

Jr Newsletter

March, 1992

New Bus Adapter Card Features Two Expansion Slots

Hank Kennedy of Round Rock, Texas, has developed a printed circuit board adaptor which is mounted on the side (or back) of the PCjr. This adapter makes the jr function more like the PC with its multiple slots which accept daughter cards.

The original PCjr bus accepted only a sidecar port with a 60 pin slot. Kennedy's device adapts the 60 pin jr bus into a 62 pin bus, the standard PC size, thus allowing the use of cheaper, more standard add-in components.

The adapter is an extended unit designed to plug into the side port and sit outside the PCjr, at about the same height as the junior. It will accept both the standard XT hard disk controller card and the Ad Lib Music card in its two standard PC slots.

This concept of adapting PCjr to accept standard 62 pin cards has been utilized by several of our advertisers for some time.

Ed Strauss (the inventor of the JR HOTSHOT) sold a 2-slot adapter, and Owl Software marketed it for a while.

Jr's Lack of DMA and the Hard Drive

Direct Memory Access (DMA) was not incorporated in the PCjr. Because it has no DMA, when jr writes to a disk the operation is under the control of the CPU and the rest of the system stops during the write. Standard hard drive controller cards typically use DMA to allow the CPU to operate during read and write operations. The PCjr's lack

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PCjr Lives!



*"You will fall in love with someone
whose initials are P.C. jr."*

Make A Smarter Batch File

By Ed Kidera

BATch files are ideal ways to customize your computer and make it more personal. One common use is to combine a series of commands under one name that allows the complex sequence to be easily executed.

In writing BATch files it is important to keep the use of them simple. Some users find writing many little files that perform a single function the answer, but this takes up lots of disk space and requires the user to remember the commands. A better approach is to combine related BATch files together and use command switches to differentiate the desired action. The best approach is to make the BATch file smart enough to know what you want to do; unfortunately, this is easier said than done.

One interesting example for a BATch file(s) is to switch between two printers, in this case a printer on the serial port and a standard dot matrix printer on the parallel port. Consider the following approaches to the problem.

1. Multiple BATch files:

```
PARALLEL.BAT
ECHO off
MODE lpt1:
ECHO Dot matrix printer is on-line
```

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Your PCjr, or any other computer for that matter, is nothing more than a collection of electronic circuits designed to work together. There has to be something that tells these electronic circuits what to do and how to do it. That something is called DOS, which stands for Disk Operating System.

I wrote this document on my PCjr, assuming you are using DOS 2.1 or later. Regardless of what DOS version you are using, you should have little problem finding most of the topics I am going to talk about. DOS 2.1 comes as two disks. One is the DOS Master disk, and the other one is the DOS Supplemental Programs disk.

The Supplemental Programs disk has programs that you can run on your PCjr. Don't worry about that disk now. However, if you feel confident enough, you can try running a few of the programs on that disk.

The small book called Disk Operating System Users Guide has basic information about DOS functions. (It's a soft-cover book about 5 by 7 inches). It's a handy little guide with a cute yellow bird who knows a lot about DOS. Go to Chapter 1 and read "What is DOS?"

This will give you some idea of why your PCjr needs DOS loaded before you can run any of your programs. Now skim through the rest of the booklet, but don't try to understand everything right now. It's your book, so feel free to use a hi-lighter or paper clip to mark the things you want to remember.

Important Goodies

Here are a few topics in the DOS Users Guide to read and become familiar with before you go any further:

1. Tracks, Bytes, Sectors
2. Double Sided drives (what the PC and PCjr have)
3. Formatting
4. Write-Protect Notch
5. One Diskette Drive Systems (if you have a PCjr with one drive)
6. Two Diskette Drive Systems (if you have TWO disk drives on your PCjr)

Get a good understanding of Drive A: and Drive B: especially if you have a ONE disk drive system. If you have a fixed disk then read through the information, but don't try to fully understand everything about the fixed disk right now.

The large Disk Operating System (DOS) hard-cover manual lists all information about DOS. Most of that vast collection of information is not required to use a computer.

Much of it is for more advanced users. The average PCjr user needs to understand just a few of the topics that are in that book. I'll mention what's important as we go along.

Some disks are single sided, which means that data is only written on one side. Disk drives made several years ago were single-sided. The DOS 2.1 Master disk comes on a single-sided disk. DOS 3.0, and later versions, come on a double-sided disk.

Notice that your DOS Master disk does NOT have a notch cut in the upper right-hand corner. This disk is write protected and cannot be written on. This is done to keep you from accidentally erasing or changing the information on this master disk.

Note: If you power up your PCjr without a disk installed, a very limited form of BASIC will automatically load. BASIC is a programming language that you may want to learn. This limited BASIC comes from a computer circuit (chip) located inside the PCjr itself called a ROM, which stands for Read Only Memory. ROM memory has nothing to do with the amount of memory your computer can use to operate software.

The memory in your PCjr is called RAM, which stands for Random Access Memory. RAM is a group of electronic memory circuits that can store information. Your PCjr may have come with 64K in very early models, 128K, in the "enhanced" model, or up to 640K, of RAM. (Some PCjrs even have 736K of RAM now, but that's unusual.)

The number before the K means your computer can store that many thousand letters or digits. So, a computer with 128K can store 128,000 and one with 640K can store 640,000 letters or digits. DOS loads into a portion of this RAM memory. The rest of the memory is used to run your programs.

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Questions and Answers

By Rene Waldron



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

Q. I have seen much reference to databases in various publications and think I have figured out what they are. Can you explain in simple English what a database program does? Are there any small programs available for the jr to experiment with? Is any programming involved and if so what is the language? Anon. by request.

A. It is interesting that the advertising for databases assume a full knowledge of the principles of database management and jump right into the hype of why "ours is better." The reason most explanations about databases seem difficult to understand is that the programs are so and flexible and variable we can't seem to categorize them. Especially when we discover that we are dealing with ANY kind of data; numbers and text - often mixed together!

A database program is really a kind of filing system. It forces us to organize and store data in a way which allows us to retrieve these data six ways from Sunday if we choose. Here's the idea:

Let's say you want to make a computerized personal telephone directory because it's pretty large. You want the following on each page:

Last name - First name - Middle initial
Street address - City - State - Zip
Phone number(s) - Birth date - Memos? - etc.

That whole page would be called a single record; each part is one field of the record. Each page would look identical but all the fields would not necessarily have to be filled in. Middle initial, Birth date and Memos are examples that would probably be optional. The database program "walks" you through this part of the setup so you can

determine which fields are necessary, which are not, and which are KEYS.

A database program, you see, sets you up to store data in an organized way, like the page above. You might even think of it as a computerized Rolodex filer! The major difference is that the computer database allows you to retrieve a page or pages using any of the selected fields as "KEYS" for searching and retrieving. You could instantly list, or print, all the persons who live in the same zip code area. Crazy, perhaps, but you could also get a listing of those persons with a common middle initial and a common birth date if there were any! You can have lots of different fields and keys and can use them to sort and find either singly or in various combinations. You can even select which of the fields (parts of the "page") will be included or excluded for listings or printings.

Now that you have a basic understanding of the ideas involved, you can apply the thinking to such things as a tape, book, record or CD collection or any data which can be stored as if in a filing cabinet. Businesses use this same idea for customer listings with shipping and billing information along with many other "key fields" such as those used for inventory control.

The development "language" is integrated with the development parts of the program and is usually a compiler of sorts. The other "language" is generally the way in which the "key fields" are accessed for searching and or sorting. An example would be ">G AND <K" If this was entered in the Name Key Field for searching, all records with names beginning with H, I and J would be retrieved, alphabetically sorted and screen-ready or printer-ready out or whatever... These so-called database languages often seem very BASIC-like to the user.

There are plenty of database programs which are compatible with the jr. For a try before you buy Shareware program you should look at PC-File III by Jim Button on our Software Store disks #3 (128k) or #4 (256k+); you could try 3X5 on disk #19, a computerized version of 3X5 index cards but quicker and more useful than "real" 3X5 cards. Namepal (disk #70) and File Express (disks #83 and #84) are also easy to use and have extensive sets of features and power.

Commercial (and sometimes expensive) programs which some of our readers are using are: Ashton-Tate (now Borland) dBase, versions up to and including IV; Spinnaker's Eight-in-One has a built in database program which is

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Questions and Answers

(Continued from page 3)

slightly integrated with the built in word processor; Microsoft Works version 1.05 includes an integrated sub-version of Excel which is integrated with the word processor; and the IBM Assistant Series is used by some of our readers, but it can be a nuisance to get configured.

Later, if you have 512k and a hard disk and you decide to get into making programmed, compiled databases for others, you could look into the Clarion Personal Developer. This inexpensive (\$49.00 street price) version of the larger (\$495.00 - up) Clarion Professional Developer makes huge databases, compiles to run on other machines, makes drop-down windows in full color, prints out data in all kinds of formats etc... PC World just tested a bunch of similar sized programs and gave it high marks, especially for speed and ease of use.

