptures include rabbits, jets, penguins, and samurai helmets. Artists of all ages will have hours of enjoyment with this program.

### BIBLEQ (#80):

This is a trivia-type game with multiple choice questions drawn from the Bible. It tests you on a wide range of topics including geography of the biblical lands, personalities, and incidents and teachings of the Gospels. Bible students and teachers of the Church School variety will certainly want this program in their collections.

*The following is a special shareware program that all PCjr owners should have. It is written by Larry Newcomb of the Metro PCjr Users Group and is reviewed below Brit Hume. We have the updated version this month in our library.*

### JRCONFIG.SYS & CONFIGJR.SYS (#82):

These two programs, written by Larry Newcomb of the Metro PCjr Users Group, would qualify as "utilities" but that would be an understatement. They are by far the most powerful and flexible software available for getting a PCjr to run with expanded memory and additional disk drives.

These two programs are the same except for one thing. JRCONFIG.SYS automatically creates a ramdisk in low memory, which can be set by the user to any size from 19K to the limit of expansion memory. The default is 91K. CONFIGJR.SYS does not create a low memory ramdisk.

Both programs will cause the PCjr to recognize all expansion memory and added floppy disk drives. They also will allow the user to establish the size of the so-called "video buffer" at as little as 4K. The video buffer is that part of the PCjr memory allotted to the computer's display. This feature is particularly useful for those with only 256K, since the usual video allocations of 16K or 32K can leave a PCjr short of memory for some programs that are supposed to run on 256K machines. Both also allow the user to boot the Jr in80-column instead of 40-column mode, and to turn on the electronic Junior keyboard click. In addition, these two programs can be set to look for expanded memory above the 640K and use up to 736K of RAM.

Larry has included in the archived package with the two programs and documentation some other useful utilities for your Jr. One is a program called COMSPEC.COM which fixes the bug in the DOS 2.1 SET command so that the computer can be made to look somewhere besides Drive A to reload COMMAND.COM when it needs to. Thus, when using a ramdisk, COMMAND.COM can be copied to the ramdisk and DOS can be told to look for it there. The result is an extremely fast reload and the end of the annoying message "Insert COMMAND.COM disk in Drive A and strike any key when ready." Also included is a handy program called RAM.SYS which creates a ramdisk in HIGH memory. This allows the size of the ramdisk to be changed without rebooting the computer. Larry has fixed both of these programs so that there is an on-screen indicator that spins when the ramdisk is being accessed.

This software runs from a CONFIG.SYS file, and this is one of its greatest advantages. Thus all of these tasks, installing memory, drives, setting display, turning on the keyboard, and setting a ramdisk can be all done at once. This software has been tested with memory boards from IBM, Tecmar, Racore, and Microsoft, and works with all.

## MOVING?

Make sure you let us know way ahead of time of your next move, so that you don't miss any of the breath-taking issues that are on the way. Please include your former mailing label in your correspondence, and address it to the attention of Lily Fischbach, Circulation Manager. She's ready for you.

## NEWS FLASH:

### MURDOCH SELLS NEW IBM SPEECH ATTACHMENTS TO PCjr CLUB FOR IMMEDIATE DISTRIBUTION!!!

In an incredible turn of events, PCjr entrepreneur Robert Murdoch has sold his remaining stock of IBM PCjr Speech attachments to the World-renowned PCjr Club in Schaumburg, Illinois. The number of Speech attachments remaining was placed at only 15 according to a PCjr Club spokesman. They will be sold at a discount to PCjr club members at a cost of $85. plus $5. S&H, which is less than a third of their original $300. cost. Those subscribers interested were instructed to send a check or money order (US funds only) to The PCjr Club, IBM Speech Attachments, P.O. Box 59067, Schaumburg, IL 60159-0067. No further details were given.

## IBM AND TECMAR EXPANSION BOARD UPGRADES

If you want to be the first kid on your block to have 256K chips in your IBM or Tecmar expansion board, this one's for you. After replacing the 64K chips originally soldered in your JrCaptain or IBM expansion sidecar, adding new sockets, and inserting 256K chips, you will effectively have 640K of RAM in your PCjr to play with. All work will be done by qualified technicians headed by Brian Cook. What we want you to do, is to fill out the form below to let us know if you're interested. Once we have your form on file, you will be notified by phone or mail when we would like for you to ship your board to us for prompt work, hopefully within two weeks time. The cost of mailing the board to us and insuring it will be your responsibility, and the cost and care of returning your upgraded board to you via UPS in a safe manner will be ours. We want you Tecmar owners to send your power supply along as well, so that we can test the board with your own power supply before we do anything to it. The cost of this service will be $145.00 (U.S. Currency). If you should have any questions concerning this service, please let us know on your form. We will guarantee the work and the 256K chips for 90 days.

