

Jr Newsletter

New "Combo Cartridge" Adds Features to PCjrs

Fast boot-up, speedy screen writes, and an effective keyboard buffer are now available in a single cartridge that plugs into the front of your PCjr.

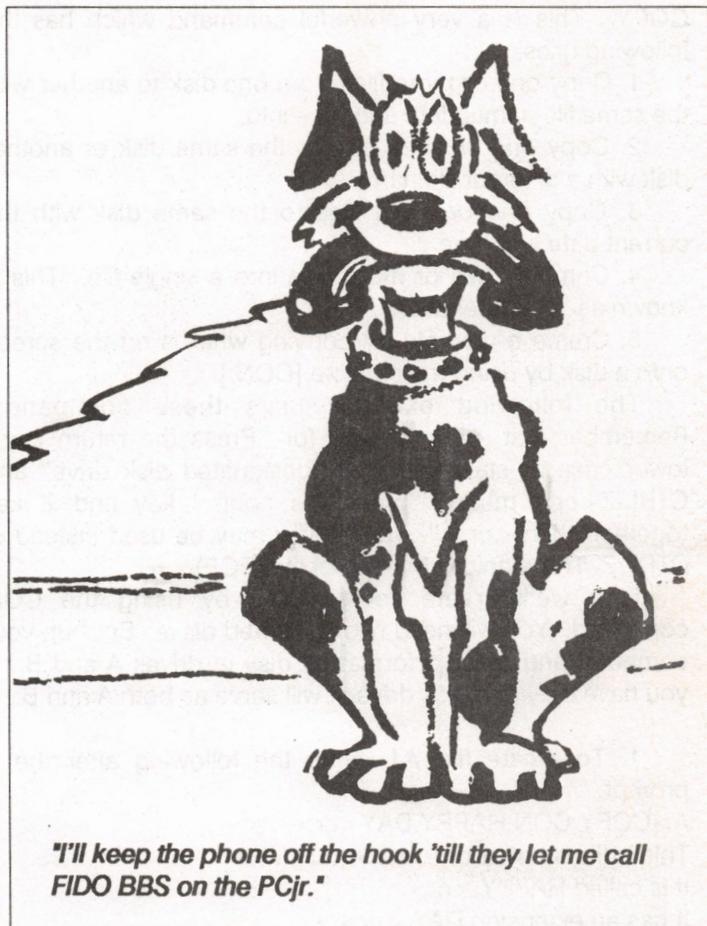
Offered by PC Enterprises, the Combo Cartridge now contains the elements of three separate cartridges, the Quicksilver Cartridge, Keyboard Buffer Cartridge and the jrVideo Cartridge.

Previously PC Enterprises sold a Combo Cartridge that contained the Keyboard Buffer and jrVideo. It has added the Quicksilver functions in the new version -- Combo Cartridge V. 2.0.

The Quicksilver feature replaces your PCjr's memory test with a faster one and also cancels the beep you hear on boot-up. The result is much faster starting. No more drumming your fingers while you watch those KB numbers climb up to your total memory figure.

The Quicksilver feature also modifies the keyboard bios, eliminating one of your PCjr's incompatibilities with some software written for PCs.

Pat Calabria, chief engineer for PC Enterprises, says the cartridge is compatible with all hardware speed-up devices including the V20, Nickel Express, and a prototype turbo board that PC Enterprises is currently developing. He says this new board will enable PCjrs to run at a top clock speed of



9.54MHz.

The jrVideo feature effectively speeds up the computing you do on your PCjr by accelerating the writing of information to the screen. Processing speed is not the only factor in computing speed. You need to have the results of the processing on your screen before you can act. PCjrs are somewhat slower than their bigger brothers in this respect. Which is why the new screen writing routines provided by jrVideo are effective in boosting the overall speed of your PCjr.

Several other features are provided by jrVideo, including the ability to boot up in "PC Compatible mode," a routine designed especially for faster text display with DOS, and a graphics mode which allocates more memory to your video buffer.

The Keyboard Buffer solves the annoying problem

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PCjr Lives!

DOS's Copy Command Does Many Jobs

By Doug and Betty Bullman

This article is concerned with the internal command **COPY**. This is a very powerful command which has the following uses.

1. Copy one or more files from one disk to another with the same file name, date and time info.
2. Copy one or more files to the same disk or another disk with a different file name.
3. Copy one or more files to the same disk with the current date and time.
4. Combine two or more files into a single file. This is known as "concatenation".
5. Create a new file by copying what is on the screen onto a disk by using the console [CON:].

The following exercise uses these commands. Remember that <cr> stands for "Press the return key," lower case d: stands for the "designated disk drive" and CTRL-Z<cr> means "press the control key and Z key together, then <cr>." The F6 key may be used instead of CTRL-Z. This signifies the end of file (EOF).

First we'll create several files by using the CON command. You will need two formatted disks. Boot up your computer and place a formatted disk in drives A and B. If you have only one disk drive, it will serve as both A and B.

1. To create file #1, enter the following after the A prompt:

```
A>COPY CON:HAPPY.DAY<cr>
```

This is file number one.<cr>

It is called HAPPY.<cr>

It has an extension DAY.<cr>

CTRL-Z or F6<cr>. The screen should indicate "1 file(s) copied".

2. Create file #2:

```
A>COPY CON:LUCKY.DAY<cr>
```

This is file number two.<cr>

Its name is LUCKY.<cr>

It has an extension DAY.<cr>

CTRL-Z or F6<cr>. Once again the screen should indicate "1 file(s) copied."

3. Now we'll make a copy of our first file and change its name.

```
A>COPY HAPPY.DAY HAPPY.TXT<cr>
```

4. Create a fourth file by combining two files:

```
A>COPY HAPPY.DAY+LUCKY.DAY LUCKY.TXT<cr>
```

5. Run a directory which should indicate four files.

```
A>DIR<cr>
```

You can create as many files as you wish by using COPY CON:

6. Copy files to the disk in drive B.

```
A>COPY HAPPY.DAY B:<cr>
```

```
A>COPY LUCKY.DAY B:<cr>
```

```
A>COPY HAPPY.TXT B:<cr>
```

```
A>COPY LUCKY.TXT B:<cr>
```

7. Copy a file to the disk in drive B: while also changing its name.

```
A>COPY LUCKY.TXT B:FOUR.TXT<cr>
```

8. Now run a directory of the disk in drive B:

```
A>DIR B:
```

The directory should indicate five files:

HAPPY.DAY, LUCKY.DAY, HAPPY.TXT, LUCKY.TXT, FOUR.TXT.

9. You might want to take a look at your files. Remember the TYPE command?

```
A>TYPE HAPPY.DAY
```

Follow the same procedure with the other file names.

(The above article was originally published in the Las Vegas PC Users Group Newsletter.)