Q. I hate to keep fishing around and putting the DOS booter in the drive when it asks for COMMAND.COM. I'm a new user and wonder is there some way around this? BCS caller.

A. You've discovered that DOS automatically looks to the booting drive for the portion of COMMAND.COM to re-load as it needs it. There are a few different ways to take care of this, each depending on the DOS version you have. The simplest (not the best) way, is to have a copy of COMMAND.CON on all the working disks used in the booting drive.

To not have to do this, saving the space on these disks and to have a really speedy re-loading of COMMAND.COM, set up a RAMdisk and copy COMMAND.COM to this drive. If you are limited in memory as well as drives, keep the RAMdisk small; just size it to hold COMMAND.COM if possible. You will also need to add the statement "set comspec=c:command.com" to your AUTOEXEC.BAT file.

All the following examples also assume the desired drive for COMMAND.COM is "C:."

For version 2.1 only, the jr's original DOS, you will also need to use a program found on the Software Store's Power Pak #52 or #65 which is called COMSPEC.COM. Follow the directions on that disk, for the drive on which you will have COMMAND.COM residing. To handle this automatically by your AUTOEXEC.BAT, add "COPY A:COMMAND.COM C:" to get a copy on the RAMdisk (if it is C:) each time you boot up and you're done! All of these methods work for a non-bootable C: hard drive as well. You can have COMMAND.COM on either the hard drive or the RAMdisk. Even if you have a hard disk, the RAMdisk re-load of COMMAND.COM is a great deal quicker.

For later versions of DOS (up to 4.xx) you need only the "set comspec=c:command.com" statement.

For DOS 5.0 take care of it with the "shell" statement in the CONFIG.SYS file already set up for you. If it isn't there just copy the "shell=c:command.com /e:256 /p /f" directly from the DOS manual into the CONFIG.SYS.

Q. I have the standard (non-chiclet) keyboard and have a problem with the cursor keys in QBASIC. The work-around on disk #56 works, but can you help clear up the different inputs when the keyboard is in the "shifted" state? BCS caller, Boston, MA

A. This has been a nuisance glitch since QBASIC 2.00 or 3.00. You can set up a little routine in ANY version of QB Compiler or the QBASIC Interpreter which can be quite instructive about the keyboard input(s).

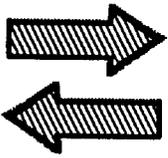
See Listings One and Two as printed on page 11 and follow directions under comments below. If you're using an interpreter, use version #2.

Comments for Version 1.

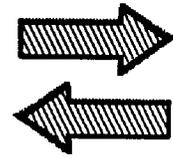
After you have it typed in and running, press any letter or number key to see what is printed on the screen. So far, simple; INKEY\$ is doing its job.

Now press one of the cursor (arrow) keys and the conditional (IF - THEN) statements come into play. The LENGTH of the input from the keyboard is more than one and the CVI is converting the input to an integer. Yes, CVI() DOES convert what we think of as a letter to an integer. It is a little-known and less documented statement related to ASC(), VAL() and STR\$(). The important thing for the jr user to note are the numbers and letters on the screen especially when either of the Shift keys is held down AND one of the cursor (arrow) keys is pressed. The value (8192) preceding the value of interest is the tip-off that we have a control of some kind in operation. Sure enough, the upper case letter is printed with a leading space on the screen. There's where the value 8192 shows up. We can now see the two byte input from the keyboard when we press something other than the plain letter or number keys. Try the Function key and one of the arrow keys (Home, for example) to see another set of new values. In no time, you'll see it all come together, and you'll realize that these values can be checked and utilized by your own programs for some very fancy keyboard input! Remember, you can put the jr keyboard (or any other, for that matter) into and out of the "shifted" state quite easily. For this next exercise be sure the keyboard starts in the un-shifted state (Caps-lock OFF). If you Break or Stop the running program before it can restore the keyboard to the un-shifted state, just touch either Shift key before continuing:

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Reader Feedback



Reader offers Tips

Part II, continued from February issue.

I am learning the ED editor in UNIX. Most UNIX people don't use it much, they use a screen editor called VI. But ED is so like EDLIN, I took to it pretty quickly. I have found out that EDLIN in fact came from ED. In fact much of DOS came from UNIX, just as much of CPM came from DEC VMS. It's a small world, huh? Know anybody who uses DOS commands like SORT, FIND, and COMP? Probably not. There are a lot of them like that, yes, they came from UNIX. Ever do any piping or redirection? A little bit? Yes, UNIX too. Only in UNIX they are essential to everyday usage. There are lots of commands that can only be used in pipes.

In UNIX, the Korn shell is the best combination of the Bourne Shell & the C shell. I am learning how to write what is known in UNIX as script files. This alone is an extremely valuable skill. A script file in a shell is not quite like regular programming in that you do not compile it. But to call it batch file programming does not begin to do it justice. I can actually create the script files on my jr and run them without change on the UNIX systems.

I can't do everything of course. The hardware isn't the same and I can't tweak with the live systems; the important thing is not what can't be done but what I can do now. To write control programs at home and use them on corporate systems is why I bought my PCjr back in 1984. The software is not cheap, but it gets a four star rating.

I have another way to recognize added memory besides Newcomb's jrconfig. This other way crashes on far less software. In fact I would never use jrconfig except the MKS toolkit is the only software that runs on jrconfig but not the other way. The other way is faster. Taking a directory is a noticed difference. The other way takes advantage of enhanced firmware, probably why it is faster and more reliable. The other way is also smaller, taking up less RAM, probably also because it wisely uses firmware instead of just software.

It doesn't have all the options that jrconfig has but everything it doesn't have I have replaced with shareware from this newsletter. It took me a long time to tweak it, which it maybe why it is not used, even though when I say what it is, it will sound familiar. I went through every issue of the jr Newsletter to MAY 1987, and could not believe it has never been mentioned as a memory management system. It must have been mentioned somewhere, and people must

have tried it some time, but I could not find any reference to it.

This other way uses the Combo Cartridge 2.0. I use the Combo Cartridge with the jr excellerator. The two pieces of hardware work quite well together. I consider the Combo Cartridge a ROM/BIOS upgrade.

The funny thing is even P C Enterprises, the people who sold me the Combo Cartridge did not know what I was talking about when they asked me one day about how my computer was setup. They sold me their "Memory Management Software" for \$10.00 which turned out to be the Larry Newcomb software I already had from the jr Newsletter for \$5.00. I can assure you I use this method every day. It is smaller, faster, and more reliable than jrconfig. I have enclosed my favorite config.sys and autoexec.bat as an example of one setup. I have a dozen different boot disks, this one is optimized for highest speed at the expense of memory. I have a Megaboard, so it is not so bad that I throw the whole first 128K to the video RAM. Most other boot disks use 32K video RAM and load all the device drivers and TSRs in the first 128K.

In your December issue you mentioned that PCE had the source code to jrconfig and would release a new version. I hope they take a look at the slick code in their own Combo Cartridge to combine with it. What they should do is bundle that and all their other device drivers and TSRs in a new cartridge so it takes no (zero) RAM and interferes less with other software. Come right out and call the ROM/BIOS upgrade.

(The comments in brackets to right are not actually part of the programs, they are info for this article only.)

config.sys

```
device = jrbufdd.sys /c      {sets video, finds memory}
device = shdio.bin          {hard disk driver}
device = jrsyncdd.sys
device = megadsk.sys /*     {megaboard driver}
shell=command.com /e:512/p
break = on
files = 16
buffers = 20
```

autoexec.bat

```
@echo off hush             {quiets floppys}
fastmem                    {checks memory to > 128}
jruint21                   {video speedup}
```

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Games

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

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

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)

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)

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

Reader Feedback

(Continued from page 5)

```

disksync
jrsync setfonts /n           {sets font chip}
read_clk                     {sets clock chip}
path c:\dos;c:\ni;d:\tools;f:\qb45;c:\ni\n_old
prompt $p$g
set comspec=c:\dos\command.com
set nu=c:\ni                 {sets norton}
msmouse /2                   {mouse driver}
c:\ni\image c: d: e: f: g:   {norton disk test}
nnd c: d: e: f: g: /quick    {norton disk test}
h:
cls
echo.
echo RAM drive is 'H'
echo .
echo boot disk is 'Video Boot'
echo .

```

Joseph F. McLean, Worcester, MA

Racore Memory Expansion Units Run AM-TAX in Jr Mode.

A co-worker with a PCjr, identical to mine (Basic system with a Racore Drive II, DMA, 640K and mode switch in the PC position) recently purchased a 1991 Personal-2 version of AM-TAX which comes on specific disks for Drives A: and B: However, all of his attempts to run the program were unsuccessful. It would load and display the first menu, but selection of other menus would result in a brief flash of the selected menu followed by a blank screen and the typical hang-up condition. At his request, I tried it on my Jr, and despite numerous attempts with variations of AUTOEXEC.BAT and CONFIG.SYS files, with and without the Racore identification cartridge, had the same results.

