1,001 Uses For PCjrs
Cited by Our Readers

A snob writer for a major computer magazine once cleverly remarked that the IBM PCjr would make a good doorstop. We know it ain't so. And so do the readers of jr Newsletter.

We thought it might be encouraging for those of you who know people with the latest mega-mega memory computers, who look down their noses at you and your PCjr to hear what fellow PCjr users are quite contentedly doing with their faithful Juniors.

Many of our readers took the time to tell us via our survey what they use their PCjrs for. The answer is, simply, "everything."

By far the most often cited uses were "personal letters" or "games". But the list of uses usually extended far beyond these most popular ones.

For example, Janet Clark of Kansasville, Wisconsin, said she uses her PCjr for real estate analysis (she's a broker), business and personal letters, spreadsheet analysis (using SuperCalc 3), database management (with PFS Professional File), genealogy (with Quinsept's Family Roots V3.5) and for planning model railroad layouts. That Junior is earning it's keep!

William Hester of Endicott, N.Y., lists as his PCjr uses, "Personal letters, household finances, investments, maintenance and mpg records for two cars, grocery cou-

"Tell me, Jr, are we bullish on oil stocks today?"

pon records for my wife, medical expenses and mileage records for tax purposes and "just about anything I know I will forget if I don't have it recorded and saved via computer." He adds, "I basically use Lotus 1-2-3 for all this except letter writing although I have a retired accounting person who uses 1-2-3 for all her correspondence as well!"

Harry Seto of Cherry Hill, N.J., says, "My kids use the machine to do school reports. I use it to keep track of investment properties, financial affairs and family expenses."

Mark Wilton, whose PCjr has a 20 Meg hard drive, uses his Junior to dial in to work, in addition to bookkeeping, tracking investments, personal letters, publishing a newsletter, maintaining mailing lists, keeping an inventory of collectibles, and accessing Compuserve and local BBSs. Another hard-working Junior.

Ernesto Molina, of Minneapolis, Minnesota, says his love of his Junior has brought complaints from his wife who "considers herself a PCjr widow and refers to my computer as my mistress because I am so attentive and am always looking for more ways to use it." Right now, he

PCjr Lives!

Here's a way to quickly see what's in a file. Try this: at the DOS prompt type: TYPE AUTOEXEC.BAT and press Enter. You'll see the contents of the AUTOEXEC.BAT file. It's important to remember that the only files you can look at are the ones written in plain text, or ASCII as it's sometimes called. Now if you do a "type" on COMMAND.COM, you'll get all sorts of funny looking characters and hear a few "beeps." This is because COMMAND.COM is written in computer language, often called BINARY language. ASCII is "readable text." This document is written in ASCII.

If a disk has a README or a READ.ME file on it then look at it first, because it may have information on how to use the files on the disk. You can type :TYPE README of TYPE READ.ME and press Enter to see what the file contains. The command TYPE README>PRN will print the file for you.

Now if you do a TYPE command on a BASIC program, you'll also get beeps and strange looking characters. The reason: when you save a program in BASIC it is automatically saved in BINARY form. However, you do have the ability to save a BASIC program in ASCII. The procedure is simple. In BASIC, just press F4, which will display **SAVE"** and then type **COLOR.BAS", A**. The entire command will look like this: **SAVE"COLOR.BAS",A.** Then press Enter. Notice that when you save a file in ASCII you MUST type the .BAS extension, then type a " followed by ,A. Don't forget to type the closing quotation mark after BAS.

In the dark brown hard-cover BASIC book, look up and read about the SAVE command. The example they give will show you how to save a program in ASCII. Then you'll be able to look at it by doing a "type" command in DOS.

You *can* run a BASIC program that was saved in ASCII, however it will take longer to load and run.

Copying A File to Your Printer

There will be times when you want a printed copy of a file. Another name for a printed copy is "hard copy." There are 3 ways to do this.

First, on a PCjr keyboard, do a "Fn Echo" which will "echo" (or copy) whatever is displayed on your display to the printer. Then use the TYPE command: **TYPE FILENAME.EXT** and press Enter. Doing another "FN Echo" will turn the "echo" function off. On most other keyboards, pressing and holding the Control key or shift key

and pressing the PrtSc key will do the same thing.

The second way to copy a file to your printer (both PC and PCjr) is to use the DOS COPY command. Example: to copy your AUTOEXEC.BAT to your printer, type **COPY AUTOEXEC.BAT PRN,** and press Enter. Or **TYPE AUTOEXEC.BAT>PRN.** The word PRN means "printer" to your computer.

The third way to get a printed copy of a file is to use the DOS PRINT command. Because this is an EXTERNAL command, you must first copy PRINT.COM from your DOS work disk to the disk that has the file on it that you want to print. Then simply type **PRINT AUTOEXEC.BAT** (or whatever file you want) and press Enter. After the message, "Name of list device (PRN)." press Enter. Then sit back and watch your file print.

I use COPY AUTOEXEC.BAT PRN many times. For example, before I make a change to my AUTOEXEC file I print a copy just in case I mess something up in my new file and I want to key the old one back in! Another method is to first make a back-up of your AUTOEXEC.BAT file. **COPY AUTOEXEC.BAT AUTOEXEC.BU** ("BU" for "Back Up"). Then if you mess up your new AUTOEXEC file you can recover by first erasing the new AUTOEXEC.BAT file and then RENAME the backup copy: **RENAME AUTOEXEC.BU AUTOEXEC.BAT.**

By the way, if you want to copy what's on your display to your printer on the PCjr keyboard, first press the FN key and then press the PrtSc key which is on the P key.

Use your PCjr to Learn
A Japanese Art Form!

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

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 an IBM Graphics printer with my PCjr. How do I get a new "ribbon" for this printer? IBM outlets are no help. Do I buy a ribbon or a whole "rack" holding the ribbon? Where? There are no instructions in any of my printer books. Now the print is too light and I need a new ribbon.

T. Bockstahler, Hendersonville NC

A. Usually the entire "rack", as you call it, with the ribbon already installed is replaced. This cartridge (the "rack") is often heat sealed with the inked ribbon difficult or impossible to change without damaging the plastic housing. The ribbon (in its cartridge) for this printer is surely available wherever ribbons for Epson printers are sold. Just have the appropriate information (printer name, model and carriage width, ie. 80 or 132) and the sales clerk will find the cross- reference number if necessary for your printer and the ribbon number. The manufacturers of ribbons do have different numbering systems but they supply reference sheets so the ribbon can be matched to the printer.

If you want to take your ribbon to the local 'office supplies' house (a good place to get replacement ribbons) to be sure you will have a match here's how to remove it:
Be sure to turn off the power.
(1) Make a note as to how the ribbon is "threaded" through the guide across the front of the print-head.
(2) Gently slide the print-head to the center of its travel.
(3) Press (against spring pressure) the entire cartridge in a direction AWAY from the print head while lifting gently. The cartridge will lift out into your hand.
(4) Leave the print-head at the center of travel to facilitate getting the replacement ribbon back in.

The new cartridge is installed by holding it with the ribbon side slightly higher than the other, placing it on the cartridge bed and pressing it away from the print-head, THEN down and level. It will actually snap in place when done properly. Now re-thread the ribbon in the guide across the print-head. It should almost fall into place... There is a knurled shaft sticking up on the left side of the cartridge. You can tidy up the sag in the ribbon by turning this shaft counter- clockwise. Now go and wash your inky fingers... you're done!

There are suppliers who will sell lengths of pre-inked bands of ribbon for you to re-install in those cartridges which can be unassembled but we have found the price savings to be significant only for users of lots of ribbons, such as a ribbon a month or more.

Q. Does anyone (dealers?) have a boot cartridge for the SCSI hard drive? How, if it is possible, can one use Multiplan data files on Lotus 1-2-3?

F. Warner, Waterford, MI

A. The mail order advertisers in the jrNewsletter such as Paul Rau Consulting, OOwl Software and PC Enterprises who also sell hard drives are the best sources for the cartridge.