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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

ECHO Put the .DOC disk in drive B and <Enter>
PAUSE <Enter> (This allows you to swap disks)
(Now your batch file should load Writing Assistant from A:)

At the very end of this same AUTOEXEC.BAT file, if it now automatically loads the Writing Assistant, add this:
SET PATH=A: <Enter>

Now the DOS PATH command tells the program to start a search on drive B: for anything it needs to read or write. If it isn't there, try drive C: and if not there, go to drive A: At the end of everything, when you quit the Writing Assistant, the second PATH command sets things back to the standard environment.

Q. How can I get DOS to override applications that require a disk to be in a certain drive (like putting the spell checker for Writing Assistant onto a ramdisk?)

A. This is a problem which a few software publishers have not yet come to grips with. The worst part of it is that the cure is so simple. They should write the installation parts of the instruction manual so that mere mortals can not only read it, but also understand it!

Any help we offer will, of necessity be generic. We hope more of our readers who are beginners will gain from this answer. First, be sure to read the install section of any manual very carefully. If there are any drive options for the placement of data or programs files, this is where you'll usually find them. Follow the instructions blindly. Later, as you become more familiar with how this program does its thing, you might want to make changes. If this fails, and it sometimes does, you might try to re-direct the way the program does its searching routines with the DOS environment. Here's one way (there are others) that could turn the trick: Make a ramdisk large enough to hold the contents of the Speller. Edit your present AUTOEXEC.BAT file to put the following lines in just before it loads the Writing Assistant. Do not add or delete any spaces but copy exactly as shown below. (Do not type what is in parenthesis and remember "<Enter>" means to press the Enter key only!):

```
ECHO Put the Speller disk in drive B and <Enter>  
PAUSE <Enter> (This gives you a chance to put the  
disk in)  
COPY B:*. * C: <Enter>  
SET PATH=B;;C;;A: <Enter>  
ECHO Now take the Speller Disk out of drive B and  
<Enter>
```

Q. Is it worth investing in a joystick or mouse?

A. Worth it? Let's let you make up your own mind. Do you have or will you be acquiring programs which can use or demand the use of a mouse? Do you write any programs yourself in any language which would be easier to use by the use of a mouse or joystick? We are not limiting this idea only to games, either. Word processors and programs which give the user choices are often enhanced if the cursor or mouse pointer is used to make the selection. Skimming quickly around in text, spreadsheet, or database programs alone may make either device worthwhile. Almost all design, paint and drawing programs need a mouse or joystick to be practicable. If a mouse seems expensive, a joystick and the program Poor Man's Mouse on disk # 52 from the Software Store will give you a semi-mouse kind of operation for the cursor with the installation of a joystick. This can give you an idea of the usefulness of such a device with some exploration on your own with the lesser cost of the joystick invested. We must tell you, however, that this setup controls the cursor, and not a mouse pointer as required by some commercial and Shareware programs.

Q. Why does my system crash whenever I set BUFFERS equal to any number larger than 4? Is it related to my expansion board? (Upgraded Tecmar jr. Captain.)

A. It should not relate in any way to the Tecmar board, but could be software. Use a proper DOS booting diskette without ANY other CONFIG.SYS or AUTOEXEC.BAT files as a trial. Remember, no memory expansion or additional

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Questions and Answers

(Continued from page 3.)

drives recognition. Put a short CONFIG.SYS file with ONLY the BUFFERS=n statement and see if it still crashes. If it does, you probably have a faulty boot track on this, and one or more of your diskette(s). If a replacement booter still crashes, you have a hardware fault. If it does not crash, add the necessary files one at a time, testing after each addition, to bring your system up to full capability. Wherever it goes bonkers is the problem software. Get rid of it.

Q. Can I load a UNIX-like operating system (MINIX) in the jr so I can use all my memory? (Tecmar 640k)

A. With the Tecmar, you already can access all the memory as this is a function of the programming of the configuration and applications software. You can check with the MINIX supplier to see if the operating system is compatible with the configuration of the jr. (We doubt full implementation is possible.)

Q. I am interested in replacing my keyboard with a Keytronics look-alike. Would like to know if any clone keyboard will work and if so, with what adapter cable.

A. PC Enterprises notes in their catalog that there is more than meets the eye regarding keyboard replacements. Other information we have indicates that some of the clone keyboards are not fully compatible with add-ons such as mice, numeric key-pads, light pens etc. A few must actually plug into the light pen receptacle as well as the keyboard receptacle. The scan codes from the keyboard must either match the BIOS of the jr or software must adapt or change the jr's system of reading the scan codes to be compatible. Our advertisers will recommend adapter cables. They will, in addition, usually include cables for the selection of keyboards they offer.

Q. I have heard much praise about the Dvorak keys layout and have converted my keyboard to this more efficient layout using Superkey and a screwdriver. I would like to know if there is any software available to teach the Dvorak system.

A. If you have converted both the key layout and the key re-definition, any typing tutor program should work. You won't need the kind of software which graphically presents the keyboard, though. (It would really get confusing!) Some years ago, we heard quite a bit about the Dvorak system, too. Recent studies and comparative tests seem to show that key layout is not as important as was implied by the first blast of press releases. Any measurable efficiency or speed improvement using the Dvorak system turns out to be negligible, especially with the advent of light touch energized keyboards. This at the cost of training or re-training one to

the unfamiliar key positions and then not able to be efficient on standard keyboards. Are you sure you want to bother?

Q. A friend gave me a Leading Edge Mono monitor which is TTL. Is there any way possible to make this compatible with the jr?

A. TTL (Transistor-Transistor Logic) direct drive is the standard output from the jr main unit. I have seen many B&W monitors connected to jrs. You will need the jr adapter cable from the "T" receptacle to connect to the cable from the monitor. If wiring changes need to be made, here is the pin-out from the jr "T" receptacle for your technician to use:

A	- Vert sync B1	+ Vert sync
A2	Logic GND B2	Logic GND
A3	- Horiz sync B3	+ Horiz sync
A4	Blu B4	nc
A5	Red B5	nc
A6	Intensity B6	nc
A7	Grn B7	nc
A8	Audio B8	Shield GND

The TTL drive levels are standard. Audio output is 1 V. peak to peak, biased at 0 V. (2 V. swing into 10 k ohm or greater impedance)

Q. When I ordered my Racore Drive II the salesman told me that the controller could support two floppy drives and two hard disks or four floppy drives. (A) Is this true and (B) if so, how do I connect a third drive to my controller?

A. (A) Yes, it is true. (B) Order a cable from one of our advertisers and specify that it is to connect three drives. Be sure to tell them whether it is for an additional floppy or a hard disk. The floppy cable will simply be a flat ribbon with another disk drive connector attached. A hard disk cable will be a separate and different type of cable because of the connectors. Check with them to see if you need updated software to recognize whichever this third drive is. You can add 5.25"; 3.5", high density 1.2 MB, as well as hard drives to your PCjr if you wish.

Q. I will be moving to Germany in two years and would like to know if the jr can be converted to operate on 50 cycle vs. the U.S. 60 cycle. (Ed. note. 50 Hz means cycles - per-second and is usually linked with 220 volts A.C. which is standard over most of the rest of the world.)