A call to the AM-TAX "help desk" (816-426-8361) was of very little help. They dismissed the problem by saying that the program was not designed to run on a Jr., but that it will run quite well on a PC, XT, or AT (the implied message was to go to a different computer). However, the Jr limitation is not mentioned in either the AM-TAX program manual or its product advertisements. The person at the help desk did add that the program will run on some Jrs, but not on others. With that comment as a clue, I consulted old issues of the Jr. Newsletter for suggested patches to the program, but found none. As a last resort, I flipped the mode switch to the Jr position, used the Racore Jr memory reconfiguration file, and successfully operated the program.

AM-TAX is the first program I have ever encountered that would not run in the PC mode on a Jr. However, I have heard of at least one more and there are probably others.

My experience proves that while the PC mode is very similar to pure PC operation, it is not identical. It may be that this is a relatively simple, generic problem that your readers are aware of and have solved. However, if it is not, shifting to a different mode may be one more alternative Jr owners can try to make certain programs run. Perhaps some technical expert can explain the unique sensitivity to the difference between Jr and PC modes of operation.

The AM-Tax program has many operational features and contains a large number of the IRS forms. The manual is easy to understand and it is a bargain compared to other tax programs that I have used. The 1990 Personal-1 version, which comes on one disk and has fewer available forms, apparently worked well last year, and I suspect that the 1991 single-disk version will run in the Jr equally well. However, the obvious trend is that everyone will have to submit more and different tax forms in the future. Hence the need for the larger Personal-2 program and multiple disks.

In its present form, AM-TAX is still a useful program, but its unique problem is a bit of a nuisance to those who operate in the PC mode and are unaware of what they must do to get the program to run. It's clear that AM Software should eliminate the problem for a variety of good business reasons; not the least of which is to eliminate costly, time-consuming inquiries and to improve customer relations and sales. If you and other Jr owners complain, maybe they will.

Saverio Gaudiano, Seabrook, TX

Reader Runs Print Power on Jr, Asks About DR DOS 6.0

I'd like to report that I am running Print Power on my Jr by using PCJRXTRA from the PCjr Power Pack, (Disk #65 in the Software Store.)

I would like to know if anyone has tried to run DR-DOS 6.0. Digital Research seems anxious to work with users to solve problems. My interest is that DR DOS 6.0 has memory management features for 8088 based machines.

Keep up the great work.

Peter Wiest, WA

EDITOR'S NOTE: DR DOS is a fine operating system, but its memory management will prove of little practical use to most PCjr owners. The first 640K of memory in the computer, or conventional memory, has two areas. The operating system and installable device drivers (from the CONFIG.SYS file) are located in the lower memory, and the remaining available conventional memory is where your programs and data are loaded. In order to break the

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

PLAYERS CHOICE. Six different card games, some easy, some hard, but all excellent. Youngsters can have fun playing Memory or Even-Out, which are quite easy to master. Blackjack is hard to beat, and Poker, which has the ability to modify its play in response to your methods, is a real challenge. Also two fine versions of Solitaire, one with great graphics. Some need 256K. (Disk #78)

BRIDGE PLUS. Play Contract Bridge Or Mahjong. Realistic bridge practice in bidding and playing against the computer. Good way to practice the game, but need some knowledge of the game or a rule book. Mahjong rules are included on the disk. Requires 256K Reviewed 9/91 (Disk #131)

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

SCRABBLE. At last, an excellent Scrabble game that runs in 16 colors on PCjrs! Plays just like the board game. Expandable dictionary checks words. Keeps track of all premium score squares and scores for up to four players. Also contains WORDWHIZ, a nice vocabulary building game. 256K (Disk #113)

STAY ALIVE !!! Three games that require all your wits to stay alive. Can you avoid the terrible nightmares and reach the highest level in Dr. Sleep? Or fight off the alien hordes on the Planet Iskib? Bet you cant shoot down the clever enemy pilots in Sopwith. If you can, you deserve a medal! 256K (Disk #89)

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

TOMMYS 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 Qs available. 16 colors on PCjr. Need 256K. (Disk #98)

Reader Feedback

(Continued from page 7)

640K barrier, expanded or LIM (Lotus-Intel-Microsoft) EMS (Expanded Memory Specification) expansion cards were designed. Few of our readers have exceeded 640K on their Jrs, and some of them have done so in ways not compatible with LIM 4.0. Note that on those systems expanded to 720K by Paul Crumley, the extra memory is only available in PCjr mode and is generally unavailable when operating as a PC.

Since the memory management functions of DR DOS 6.0, work only on 8088 and 8086 machines if they have an LIM 4.0 EMS card installed, their MemoryMAX features are unavailable to most PCjrs. Only if you first successfully installed the LIM 4.0 EMS card, will DR DOS's HIDOS.SYS (in conjunction with the the third-party LIM 4.0 software driver for the expansion card) provide any enhanced memory management for these machines.

Even with a LIM 4.0 EMS card on the 8088 and 8086 machines, DR DOS will only relocate part of the DOS program into upper and high memory. It will NOT, however, provide Expanded Memory. If, in fact one was able to successfully install the LIM 4.0 EMS card into a PCjr, the use of DR DOS MemoryMAX could disable any Expanded Memory residing on the card.

The use of DR DOS 6.0 on the PCjr remains an interesting idea, but not for the memory management features which work so well on 80286 and higher class machines.

Racore Expansion Upgrades

Thank you very much for mentioning me in the January '92 issue. Also thanks to whoever provided the information to you. I appreciate it very much.

I enjoy working on the Jr and talking to other PCjr fans. If I may, I'd like to attempt to answer a couple of questions your readers asked in that same issue:

Bernard Smith asked about upgrading his Racore expansion from 384K to 512K. The answer is that it can be done by stacking chips on the existing memory chips. I have done that but I wouldn't recommend it. It is a big job and also at least one commercial source told me the Racore memory boards are somewhat prone to the fear-some "ERROR A" already and this could exacerbate the problem. A better way is to use an IBM 128K sidecar to fill the gap between 512 and 640K. I think the IBM will work with all Racores and I'm sure it will work with the non DMA version.

German Toledo asked about his printer not printing graphics. This is sort of a stab in the dark since I'm not acquainted with the NEC 5411, but could it be possible that it is not a graphics printer?

Elmer Hungate, Dodge Center, MN

A Little Useful Programming

By John King

A friend recently destroyed a valuable file on a disk by copying a file of the same name to that disk. The old file on the disk was destroyed when the new file was written over it. Because the data in the new file was recorded over the old data, there was no way to recover the original file. He didn't have another copy, so it was gone for good.

You can avoid this sort of COPY disaster by keeping backup copies of important files on two disks. However, the source of the problem is the unfriendly nature of DOS. COPY doesn't warn you when a file of the same name already exists on the target disk. (The target disk is the one you are copying to, and the source disk is the one you are copying from.) As a result, it's easy to wipe out a file by overwriting it. What we really need is a friendlier, smarter COPY command.

There are several copy utilities which provide a warning that a file will be overwritten. If you don't have one of those, here is a batch file which is a bit slower but offers similar protection. You can create KOPY.BAT by typing these commands at the DOS prompt.

```
COPY CON KOPY.BAT
ECHO OFF
ECHO Command format must be:
ECHO KOPY filename d:[newname]
IF EXIST %2%1 GOTO ASK1
IF EXIST %2 GOTO ASK2
GOTO DOCOPY
:ASK1
ECHO %2%1 will be overwritten.
GOTO MESSAGE
:ASK2
ECHO %2 will be overwritten.^G
:MESSAGE
ECHO Strike Fn Break to STOP, or
PAUSE
:DOCOPY
COPY %1 %2
Ctrl-Z (or Fn 6)
```

When you hit the Enter key after the Ctrl-Z, DOS will reply with "One file copied", and KOPY.BAT will be written to the disk.

To use KOPY in place of the COPY command, the source disk must be in the default drive. If a file of the same name as the one you are copying already exists on the target disk, KOPY will warn you and pause so you can stop before the file is destroyed.

The command format is:

KOPY filename d:[newname]

Replace d: with the target drive letter. If the "newname"

(Continues on page 9)

Useful Programming

(Continued from page 8)

is omitted, the file will be copied with the same name. The DOS wildcards, * and ? can be used just as with the COPY command. Note that no drive letter can be specified for "filename", you must copy from the default drive. Also, subdirectory path names cannot be used. Normally, this is not a disadvantage when using floppy disks.

Here is how KOPY.BAT works. First, it turns ECHO OFF to avoid cluttering the screen, then it reminds you of the command format with the next two ECHOs. You can omit these if you want.

The heart of the program is the two IF EXIST lines. These check whether a file %2%1 or just %2 exists. The first replaceable parameter, %1, is the filename following KOPY, and %2 is the drive letter or drive letter and newname. If you entered "KOPY MYFILE B:", then %1 is MYFILE and %2 is B:.