You will have to translate the Multiplan files into DIF or Visicalc files first. You should be able to do this with any of a number of Shareware or commercial programs. The next step is to use the XLT program included with Lotus 1-2-3 to translate the DIF or Visicalc files into .WKS or .WK1 format.

Q. I have expanded to 512k with IBM 128k sidecars. I would like to go all the way to 736k but I'm worried about the power requirements as IBM says that a single power sidecar can handle only three additions. Is there any way to use the total of six sidecars I will soon need?

B. Young, Menomonee Falls, WI

A. Whew! You can probably add sidecars forever, provided you put a power supply at every third position... you'll have a pretty wide jr, though. Seriously, why not put in a jrHotshot (gets you up to 640k), one adapted memory sidecar (gets you up to DOS maximum of 736k) and a parallel printer sidecar. This might require one power

Questions and Answers

(Continued from page 3)

sidecar. The 512k of memory chips on the jrHotshot draw very little power so the requirement for additional power would probably be for the upper 128k memory and parallel printer port cards.

We're writing this on a 640k jrHotshot set-up with two floppies, a RIM SCSI hard disk controller card in the modem slot, a parallel printer sidecar and NO power sidecar! The keyboard is also powered by the jr via the cable (though we did pull out the infra-red receiver) and there is either an external modem or a mouse selected for the serial port. (See question below about boot errors however...)

Q. Am interested in the NEC V-20 chip. Can this be used with the jrHotshot? Can the available blank plug-in Cartridges be programmed without special equipment?

A. McKee, Glen Mills, PA

A. Yes, the NEC V-20 chip is completely compatible and highly recommended with the jrHotshot card and is usually offered as an inexpensive option when the card is purchased.

The cartridges contain EPROM (Erasable, Programmable Read-Only Memory) chips and must be "burned in". Though we have heard of using either the serial or parallel port for the necessary interface, the programming and socket(s) or cables would be special. The process, though not really complicated, is really too technical for a simple description here. Special software to translate and "write" an existing compiled and / or linked program to the EPROM is also necessary.

Q. Just got a TTL monitor and can't find an adapter cable to plug it into the T receptacle at the rear of the jr. Can you help?

K. Reeve, Don Mills, Ontario

A. The plug part you want is made by AMP in the form of a kit. You may want to order through your local electronics shop (see their AMP catalog) or get the address and order directly from AMP. Total cost should be approximately $8.00. Order part # 102704-1 kit (split plastic press to wires) and: part # 103125-8 kit (necessary metal RF shield)

These two parts will, when installed on the cable from the monitor, plug in to the jr's 6 pin receptacle. Only five pins are used.

Naturally we don't know how the wires of the monitor cable are already connected or what plug may already be there. You'll need a schematic of the monitor for those wires or talk to a technician who knows that monitor. If there is a plug already on the cable you can try to find a

matching receptacle and you'll wind up making a short jumper/adapter cable with this kit. Otherwise you'll have to cut off the existing plug to install the new plug kit directly. In either case, you MUST find out how that cable is connected to the monitor!

Now, here's the jr's plug pin-out looking at the receptacle from the rear:

Read A1, A2, A3 across the top row, left to right (A2 is NOT connected) and read B1, B2, B3 across the bottom row, left to right.
A1 is +12 volts out (usually powers the RF converter for TV)
A2 is NO PIN installed
A3 is Video Signal out
B1 is Logic Ground
B2 is Audio Signal out
B3 is Shield Ground

The IBM PCjr Tech. Ref. Manual says that these signals are at normal TTL levels for these devices.

Q. Where do other keyboards such as Keytronics plug in and do they use the same serial port as the modem?

D. Malinowski, Madison, WI

A. Some keyboards are already adapted by our advertisers to plug in where the jr keyboard does. Others plug into the same place but with a second cable to the light pen receptacle as a way to get power. Still others plug in where the infra-red receiver board normally goes but we don't know of any which plug into the serial port. Though the input from the keyboard is serial it is received at a different address and has no conflict with either of the two the RS-232C serial port addresses.

You should know, by the way, that the jr is the ONLY PC with a telephone-like quick connector on its keyboard cable. The rest of the family and the clones usually have a round, 5 pin, DIN connector at the PC end while the cables might be hard-wired into the keyboard.

Q. Wouldn't it be a good idea to buy a clone with a hard drive and use either LAN or some kind of software / hardware to link to the jr rather than installing a hard drive? The prices seem competitive.

Various readers

A. This seems like a good idea but, and it is a big but. First, the direct hard drive installation in the jr would always be faster than one networked or linked. Many times faster, think about it. Second, real DMA is required for any LAN to work with any kind of efficiency worth discussing and the jr just doesn't have it. Third, software which works with the jr (which means no tricky programming and no necessity for DMA) and is it available... take a guess. Fourth, the price comparison starts to deteriorate when the price of the clone AND its drive are compared to

(Continued on page 18)
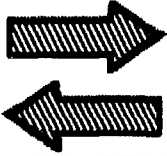
READER FEEDBACK
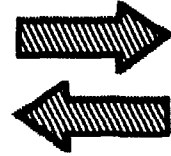
ZModem Protocol Works
On Reader's PCjr with Telix

I just received the August edition of the jr Newsletter and saw a Q&A that caught my attention. It is on page 3, using ZMODEM protocol on a jr.

I have a jr with 640K, Racore drive II+ (without DMA chip), an Easydata 1200D modem, and a V20 chip. Not sure of which of these things lets me use the ZMODEM protocol, but I can use it. I use Telix version 3.11 (I think). It has almost all of the transfer protocols, including ZMODEM. I have no problem using the ZMODEM protocol, in fact I love it, less errors, less time, you don't usually have to enter any info! I use ZMODEM protocol whenever possible.

I hope maybe this can shed some light on the problem. Maybe J. Gush, GRandville, MI, should try Telix.

P.S. I'm using an Impulse 512K expander with a program called EXTRARAM.EXE to utilize it.

Bret Tragni, Jan Jose, CA

Jr User Urges Others to
Contact Software Companies

Recently, I talked to a representative at Accolade, concerning the incompatibility of their games. I recently tried to run Mini-Putt on my junior, only to find that I had problems that a lot of other games were causing with juniors. That is that my disk drive would run continuously. It is my understanding that some of their games, such as Mean 18 run flawlessly, while others do not. It seems to me that if Mini-Putt, as well as other programs will run, with the exception of the disk drive continuously running, then this should be a relatively easy problem to fix. However, I am not a programmer, and this may not be the case. But, Mean 18 runs, so why not the rest. When I called Accolade, the gentleman could not give me an explanation. Only that Accolade does not support the jr, and probably won't in the future. I asked him why, and he said that his boss took a poll to see if there is a demand from jr. users, and the response was low! O.K. jr. users, why the low response. If you want support, you need to speak up!!! I challenge each and every person reading this letter to write to Accolade, demanding future support of the jr. Don't rely on the other reader to do this. We

need EVERYONE to write. It is going to take a mass response from the jr. public to show them just how many of us there is. This is the only way that we will get anywhere. Sierra is supporting the jr. again. Let's get more.

As for the jr. Product Manufacture's, send them a copy of your catalog. Show them that you are really supporting the jr., and doing it in a 1st class way. Let them know from past orders just how many jr. users are out there. After all, the more programs available to jr. users, the longer we will continue to use them instead of changing computers, which means more business for your company.

Everyone, PLEASE take just 5 minutes to write a letter. Also, if you have a favorite company that you want to see supporting the jr. in the future, send their name to this newsletter. Maybe we can see a list printed in a future edition, and we can write to all these companies.

Terry Henry, Orlando, FL

Jr. User Appeals For Lower Prices

First, let me tell you how impressed I am with your newsletter. When I first bought my Jr. several years ago from a friend, I rapidly became discouraged when I compared my Jr. to my friend's Turbo XT clone with that blistering 8 MHz speed and a hard drive. After going to my first Puget Sound Users Group meeting, (an experience not unlike an AA meeting: "Hi! I'm Doug and I own a ...PCJr") my enthusiasm began to grow. Since receiving the Newsletter I've upgraded my memory, installed the Tandy Mod and installed a 3.5" drive; which brings me to the real point of my rambling.