A. We have heard of just "Plugging it in..." There are some things you should consider, however. Unless your monitor is marked 50-60 Hz it may be a tricky part of the problem. Also, the output from the "little black brick" is labelled 60 Hz and the output which feeds the System Unit is: #1 17 V.A.C, #2 GND, #3 17 V.A.C, total load; 0.65 Amps. The GND must be exactly half-way between the two

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Ease the Strain of Computing: Low Cost Gadgets That Help

By Christine Rivera

Many times it's the little, useful devices that make computing more pleasurable and productive. Below are descriptions of a few relatively inexpensive items (some of them not directly computer-related) that I've purchased and found to be quite useful.

Getting Rid of a Pain in the Neck

When I first purchased my system, I found I was getting a sore neck. Based on my office experience, I knew I needed a copy holder, so I purchased one from Visible Computer Supply for about \$40. You can buy less expensive stands that sit on the desk, but I opted for one with a movable arm that clamps onto the desk (without screws) and it's been a pleasure to use. Make sure you buy one that's **non-magnetic**, so it doesn't play havoc with your data. My monitor has a built-in swivel base, and I found that placing it on the desk, rather than on the system unit, also relieved neck strain (the screen is at eye level, so I don't have to keep looking up). If your monitor doesn't have a built-in swivel base, you can purchase one for as little as \$30.

Ending Your Back Blues

Sitting at a computer all day can put a strain on your back. When I found myself uncomfortable, I shopped for a new chair. I wanted to try out one of those kneeling chairs that take the weight off your back and claim to improve posture as well. Since I wasn't sure whether I'd like a kneeling chair, I didn't want to spend a lot of money. I bought one by mail that you assemble yourself with a screwdriver from Hanover Square for about \$50. I've been quite happy with it - I can sit for long stretches without my back bothering me. At times my knees need a rest, but that's OK, because it forces me to get up and walk around every once in a while. Doing that gives your eyes a break, as well as the rest of your body.

Easing Telephone Shoulder

Those of you who spend a lot of time on the telephone know what I mean by telephone shoulder. Trying to keep your hands free, you hunch up one shoulder to hold the phone, which gets to be very uncomfortable. I spend most of my time training in the classroom or at clients' offices, so when I'm at my computer I'm almost always on the phone returning calls and making appointments. I saw an inexpensive (\$39.95) telephone headset in a mail order

catalog and decided to try it out.

What a difference it's made! This item turned out to be an incredible productivity booster - now my hands are free and I can even walk a few feet from my desk while on the phone. The sound quality is quite good. Unlike those raspy speakerphones, a headset sounds just like a regular telephone receiver. After a couple of years of use, my cheap headset broke in two, but that's OK. I'd gotten my use out of it, and I purchased a more expensive model from Global Computer Supplies, now that I know the value of having one.

Extend Your Phone's Usefulness

If you use a modem, you're not forced to place your computer near the phone. Just pick up an inexpensive telephone jack extension; they cost anywhere from \$8-\$15 depending on the length you need. Radio Shack has a wide assortment, some with multiple jacks so you can hook up several devices to the same phone line. by the way, if you can afford it, a second phone is a wonderful thing to have. For about \$8 you can buy an adapter that splits a standard two line jack into three separate jacks, one for each line, and a third for both lines combined (so you can plug in a two line phone or answering machine). While your modem is downloading files on one line you can make or receive calls on the other.

If you don't have an answering machine, think about getting one (inexpensive machines cost less than \$100). Besides taking messages while you're away, they can help you screen messages while you're busy working. DAK Industries has some nice phones, answering machines, and combination phone/answering units at good prices.

Protecting Your Equipment

A surge protector is a must. Not only does it protect your equipment against damage caused by spikes and surges in the power line, but it can make powering up your system a breeze. I place mine on the desk, rather than the floor, and leave my computer and printer switched on. I then use the surge protector's on/off switch to power up the entire system at once. Not as elegant as a Masterpiece, but much better than fumbling for multiple switches each time I want to power up my system.

By the way, many novices are fooled by inexpensive "power strips," thinking they are the same as surge protectors. They are not. Power strips provide multiple outlets, and that is all. They **do not** provide any protection against surges and spikes. Make sure that you purchase a real surge protector - the box should say "surge protector" or "surge suppressor," and will usually specify that it protects against harmful voltage increases. Typical prices for decent surge protectors are in the \$50-\$100 range.

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Ease The Strain of Computing

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Eliminating Printer Frustration

Dealing with printers is enough of a hassle; having a printer on your desk with cables and paper all over can be a real waste of time, since each time you print you have to make sure the paper doesn't tear, get caught on the cables, etc. If you're budget conscious, try an inexpensive stand (\$20-\$30) that sits on your desk and allows room for the paper to feed up from underneath. Stands that include paper output baskets are the best. I decided to get the printer off my desk entirely and purchased a full sized printer stand from Visible Computer Supply that I assembled myself with a screwdriver.

This also turned out to be a best buy: for about \$89 I got a stand with casters (I like to be able to move things around easily), a basket in the front for my paper, and a basket in the back for printouts. It made using my dot matrix printer a snap. When I upgraded to a laser printer, I just placed it on the stand (it's very sturdy, holding up to 200 pounds) and removed the paper output basket, since the laser printer has its own paper output tray.

Easy Access To Manuals

I got tired of my computer manuals and books taking up space on my desk, so I found some inexpensive shelves from Barnes & Noble. About \$40 apiece, these are unfinished pine bookshelves (the open kind, with window-like sides and back) that open up to provide three shelves each. You can stack them, so I purchased four of them to create two full height units. You can varnish the shelves yourself, if you like. I've left mine unfinished, and they look just fine.

Where to Buy These Items

I suggest that you phone for catalogs first, since what works for me might not be suitable for you. You can browse through the catalogs and see what these things look like before you order them. Below are phone numbers for the companies mentioned in this article.

Visible Computer Supply, 3626 Stern Avenue, St. Charles, IL 60174 (computer supplies and furniture). Orders: (800) 323-0628.

Hanover Square, Hanover, PA 17333 (computer chair). Orders: (800) 621-5800, Operator #10.

Global Computer Supplies, 45 So. Service Road, Dept. 81, Plainview, NY 11803 (computer supplies and furniture). Customer Service: (800) 227-1246, Orders: (800) 845-6225.

DAK Industries, 8200 Remmet Avenue, Canoga Park, CA 91304 (electronics, phones, answering machines). General Information: (800) 423-2866, Technical Information: (800) 272-3200, Orders: (800) 325-0800

Barnes & Noble Bookstores, 125 Fifth Avenue, New York, NY 10011 (books, bookends, shelving). Customer Service: (201) 440-3336.