The first IF will read IF EXIST B:MYFILE GOTO ASK1. If there is no file called MYFILE on drive B, the next IF is executed instead of the GOTO. In this example, the second IF reads IF EXIST B: GOTO ASK2 and is meaningless since no file name is specified. However, if a "newname" had been specified, this would check whether a file with the new name existed on drive B.

If a file is found to exist, the program will go to the label :ASK1 or :ASK2. The appropriate warning will be ECHOed to the screen, the batch file will PAUSE, and you can stop or proceed as you choose. The Control-G, ^G, at the end of a line causes a warning beep to sound. You can enter this as the carat which is over the 6 followed by G, or by holding down the Ctrl key and pressing G.

If no matching file is found, then the batch file jumps to the :DOCOPY label and copies the file to the target disk. If wild cards were used, each matching file name is checked before the file is copied.

You can review these batch file commands in the King's Corner articles from March and April 1988 and in Section 2 of your DOS manual under Batch Commands.

Switching gears, here's a utility you can write in assembly language to send a form feed to your printer. When I use Print Screen, I have to reach over to my printer, take it off line, press the form feed button to eject the paper, then put it back on line. FF.COM does all that from the keyboard. Start DEBUG.COM which is on your DOS Supplemental Programs disk. At the DEBUG prompt, which is a hyphen, type in the A 100 line. DEBUG will return numbers which are memory addresses. Just disregard these and type in the rest of the lines. Don't type in the semicolons or the comments which follow.

```
A 100      ;assemble at offset 100hex
MOV AH,05 ;Set up for printer data
MOV DL,0C ;Put ASCII form feed in DL
```

(continues on page 10)



Software

(Order form on page 23)



WAR ON THE SEA. Based on World War II naval battles, this game allows you to command a fleet in seven different campaigns in the Atlantic and Pacific. Not a joystick game, this one will allow you to see whether you have the strategic skills to be an Admiral. 256K (Disk #100)

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Home & Family Management

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

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SKYGLOBE V2.5. View a map of the heavens customized for your location, date and time. Maps 10,000 stars, 300 with labels, 89 constellations. Many useful features such as brightness selection, zoom in and out, printing on dot matrix, a find feature, and an astounding on-screen demonstration of star and planet movement across the sky. 256K. Reviewed 7/91 (Disk #129)

WILLS. Written by a lawyer, this software helps prepare wills that are appropriate for many different situations. Includes 18 basic types, with many clauses that can be combined to create customized wills for most families. 256K (Disk #124).

Useful Programming

(Continued from page 9)

```
INT 21    ;Send DL to printer
INT 20    ;end and return to DOS
          ;hit Enter to end assembly
RCX       ;set CX to program length
8         ;8 bytes
N FF.COM  ;program name
W         ;write it to disk
Q         ;quit DEBUG
```

I keep FF.COM on a ramdisk with other utilities and include the ramdisk in my PATH statement. This way, any time I type FF <Enter> at the DOS prompt, the printer does a form feed.

If you want to send other codes to your printer, just change the 0C byte in MOV DL,0C line to what you want to send. To send more than one byte, just repeat the MOV DL,nn and INT 21 lines. Remember to increase the value in CX when the program gets longer. Each MOV plus INT 21 adds four bytes. Of course, all values should be hexadecimal (12, 16, 20, and 24 decimal are B, 10, 14, and 18 hexadecimal). Remember to give each program a new name of eight or less characters with the extension COM. Here are some useful codes for Epson and compatible printers:

- Send a Line Feed, 0A
- Turn Compressed Mode On, 15
- Return to Normal pica size, 12
- Turn Emphasized mode on, 1B 45
- Turn Emphasized off, 1B 46
- Turn Paper sensor off, 1B 38
- Turn Paper sensor back on, 1B 39
- Set to 9 Lines/in., 1B 41 08 1B 02
- Normal 6 Lines/in., 1B 41 0C 1B 02

You can find other print control codes in the manual for your printer.

If you need to get lots of text on a page, try Compressed mode plus 9 lines per inch. This will put about three pages of normal text on a single page in a readable format. It's great for letters to friends overseas with good eyesight.

Finally, for those of you who worry about small details. Check the TIME setting on your PCjr when you first boot up. After you have run for a while and done a lot of disk accesses, check TIME again. The DOS clock will have gained several seconds or perhaps a minute or two. Curious!

Using the disk drive on a PCjr speeds up the clock. If your PCjr doesn't show this, I'll bet you have an Impulse memory expansion sidecar and aren't using IMPFIXER2. The seconds were still lost, but the clock on the Impulse sidecar updates DOS when the TIME command is given.

Warning to 24 Pin Dot Matrix Printer Users

By Bob Lay

Recently I heard two horror stories about problems that occur when using 24-pin printers. If you use one, please take note.

If you're the impatient type who occasionally rips off your printer's output while it's still printing, as many of us are wont to do when printing drafts, don't do it with a 24-pin printer. Seems the printer wires are fine, and thus sharp, so the motion of pulling the paper underneath when they are still firing can cause them to snag and bend slightly as you pull on the paper while tearing it off. The result? You get to buy another printhead for about \$200.

Also, be extremely wary of using any ribbons other than the OEM models made for your printer. Again, the wires are so fine that they tend to shred a less hardy, cheaper after-market version and the bits and shreds of ribbon material can quickly pack the printer head, bend the wires, and ouch! There goes another \$200 printhead.

Do You Know the Capitals of the World?

The new jr Newsletter Software Store Disk # 138, Capworld, is a geography trivia quiz game for up to 4 players. The PCjr can generate millions of different questions from the program's built-in data, since it uses multiple choice questions and true & false.

The program categories include capitals, languages, currency and geographic areas. The computer will keep track of the score and give a final score for each player. The graphical displays of the various continents provide a clue as to the location of the area which the questions will be about.

The questions are broad and will really push your geography skills to the limit! In fact, the questions cover so much area, they should make applicants for State Department jobs face the computer quiz before they hire!

The program will run on a standard PCjr and only requires 128K. To order, choose disk #138 in the Software Store on page 23.

Questions and Answers

(Continued from page 4)

Comments for Version 2.

The reason we have to touch a shift key (unless we POKE UNSHFT into memory address Hex 417) is to send the key-break (release or key-up) signal to the jr. Our POKE is the same as holding down the right shift key.

As far as using one of the keyboard programs listed below is concerned, the values returned via CVI() are sometimes easier and quicker to incorporate with checking statements such as CASE or IF - THEN or other Boolean comparisons.

Computers Talk Funny

Computer wizards are trying to figure out a way to program computers so that they can translate from one language to another. If you've gotten a foreign assemble it yourself product recently, you may already know that they haven't perfected the art of computer translations yet.

The best example of the problem we've seen was a computer's attempt to translate the phrase "out of sight, out of mind."

It came out "invisible insanity."

Keyboard Checker, Version #1 ***

```
start: ` Press ``Q`` to Quit
      x$ = INKEY$
      IF x$ = ```` THEN GOTO start
      PRINT x$
      IF LEN(x$) > 1 THEN
        x1$ = LEFT$(x$, 1) + `` ``: x1 = CVI(x1$): PRINT x1;
        x2$ = RIGHT$(x$, 1) + `` ``: x2 = CVI(x2$): PRINT x2: PRINT
      END IF
IF UCASE$(x$) <> ``Q`` THEN GOTO start
10 `Keyboard Checker, Version #2 ***
20 `start: Press ``Q`` to Quit
30 x$ = INKEY$
40   IF x$ = ```` THEN GOTO start
50 PRINT x$
60   IF LEN(x$) > 1 THEN x1$ = LEFT$(x$, 1) + `` ``: x1 = CVI(x1$):
      PRINT x1; :x2$ = RIGHT$(x$, 1) + `` ``: x2 = CVI(x2$): PRINT x2
70 PRINT
80 IF (x$) = ``Q`` or x$=`q`` THEN END ELSE GOTO 20
```

NOTE: Line 60 is a long one: be sure to keep it all together.