My appeal is to those companies who continue to support the Jr. I appreciate their efforts but let's be reasonable on the cost here. I paid $650 for a Jr. with a RACORE 1200 drive system and 512K of RAM with a printer and software. Fortunately, the previous owner appreciated documentation so I was spared that cost. $100 later, I had a new keyboard, $50 or so got me the Combo Cartridge and the Thin Font Module. The Tandy Mod cost me $1 (chips are cheap). The 3.5" drive was actually a spare for my AT so I won't charge that against the Jr. The last 128K of RAM was $75. Total for the upgrades so far, $226 not counting some Jr. specific software.

For a Jr. owner who rediscovers his Jr. sitting in the closet with 128K and one drive, here's what he's looking at to bring his Jr. into competition:

Reader Feedback

(Continued from page 5)

	a) a 2nd drive unit and 512K RAM	$509
or	b) 20 Meg hard drive	$499
and	c) 512K RAM	$200+
	d) Accelerator card	$129+

A real AT with a 40 meg HD and VGA can be had for about $1300. My point to our suppliers is: "You would probably get a lot more of the 300,000 to 400,000 estimated Jr. owners to upgrade if things were somewhat more affordable." If the Mesa 286 board returns, it will really open up Jrs and other suppliers would do well to make the other necessary upgrades more attractive so the Jr. owner will upgrade instead of going straight to an AT.

Doug Hase

EDITOR'S NOTE: It's probably true if you have a "stock" PCjr with just 128K and one disk drive and you really need the power of an AT, you're better off buying an AT. However, many PCjr users are somewhere in between, both in terms of their need for computing power and in terms of what their Pcjr already has. Most of our readers have 256K or more and one or two other enhancements, such as an additional drive. And most people don't really need the power of an AT. So, for those who fall into either or both of these categories, upgrading your PCjr makes sense, even though you're going to pay a little more for the PCjr upgrade than you would for an upgrade for another computer. Maybe our PCjr support companies will heed your plea to reduce prices. We hope they can and will. But keep in mind that they are trying to do business in a relatively small market, which means they can't earn a profit through high volume sales and low prices, as companies in the PC, XT, AT, etc. markets can do.

(We hope our advertisers appreciate this defense of their position -- but, no kidding, we mean it.)

Tips on Using NOBEEP
to Get Prodigy With Legacy Unit

Some time ago I did order disk #56 from your newsletter and I have been using NOBEEP since then with Prodigy successfully. At first, the program did not stop my Jr from doing weird things like hanging the system. I tried different things like setting my config.sys with device=jrvbufdd.sys \c, or\e, or no switch (I am using the video cartridge from PC Enterprises). I also tried jrconfig sys with different settings, etc., but NOBEEP did not make PRODIGY work right. Then I increased buffers

to 25 (I had it set to 15 before). That did it! It has worked very well since then. However, when installing NOBEEP, garbage is displayed on the screen and the computer beeps several times. Sometimes more of this, sometimes less, depending on what I have run before installation. But it makes no difference at all as long as at the end it displays:

NOBEEP ver T1.60 installed.
G. Strait

I have Legacy expansion with 2 hard drives, I am using DOS 3.30 and I have the following in the config.sys file:

```
device=jrvbufdd.sys \c
shell=c:\command.com /p /e:800
device=driver.sys /d:1 /f:1
device=int9sys.sys
buffers=25
files=25
```

This difference with buffers = (a higher number) may be of interest to someone having Legacy which, sometimes, seems to behave somewhat differently from other expansions, especially when you add the hard drives to it. But, it seems to be highly compatible with most software.

Antonio D. F. Martins, Bridgeport, CT

3.5" Drive Format
Questions Clarified

I have been a continual subscriber of your great newsletter since April of 1987. I find usable information in every issue. Please keep up the good work.

I have a question on a past article and a bit of memory expansion info, so I thought I would drop you a line.

First, a question regarding the article titled *A 3.5" Boot Drive for the PCjr*, by Dave Tursan, in the January, 1990 issue of **jrNewsletter**. In that article it stated that:

"... in order to make a boot disk I had to create a 360K 3 1/2" disk and then copy the files from my 5 1/4" disk onto the 3 1/2" disk. I used a friend's computer to create the disk using DOS 3.3 and this command: format a:/s/4 The /s option installed the system files needed to boot the PCjr and the /4 option made the disk a 360K disk."

1. When I tried to format a 3 1/2" disk using the /4 option, I received the DOS error message -- Invalid Parameter.

2. After checking the PCDOS 3.3 manual for the FORMAT command, I found that the /4 option is used only to format a 360K 5 1/4" disk when using a 1.2MB 5 1/4 floppy drive.

3. Further in a table which lists the various options and parameters of the Format command, the /4 option is

not listed for use with the 3 1/2" disk.

Is there an error in this article? If so, could you add some clarification to this in a later issue of **jrNewsletter?**

I faintly recall that upon turning on the IBM PC or PCjr that the ROM first runs the POST tests, then reads and configures itself pursuant to the CONFIG.SYS file, and then executes the AUTOEXEC.BAT file.

If this is correct, then wouldn't the lines in the CONFIG.SYS on a 720 3 1/2" disk which state

```
DEVICE - JRCONFIG.DSK -t3 -d2 -g -l -s32 -v32 -x -y
DEVICE = DRIVER.SYS /D:0
DEVICE = ZANSI.SYS
FILES = 20
BUFFERS = 20
```

configure the PCjr to correctly run using the 760K 3 1/2" drive as the BOOT or "A" drive. To format and to copy to another 3 1/2" disk, a second DEVICE = DRIVER.SYS / D:0 should be inserted above the DEVICE = ZANSI.SYS line. Then, the "phantom" 3 1/2" drive would be Drive "D."

I have been considering a 3 1/2" drive as a boot disk, but would like to clear up this configuration item before I invest in the drive. I have a LEGACY external 360K 5 1/4" second drive.

Thomas Blake, Falls Church, VA

Response From Dave Tursan

First, Tom is right that the A drive can be either 360K or 720K but the reason the unit works is because of the disk itself. When the disk format occurs it sets the stage for how data is stored. Except for the 1.2 and 1.44 hi-density disks which require a different physical disk drive and a hi-speed controller, the controller card in the PCjr can support a 3.5" or 5.25" disk drive because the disks contain 9 sectors per track and 512 bytes per sector. When the PCjr boots up and asks the disk drive to give it some data it is the drive which reads the tracks and transfers the data.

When I first started out to get a 3.5: drive in the PCjr, I could not get a straight definition of device drivers in the IBM DOS version 3.3 Reference manual. The purpose included on page 4.21 says that Driver.sys "Allows you to access and use a disk device by referencing a logical disk drive:" and goes on to illustrate how to configure the device command. That gave me little help.

So, I started with the configuration included in the article and put a 3.5" A drive into a PCjr. A 360K disk was created by a friend who said he used the /4 option. (I suspect that he did it by formatting a 3.5" disk in a B drive with no driver.sys device in the config.sys file. I am guessing that the device driver is what tells the drive to format

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

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)

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

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

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 (Reviewed 3/90) (Disk #109)

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

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

CALENDAR KEEPER V2.1. Keep track of important dates, birthdays, club meetings, etc. and print monthly calendars with these dates clearly noted in the proper squares. Prints wall calendars on standard size computer paper. Easy to use, menu driven, can keep up to 10 databases of events and reminders. Many features. Need 256K. (Reviewed 7/90) (Disk #115)

Support Your Shareware Programmer

If you've purchased shareware from the jr Newsletter Software Store and you enjoy using it, please say thank you to the author of that software by sending in the requested registration fee. Shareware programmers need our thanks and support to keep on producing high quality software at affordable prices.

Reader Feedback

(Continued from page 7)

the disk as 720K.)