A special tip: If you want to contact a company without paying long distance charges, call the "800" operator to get their number: (800) 555-1212. Most companies have an "800" number, even if it's for information only. The people answering the "800" line can usually steer you in the right direction and give you additional phone numbers, if necessary. That way, even if you have to pay for a long distance call, you'll at least have the correct number to start with. Happy Shopping!

*(The above article is reprinted from the
UCLA PC Users Group Newsletter.)*

Now's the time to do your Family Tree!

All the help you'll need is on FAMILY HISTORY (Disk #33). See page 22 for a full description of its features.

HOT SUMMER SPECIALS

IBM PCjr internal Modem with Software	\$ 29
PCjr Traveller Kit - Carrying case & TV Adaptor	\$ 39
New IBM PCjr Computers	\$350

MEMORY & DISK DRIVE UPGRADES

512k jrHOTSHOT Internal Memory Expansion	Call
512k jrHOTSHOT with Clock & 2nd Floppy Disk Drive	Call
512k jrHOTSHOT with Clock & 2nd Drive Control; without 2nd Floppy Drive	Call
2nd Disk Drive Add-On with Disk Drive (no memory)	\$198
2nd Disk Drive Add-On Semi-Kit (you supply drive)	\$ 45
2nd Disk Drive with Case - for Semi-Kit	\$155
RACORE DRIVE II - with DMA and 512K Memory	\$509
20 Megabyte Hard Drive (complete system add on)	\$700
FREE: RAM Disk and Utilities with Memory Upgrades	
ROM Cartridge Clock	\$ 43

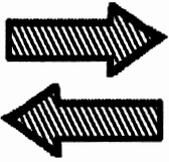
ACCESSORIES

IBM PCjr JOYSTICK (hard to find)	\$ 29
Keytronic Numeric Keypad (originally over \$100)	\$ 39
Adapter Cable for Serial Devices	\$ 15
IBM Power Attachment	\$ 55
Parallel Printer Port	\$79-with clock \$ 85
IBM PCjr Keyboard Cord	\$ 15

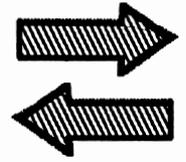
I Love My PCjr - Bumper Sticker \$2 (No Shipping Charge)
SOFTWARE/BOOKS/PRINTERS/REPAIR/USED EQUIPMENT
No Credit Cards - \$5 Minimum Shipping - Add \$2.75 for COD
Many More PCjr Products Available - Write/Call for List

COMPUTER RESET

P.O. BOX 461782, Garland, Texas, 75046-1782
Call Voice Line (214)276-8072
Open BBS (214) 272-7920 - 300, 1200, & 2400, 8-1-N



Reader Feedback



Autoboot Game Cartridge, Compatibility Tips Noted

I was doing a lot of thinking lately and wondered if this might be a solution to games that autoboot never allowing the Jr user a chance to get his extra memory recognized. Is it possible to place a program like Larry NewComb's jrconfig.sys and the many other helpful patches like int9jr on to a cartridge so that the cartridge is read first, then goes right to the program as if nothing occurred in between.

A word of warning about incompatibility, the game **Decathlon** by Microsoft as you know is incompatible with the PCjr. When I tried to look at the files on the disk using DIR I got a disk reading error that was permanent. I believe the software caused a misalignment of the disk drive. I read that you had a similar experience, but you did not mention the software. The game **Ninja** by Masteronic is compatible with my Racore Drive II provided I use my own DOS disk instead of their self-booting. The game **Gremlins** by Atarisoft is by my definition compatible with the PCjr. The game loads well and plays well on my system, only the drive never stops spinning the whole time that the game is playing, and even worse the game is boring as well. The **Maxx Out Series** of games produced by Epyx appear to be very compatible with the PCjr. They allow you to calibrate your joysticks (I have lots of problems using the joysticks with many games). The games use your DOS. The worst part is that the games only use four colors, and the screens on the back of the box are from other computers. The game **Death Sword** in the Maxx Out Series in particular is very good (a Conan the Barbarian type game where you can cut your opponents heads off with your sword).

Alan D. Peters, Cleveland, Ohio

Monitor Interference and Lockup Problems Solved

I'm writing about Marvin Sehestedt's letter to the "Reader Feedback" section in the March 1988 issue.

I also had problems with backup copies that may not be usable. When I called IBM they told me that sometimes this problem exists when the monitor sits on top of the CPU. Their fix is to raise the monitor by lowering its wire stand. This did not stop the problem. To avoid possible

interference, the manual states that the monitor should be at least 6 inches away from the disk drive. Because of space restraints, this wasn't possible. I used a sheet of aluminum between the monitor and the CPU to act as a shield. This worked and the problem has not recurred!

Another problem was lockup while using the **Writing Assistant** word processor. Field stripping the CPU and cleaning the board contacts with a pencil eraser stopped this problem.

My Jr is expanded to 640K with a Tecmar Jr Captain and Cadet, a V-20, and a 2nd disk drive. Using Keyboard Buffer and Jr Video cartridges, when booting (cold or warm) using CONFIGJR.SYS the message "boot failure" appears. After several attempts at reboot the program loads and runs fine. Maybe someone has a solution to this problem?

Keep up the good work; it's an informative newsletter.
PCjr LIVES!

John Vincent, Milford, MI

EDITOR'S NOTE: The boot failure is not caused by JRCONFIG.SYS. It is probably a disk drive adjustment problem.

Turbo C User Happy With Later Version

In reading your newsletter I find a lot of mention about Borland's Turbo C and related problems. You have talked about patches and such.

I purchased the first version 1.0 when it was first released

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JrNewsletter Welcomes Questions

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

Reader Feedback,

(Continued from page 7.)

and yes, you're right, it did not work. I did go on Compu-Serve and spent a great deal of time with them. They sent me a patch to test which I did. I let them know that it worked. They promptly sent me all new disks containing version 1.1 and it works fine.

Then last fall I received notice of the new update, namely version 2.0. I have not as yet upgraded. As far as I know, Turbo C has not been upgraded to 4.0 as your article in the June issue stated. **Turbo Pascal** is now up to 4.0.

Borland has been very good to me and incompatibilities with the Jr.

Anyway, I don't see what all the hub-hub is about a patch for Turbo C. Mine doesn't need to be patched. It came straight from Borland working fine. By the way, not only did they send me all new disks but new manuals without all the errors that were in the original manuals.

By the way, I like your newsletter. It's very informative and very helpful.

Joyce Leep, Portage, MI

EDITOR'S NOTE: Joyce is right, the patch on our PCjr Patches disk is for the earlier version which did not work on PCjrs. Borland has responded admirably my making later versions PCjr compatible.

Word Processing For Kids Author Discusses Shareware

EDITOR'S NOTE: This letter comes to you when you register a copy of Sidney Nolte's shareware. We thought you'd like to hear what one shareware author's experiences have been.

To all registered users of **Word Processing for Kids** Version 2.

You are now a registered user of the program. I sincerely hope that it is a useful program for your child or the children in your school. As a registered user, you have encouraged me to continue to produce quality educational programs for your use. You can even further help this effort by submitting your suggestions as to how it can be even more effective in helping children to learn.