Version 2

```
1000 DEF SEG = 0
1010 UNSHFT = PEEK(&H417) `Store present state of kbd flag
1020 RTSHFT = PEEK(&H417) OR 1 `To change bit for right shift key
1030 POKE (&H417), RTSHFT `Right shift is now down, NOT down & up!
1040 DEF SEG `Back to BASIC's segment

`**** Later in pgm to UN-shift the keyboard

2000 DEF SEG=0
2010 POKE (&H417), UNSHFT `now we restore kbd to un-shifted state
```

Make a Smarter Batch File

(Continued from Page 1)

SERIAL.BAT

```
MODE com1:9600,n,8,1
MODE lpt1:=com1:
ECHO Serial printer is on-line
```

2. Single BATch file with command switch

PRNT.BAT

```
ECHO Off
IF %1!= =d! GOTO dot
IF %1!= =D! GOTO dot
MODE com1:9600,n,8,1
MODE lpt1:=com1:
ECHO Serial printer is on-line
GOTO end
:dot
MODE lpt1:
ECHO Dot matrix printer is on-line
:end
```

3. Single BATch file with "smarts"

PRNTS.BAT

```
ECHO off
IF %PRINTER%!= =Serial! GOTO dot
MODE com1:9600,n,8,1
MODE lpt1:=com1:
ECHO Serial printer is on-line
SET PRINTER = Serial
GOTO end
:dot
MODE lpt1:
ECHO Dot matrix printer is on-line
SET PRINTER = Parallel
:end
```

The first two BATch files (PARALLEL.BAT and SERIAL.BAT) are easy to use but waste 2 KB of disk space more than the other two approaches and require two commands to be remembered. The second approach condenses the commands into a single BATch file but requires that the command switch be remembered. The third approach uses a single BATch file, and by using the SET does not require the command switch to be remembered since DOS remembers the condition of the printer for you. Each time PRNTS.BAT is run it checks which printer is on line and automatically switches to the other printer and then informs DOS what it has done. By invoking SET from the DOS command line, a summary will appear of the DOS environment, including the PROMPT setting, the PATH setting, and now the printer setting as:

```
PRINTER = Serial
or
PRINTER = Parallel
```

The SET command has a number of other uses that lets the user store information for later use within a BATch file. Another simple use is to create a record of what memory resident programs you have loaded in an AUTOEXEC.BAT file. For example, part of your AUTOEXEC.BAT file might look like this:

```
SK
SET Sidekick = Loaded
PC-CACHE
```

When the SET command is invoked from DOS the new list will include:

```
SIDEKICK = Loaded
CACHE = PC-CACHE
```

This can be a simple way to keep track of how your computer is configured. Personal computers are great because they are so personal. BATch files can provide an easy way to create your own personal system exactly as you want it. And BATch files are free.

(The above article was originally published in the CBUG Monthly Newsletter.)

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New Bus Adapter Card Features Two Expansion Slots

(Continued from page 1)

of DMA was the major stumbling block to adding hard disks to jr.

Kennedy's solution for this lack of DMA is to burn a new EPROM Chip for a standard XT controller card. The new chip allows string commands which can make a self-booting file.

When hard disks for the PCjr were first introduced, Paul Rau marketed a hard drive mounted off the modem slot. Initially there was no way to self-boot from the hard disk. Since then, Rau has developed a cartridge which allows a self-booting C: drive.

Kennedy's strategy of adding a chip to the standard controller cards can be used with the original IBM hardfile controller cards which were made by XEBEC. The eprom in those was a Motorola 24-pin EPROM, which can be burned in with a NEEDHAM EPROM burner. The Motorola chip, which is an obsolete part, plugs directly into the controller card. Alternately, a standard 28 prong chip can be used; however, the pins must be re-arranged before it is mounted onto the card.

Features of Kennedy Unit

Kennedy's adapter allows users to have both a hard disk controller and an Ad Lib music card on the PCjr. The Ad Lib music card requires a 14 MHz oscillator. The 14 MHz is available within the junior but not available in the bus. While it is possible to hardwire the 14 MHz signal from another area of the PCjr to the bus adaptor, Kennedy's unit is supplied with an additional component to generate the 14 MHz signal.

Additional Power Supply Prevents Burn Out

Although standard PC's operate their daughter boards on the main power supply, a PCjr normally uses a power sidecar to provide power for the expansion slots and isolate that power drain from the CPU. Power side cars are now available for about \$20. Kennedy's unit will also allow a 175 watt external power supply, as an alternative to the PCjr power side car, as the power source.

Kennedy's unit sits behind Junior and is slightly taller, and will retail for about \$30.00 for the circuit board, or \$45.00 for the complete kit. He has distributed some units in his local area already. Most owners have covered their units with some sort of case.

Kennedy has assembled a number of units and some of the units will be marketed by OOwl Software.

DON'T BE SELFISH! Share your tips and experiences by sending them to jrNewsletter.



FAMILY TREE. Powerful genealogy program with easy to use menu system. Prints handy research forms, checks your accuracy, prints variety of charts and can make your family tree into a book! 256K (Disk #109)

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 modif as you gather more data. New compiled version runs faster than previous version. 128K order Disk #33 alone. 256K order #33 and #33A.

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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)

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

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

SAVE THE PLANET! If you want to do your part to stop destruction of the earth's environment, this disk can help you. Let your PCjr explore this extensive database of information on the major environmental issues as well as what you can do to help. Charts, graphs, background facts, games and demonstrations all related to saving the only planet we have. Need 512K. (Disk #120)

Telecommunications

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

My Platinum Software Award Goes To....

"The best command interface of ANY program I've EVER used."

By Edward Spiess

Nobody would ever guess in a hundred years which program won my award. This amazing shareware program has a Pascal source code. Like **PC Write**, this amazing shareware program saves files in ASCII. **Galaxy** (Disk #69 in the jr Newsletter Software Store), the unheralded software masterpiece, does have the option of saving in **WordStar** format if you must use MicroPro's high bit format. Most of all, **Galaxy** represents usability to a degree that no other word processing program can equal.

You won't believe it, but anyone, especially those who have used Borland's **Notepad**, can sit down and whiz out files with a minimum of typing distractions. You don't need a mouse. You don't need to remember complex head-breaking routines. You don't have to remember to type F3 or Esc H to get help as in **WordPerfect** or **Word**. You don't need a template on your keyboard to prompt your commands. You can get help the old-fashioned **WordStar** way by typing F1. You may also type F10 to bring up the bar menu and then type H to get help, or you can strike the cursor arrow keys to pull down the other command menus. Bringing up the bar menu sets up the best command interface of ANY program that I have EVER used.

My professional programs, **Word 4**, **Lotus**, and **Rbase** have exemplary menu structures, but I would have a tough time teaching those programs in an advanced high school or collegiate class. **Galaxy**, I read, has been used in high schools. I'd bet that students trained in **Galaxy** use would learn about four times as fast as those using other programs. Currently I guess that **WordStar** and **WordPerfect** dominate the high school and college level PC word processing classes. Any teacher who tries **Galaxy** and reads the documentation will recognize its superiority immediately.

True, **Galaxy** does not claim to be perfect. True, **Galaxy** does not advertise widely like the other famous shareware program, **PC Write**, nor can it equal **PC Write**'s disks of specialized print drivers. True, you do not have the super features of my chosen powerhouse program, the highly complex **Word 4**. **Word**'s superior style sheet, macro, glossary, outline, mathematics, index, print font, mail merge, sorting, block selection, hyphenation, revision marking, summary sheets, and speed formatting features put **Word 4** in a class where only experts understand the features available. Expert typists would have little difficulty in using **Galaxy** which does lack mail merge and indexing features found in the **WordStar 3.3 Pro Pak**. Using **Turbo Lightning** with **Galaxy** takes care of the spelling feature in a fashion that rates as awesome. **Spellstar** and ALL other spell programs cannot compare with this superior combina-

tion. (Ed note: **GALAXY 2.41** now has a spelling checking program built in. It is in our Software Store.)

The *Infoworld* and *PC Magazine*'s other top-rated programs, **XYWrite**, **Word 4**, **WordStar** and **WordPerfect**, to be sure, have robust powers; but **Galaxy**'s ease of learning and use stands alone. Nobody would instruct a student driver using a Peterbilt truck for the class vehicle. Complexity and power may be fine for those who really need them, but considering the time invested, the user gets

(Continued on page 15)

Let PCjr Help You Learn or Review First Aid

The newest educational diskette in the jr Newsletter Software Library (Disk #137) is a First Aid Tutorial. It provides a format for the user to learn, study, or review basic techniques for handling common medical emergencies.

This tutorial was prepared by a Certified First Aid Instructor with many years experience teaching first aid, CPR and basic life support courses. His approach is that the time to learn first aid is BEFORE you need to use it!

The author goes over a variety of common medical emergencies, explaining what to look for and what to do. The tutorial contains lessons on:

- * Which problems require the most immediate treatment,
- * Obstructed airway,
- * bleeding,
- * shock,
- * burns,
- * eye injuries,
- * nose injuries,
- * animal and insect bites,
- * fractures, sprains and strains,
- * poisoning,
- * diabetic emergencies,
- * stroke,
- * seizures,
- * heat emergencies, and
- * cold emergencies.

The First Aid Tutorial is Disk #137 on the Software Store. See page 23 for ordering information.

far greater productivity with Galaxy faster. With Galaxy you just sit down and the easily learned features pour out copy. Using Galaxy with Turbo Lightening puts the user in charge of truly phenomenal tools. Spell checking, like the Galaxy menu interface, has never before achieved such outstanding power.

With Galaxy, if I should forget the command I need, I just type F1 to get the bar menu set up for "Help". I can then type in a menu letter to go to the help menu topic I want, or I can move the cursor to the selection I want. If the topic I select is a command, striking the ENTER key executes that command! I can also type ESC to permit cursor key or letter key jump to other main topics on the main bar menu.