After setting up the disk and demonstrating the PCjr at a number of our Metro PCjr User Group meetings, one of the question/answer sessions revealed that it was the original format of the disk which set the density. And, unless you wanted to format disks, you really did not need the device driver. Being a curious sort, I copied the files to a disk created as a 720K /s (on a PS/2 Model 30) and BINGO .. Tom Blake is right.

The config file used when I put a 720K 3.5" disk in a PCjr is:

DEVICE = JRCONFIG.DSK -c -d2 -e1 -j -S40 -t3 -v32 -x
FILES = 20
BUFFERS = 5
DEVICE = ANSI.SYS
DEVICE = DRIVER.SYS /D

I am not sure I understand the second point in his letter. It is true that placing multiple Device commands creates multiple units. But if you accept the fact that it is the disk which controls the drive, then multiple drivers are not necessary on a PCjr unless you have 3 or more drives. I routinely copied from 360K 3.5" disks back to 720K 3.5" disks on the one drive unit when I initially set up the drive.

Casting back on the questions asked and problems

encountered, the only curious area was with the Racore drive two units. Some owners tried and easily installed a 3.5" disk and others never could. At first I thought the problem was with the person attempting the change. Later I came to the conclusion that there must have been revision levels to the Racore unit which cause earlier models not to support 3.5".

I had no questions or problems from Legacy unit owners.

Dave Tursan, Springfield, VA

Print Power Works With the EXTRA.SYS

Print Power would not work until I got a copy of PCJRXTRA from Disk #65.

The CONFIG.Sys is:
DEVICE=JRCONFIG.NRD -S1 -t3 -x -c
DEVICE=PCJRXTRA.SYS
FILES=20
BUFFERS=10

Works fine.

J.C. Duncan, Greer, S.C.

Reader Shares Useful Tips On 3.5" Drives and Hard drives

I have been a subscriber since 1987 and look forward to each new issue. I have found jr Newsletter to contain articles or information of value to all levels of users.

I have a few questions, comments and observations that may be of interest.

1. In the March 1988 and February 1989 issues you mentioned Paul Crumley and his IBM 128K modifications to provide EMS memory for the PCjr. Is this modification currently available? (Answer: No, Crumley has flown the coop.)

2. With more jr owners installing 3.5 drives and some of us dropping 5.25's, will you be making 3.5" diskettes available in the Software Store? (Answer: Yes, if enough people request it. So far they haven't.)

3. I have installed PC Enterprises' new SCSI hard drive system. It installed extremely easily with the only problem being a conflict with their jrExcellerator. In order to use a second floppy drive you must use jrconfig or a configuration cartridge. Use of jrconfig eliminates the 16k video ram the jrExcellerator PC mode adds. The cartridge allows continued use of the PC mode.

4. I have experienced a problem with the DOS 3.2 backup command issuing sector not found errors. This only occurred when using the 3.5 drive. Thru trial and er-

ror I have eliminated this problem by dropping hush.com from the autoexec.bat file.

5. The following software has been running with no problems on my jr. 640K with hard drive, one 3.5 drive and 9.54 Mhz:

Quicken 3.0
Lotus 2.2 with Allways
Professional Write 2.2 (built in Grammar check)

6. PCJR Power Book I and II from Oowl Software should be a part of every jr owner's library. They are well written and provide hints and techniques that would take hours to discover on one's own. The software disks are an added bonus.

I thank you for an interesting and informative publication and am looking forward to coming issues.

Mark Napolitan, Brockton, MA

Minister Seeks Used Computers To Help Underprivileged Kids

My name is Harwood Loomis. I am a minister, and also the shareware librarian for the Trumbull (Connecticut) PC Users' Group. I am writing to ask for help from members of your computer users' group for a project I am trying to get off the ground. Here's what it's about:

A friend of mine is the school librarian for one of New Haven's inner city elementary schools. Many programs in the New Haven public schools are being run on a tight budget - some almost literally on a shoestring. It occurred to me that I could help some underprivileged, inner city children if I could find a way to recycle old computers and make them available to the kids. I'm willing to put in the time to check out systems and swap components around until I come up with functional systems, but I need raw materials to work with.

A working machine would be wonderful, of course, but I would also welcome systems which don't work, as well as components such as disk drives, keyboards and monitors/cards which may have been retired. If I can come up with several such systems, I can cannibalize enough working components to put together a few functional systems.

I would also welcome donations of any old versions of software that people may have set aside, or have around after upgrading. I want to encourage kids to learn to use computers as learning tools, so *'m more interested in word processing, spreadsheet and database programs than in games, but I'd prefer smaller programs that are simple to learn and use - and which may run in 256K or 384K, since I don't know hum much RAM some of these systems will end up with.

My goal for the initial year of this experiment is to be able to turn over ten working systems. I'd like to ask if

Please Use Order Form on pg. 23.

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

PC-KEY DRAW. A powerful graphics program that allows you to draw, paint, produce slide shows, store and print your work. 256K, two drives. (Disk #37)

PC-KEY DRAW DEMO. Contains a slide show demonstration which allows you to see the amazing results you can get with PC-KEY DRAW. Helps to learn the many graphic capabilities of PC-KEY DRAW. (Disk #38)

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

Please Use Order Form on pg. 23.

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

PIANOMAN. A great music program! Allows you to write your own music, store it and play it on jr's terrific sound system. 128K. (Disk #36)

SPEECH. Make your Junior talk! With this software you can make your PCjr's internal speaker say anything you want. Very easy to use. No additional hardware required. (Reviewed 7/90) 128K ok. (Disk #114)

Please Use Order Form on pg. 23.

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)

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

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

Reader Feedback

your computer users' group would spread the word and ask people with old equipment they might be willing to donate to please contact me. Thank you for any help you and your readers may be able to provide.

The Reverend Harwood W. Loomis, 229 Peck Hill Road, Woodbridge, CT 06525 (203/393-3470)

Looking for a Scanner
For His PCjr

I have PCjr with 512K and two disk drives. I mainly use the jr for word processing and newsletters. I am at the point where i would like to make use of a hand-held scanner to incorporate pictures and text into my Newsletters. However, most of these hand scanners require an expansion slot for an external card to be inserted. The jr has no expansion slots. do you know of any hand scanners which are available to be used on the jr?

R. Tierney, East Pittsburgh, PA

EDITOR'S NOTE: We haven't tried any scanners on our PCjr, but if there are any that work through a standard serial port, it should work on any PCjr. Readers, please let us know if you've found one that works.

Reader Suggests Two Ways to
Link Two PCjrs

In answer to the letter on page 20 of the August issue, yes, the reader can do this BUT he needs to increase the memory of one of the machines to 640K. Insert in each machine a program called PC-ANYWHERE, which costs about $200 each. then, one machine can use all the left-over power of the other. (But not much will be left, unless a hard-disk is in the system.) I forgot to mention that each Junior must have a serial cable, suitably joined with a sex-changer and null-modem.

It seems like a way to spend $500 for nothing. This set-up has merit if one of the Juniors is located in your day-time office and the other is located at your home. Then, you could dial-up, from your home, your office machine, and use the power of your office from home. Again, with Juniors, this is silly unless your office machine has a had-disk.

In case he is still interested, there is a public-domain program called PC-REMOTE which will do most of the functions of PC-ANYWHERE. So you can saved $400. (Less whatever you send to the owner of the PC-RE-MOTE.) PC-Remote needs only 25K of memory so he might get by with no memory addition.

D. E. MacMillan, Ottawa, Ontario

Sorry Folks!
Galaxy & ImagePrint Need 256K

The excellent word processor, Galaxy, which is on Disk #69 in the jr Newsletter Software Store, requires 256K to operate, not 128K as we indicated in our listing. Same holds true for Image-Print, Disk #50.

We think what happened is that when these programs were updated with more recent versions, they required more memory, and when adding the newer version we failed to check this. Our fault and we apologize.

We thank C.W. Edworthy and Wayne Newstrom for pointing this out to us. If anyone else has been stumped trying to run either of these programs, please return the disk to us for exchange or refund.