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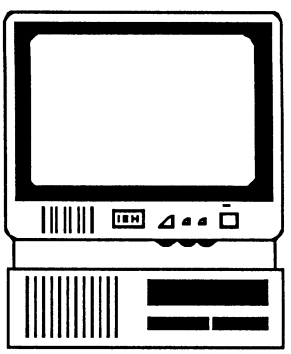

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## REPRINTS

**Below is a list of reprints that are currently available for purchasing. Please use the order blank below and send remittance and form to: The PCjr Club, Reprints, P.O. Box 59067, Schaumburg, IL 60159-0067.**

**NOV 1986** - IBM ColorPaint jRHotShot Internal Memory Expansion Gato
**DEC 1986** - Readers' Survey #3 Jr BBS's Fontrix Converting IBM's Expansion Board to 512K
**JAN 1987** - PCjr Software Compatibility List Doctoring IBM Writing Assistant Carmen SanDiego on Jr
**FEB 1987** - PC-Write 2.7 PCjr Clubs DOS Patch 2.1 Basic Programing on the Junior
**MAR 1987** - Art Studio Cassette Cable to Joystick Adapter Inside Your Jr Part I New Jr Products
**APR 1987** - Inside the Jr Part II Microsoft Booster Upgrade StarFlight Fix Pockets Educational Software
**MAY 1987** - IBM Model 30 Hard Drives For Jr Part I NewsMaster Speeding Up Basic Programs
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# PUBLIC DOMAIN AND USER SUPPORTED SOFTWARE

Below are the list of available programs for members. Please note: we have tried our best to test as many programs on as many different configurations of the PCjr system. A great majority will work on most systems, but once in a while, it may not on your particular system. More than likely, however, there are enough other programs that do work fine to make up for the one that doesn't.

## Don't forget the new programs on page 18!!

**PC FILE III (#1):** the classic, updated, full-featured database program that has set the standard for shareware programs. Considered by many to be better than most commercial programs. Version 4.
**PC WRITE (#2):** this best-selling shareware program is equal to or better than most word processors on the market. This is the latest version (2.55) and will run on the single drive, 128K PCjr.
**PC TALK (#3):** PCjr adapted version of one of the most popular communications programs.
**HOME MANAGEMENT (#4):** a reliable, general purpose financial manager.
**MONOPOLY (#6):** Colorful, electronic version of the most popular board game in history. **Requires 256K.**
**KIDS (#7):** a special children's disk composed of a kid's word processor, an intermediate math program, and a colorful counting game for the preschooler.
**PC-KEY-DRAW (#9):** the most powerful graphics program available in shareware. **Requires 256K.**
**GAMES (#10):** one of the best selling game disks has Combat, Dungeons & Dragons, & Global THermNuclear War.
**PC TUTORIAL (#12):** a course in computer and the PC-DOS environment.
**GAMES (#16):** includes PC-versions of Pac-Man, Missile Command, Asteroids, and Centipede.
**PC OUTLINE (#17):** an easy-to-use outlining program that's a must for writers and aspiring writers.
**EDUCATIONAL GAMES (#18):** features math exercises, thinking programs, and the classic Flashcards.
**LABEL MASTER (#19):** the original label making program has a variety of uses.
**GAMES (#24):** Poker games, Battleship, Land Mines, Fire, Grime, and Hostages.
**IMAGEPRINT (#25):** A must-have printer utility that makes your dot matrix into a lean, mean, quality text producing printing machine. Can proportionally space text. Requires an Epson or IBM compatible printer.
**QMODEMjr (#26):** a special PCjr version of the popular communications program, allows easy access to BBS's.
**PC-LEDGER & PC ACCOUNTS RECEIVABLE (#27):** A very good business manager for the small and home business.
**EZ FORMS (#28):** Create and print custom forms to fit every need. A business neccesity. **Requires 256K.**
**PC-STYLE (#29):** Written by Jim Button, helps improve your writing skills by analyzing your writing style. Easy to use, it wakes up your documents or prose, making your writing more readable and stylish.
**VISIBLE-PASCAL (#30):** A special version of Pascal for novice Pascal programmers.
**PC-CALC (#31):** A "visible" spreadsheet program that challenges those offered commercially. Income tax computations, calculating depreciation, computing loan interests, or just plain balancing your checkbook are just some of the chores this program can handle.

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## *PUBLIC DOMAIN AND USER SUPPORTED SOFTWARE*

**To order any Public Domain disk, please send $5.50 (U.S. Currency) for each program ($10.00 for non-members) which includes shipping and handling and send to: The PCjr Club, Public Domain, P.O. Box 59067, Schaumburg, IL 60159-0067. Please allow four weeks for delivery. All orders outside of the United States and Canada, please include $10.00 (U.S.) per order.**

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64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94