The enclosed disk contains a copy of **Word Processing for Kids** version 2.1. It is an improvement over the original program **Word Processing for Kids** in that two major problems have been fixed. The first has to do with honoring the backspace key, which was not honored in the original version. The second has to do with the column mode. **WPK** version 2 is not being circulated and is available only through the author.

As you know, **WPK** uses a rather large type font, one

familiar to most children learning to write. Those with visual impairments have found the program of value in that they could see what was being entered on the screen. Therefore, I have made a version of the program especially adapted for the visually impaired. It employs a 10 column, 3 row text size, roughly four times that used in **WPK**. That version is called **WPKVI** and is available only from the author for the same fee as for **WPK**, \$10 plus \$2 for handling and mailing.

Another program offered by the author is **Junior Music Machine**, which only will operate on the PCjr with at least 128K of memory. It allows one to enter music from a sheet of music and have it played back with a visual display of the notes and their positions on the piano keyboard. It too is available for the low price of \$10 plus \$2 for handling and mailing.

A fourth program is called **Icon Maker**, which is a programmer's aid to allow for the generation of dot matrix data in the generation of graphics displays for programs. Its price is the same as the others.

I wish to express gratitude to you honest folks out there who have supported **WPK**. The support has not been overwhelming. You see, user supported programs in general aren't. It is a good idea but human nature what it is, just doesn't work. You are among the select few who have and are sincerely appreciated. The changes are made to enhance the program for you and the children who are learning from it.

Sidney D. Nolte, Dallas, TX

Reader Cites Newsletter Errors -- Some Real, Some Not So Real

In the April issue of the jr Newsletter it was stated that the PC ID Cartridge from Racore could be used to create larger documents with **Writing Assistant** 1.0 than is normally allowed. Not so! I tried this and it DID NOT work! Even with the Racore PC ID Cartridge (which can only be used with the Racore Drive II Plus) installed, **WA** 1.0 would not allow me to go one character beyond the 32K limit.

In the same issue you state that the jr has CGA graphics. Also not so! The jr has EGA style graphics! If it had CGA graphics the jr could run CGA programs but as we all know, it will run very few such programs. Furthermore, CGA graphics is limited to 4 colors, not the 16 colors the jr (or EGA) offers!

An article in the December issue told how putting **NUL** at the end of a line such as **COPY *.* C:** in your **autoexec.bat** file to suppress echoed statements to a non-existent device. I tried this but couldn't get it to work. Finally, I was told by a fellow member of CompuServe's Jr Forum that a ">" has to

(Continued on page 17.)

Racore Develops LAN System To Link Many PCjr's Together

Racore Computer Products, which recently turned over its marketing of PCjr add-ons to another company, has jumped into the educational market with what may prove to be a hot new PCjr product.

Called the LANpac jr, the system is capable of linking as many as 128 PCjr's and other computers. It is being offered to school systems across the country, many of which bought PCjr's for student computer learning.

The term LAN refers to Local Area Networking, the linking together of computers in the same corporation, school or other organization. Racore, which manufactured an extensive line of PCjr products, has in recent months concentrated its efforts on LAN products for office computers. Its LANpacII comes in 8 bit, 16 bit and PS/2 versions.

Now Racore has combined its two areas of expertise -- PCjr's and LANs.

With the LANpac jr, schools will be able to hook their PCjr's up with other computers, allowing the PCjr's to share peripherals such as hard disks and printers. From a PCjr linked up in this way a student would be able to use software written for PCs, XT's, AT's as well as PCjr's.

Controlled from a Teacher's Workstation, the system might include as many as 128 computers.

The LANpac jr provides an interface for Novell NetWare and can be purchased for 128K PCjr's or for PCjr's with memory expanded by Racore's Drive II Plus. PCjr's with 128K can be expanded to 384K or 640K with special LANpac jr options.

For more information, call Racore Computer Products (408) 374-2301.

Preserve Your Power Supply

Your PCjr power supply will give you longer service if you disconnect it when it's not in use.

IBM recommends unplugging your PCjr from the wall outlet when you finish using your computer. Unplugging eliminates the chance of an electrical surge caused by lightning or power fluctuations damaging your cherished PCjr. Even lightning strikes nearby can cause destructive surges. Disconnecting is also said to prolong the life of the power supply.

We suggest using a high quality surge protector. Plug all of your computing components (monitor, printer, modem, etc.) into this and simply turn off the surge protector's switch when you leave your computer. A "power strip" with a series of outlets on it is not necessarily a protection against electrical surges. Be sure to get one that is specifically labeled a "surge protector."

Your PCjr Microprocessor

Those who might want to know more about the heart of their PCjr might be interested in this description from the IBM Technical Reference Manual:

"The nucleus of the system board is the Intel 8088 microprocessor. This processor is an 8-bit external bus version of Intel's 16-bit 8086 processor, and is software-compatible with the 8086. The 8088 supports 16-bit operations, including multiplication and division, and supports 20 bits of addressing (1 megabyte of storage.)

"It operates in the minimum mode at 4.77 MHz. This frequency, which is derived from a 14.31818 MHz crystal, is divided by 3 for the processor clock, and by 4 to obtain the 3.58 MHz color-burst signal required for color televisions."

The 8088 microprocessor in your PCjr is the same one that serves as the heart of the IBM PC.

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A Friendly CAD Program to Use on Your PCjr

By John King

AutoSketch is a CAD, Computer Aided Design, program from Autodesk in Sausalito, CA. They also produce **AutoCAD**, the industry standard for CAD programs. AutoSketch is their entry level program and is upwardly compatible with its big brother.

A CAD program is what you want when you set out to draw something accurately. If you would use graph paper and a ruler to do a drawing manually, then AutoSketch, your computer, and a dot matrix printer is a better tool. A plotter or laser printer provides even better output but is not necessary.

We'll cover getting started in more detail, but once loaded, AutoSketch presents you with a drawing field and a menu bar across the top. You can use cursor keys, joystick or mouse to move the pointer. Pointing at any item on the top pulls down a submenu of items for drawing, saving, changing program settings, etc. A line below the drawing field provides prompts for using the menus. The menus and drawing are in black on a paper white background.

In spite of its power, this is an easy to use program.

You draw by selecting a function from a menu: line, box, arc, circle, etc. Point to where you want a line to start; point next to where you want it to end, and you have a line. Point to where you want the center of a circle; move out the desired radius, and you have a circle. There are many functions, and I'll touch on more of them later. Because so much cursor movement is required, drawing is much faster with a mouse or joystick than with cursor keys.

If you want to load a drawing, save one, or change one of the program settings, you select that function from the menu. A dialogue box for the function opens up and prompts you for the information such as the file name or value to change.

Whether you are doing a room layout, a construction project design, or an electronic circuit board, AutoSketch can make your work better. Here is a software package which allows precision drawing of all sorts of objects, accurate measurements of distances, angles and areas, zooming in for details, and incorporating previously drawn objects in the current drawing in any scale.