Microsoft Works: An Integrated Software Package

By Fran Cronin

Microsoft Works version 2.0 has four tools: word processor with spell checker and thesaurus, database with a reporting feature, spreadsheet with graphics, and communications. Other features include some DOS utilities, a calculator, an alarm clock, and an automatic phone dialer. All of these are in a Windows-like environment with pull-down menus. The text menus can be used with either a mouse or the keyboard.

Works eases you into the program. It comes with an attractive manual, a quick reference card, a booklet entitled "Ten Minutes to Productivity," and a tutorial. A setup disk leads you step by step through installation. It supports installation on a computer with a hard drive, a one-disk

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"I recommend Works to the computer novice."

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computer, or a two-disk computer. The setup is very easy and does not modify system files automatically.

The illustrated manual includes a getting started chapter that tells how to use the tutorial and provides a brief overview of screens, menus, and commands. There are sections for each of the tools with the commands presented in alphabetical order. Printing, macros, functions,and error messages are covered in detail in the appendix.

I've found most on-line tutorials a waste of time.The Works was a very nice surprise. There are six sections. Each has a series of short lessons you can select in any order. Most lessons include hands-on practice. The animated graphics and the interesting examples make learning fun.

Windows-like Interface

Works has a Windows-like interface. The overall similarity of the windows for each program presents a consistent interface that speeds your learning curve. Commands can be activated by pull-down menus and, in many cases, by shortcut keys. Commands frequently open boxes that allow you to specify the way you want to implement a command. . Since I like the clean screen of my current word processor, I found the Works screens distracting at first. However, I appreciated the on-screen information.

Up to eight different windows can be open at any one time. This is useful when copying between or comparing several documents. Files can also be split horizontally or vertically; several parts of the same file can be viewed. These features make Works a very

nice program to use.

Works displays information in two modes: text and graphics. In the text mode, a color monitor displays different styles in different colors. However, with a monochrome monitor or an LCD screen, the only indication that a word is underlined or bolded is a code in the status line. In the graphic mode, underlining, bold, and italics are shown on the screen. The graphic mode works well when I run the program from the hard disk. It is very slow when I use the floppy drive.
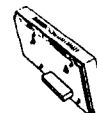
Word Processor

What can it do? Honestly, a better question is "What can't it do?" Works lacks some features such as generating a table of contents or an index. However, it supports headers, footers, footnotes, endnotes, undo, inserting tables and charts from the spreadsheet and creating form letters. There are many shortcut keys that speed formatting, editing, copying, and moving, and selecting type styles such as bold or underline.

Microsoft Works
(Continued from page 11)

The only two features that I miss are the automated outlining and columns features. The indent feature is designed to allow maximum flexibility. The shortcut keys (once I figured them out) make formatting an outline or just about anything else efficient. The custom tab setting not only lets you set the position of the tabs, but also the alignment within the tabs.

"The Works tutorial was a very nice surprise."

The spell checker (100,000 words) and the thesaurus (30,000 words) are slower and less functional than others I've used. However, they are adequate. Works allows a personal dictionary, so commonly used words, acronyms, and names can be added. The thesaurus provides not only synonyms but meanings as well. You can select a synonym and find a synonym for that.

It supports uploading and downloading using X-modem and can capture text for later review. You can also set a buffer of up to 700 lines that can be reviewed while on-line or after logging off.

Since I seldom use macros, I am not a good judge of macro capability. I did develop and test a simple macro. It worked perfectly, and I was surprised by how easy it was. The manual describes several other macro features, including the ability to create repeating macros, macros with pauses, and nested macros. You can also edit existing macros or create one using the word processor.

Works provides extensive on-line help. Context sensitive help is accessible from all tools. You can also select specific help topics from the index. If additional help is needed, you can review a related lesson in the on-line tutorial. The on-line help is very good, but I think it's very wordy. The help messages often took two or three screens, when I needed only brief help.

Other Features

Works includes a calculator, an alarm clock that displays reminders at preset times, and an automatic phone dialer. Although Works provides a template for a calendar database, I did not find it useful. A truly functional calendar would be an excellent addition.

Works has several DOS file management procedures. You can copy, delete, and rename files; create and delete directories; and copy or format a disk. However, these features are not as easy to use as they should be. Works also lacks several important file management features,

such as moving and viewing files, file and directory locking, file name search, and a file list that includes file date and size information. This feature needs to be improved.

You can run DOS commands and other software programs from within Works. You also can temporarily exit to DOS. These features add flexibility to Works and could be used to run some utilities and a calendar.

Using the Tools Together

The true test of an integrated package is the ease with which the various tools can be used together. Works allows eight different files to be open at once. Hot keys make it very easy to switch between windows.

For example, you are writing an article and you want to describe the data from the spreadsheet. The split screen allows you to have the data on the screen while you are writing about it. You can also copy data from a database or a spreadsheet into a word processing document. You can go to the spreadsheet and make a chart to insert in the word processing document. The only limitation is that the documents are not dynamically linked. Thus, if you change data in a spreadsheet, a table using that data will not be automatically updated.

Customer Support

When I called the customer support number listed in the Works documentation, I reached a recording. After listening to a recorded message and pushing a number on my touch-tone phone, I was told to call a second number. I called the second number and reached another recording. After additional recordings and pushing numbers on my phone, I reached a human.
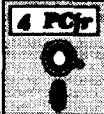
The Microsoft support person was very patient and had me try a variety of tests. Finally, he asked me to send him my file. If there is a glitch in the program, it is very obscure. I cannot replicate the program except with that file. I was satisfied with the assistance, but it was a relatively long call. A direct number to Works support would save considerably on long-distance bills.

Works Really Works

There is a lot to like about Works. First, it is easy to learn and easy to use. Second is the integration. I particularly liked the ease and speed with which I can move from one document to another. I also like having two parts of a document on the screen at one time. Finally, although the database and the file management functions are limited, each of the tools is good. I was particularly impressed with the word processor and the spreadsheet.

I recommend this program to a computer novice, particularly if the main use will be word processing and relatively simple spreadsheets. I think students would find Works great for preparing papers for English and Social

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

WIZQUIZ. The Wizard keeps track of your progress in solving math problems that range from elementary level through fractions and negative numbers. Extensive exercises, with scores and times recorded under each "player's" name. Compete against your personal best as you improve your skills. Grades 4 through adult. 128K ok. (Disk #95)

TYPING INSTRUCTOR. Disk contains both PC-Touch, a great typing exercise and speed testing program, and Touch Typing Tutor, a combination of lessons, including finger positions, speed tests and a typing game. 128K ok. (Disk #18)

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

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

STUDY AIDS. Three great programs to help students. PHLASH - a computerized version of flashcards which you make and use for any subject. Multiple choice, true/false, and/or fill in blanks. FRACTIONS - a series of interactive exercises in fractions (many levels). And PHRASE - a program that picks out examples of bad writing in any document and suggests improvements. 128K ok (Disk #92)

SPELLING BEE. A game that builds spelling skills from Grade 3 level to adult. You are an Olympic athlete representing your country. Excellent color graphics. Four skill levels from very easy to very difficult words. Fun way to become a spelling champ! 256K ok (Disk #82)

SPEED READ. If you'd like to double or triple your reading speed, and increase comprehension as well, Speed Read can help you do it. It provides instruction and exercises designed to break bad habits and improve reading efficiency. 256K (Disk #90)

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

Microsoft Works

(Continued from page 13)

Science classes, making tables and charts for a science project, and keeping records for a paper route.

The major drawback of Works is the lack of easy import and export of documents from other software. The exceptions are Microsoft Word and simple Lotus spreadsheets version 1A and 2. This should be improved in future versions. Other improvements would be better file management features and the addition of a calendar.

Microsoft Works, along with several other low cost integrated packages, was reviewed by Ross Pavlac in the February 5, 1990 issue of *InfoWorld*, and by Stephen Andrus in *Personal Computing*, April 27, 1990. The spreadsheet tool was compared to other lower cost spreadsheet programs by Evelyn Morrison in *PC World* for April 1990.The conclusions of these reviewers are generally consistent with mine.