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**PC-GRAPH (#34):** Also by Jim Button, create an assortment of graphs from databases such as PC-File, or spreadsheets, too.
**DOSAMATIC (#35):** No, it doesn't slice and dice onions, but it is one heck of a DOS utility, that includes multi-tasking abilities, debugs, sorts, and much more.
**PC-DESKMATES (#36):** A memory resident that includes an alarm clock, phone book, calendar, notepad, and printer commands.
**GAMES (#38):** Frogger, Wa-Tor, R-Logic, and Zaxxon, among others.
**GAMES (#39):** Includes Yahtzee, Chess, Slot Machine, and Wizard.
**GAMES (#40):** How about a game of CoreWar, Keno, Othello, or Golf?
**GAMES (#41):** Features Striker, an arcade-style helicopter attack game that will make you swear you're in a real arcade. Also has Catacombs of Nemon, and JumpJoe.2 (A donkey Kong lookalike) **Requires 256K.**
**GENEALOGY (#42):** Contains both informal format and LDS format for you to see if you are related to the Czar of Russia.
**TRIVIAL TOWERS (#45):** Trivial Pursuit in a computer form, has six catagories from which to choose, or write your own questions and answers. **TWO DISK SET - $9.00.**
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**ULTRA UTILITIES (#47):** features U-File, U-format, and U-Zap in a powerful collection of programs that will allow you complete access to the power of your PCjr DOS operating system and of your PCjr disk drive controller circuitry.
**CASHTRAC 5.15 (#48):** an excellent program intended for use by the household manager, club treasurer, small business, and expense account keepers. **Requires 256K.**
**PCjr UTILITIES (#49):** special utilities for Junior includes a print spooler, two text editors, and a program that can create special PCjr keyboard templates for WordPerfect 4.1, Reflex, PC-Write 2.55, and others.
**GOOD HEALTH (#50):** features PC-Recipe, a fun program that maintains recipe information, and allows you to display, update, add, change, and re-calculate recipes. Also has BioRhythm and ELIZA, the "artificial intelligent" companion.
**TUNE TRIVIA (#52):** Quick, for one thousand dollars, NAME THAT TUNE! For up to six players.
**GAMES (#53):** arcade-style games featuring Warrior, Empire, and Wumpus. **Requires 256K.**
**GAMES (#54):** play arcade-style, 3-D 3-DEMON. and also Afghanistan, Dominoes,and Hostages. **Requires 256K.**
**PROCOMM 2.42 (#55):** This has become the new standard in Public Domain communications software. Powerful and easy-to-use, this version is the one that works well on the Junior. **Requires 192K. TWO DISKS - $9.00.**
**GAMES (#56):** Includes three casino games led by Las Vegas Style Craps that includes its own tutorial, three text adventure games, and an assortment of other arcade games that should keep everyone busy.
**Jr MUSIC MACHINE (#57):** One of two music programs on this disk, this program lets you play and see music simultaneously, and utilizes Junior's special sound capabilities.
**GOLF HANDICAPPER (#58):** Allows you to compute, store, update and print golf stroke handicap information for up to 75 players, using the handicap formula established by the USGA.
**PC-FONT (#59):** A utility program which enables your Epson or IBM Graphics printer to print a variety of fonts that includes block graphic, engineering, scientific, foreign language, and other special characters.
**SLEUTH (#61):** A murder has just been committed, and your job is to mingle with houseguests, search the house, and solve the crime. Every game is different. If you like the game of CLUE, you'll love SLEUTH.
**SAN MATEO EDUCATION (#62):** Educational games for children 12 years and older. Includes scramble, states, nations, chemist, and many more.
**BUTTON GAMES (#63):** Includes Buttonware educational and adventure games SOUTH AMERICAN TREK (You are a special investigator for the Federal Geographical Magazine and you have been sent to gather information about each country in South America. Your travels will take you from one end of the continent to the other where you will be picked up by a friendly submarine), and CASTAWAY (You are shipwrecked in the Pacific, slowly drifting through the fog until you find a deserted island. There you find countless treasures, but they are worthless if you cannot return to civilization. Will you be able to get off the island?)
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**THE DESIGNER (#65):** a fantastic programming tool for BASIC users working with animated graphics on the Junior. You can draw on the screen in color, store your work in either "screen" or "sprite" form, and recall it later to make changes.
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**QFILER (#67):** the famous file maintenance utility that also prints up its own function key template. **192K.**
**GAMES (#68):** includes PC BOWL, Backgammon, and NIM.
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**DUNGEONS AND DRAGONS (#70):** The most popular of all games in this genre, this will place you in a world where the fantastic is fact and magic really works.
**BEYOND THE TITANIC (#71):** Enthusiasts of Infocom's famous text-adventure games will find this as exciting as Zork or Planetfall.
**PC-CHESS (#73):** A true, stand-alone chess program that will challenge you like no other program before. This is a full-color multi-featured program that can run on a 128K Junior.
**JAPANESE (#74):** An introduction to this fascinating language. May be important to the businessman or traveler.
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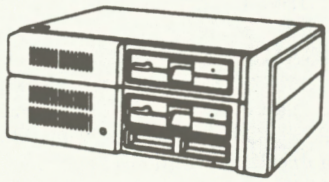

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