The AutoSketch package consists of the manual and two disks, one for the program and one with sample drawings. The manual is easy to read and consists of a 16 page tutorial to get you started, a 56 page reference section explaining each function on the pull down menus, a glossary to define all terms, and a thorough index.

The excellent manual and clear menus make it easy to do sophisticated scale drawings in AutoSketch with only a few hours of practice.

The program comes in two versions. The standard version can use an 8087 math co-processor chip, if installed, for greater speed. The enhanced version requires the 8087, so buy the standard version for your PCjr.

Speed is a problem with larger drawings. It can take several minutes to redraw an entire complex drawing. The only solution is a faster computer. Software speed up programs or a V 20 chip provide no significant improvement. However, I would rather have all the power of CAD that AutoSketch offers than a faster program which is less suited to my purposes.

The program is not copy protected and costs \$79.95 list or about \$50 at computer shows and discount houses for the standard version. For this review, I used AutoSketch version 1.03 dated March 19, 1988 which I purchased at the West Coast PC Faire in April. The AutoSketch manual specifies that a graphics display, 512K of RAM, and two disk drives are required to run the program. The PCjr graphics display is suitable. But suppose you have less than 512K of RAM or only one disk drive? We will answer this question after a brief analysis.

The AutoSketch program consists of two files: the program, SKETCH.EXE, and SKETCH.CFG, a small configuration file. You can't remove the program disk from the drive during a drawing session because SKETCH.EXE regularly accesses the disk to load additional information as different parts of the program are used. This ties up one drive completely and makes swapping between program and data disks impossible.

Because SKETCH.EXE is 354,476 bytes, there is almost no room for anything else on a 360K floppy program disk. Therefore, a second floppy disk or a ramdisk must be used for the data files for drawings. In addition, AutoSketch creates two temporary files which require space on a second disk. These files can be directed to either a second floppy or a ramdisk using the DOS SET command. A batch file called FLOPPY.BAT with clear instructions is provided to do this. The purpose of these temporary files will be covered later.

The second floppy or ramdisk must provide at least 200K of storage to allow for large drawings and the large temporary files which are created during a long session. If AutoSketch really required 512K of RAM, a 200K ramdisk would not be possible even on a 640K PCjr. So, we need to look more closely at the RAM requirements.

Booting a PCjr on DOS 2.1 requires about 50K of RAM. AutoSketch uses roughly an additional 225K of RAM with no drawing loaded. Another 100K is needed by the program to load large drawings. The minimum RAM required to run the program is about 375K. A ramdisk will require 200K more RAM.

AutoSketch can be used effectively on a PCjr with 640K of RAM and one disk drive and on a 384K PCjr with two disk

drives. Once you have booted your computer with either two disk drives or one drive and a ramdisk, installing AutoSketch is simple. Copy the program disk files to a formatted disk. There will not be room enough for any DOS files, so don't format this disk as a boot disk. Copy the sample files to a data disk, and put the original disks in a safe place.

Start AutoSketch by typing SKETCH at the DOS prompt and hitting Enter. The first time you run the program you must configure it for your system. Just answer the plain English questions which are automatically displayed about your pointing device (keyboard, mouse or joystick), display type (pick IBM Color Graphics), and printer or plotter. Your answers will be stored in the file SKETCH.CFG. You can reconfigure the program at any time by just erasing this file. All this is covered in the manual.

This is a large program, and I won't attempt to list all the features, but several deserve special notice.

On the Draw menu, in addition to lines, boxes, arcs, and circles, you can draw a curve fitted to any number of points. This is terrific for complex or irregular curves such as walkways. Just put in a number of points along the way, and AutoSketch draws a smooth curve using a spline fit to the points.

This menu also allows you to bring in other drawings as part of the current drawing. For example, you could bring in a piece of furniture drawn earlier and place it anywhere in a room. The new object can be enlarged or shrunk to fit the current scale after it has been imported.

Text can be entered in any size, at any angle, but in only one typeface. The width and slant of the letters can be changed to approximate italic type, and underline and overscore is provided.

The Change menu allows parts of the drawing to be copied, moved, mirrored, rotated, stretched, expanded, shrunk, or erased. Several objects can be grouped all together and handled all at once rather than bit by bit.

As mentioned previously, SKETCH.EXE creates two temporary files. The first supports two of the most powerful functions on the Change menu: Undo and Redo. AutoSketch keeps a full record of every keystroke from the time you start a session. You can sequentially Undo each addition to the drawing or erasure all the way back to the beginning. You can also Redo in order any steps you have Undone. The second temporary file is created when printing a drawing. It is erased when the printing is finished.

You can zoom in on a small part of your drawing by marking a box around the area of interest and having that fill the screen. It is fascinating to zoom in by a factor of over one thousand, pan left, right, up or down, make a change, and then watch it become invisible as you zoom back out in several steps.

You can draw on up to ten layers and make as many visible or invisible as you wish. This could be used for alternate furniture arrangements in a room drawing, or

separate layers to show wiring, plumbing, or sub-flooring. A drawing of a cabinet could show the doors closed on one layer, open on another, and filled with dishes on a third.

Additional features include an optional grid on the screen to assist in placing objects, various line types, display of coordinates, "snap" and "ortho" features, automatic dimensioning, and precise attachment of lines. You can save drawings in a slide format for more rapid redisplay, but slides cannot be edited.

When you are finished, you can print out the whole drawing or place a box around a part and print only that section. You can even zoom in and print out a section that would be too small to see in the whole drawing. If you use a plotter instead of a printer, you can draw in many colors.

"You can draw a curve fitted to any number of points."

This is a solid program for serious drawing. There are no "crashes". Your work is never lost. The Autodesk programmers clearly understand the value of the user's time. If you make a mistake, the warnings and error messages are clear, and you can cancel the instruction before any damage is done.

For several years, I have hated to write anything, even a short note, without using my computer. Now I feel the same way about drawing. It might take a bit longer to do the first rough drawing in AutoSketch, but with the first revision, that time will be recovered and a better product will be the result.

*(John King is the president of the San Francisco
PCjr Users Group and can be reached at (415) 472-7035)*

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Using the Magic PROMPT

(Part II - Continued from last month)

By Curtis Marten

(Last month in Part I of this article we began to see the kinds of things that can be accomplished with the prompt command. Now we continue with some more details as well as some examples for you to try in the last part of the article. First, a continuation of definitions -- ED.)

ERASE COMMANDS

Erase Display

{ESC}[2J Erases the entire display (equivalent to the DOS Clear Screen, or cls, command).

Example: {ESC}[2J Erase the screen.

Erase to End of Line

{ESC}[K Erases from the current position through the end of the line that contains the cursor.

Example: {ESC}[K Erase from the cursor to the end of the line.

DISPLAY ATTRIBUTE & MODE COMMANDS

Set Attribute

{ESC}{<ATTR>m Turns on a characteristic, or attribute, of the display, such as high intensity, blink, or foreground and background color.