Microsoft Works is an excellent small integrated program. It is also a real bargain. The list price is $149, but is available for less than $100., At that price, it's hard to beat.

Microsoft Works v2.0 runs well on PCjrs. It is abso-lutely essential, however, to either install the INT9 patch (on PCjr Patches Disk #56) or use JRCONFIG which fixes the int9 incompatibility automatically. JRCONFIG, for those who don't know it, is the excellent PCjr memory management software designed by Larry Newcomb and available on both versions of Jr. Power Pack, as well as PCjr Autosetup (Disk #110)

It's Nice To Know
You Appreciate Us!

"Jr Newsletter has been an invaluable source of information, supply of equipment, repair, service and software. Thanks a lot." -- Kenneth Edmundson, Decatur, AL

"Your magazine is a great service to junior users -- a unifying force." -- Ronald Whitaker, Seminole, FL

"I feel that you have a good balance. You serve both the novice/new reader as well as the more knowledgeable/experienced user." -- David Kummer, Denver, CO

"I read jr Newsletter from cover to cover. Some things I'm not into, so I don't understand much of the article. However, I thoroughly enjoy your publication, and your Software Store." -- Raymond Ellis, Granbury, TX

"I find your newsletter first rate. One of the best newsletters of any type. Most of all I find the English language and writing style used is due Special Compliments. Very understandable! Keep up the good work." -- John Nugent, Richmond, VA

"I eagerly await the arrival of each jr Newsletter. Please keep up the good work." -- Jim Schmidt, Mechanicsburg, PA

We do our best to keep jr Newsletter a useful and enjoyable source of information for PCjr users. Comments like these help to keep us going. Thank you all for your compliments.

> ### What Is A File Manager?
>
> A File Manager is a very handy type of software for copying, moving, deleting, renaming and doing other useful things to files without having to use DOS commands. Scout, Disk #81 in the jr Newsletter Software Store, is one of the best we know of. It can be "memory resident," which means it'll pop up any time you need it by just pressing two keys.

Here Is A GREAT Tool for PCjrs!

By John King

File compression is not a new subject. You probably have seen files with the extensions ARC and ZIP on shareware disks or on BBSs. These are files which have been compressed to take up less disk space. They were created with programs such as ARC and PKZIP, and they must be uncompressed with ARC, PKUNZIP, or other decompression utilities before they can be used. (Shareware vendors usually include one of these utilities on each disk.)

USING ARC AND ZIP FILES

Vendors ARC or ZIP files so they will take up less disk space. BBS users like the reduced time it takes to transfer compressed files by modem. In addition, since several files can be combined in one file by ARC or PKZIP, several related files can be kept together as a package. For instance, the documentation for a program (PROG.DOC), the program itself (PROG.EXE), and all the support files can be combined into one compressed file (PROG.ARC or PROG.ZIP). When the compressed file is copied to another disk or downloaded from a BBS, all the program files will remain together.

File compression is very useful for storing and transferring files. However, because a program in an ARC or ZIP file must be uncompressed before it can be used, compression has not been convenient for programs which are used frequently. That is, not until a Frenchman by the name of Fabrice Bellard created a program called LZEXE. It is Disk #112 in the jr Newsletter Software Store.

HOW LZEXE WORKS

LZEXE.EXE compresses a program file on disk, but leaves it executable. When you call the program, a few hundred bytes of code added by LZEXE uncompresses the program directly into memory. The process is so fast that there is no noticeable increase in time to start the program. In fact, since the amount to be read from the disk is reduced, the program may actually load faster than the original, uncompressed file.

I tested this with a football game from Electronic Arts. The original, 153K file took 22 seconds to load. The 74K, compressed file created by LZEXE was slightly faster and took only 19 seconds.

Here is an example of how LZEXE is used. If your program is called PROG.EXE, you simply give the command "LZEXE PROG" (without the quotes), and LZEXE proceeds to do its job. Brief messages in French indicate progress and advise of any difficulties. In a few minutes, the original file is renamed PROG.OLD and a new, compressed file PROG.EXE is written to disk. The amount of compression depends on the type of program, the size, and other factors. In my experience, the savings have ranged from 32 to 59 percent. After testing the new file, you can use it in place of the original.

At this point, it is appropriate to say "So what?" Floppy disks are cheap and hard disks are large, so why bother with LZEXEing files to save a few bytes? There

Software Store

SYSTEMS UTILITIES.
Please Use Order Form on pg. 23.

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

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)

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)

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)

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

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)

How to Use LZEXE

are two cases where I have found LZEXE really valuable. First, reducing the size of files which are kept on a ramdisk saves RAM, and that's important. Second, making room for a few more files when a floppy disk is almost full saves disk swapping, and that's a real convenience for those of us without hard disks.

Here are two examples of using LZEXE on programs which I like to have available on a ramdisk. With a copy of 4DOS88.EXE on a ramdisk, I can drop to DOS and stay with the advantages of 4DOS. The original 4DOS88.EXE file was 65,560 bytes. LZEXE compressed this to 44,679 bytes, a saving of 32 percent. That made an extra 20K of RAM available for other utilities. As a matter of fact, a nice program for setting my Panasonic KX-P1124 printer fits in that space. Of course, the original PAN1124.EXE was 38,416 bytes and wouldn't fit. After LZEXE it was only 18,554 bytes, a saving of 52 percent, and fits nicely in the space available.

Full disks can be a nuisance. For example, when I upgraded to DOS 3.3, the larger DOS files left less room for the utilities which I like to have on my boot disk. By using LZEXE on several programs, my boot disk went

1,001 Uses for PCjrs

says, "I use it for personal letters, games, organizing my chaotic life and managing my personal finances. I will buy a modem and look into the world of the BBS when I can afford it of course, but until then I am aquiver with anticipation. I use it to design forms and display graphic designs. I try different CAD programs, LogiCadd and Generic Cadd. I wish the Tandy 16 color modification were used in more software."

Some of the other uses for our readers' PCjrs are: homework and school projects, personal finances, bowling scores, education, checking account balancing, stock market tracking, tax preparation, early childhood learning, money management, ham radio, minutes of organization meetings, diabetic diet management, novel writing, remedial study, group presentations, doctoral thesis writing, recipes, birthday and anniversary reminders, video titling, banner making, comic book inventory, programming, bible study, research, and ....well, you get the idea.

To sum it all up, Lino Magliocco, of Shelton, Connecticut, said, "It is a wonderful all-around personal management tool. It can be simultaneously useful, helpful, educational and enjoyable. It can also be frustrating, but isn't everything else at one time or other?"

from only 2,048 bytes free to 54,272 bytes free, and I have room to add a few more utilities.

Similarly, the disk with junior WordPerfect, which I use for writing these articles and my personal letters, was nearly full. There were only 4,096 bytes free. After using LZEXE on four files, the free space increased to 48,128 bytes. That makes room for a few more macros or addresses.

Less important, but still convenient, is the space I saved on a disk with a collection of games. I'm not a game player, but when kids come over it's fun to have something they like. I didn't want to ARC or ZIP these games because then they are not readily available, and I didn't want them on lots of disks filling my disk box since they aren't for me. After using LZEXE the free space on the disk increased from 23,552 bytes to 145,408 bytes. There is now room for a couple more games on this disk, at least if they are compressed.

Here is a list of some other files which I have compressed with LZEXE. The sizes, in bytes, of the original and compressed files are shown within the parentheses. The percent disk space saved is also shown.
XRTEE.EXE 2.00E (43,932 to 27,268) 38%
ROULETTE.EXE (64,256 to 34,008) 47%
MARKET.EXE (76,800 to 38,831) 49%
MFB.EXE (156,592 to 74,753) 52%
3BY5.EXE (96,128 to 39,868) 59%

Smaller files, in the 5,000 to 15,000 byte range, can also be compressed, but the savings is typically only 25 to 30 percent.