If I type F10 when using Galaxy, I immediately bring up the main bar menu. The Galaxy menu interface HAS beaten them all. What could be simpler? Type F1 or F10 and your troubles usually are over. If you still remain unconvinced of Galaxy's power: Type ALT W, then ALT Z, then ALT 1 and a macro brings the Galaxy.Doc onto the screen into a ZOOMED WINDOW. I doubt that any of the hot shots that recently demonstrated other w/p programs to our group can top or come close to that! Type "Alt X" while you are in the zoomed window and Galaxy.Doc unloads and vanishes, leaving you back in your active file.

In addition, Galaxy is just plain fast for, despite being Pascal coded, it acts in RAM like a resident program. Typing F2 saves the active file in your current window faster than any other program I've used. I would guess that only Borland's Sprint with its automatic save would beat Galaxy in quick save ease.

Galaxy continues to surprise me. For example, Galaxy can print Lotus or Rbase reports from ASCII files, but it cannot come close to the first-rate printing powers of Word 4. Even so, often Galaxy will be the best to use - you can set the type style with your printer, and the ASCII compatibility saves conversion time. Visible pagination features, similar to word, make Rbase and Lotus printing features seem ludicrous. When I want to print an ASCII file, Galaxy, List or the Norton Editor handle all my problems easily.

Setting up a print driver for an LQ850 printer took about 5 percent of the time spent on solving the same problem for Word 4 usage, though only basic features plus two user patches are included in Galaxy drivers. In general, using MAKEPRD.COM and a printer manual makes it possible to set up your own print driver. Several drivers for major brand printers do come on the disk. I've had printer driver hassles with WordStar, Volkswriter, and Word - every major word processor that I've used. Once again Galaxy tops the others on the basis of usability.

You can try Galaxy to see if you like it. Shareware publishers trust the user to be fair even though, sadly, many dishonest users use unregistered copies. Whether Galaxy will follow the example set by Procomm and go commercial remains to be seen. Galaxy's features of zoomed windows,

macros, super lightening compatibility, and WordStar-like editing features put genuine power in the hands of both students and professionals at an unheard registration price of \$50.

Quoted paragraphs from Galaxy's manual.

"Galaxy has a very short learning curve. Galaxy's logical, easy to use, easy to learn commands are the results of considerable research into how people really use word processors. If you have experience using any full-featured word processing program, you'll be up and running with Galaxy in no time. If you're brand new to computer word processing or to IBM compatible computers, you'll be pleasantly surprised at how quickly you'll be able to learn all the advanced features of Galaxy. We believe Galaxy is among the very best word processors at any price. Omniverse is also determined to be a leader in Customer Support. We also offer free telephone support and a 24-hour Bulletin Board for on-line support at any time. We also listen to our users. Many suggestions from earlier versions of Galaxy have been incorporated into this latest release."

Galaxy can make a real difference in educational

(Continues on page 16)

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applications, and it should be especially welcome in offices that use WordStar. How I wish that Galaxy had been available when I taught typewriting and office machines to high school students. I believe that anyone having good typing skills could learn word processing skill far faster with Galaxy than any other commercial or shareware power program. For users requiring the heavy metal of the professional programs Galaxy may serve as a second program and superior text editor. When the "big boys" start hawking the latest update of your "power program", you might slyly consider getting Galaxy instead. (If you want to try Galaxy, the latest version, 2.4, is available on Disk # 69 in the jr Newsletter software store, page 21.)

Something For Baby

By Sandy Shapiro

From time to time I hear a story about a home computer. The adults use it for writing, filing and keeping track of expenses. The teenagers use it to play **Adventure** and **Rogue**. The younger children are hooked on **Reader Rabbit**. But what about the baby? Where does one find programs for toddlers? Are they to be excluded from the family computer scene?

Several years ago I came across a BASIC program in Family Computing Magazine called "Babybox." Pressing a key or moving a joystick causes a random color response and a random sound response. I introduced my 18 month old son to this program and he was fascinated for hours. He continued to enjoy this program until about 2 1/2 when he became interested in **Kids on Keys** and **Early Games**.

To run this program, load BASIC, type in the following statements, save to disk and then run. One note of caution. Children under two have a tendency to bang the keyboard and require supervision in order to prevent damage.

```
10 DEF SEG=0
20 SCREEN 1,1
30 WIDTH 40
40 KEY OFF
50 STRIG ON
60 CLS
90 LOCATE 4,14:PRINT "*-BABY BOX-*"
100 LOCATE 8,2:PRINT "PRESS THE KEYS"
110 PITCH=0
120 IF STRIG(1) <> 0 OR INKEY$ <> "" THEN 170
130 IF PITCH=0 THEN 120
140 SOUND PITCH,20
150 COLOR 0,1
160 GOTO 110
170 POKE 1050,PEEK(1052)
180 FOR D=1 TO 200
190 NEXT D
220 COLOR INT(RND*3)+1,INT(RND*2)+1
230 PITCH=RND*180+150
240 SOUND PITCH,2
250 GOTO 120
```

Short Tips for Hard Disk Users

By Joe Sturgil

Many of you that have hard disks may already be ahead of me with some of the short cuts that you use when using your computer. I was surprised, though, in talking with other users, of how few know how to put their PATH command to work. The following are a few tricks that I use to make computing much simpler.

You should have these two subdirectories set up on your hard disk. One called "DOS" and one called "UTILITY" or something similar. I have all the files that came with DOS that I use in the DOS sub-directory. All other small programs that I use often, I keep in the utility subdirectory. Then create a PATH statement in your AUTOEXEC.BAT file like this:

```
PATH C:\DOS;C:\UTILITY
```

The result of this statement is that any program in either of these subdirectories can be executed from anywhere on your system no matter what the default drive is. So how do you put this to use? Read On.

How many of you use the LIST program to view Doc files? Let's say you want to view a Doc file and you are in the A: drive. Simply type in LIST FILENAME.DOC and DOS will first look on A: drive for the LIST program. Not finding it there, DOS will follow the PATH you have set to the UTILITY sub-directory, find and execute the LIST program that in turn, displays the DOC file on your screen.

I keep programs like LIST, PKARC & PKXARCK, HOTDIR, CO, NE, POPCALC, BASIC, NOTEPAD, SYSINFO, CLEAN, and PCTOOLS, just to name a few, in my UTILITY subdirectory. Because of my PATH statement, I can execute any of these from any drive I happen to be on. PKARC and PKXARC is for compressing and joining files together or the reverse. HOTDIR displays a directory in different colors, depending on the extension. CO is a little directory program for quick selecting and copying of files, NE is short for Norton's Editor, an ASCII type word processor that I use for BAT files. POPCALC brings up a calculator on screen. BASIC plus filename will load and run any basic program and NOTEPAD loads a small notepad into memory to be used in any application. SYSINFO, another Norton program, displays many informative things about your computer. CLEAN is a handy program for stripping unwanted spaces from text files. PCTOOLS is a do-everything type program when it comes to working with files.

To make things simpler still, I have renamed many of these programs to one or two letters to save keystrokes. To display a directory in color, I just type the letter "D". For LIST, I use the letter "L". For PKXARC, I use "PX" and for PKARC, I use "PA."

How to Install A 3.5" Drive

By Warren Strunk

Installation of a 3 1/2 Mitsumi Disk Drive to Replace a 5 1/4 Drive.

Computer: IBM PCjr 640K

1. Unplug all cables and wires from the PCjr. Remove the basic cartridge.
2. Set up a work area with space to place items. Tools needed are a regular and phillips screw driver (small).
3. Working from the rear of the jr, remove the top cover using fingernails or the flat blade screwdriver. Set it aside out of the way. Look around inside. Interesting!
4. Working carefully, lift the disk drive up from the rear and out. The plastic tray and its attached fan comes out with the drive. Remove the screws on each side holding the disk in the tray. Unplug the white connector (plug) from the disk drive. Unplug the black connector from the disk drive. Set the old drive aside. Remove the Disk Controller Card (be careful) and set it out of the way. This card is next to the disk drive.
5. Take a look at your replacement drive, the plastic tray and its previous location in the computer. Will it fit? See the two holes that the back feet of the tray must snap into.
6. Everything looks ok - so proceed. The first thing you do is plug the white connector into the back of your new drive. Now insert the drive into the plastic tray, lightly push it forward till the black front face plate is as flush as possible. Now for those pesky screws, place 2 screws in each side of the holes in the plastic tray in alignment with the disk drive holes. Did the plastic tray snap into its 2 rear holes? If they did, you are in business. If not, check alignment of face plates, screws, etc.
7. After inserting the drive, pick up your controller card and plug the black connector back into the rear of the drive. Now carefully reinsert the controller card back in its original position. Now place the top lid on the computer. What is wrong, the dammed lid won't stay down. A minor problem; just remove the top, then the controller card. Do you see the fat black wire that leads to your power control card? This wire must lay absolutely flat under the controller card. Snake it to lie flat by lightly pushing it down in places it sticks up. Be sure the controller card is in the back plastic slot and is seated properly. Now try to put the top on again. Keep at it until the top snaps down in the rear.
8. Ok, you got the top in place, all cards are inserted, all plugs inside are connected. Now insert the basic cartridge. Take the computer, plug all your cables and wires back in. Turn it on: if the IBM Logo followed up by Basic comes up on the screen, the drive is in working order, but still needs a boot disk.