<ATTR> specifies the display attribute to be turned on. More than one attribute can be specified by using a semicolon to separate the attribute numbers. <ATTR> can be any of the following:

ATTRIBUTE	COLOR	FOREGROUND	BACKGROUND
0 None	Black	30	40
1 High Intensity	Red	31	41
4 Underline	Green	32	42
5 Blink	Yellow	33	43
7 Reverse	Blue	34	44
8 Invisible	Magenta	35	45
	Cyan	36	46
	White	37	47

If you omit <ATTR>, all attributes are turned off (equivalent to specifying <ATTR> as 0).

Examples:

{ESC}[1m High intensity.
 {ESC}[1;5m High intensity and blink.
 {ESC}[30;46m Black foreground, cyan

background.

{ESC}[m

Turn off all attributes.

{ESC}[0m

Turn off all attributes.

{ESC}[0;1;36m

Turn off all attributes, then turn on high intensity cyan foreground.

Set Display Mode

{ESC}[=<MODE>h Sets the width and color capability of the display (generally equivalent to the DOS Mode command). This command can also be used to cause lines longer than 80 characters to be broken at the 80th character and continued on the next line, rather than truncated at the 80th column; this is called linewrap. It can be turned off with the Turn Off Line Wrap command. Note the equal sign (=) that precedes <MODE>. <MODE> specifies the display mode. It can be one of the following:

VALUE

DISPLAY MODE

- 0 40 columns by 25 rows, black and white
- 1 40 columns by 25 rows, color on
- 2 80 columns by 25 rows, black and white
- 3 80 columns by 25 rows, color on
- 4 320 by 200 graphics, color on
- 5 320 by 200 graphics, black and white
- 6 640 by 200 graphics, black and white
- 7 Turn on line wrap

Examples

{ESC}[=1h

Set the display to 40 by 25 color on.

{ESC}[=7h

Continue lines longer than 80 characters, don't truncate them.

Turn Off;

{ESC}[=7l

Causes lines longer than 80 characters to Line Wrap be truncated at the 80th character, rather than continued to the next line.

Example:

{ESC}[=7lTruncate lines longer than 80 characters.

KEYBOARD COMMANDS

Define Key{ESC}{<KEY CODE>;<RESULT>p

Assigns one or more characters to be produced when you press a key.

<KEY CODE> specifies the key to be defined. If the key is one of the standard ASCII characters, <KEY CODE> is a number from 1 to 127. If the key is a function key, keypad key, or a combination of the shift, ctrl, or alt key and some other key, <KEY CODE> is two numbers separated by a semicolon, the first number is 0 and the second from the Table 1.

<RESULT> is the character or characters to be produced when a key is pressed. It can be specified as an

ASCII code, an extended key code, a string enclosed in quotation marks, or any combination of codes and strings separated by semicolons.

To restore a key to its original meaning, enter a Define Key command that sets <RESULT> equal to <KEY CODE>.

Examples:

```
{ESC}[126;92p   Redefine the tilde (~) key
                  as backslash (\).
{ESC}[126;126p   Restore the tilde (~) key to
                  its original meaning.
{ESC}[0;112;"dir | sort";13p Redefined Alt-F9 as a
                  Directory command piped
                  to a Sort command,
                  followed by a Carriage
                  Return.
{ESC}[0;112;0;112p Restore Alt-F9 to its original
                  meaning.
```

TABLE 1

**EXTENDED CODES FOR
FUNCTION AND NUMERIC-KEYPAD KEYS**

KEY	ALONE	SHIFT	ALT	CTRL
F1	0;59	0;84	0;104	0;94
F2	0;60	0;85	0;105	0;95
F3	0;61	0;86	0;106	0;96
F4	0;62	0;87	0;107	0;97
F5	0;63	0;88	0;108	0;98
F6	0;64	0;89	0;109	0;99
F7	0;65	0;90	0;110	0;100
F8	0;66	0;91	0;111	0;101
F9	0;67	0;92	0;112	0;102
F10	0;68	0;93	0;113	0;103
HOME	0;71	55	--	0;119
CURSOR UP	0;72	56	--	--
PGUP	0;73	57	--	0;132
CURSOR LEFT	0;75	52	--	0;115
CURSOR RIGHT	0;77	54	--	0;116
END	0;79	49	--	0;117
CURSOR DOWN	0;80	50	--	--
PGDN	0;81	51	--	0;118
INS	0;82	48	--	--
DEL	0;83	46	--	--
PRTSC	--	--	--	0;114

KEY	ALONE	SHIFT	ALT	CTRL
A	97	65	0;30	1
B	98	66	0;48	2
C	99	67	0;46	3

D	100	68	0;32	4
E	101	69	0;18	5
F	102	70	0;33	6
G	103	71	0;34	7
H	104	72	0;35	8
I	105	73	0;23	9
J	106	74	0;36	10
K	107	75	0;37	11
L	108	76	0;38	12
M	109	77	0;50	13
N	110	78	0;49	14
O	111	79	0;24	15
P	112	80	0;25	16
Q	113	81	0;16	17
R	114	82	0;19	18
S	115	83	0;31	19
T	116	84	0;20	20
U	117	85	0;22	21
V	118	86	0;47	22
W	119	87	0;17	23
X	120	88	0;45	24
Y	121	89	0;21	25
Z	122	90	0;44	26
1	49	33	0;120	--
2	50	64	0;121	--
3	51	35	0;122	--
4	52	36	0;123	--
5	53	37	0;124	--
6	54	94	0;125	--
7	55	38	0;126	--
8	56	42	0;127	--
9	57	40	0;128	--
0	48	41	0;129	--
-	45	95	0;130	--
=	61	43	0;131	--
TAB		9	0;15	--

And now for some batch files for you to try out:

HIGHLIGHT.bat

prompt \$e[1m\$p\$g\$e[0m

This highlights the path and system prompt and every thing else is normal.

BLUE.bat

prompt \$e[44;37m\$p\$g

This is white on blue with the path and system prompt.

GREEN.bat

prompt \$e[32m\$p\$g

This is green on black with the path and system prompt.

(Continued on page 14.)

Magic PROMPT

(Continued from page 13.)

REVERSE.bat

```
prompt $e[7m {$t$h$h$h} $e[0;1m $p$g$e[0m
```

This is reverse video time with bold path and system prompt and the rest normal.

DT.bat

```
prompt
```

```
$q$ _d$h$h$h$h$h$h$h_$t$h$h$h$h$h$h$h$h_$p$ _Command:
```

This will display date, time, path and the word Command:.

HOME.bat

```
prompt $e[2J $e[0;7m $t $h$h$h$h$h$h$h $e[2C $d $e[0m  
$e[1;37;44m $ _p$g
```

This will clear the screen and move the cursor to the home position then display the time, move the cursor over 2 columns, display the date, turn off all attributes, turn on bold, set color to white on blue, move cursor down a line, display path and system prompt.