COMPRESSING .COM FILES

LZEXE only works on files with the EXE extension. This might appear to limit it's usefulness, but a companion program, COMTOEXE.EXE, converts files with the COM extension to the EXE format. LZEXE can then compress these converted file just as easily as other EXE files.

A note on a BBS suggested that even text files can be compressed with LZEXE. The trick is to first convert the text file into a self displaying COM file. One shareware program which does this is TXT2COM.COM by Keith P. Graham. The COM file can then be converted to an EXE file with COMTOEXE and compressed with LZEXE. The resulting file is typically only half a big as the original text

file. Since this is an executable file, you don't use the DOS TYPE command to read it. You simply call it like any other program. The text is displayed a page at a time, and you can scroll forward and back using the Page Up/Page Down or Up Arrow and Down Arrow keys.

As part of making room on my DOS 3.3 boot disk, I converted and compressed some of the external DOS programs. CHKDSK.COM, originally 9,819 bytes became CHKDSK.EXE, 6,459 bytes, a 34 percent saving. FORMAT.COM, originally 11,671 bytes was converted and compressed to FORMAT.EXE, 7,259 bytes, a 38 percent savings. Both programs worked perfectly after compression.

LIMITATIONS OF LZEXE

There are several limitations to what LZEXE can do. First, it cannot be used on the very small number of files such as COMMAND.COM from DOS which have requirements for code at specific offsets. Compressing may alter this and cause problems.

Secondly, EXE files which use internal overlays will not compress successfully. LZEXE warns when possible overlays are detected, so you know if there might be a problem. In many cases the "apparent overlays" are small and probably not real. In my experience, if the "apparent overlays" are indicated to total less than 1000 "octets" or bytes, the file will probably compress successfully.

Of course, that reveals another minor difficulty with LZEXE. The comments and warnings are in French. However, the documentation has all been translated into English, and there is an English language shell program in the package if you really want to avoid going international.

In the case of programs such as PROCOMM, Quicken, and WordPerfect which make extensive use of internal overlays, LZEXE fails. A compressed file can be created, but it will not run properly. A sure indication that a failure will occur is if the compressed file appears to yield a 75 percent or greater saving in disk space. This is because the overlays have been lost which will prevent the compressed file from running normally.

Finally, some programs come with install programs which modify the code of the parent EXE file to customize colors or other features. These will not work on the compressed EXE file because they change bytes at preset offsets. If you need an external install program to change a parameter in your program, you will have to make the change on a copy of the original EXE file and repeat the compression with LZEXE.

It's Not Only AS EASY AS.....

If you need a powerful, easy-to-use spreadsheet that works just like you know what Lotus software, you need the shareware program As Easy As (Disk #86 in the jr Newsletter Software Store). It's not only "as easy as", it's just about as good as. And you can try it for $5.95!

PCjr Monitor Can Interfere With Disk Drive Performance

Beginning PCjr users may not know that the PCjr color monitor should not be placed directly on top of your PCjr without providing some kind of shielding in between.

The monitor can cause frequent "read" and "write" errors when disk drives are positioned directly below it. IBM recommended placing the monitor in front of you, with the PCjr off to one side. But what if you don't have enough space for that on your desk?

Several layers of aluminum foil sandwiched between cardboard will do the trick nicely. Place the sandwiched foil under the monitor and on top of the PCjr. Place the shield so that it doesn't obstruct the vents in the back of your PCjr.

BASIC Programs Can Be Fixed

If you are tormented by a BASIC program that gives you an "Illegal function call in Line XX", you might be able to run that program by simply eliminating the line referred to in the message.

Try LISTing the line, see what it says (better yet, make a note of it) and then eliminate it by typing the line number and pressing Enter.

If the line was simply making a command that cartridge BASIC can't handle, the rest of the program may run just fine with that line eliminated.

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)

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)

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)

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)

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

GAMES III. Kingdom of Kroz, an award-winning arcade action game. Go-Moku, a challenging Japanese strategy game, also known as Pente. Zigsaw, the first really good on screen simulation of a jigsaw puzzle. All three on one disk. 256K Reviewed 12/89 (Disk #101)

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

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

Questions and Answers

(Continued from page 4)

just a hard drive for the jr.

Fifth, and most important, Ed Strauss has been working on an adapter bus to allow the connection of STANDARD PC XT cards to the jr. This would probably mean memory, modem, disk controller, and... well you name it cards, all able to be used by the jr. Let's hope it goes well!

Q. When I try to boot up, sometimes as the external drive is tested there is a horrible sound and the machine fails the recognition procedure and I have to try again. If there happens to be no raucous noise all is well. This doesn't happen all the time and switching drives physically makes no difference.
R. Moersch, Holland, MI

A. This is more information on the same question which we covered previously. Some other indications are that there will be erratic error messages during the POST (Power On Self-Test), failure to complete the boot, noisy drive(s) or labelled drive errors. The added possibility for this problem is that the internal power supply is just at the top edge of its capacity. It is also conceivable that the 115 v.ac wall receptacle is being loaded a bit too much and there is a drop there. If you have a lamp, printer, modem, external drive and the jr plugged into one wall duplex, and you live near the end of the electric company's power line, you might be surprised at how far below the desired 117 volts you might actually get at this outlet! Try sharing the load by plugging some or all of the peripherals into a different wall outlet.

There were two internal power supplies made for the jr. The simplest way to identify which is in yours is to check the length; they were made either 7" or 11" long, front to back. The 7" was the original and the 11" has slightly more capacity and really does give less trouble. Both can operate continuously without a glitch while too hot to hold a finger on but would you really want yours running that way? The black "bricks" were made to match the internal power supplies.

This again brings up the subject of memory expansion, and the extra demand on the power supply. New memory chips, as used in the jrHotshot for example, use so little current that even at 512k this card requires less power than a single original 128k sidecar! Similar power savings are made using replacement disk drive controller cards, etc. If you have a keyboard cable connected, do as we have done, pull the infra-red card out; every older chip you get out can help. This is not a problem solely of the jr, either. In other computer journals we regularly read about the power supplies of clone computers turning to smoke!

A Guide to Computer Terms

(Part III)

Piping The redirection of the standard output of one program to the standard input of another program, indicated with the vertical bar character (|).

Pixel Short for a picture element, the smallest unit of area that can be controlled on a screen, a printer, or some other display device.

Port A channel through which a computer can send information to and receive information from an external device, such as a modem or a printer. There are generally two types of ports, parallel and serial.

Power Supply Circuitry which provides electricity in the form required by a device. Power supplies for computers generally turn standard 120 volts household alternating current into direct current at one or more lower voltages.

Print Buffer A device which sits between the computer and a printer and accepts text at high speed from the computer, storing it and sending it on to the printer at the printer's slower speed. A print buffer frees the computer to do other work while long files are printed. There are also software print buffers, which are also called print spoolers.

Processor The "brain" of a computer, the circuitry which performs data manipulations and calculations, and which controls the overall functioning of the computer. Often used interchangeably with the terms microprocessor and CPU.

Program A set of instructions to the computer designed to perform a certain task. Often used interchangeably with the term software.

Prompt. A character or string of characters displayed on the screen to indicate to the user that he should enter some response. Al;so used to describe the process of displaying a prompt.

Protocol A set of rules for transmission of data. The computers on both ends of a communications link must use the same protocol to control the flow of information.

RAM An acronym for Random Access Memory. Refers to storage locations that can be directly and rapidly accessed by the processor, and the contents of which can be changed any number of times. RAM is volatile, so its contents are retained only so long as the power to the computer remains on.

RAM disk Software which lets DOS use a portion of memory as an ultra-fast simulated diskette drive.

Software Store
More Games

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

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

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

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

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

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

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

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

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)

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 (Reviewed 5/90) (Disk #113)

Guide to Computer Terms

Read The process of getting a value or values into the processor from memory, the keyboard, a modem, or another device.

Read-only Storage from which data can be read, but to which data cannot be written, so that the contents are fixed. ROM is Read Only Memory, and diskettes can be made read-only with a write-protect tab.