Making a New Boot DOS Disk for the PCjr.

1. Creating a 360K DOS disk on a 3 1/2" 720K Disk:
 - a. Computer used: Zenith 512K with dual 3 1/2" drives.
 - b. In A drive insert your 3.2 or 3.3 MS-DOS disk. Type format a:/s/4. Follow instructions on the screen. This will place command.com and the 2 hidden sys files on the formatted disk. This creates the 360K disk temporarily. If you have HDIR.COM use it to look into the disk and confirm the number of bytes and show the command.com file and the hidden files.
 - c. Next, if need be, find a friend who has a 5 1/4" and a 3 1/2" drive machine. Delete command.com from your PC-DOS jr 5 1/4" disk. Copy all your remaining PC-DOS files to the 3 1/2" disk. Then copy driver.sys from the MS-DOS disk to your new disk. Add the following to your config.sys file: DEVICE=DRIVE.SYS /D:0 (leave a space between sys and the slash). The /D option tells driver.sys that the unit is a 3 1/2" drive with a capacity of 720K. The 0 option indicates A: drive. Using 0 (zero) would make the

IBM PCjr & CONVERTIBLE SPECIALS

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<table style="width: 100%; border-collapse: collapse;"><tr><td>128K External Memory</td><td>CALL</td></tr><tr><td>256 K Internal Memory</td><td>CALL</td></tr><tr><td>512K Internal Memory</td><td>CALL</td></tr><tr><td>Second Floppy Drives</td><td></td></tr><tr><td>5 1/4", 3.5"</td><td>\$ 199</td></tr><tr><td>20 Meg Hard Drive</td><td>\$ 495</td></tr><tr><td>Parallel Attachment</td><td>\$ 69</td></tr><tr><td>Serial Cable Adapter</td><td>\$ 20</td></tr><tr><td>Mouse & Dr Halo 3</td><td>\$ 59</td></tr><tr><td>Keyboard Cord</td><td>\$ 15</td></tr><tr><td>Internal Modem</td><td>\$ 29</td></tr><tr><td>101 Key Keyboard</td><td>\$ 134</td></tr><tr><td>JOYSTICK</td><td>\$ 29</td></tr><tr><td>Cluster Network Adapter</td><td>\$ 96</td></tr><tr><td>PCjr Tech Ref Manual</td><td>\$ 39</td></tr><tr><td>New Computers</td><td>\$ 349</td></tr><tr><td>Refurb Computers</td><td>\$ 169</td></tr><tr><td>Refurb Monitors</td><td>\$ 199</td></tr><tr><td>REPAIR SERVICE</td><td>CALL</td></tr></table>	128K External Memory	CALL	256 K Internal Memory	CALL	512K Internal Memory	CALL	Second Floppy Drives		5 1/4", 3.5"	\$ 199	20 Meg Hard Drive	\$ 495	Parallel Attachment	\$ 69	Serial Cable Adapter	\$ 20	Mouse & Dr Halo 3	\$ 59	Keyboard Cord	\$ 15	Internal Modem	\$ 29	101 Key Keyboard	\$ 134	JOYSTICK	\$ 29	Cluster Network Adapter	\$ 96	PCjr Tech Ref Manual	\$ 39	New Computers	\$ 349	Refurb Computers	\$ 169	Refurb Monitors	\$ 199	REPAIR SERVICE	CALL	<table style="width: 100%; border-collapse: collapse;"><tr><td colspan="2" style="text-align: center;">New Convertible with</td></tr><tr><td>256K, Backlit LCD</td><td>\$ 895</td></tr><tr><td>128K Memory Card</td><td>\$ 79</td></tr><tr><td>256K Memory Card</td><td>\$ 225</td></tr><tr><td>384K Memory Card</td><td>\$ 295</td></tr><tr><td>Serial/Par Attachment</td><td>\$ 120</td></tr><tr><td>CRT Adapter</td><td>\$ 99</td></tr><tr><td>Enhanced LCD</td><td>\$ 79</td></tr><tr><td>20 Meg Hard Drive</td><td>\$ 495</td></tr><tr><td>Portable Printer</td><td>\$ 165</td></tr><tr><td>Printer Cable</td><td>\$ 15</td></tr><tr><td>Std. 1200 bd Modem</td><td>\$ 75</td></tr><tr><td>Enh. 1200 bd Modem</td><td>\$ 175</td></tr><tr><td>New Battery</td><td>\$ 89</td></tr><tr><td>IBM Carrying Case</td><td>\$ 39</td></tr><tr><td>LTi Carrying Case</td><td>\$ 49</td></tr><tr><td>Auto Power Adapter</td><td>\$ 12</td></tr><tr><td>9" Mono Monitor</td><td>\$ 115</td></tr><tr><td>12" Color Monitor</td><td>\$ 329</td></tr></table>	New Convertible with		256K, Backlit LCD	\$ 895	128K Memory Card	\$ 79	256K Memory Card	\$ 225	384K Memory Card	\$ 295	Serial/Par Attachment	\$ 120	CRT Adapter	\$ 99	Enhanced LCD	\$ 79	20 Meg Hard Drive	\$ 495	Portable Printer	\$ 165	Printer Cable	\$ 15	Std. 1200 bd Modem	\$ 75	Enh. 1200 bd Modem	\$ 175	New Battery	\$ 89	IBM Carrying Case	\$ 39	LTi Carrying Case	\$ 49	Auto Power Adapter	\$ 12	9" Mono Monitor	\$ 115	12" Color Monitor	\$ 329
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drive an external C drive (which I did not want.)

d. Place the newly created disk in your jr drive. While booting, driver.sys gets executed and reconfigures the A: drive. It stops being a 360K unit. Instead the A: drive is configured as a 720K unit (/D:O). After booting, check the disk to determine if it is indeed a 720K disk.

e. Using DISKCOPY B: on my Zenith, I made a copy of my 720K disk for backup. Using the backup copy, go to the jr machine and try to format a blank disk. Did it make a 720K disk? If it did, you are in luck. In my case, it did not. Woe is me. Hey! why not format a new disk on my Zenith using format b:/s, then copy format.com and other files that may be needed. Take it and sprint (you got to be kidding) to the jr, load, and boot. It should come up showing 3.21 MS-DOS. It did, in 40 column mode. Now for the old school try, type Format B:/s to format a disk on the jr. It worked. You now have almost twice as much storage space. In essence, you have a DOS disk, but you also need Hotshot Fast Manager files on the disk which will make it more compatible with the jr.

f. Review your backup disk that has a combination of

MS-DOS 3.21 and PC-DOS. Q: Do you really need all of the files listed? A: NO. On my disk, I found the standard.sys, diskfast.sys and fast.sys files. I left the Fast.sys, Fast.cfg, and fast.bat on the disk and deleted the standard.sys and diskfast.sys files. Why? Because the fast.sys along with the necessary chips were used to get the jr system up to 640K. Now look at the remaining files and select files for deletion that are seldom if ever used, such as recover, sort, etc. Be sure to keep basic.com and basica.com. Remember, you have another disk if the deleted files are ever needed. The object of all this is to have a boot disk with maximum storage capacity.

g. Presently, my 720K file DOS disk has been configured as follows using fast.cfg to create the config.sys and config.bak. Use copy con: Fast.cfg to include the following files: Device=fast.sys Device=readclk.sys device=driver.sys /d:O Break=on files=8 buffers=15. Type FAST on the screen and watch it set up the FAST configuration. Of course, all of these commands are listed on separate lines and can be changed as your needs dictate. Use Fn6 key on the very last line.

h. In my autoexec.bat file I used HDIR, Pause and basic setup. Basic setup allows the second page of the disk to be in color. Naturally, other autoexec files contain files that I want to be loaded automatically, like games, WP's, etc.

i. You can set up your working disks as you wish with only the necessary files in the directory to make it work. NOTE: YOU DO NOT ABSOLUTELY NEED DEVICE=DRIVER.SYS /D:O in your configuration to make your data disk boot. (leave it if you want.) The SYS Files, FAST.SYS and AUTOEXEC.BAT will do the job. Remember, the original created DOS Disk performed the conversion from 360K to a 720K drive.

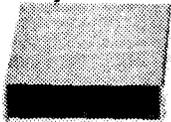
2. Advantages. More Storage capacity, and less swapping of disks. Disadvantage: The 3 1/2 inch 720K disk loads more slowly. You can download HDIR.COM from a local bulletin board; this is very useful to show the directory including hidden files; besides that, it is in beautiful color. Have fun and Happy Computing.

NOTE: I used a PX/XT/AT Mitsumi 3 1/2 drive, but others should work just as well. This drive had a black face plate on it.