Redirection A feature of DOS which allows the data read from the standard input, normally read from the keyboard, to optionally come from any file or device, and the data sent to the standard output, normally sent to the screen, to optionally go to a file or device.

Reserved words The set of nearly 200 words reserved by BASIC for its own use, which cannot be used as variable names.

Resolution The amount of detail in the image that a device is capable of creating. Usually used as a measure of quality for screen displays, to indicate how many rows and columns of pixels the screen is capable of displaying.

RF modulator Short for Radio Frequency modulator. A device which turns the standard composite video signal put out by a computer into the form that a television uses, so that computer output can be displayed on a television.

RGB Video Short for Red-Green-Blue video. Refers to systems which transmit the color information necessary to create a video picture on three separate signals, one for each of these primary colors of light.

ROM An acronym for Read Only Memory. Refers to storage locations which can be read directly and rapidly by the processor, the contents of which are fixed and cannot be changed by the processor.

Routine A series of program lines which work together to produce a specific result. May be an entire program, or a portion of a program which performs a specific task.

RS-232C A standard specification for information interchange through a serial port. Completely describes proper electrical connection and voltage. PCjrs have this standard port, which makes them compatible with serial devices, such as modems, made for PCs.

Run Cause the computer to carry out the actions specified by the instructions in a program. Synonymous with execute.

Scrolling Refers to moving the contents of the entire screen up one line so that there is room at the bottom for a new line to be added.

Sector The basic unit of storage on a diskette. The sector size that DOS uses is 512 bytes per sector, with a total of 720 sectors on each diskette.

Separator A character that serves to set apart parameters on command lines. Separators used by DOS include spaces, commas, tabs, and semicolons, while BASIC generally uses commas.

Serial A means of exchanging data in which the 8 bits of each byte transmitted are sent one at a time, in sequential order. Contrast with parallel.

Single precision A type of number in BASIC, accurate to six decimal digits in the approximate range $1.0E - 38$ to $1.0E +38$. Requires four bytes of storage per number. Contrast with integer and double precision.

Software A set of instructions to the computer designed to perform a specific task. Often used interchangeably with the term program.

Spooler Software which queues up tasks for a slow device and sends them to the device at the speed it can handle, thereby allowing the user to perform other work. Generally used with microcomputers to refer to a print spooler, which takes care of printing out long files by using small slices of the computer's time while the user does other work.

Standard input The device to which programs that run under DOS normally look to read data, typically the keyboard. The user may optionally redirect the standard input so that the program will read from any file or device attached to the PCjr, rather than from the keyboard.

Standard output The device to which programs that run under DOS normally send data to be written, typically the display screen. The user may optionally redirect the standard output so that a program will write to any file or device attached to the PCjr. rather than to the screen.

Start bit A bit, used for synchronization purposes, that precedes each byte transmitted asynchronously through a serial port. Automatically added at the source end and stripped at the destination end by hardware.

Statement A BASIC keyword which performs a task.

Stop Bit A bit, used for synchronization purposes, that

follows each byte transmitted asynchronously through a serial port. One or more stop bits may be used, and both end s of any communications link must use the same number of stop bits. The addition of stop bits at the source and the removal of them at the destination are performed automatically by hardware.

Store The process of placing a value in memory or on mass storage device for later retrieval.

String A sequence of one or more character. In BASIC, string refers to a type of constant or variable representing anywhere from 0 to 255 characters in a given order.

Subroutine A series of program lines, designed to perform a specific function, which can be invoked from many places in the program without the need to duplicate the same series of program lines in each place that the function is to be performed. This is accomplished by branching to the subroutine code each time that the specific function is required (known as calling the subroutine), and then returning to the main body of the program aft er the subroutine has completed its function.

Switch An optional two-character string entered on a DOS command line which, if present, instructs the command to perform in a certain way. Switches consists of a single character preceded by a slash (/).

Synchronous Refers to events which occur on a regular basis, usually used to describe the manner in which characters are transmitted between computers. Many large computers communicate synchronously, but microcomputer-to-microcomputer communications are almost always performed asynchronously.

System unit The box containing the processor and primary circuitry of the PCjr.

Track A circular magnetic storage area on a diskette. DOS diskettes on the PCjr have 9 sectors, storing 512 bytes each, on each track, allowing each track to hold 4.5K bytes. There are 40 concentric tracks on each side of a diskette, so there are 80 tracks of 4.5K each, for a total of 360K bytes of storage per diskette.

Variable A named storage location in BASIC which can hold any one range of values, and the contents of which can be changed any number of times. Contrast with constant.

VDT An acronym for Video Display Terminal. Any screen and keyboard (plus required support circuitry and a cabinet used for computer input and output.

VDU An acronym for Video Display Unit. Any screen and keyboard (plus required support circuitry and a cabinet used for computer input and output.

Volatile In computer applications, means not permanent.

Used in particular to refer to the memory retention characteristics of RAM memory, which loses its contents as soon as power is turned off.

Write The process of sending a value or values from the processor to memory, a printer, a modem, or another device for storage or display.

Write-enable notch A cutout notch on the side of a diskette which must be present before a drive will allow the diskette to be written on. Also called the write-protect notch.

Write-protect tab Adhesive paper or foil designed to fit over the write-enable notch on a diskette so that the diskette cannot be written on, thereby protecting the contents of that diskette form both intentional and accidental erasure.

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, screenblanker, print spooler, and more. 128K. (Disk # 52)

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

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 V.5.0 Patches to fix software that ordinarily won't run on PCjrs. V.5.0 adds patches for Prodigy, Telix V.3x, Bard's Tale II, Maniac Mansion, Designasaurus, California Games, and F-19. Also patches for Flight Simulator V.3.0, Arctic Fox, Managing Your Money V.3, Autocad, King's Quest IV (early 512K version), KQ II (PC ver), Turbo C, Quick BASIC V3-4, Advanced Flight Trainer, Double DOS, Bard's Tale I, Turbo BASIC, and BASICA. (Disk #56)

jr Newsletter Software Store

The software in the jrNewsletter 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.

Software Listings In This Issue:
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Educational - 13
Systems Utilities - 15
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Software Store
New Releases
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* NEW * PCJR MUSIC SAMPLER. A collection of classical music "concerts" performed with great precision to produce the highest quality sound you've ever heard on your PCjr. Disk includes a separate program to activate Junior's sound generator before running game software to get highest quality sound. 128K ok (Disk #119)

* NEW * BEST OF JR NEWSLETTER IV. For your handy reference, disk has the most informative articles, columns, and tips published in Jr Newsletter from June 1989 through May 1990. Easy to use search utilities provide quick ways to find any subject of interest. 128K ok (Disk #118)

* NEW * DUOTRIS. Two great Tetris-like games on one disk. Similar to the popular Russian strategy game, both of the versions add new twists of their own. Written in Turbo Pascal, both are high quality games. 128K ok (Reviewed 8/90) (Disk #116)

* NEW VERSION * WORDCRAZE. Create your own word search puzzles and print them out for friends and family. Just make the list of words you want in the puzzle and it's printed out for you. Or try Quotefall, a unique type of scrambled word puzzle. And then there's a high-level version of Hangman. Just try escaping from the noose in this one! 256K (Update review 8/90) (Disk #87)
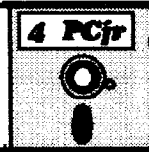
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84 FILE EXPRESS, DISK 2
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99 PCJR AUTOSETUP
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102 4DOS V2.21
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104 PKZIP V.1.02
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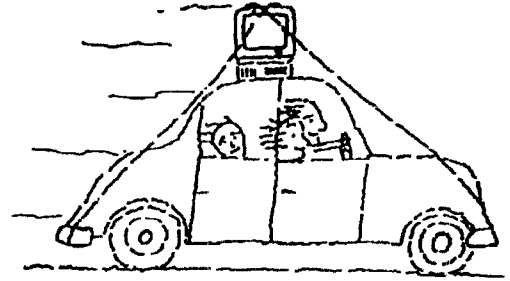Address _____

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