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PROCOMM Bug

PROCOMM is an excellent communications program. The Host Mode feature allows you to turn your computer into a mini-BBS, so friends can upload or download files easily. However, Host Mode in PROCOMM 2.4.2 (Disk #15) has a bug which can lock up your PCjr. This has been fixed in version 2.4.3 and PROCOMM PLUS TD (Disk #108)

Fixing A PCjr Color Display

EDITOR'S NOTE: If your PCjr monitor appears to have a terminal illness, don't despair, there may be hope. The following tips were written by a technically proficient PCjr lover and provided to jr Newsletter after we promised not to reveal his name. This information may seem like gibberish to some of you, but even if you don't understand it, you can pass it along to your faithful repair person who may be able to use it to restore your color display to perfect health.

*** WARNING *** Never attempt to repair or adjust any parts inside a color display unit without first unplugging the unit from the power supply. Dangerous electric shock can result from failure to take this precaution.

PCJR RGB Color Monitor Model 4863 was made by Mitsubishi Electric Corp. and is identical sans case, speaker amp and PC cable to their Model AT-1332A. The service manual is available by writing:

Mitsubishi Elect. Corp.,
991 Knox St.
Torrance, CA. 90502
(213) 515-3993

For Parts: Service Concept International
(714) 836-4981

Do not ask for a PCJR manual as they do not support IBM products. The price is \$25.00 for the complete manual, plus \$4.00 ups ship charge. And additional for C.O.D. if you don't prepay. (LIST/RETAIL may be higher.)

They will sell copies of the schematic and parts list on request for less, and send to you c.o.d..

The service manual you will get is a poor copy of a printed manual. The schematic is barely readable but they claim it's the best they have.

The most common problem with JR monitor is the following symptom:

Unit comes on with normal picture and operation and operates for anywhere from a half hour to three hours with no problem until a screen refresh occurs e.g. Alt-ctrl-del or some other software momentary loss of sync signal to monitor. The unit then loses horz sync with severe diagonal pulling of the picture. No recovery is possible except turning off monitor for a period of time. (Bear in mind, that when problem occurs, no data will be lost if you simply leave the computer on.)

The simple solution is to remove the monitor cover and with a long insulated shaft (tape it) thin blade screwdriver tweek the horz. hold pot (VR502) to center the horz stability range. The pot is located just to left of center (looking from

(Continued on page 20)



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)

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

PROCOMM. This powerful, yet easy to use telecommunications program has become the one favored by more PCjr users than any other. Dialing directory, auto redial, XMODEM, Kermit and other file transfer protocols, auto log-on, DOS gateway, keyboard macros, exploding windows and many other features. The editor of PC Magazine called Procomm competitive with the best comm programs on the market. Manual on disk. 256K (Disk #15)

TELEX V3.12. Powerful, yet easy-to-use program, with variety of built-in transfer protocols. Features Z-Modem one of the most efficient and reliable transfers available. If you're disconnected while downloading, Z-Modem will pick up where it left off when you next log-on, thus saving connect time and telephone toll charges. Need 180K free memory after loading DOS and either two floppy disks or a floppy disk and a hard drive. (Disk Set #4) \$12 for 3 disks.

Utilities

DISKCAT. Creates a catalogue of all files on all your disks, so you don't have to push disk after disk in your drive looking for that 1987 letter to the IRS. Makes table of contents for each disk, too. 128K ok Reviewed 10/91 (Disk #133)

4DOS V2.21. This is the ultimate utility since it replaces almost all DOS commands with new, improved versions. And it adds 35 more useful commands of its own! It will replace many of your favorite enhancement utilities. For example, 4DOS allows 40 character file descriptions, more flexible wildcards, multiple commands per line, handy conditional commands, command stacking, alias commands, faster batch processing and MUCH more! A must for all serious computerists. Reviewed 1/90 (Disk #102)

	<h1>Software</h1> <p><i>(Order form on page 23)</i></p>	
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LHA V.2.11 Powerful archive software will compress even more than PKZip, (though not as fast). Many extra features to update, delete, list files in arcxhive, even extract and run. 256K (Disk #128)

POWERBATCH. Compiles batch files into .EXE files, which run as much as three times faster. Additional commands add power, control, & flexibility. Requires DOS 3.0 or above. (Disk #127)

BAKERS 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)

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)

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

LZEXE. Cut down dramatically on the disk space required for software. LZEXE compresses EXE files into 2/3 to 1/2 their original size and allows them to be run from compressed form. Great for keeping RAM disks small and memory free. Utility will also convert COM files. 256K (Disk #112)

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

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)

(Continues on page 21)

front of set) and is rather centrally located on the main base circuit board. It can be reached from the top of the set straight down. (UNPLUG THE UNIT BEFORE FOLLOWING ANY OF THESE STEPS.)

The adjustment will affect horz centering. If necessary, adjust horz centering (three position switch at left front edge of board). If correct centering still cannot be achieved then and only then you may tweek the horz phase control (VR591) located about three inches directly to the rear of VR502, and only for proper centering.

As a second method, from the Mitsubishi manual:

1. Receive a test pattern signal (Use JR diagnostics screen test)
2. Short TP-8A and TP-8B (don't know where they are)
3. Turn VR502 till picture is as stable as possible (it will roll left to right or right to left very slowly.
4. Remove short.

The second most common failure of PCjr monitor is the horz output transistor Q502 type 2SD1426. Replace with ECG2302 available locally @\$6.10. Symptom is no picture/ no sound from speaker/a high pitch squeal from chassis/ smell after half a minute. Unplug unit--Q502 and R524 a 10 ohm 10 watt resistor will be too hot to touch. Replace transistor to confirm repair.

If symptoms persist after replacing transistor, then most likely the flyback transformer is shorted. P/N is 334P12101 (T503). Although available from Mfg., cost and hassle to get it aren't worth it.

The third most common problem is uncontrollable vertical rolling. This problem has been traced to a defective C402 1.0 mfd @ 35v polarized tantalum capacitor located off pin 10 of IC401, the vertical/horizontal oscillator chip. It is in a rather difficult location to get at and in order to solder a replacement you must remove the two bottom shields. The metal shield is removed by unsoldering one ground wire and then pushing up on the two plastic wire retaining posts at the front of the monitor. The copper shield is removed by gently prying the three plastic press in studs. Closing the barbs of these studs from the component side helps greatly.

File Transfers by Modem

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

*** PCjr CLASSIFIEDS ***

640K PCjr w/monitor, jrHotshot (ram expansion clock calander and second drive controller w/cable), V20, Thin Font, 128K Tecmar jrCaptain; Okimate 20 printer w/cable, ribbons (black and color), paper; 2 joysticks, manuals, books, diskettes, dust covers. All, \$250 plus ship; call 715/453-3470 (Wisconsin), leave message.

SPECIAL CLEARANCE OF PCjr ITEMS--Power Sidecar; Speech Attachment; IBM Games; Joysticks; Basic Cartridge; 101-key Keyboard w/Adapter; DOS 2.10; Manuals; IBM Memory Options Software; Issues 1&2 of Ziff-Davis PCjr Magazine; Jan '86 thru Mar '89 JR REPORT and Aug '86 thru Nov. '90 JR NEWSLETTER. Call Bill at (703) 204-9727.

IBM PCjr 640K, Racore Drive II Plus with DMA, PCjr Color Monitor, PCjr keyboard, DOS 2.1, Cartridge BASIC, 2 Joysticks, IBM Writing and Filing Assistant, and cartridge games. Asking \$250.00. IBM Graphics printer - \$60. Call Eric at (919) 762-9693. 9-5 p.m.

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Ads received by the 10th of the month will be printed in the following month's issue.



Software

(Order form on page 23)



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)

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

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

PC-PROMPT. A memory resident program that provides the format for DOS commands in an on-line mode. Help screen toggles on and off Also help screens for BASICA, Turbo Pascal, Debug and EDLIN. 128K. (Disk #23)

PKZIP V.1.02. The new and increasingly popular file compression utility used by more and more BBSs. Includes PKUNZIP, the one you need to uncompress downloaded ZIP files, and many other features. 128K ok Reviewed 2/90 (Disk #104)

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

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

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

SUPER UTILITIES. The 15 utilities in this collection include Undelete, to recover a mistakenly deleted file; a powerful command editor; a clock, notepad, time and calendar; another to redirect file contents from printer to disk...and many more useful utilities. Under 128K ok. (Disk #28)



Need Help?

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

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

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

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

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

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

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



jr Newsletter Software Store



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

Games, 6, 7, 9.

Home & Family Management, 9, 13.

Telecommunications, 13, 19.

Utilities, 19, 20, 21.



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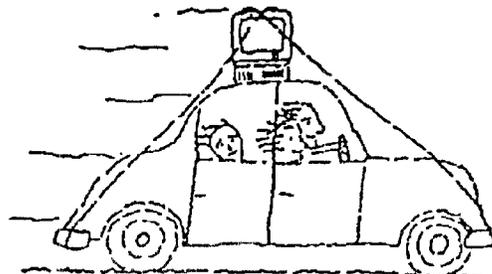
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