DEFIFUNC.bat

```
prompt $e[0;59;"DIR A:";13p  
prompt $e[0;60;"DIR B:";13p  
prompt $e[0;61;"DIR C:";13p  
prompt $e[0;62;"CLS";13p  
prompt $e[0;63;"TYPE "p  
prompt $e[0;64;"COPY "p  
prompt $e[0;65;"DEL "p  
prompt $e[0;66;"A:";13p  
prompt $e[0;67;"B:";13p  
prompt $e[0;68;"C:";13p  
prompt $e[32m$p$g
```

This will redefine the function keys F1 to F10 respectively. F1 will be "Dir A:", etc.

RESETFUN.bat

```
prompt $e[0;59;0;59p  
prompt $e[0;60;0;60p  
prompt $e[0;61;0;61p  
prompt $e[0;62;0;62p  
prompt $e[0;63;0;63p  
prompt $e[0;64;0;64p  
prompt $e[0;65;0;65p  
prompt $e[0;66;0;66p  
prompt $e[0;67;0;67p  
prompt $e[0;68;0;68p  
prompt $e[32m$p$g
```

This will reset the function keys back to normal.

TMBLUE.bat

```
prompt  
$e[0;7m$t$h$h$h$h$h$h$h$h$e[2C$d$e[0m$e[1;37;44m$ _p$g
```

This gives time and date white on blue.

Baker's Dozen Utilities Serve Variety of Needs

Jim Button, author of PC-File, PC-Calc and other well known shareware, has come up with a bunch of powerful utilities on one disk..

Here's what you get:

-- A mini spreadsheet program that can do just about everything the big ones can do. But you have to do it on one screen.

-- Pop-up calendar with a memory resident option. Include your own dates, appointments, reminders, etc.

-- File compare, a utility that compares two text files. Option shows matched and unmatched lines.

-- Locate files and strings of text on all or part of a disk.

-- Print sideways in variable page sizes and condensed print.

-- Sort text files with optional case sensitivity. Sorts up to four fields. Can redirect to a new file.

-- Remove directories and subdirectories.

-- Set screen and border colors.

-- Take snapshots of screens and save them to files, then edit picture files with any text editor.

-- Swap LPT1 and 2 or COM1 and 2.

-- Recover deleted files, change file attributes, rename subdirectories or volume labels. Change file dates and times. Display cluster and sector map. Browse and edit FAT, and more.

PC Magazine and Computer Shopper both gave high marks to Baker's Dozen.

If you want to add these utilities to your collection, order Disk #73 from the Software Store, page 23.

TMTOP.bat

```
Prompt $e[s$e[24A$e[1D$e[K$e[1;22H$e[1;44;37m$p  
$e[0;44;37m  
=== $t$h$h$h$h$h$h$h$ === $d$e[m$e[u$e[36m$e[1B?
```

This gives time and date at top.

YOYO.bat

```
prompt YOYO YO YO YO YO$h$h$h$h$h$h$h$h$h$h$h$h$h$hYO  
YO YO YO$h$h$h$h$h$h$h$h$h$h$h$h$h$hYO YO  
YO$h$h$h$h$h$h$h$h$h$hYO YO  
YO$h$h$h$h$h$h$h$h$h$h Give it a try.
```

CENTER.bat

```
PROMPT $e[2J$e[11;1H$e[1;32m$p$g
```

This one centers the prompt on the screen.

(The above article was originally published in the IBM Humbolt PCUser'sGroup Newsletter.)

Improve Your French or Spanish With Your Own Teacher

It's later than you think -- summer is nearly over, and you know what that means! We thought we'd help students ease into the shock of returning to the classroom by adding Language Teacher (Disk #72) to the jr Newsletter Software Store.

Language Teacher is a series of menu-driven language tutorial programs designed to help beginning and intermediate French and Spanish students. Each program in the series contains hundreds of word combinations and verb conjugation forms.

Also included is the capability to select language-to-English or English-to-language combinations, choose multiple choice answers, be retested on misses, print a multiple choice test, and run a full quiz diagnostic routine with line printer output. Of particular interest to non-English students is the capability to select the direction of the combinations.

All word, phrase, and verb conjugation selections are done randomly by the program, the user being unable to predict what the next selection will be. The program package is not designed to teach conversational language or pronunciation but, instead, to provide practice drills in order to increase your working vocabulary and to enhance your use of the conjugation forms.

Eight-In-One May Just Be All the Software You'll Need

Eight-In-One is a nifty package of software that performs most of the functions any of us ever use and does it very easily and well.

Because of its clear and complete documentation and its pull down menus, it's a good choice for beginners who don't need the complexities of more elaborate software.

Eight-In-One has a word processor, outliner, database, spreadsheet, DOS shell, graph generator, communications program and Sidekick-like utilities program. Each of these components is smooth functioning and quite capable of doing all but the most advanced tasks in each category.

If you want the simplicity of using the same software each time you have a task to perform on your computer, and you haven't already gotten attached to other software that performs these tasks, Eight-In-One might be a good choice.

It certainly won't make you feel you've been cheated, since the price for all these functions is only \$59.95 retail. It might be available for less from mail order houses. Requires 384K. Made by Spinnaker Software, 1 Kendall Sq., Cambridge, MA 02139.

The Language Teacher series was originally published by Acorn Software Products, Inc. of Washington, DC. Since then the company has gone out of business and the author has released the series to the Public Domain.

The extent of the vocabulary of each program is given below. Since the program randomly selects from its contents in each option, you truly have a thorough drill in each language!

FRENCH I: 784 French/English word combinations, 1600 verb conjugation forms and 196 French/English phrase combinations.

FRENCH II: 864 French/English word combinations and 1600 verb conjugation forms.

SPANISH I: 750 Spanish/English word combinations, 1488 verb conjugation forms and 150 Spanish/English phrase combinations.

SPANISH II: 800 Spanish/English word combinations and 2108 verb conjugation forms.

The Language Teacher disk includes all the above programs and works best on a PCjr with a color monitor. 128K is plenty. To order your own Language Teacher, select Disk #72 on page 23.

Wait!
Don't Buy Anything

(Until you see our PCjr hardware catalog)

We don't just sell PCjr products...

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Why settle for the wrong product? We *make* the products you've been asking for. And probably offer the widest selection of PCjr hardware in the country! See for yourself. Call or write today to receive a free 24 page PCjr Hardware Catalog.



The jrProducts Group
PC Enterprises, PO Box 292, Belmar, NJ 07719
In New Jersey (201) 280-0025

1-800-922-PCJR

"Supporting PCjr since 1984"

New "Combo Cartridge"

(Continued from page 1.)

caused by typing while your disk drive is spinning. Since PCjr's don't normally have DMA, they can't process keyboard input and read or write to disk at the same time. The Keyboard Buffer stores keyboard input while the disk drives are working and then feeds keyboard data to the microprocessor when the drives are not in use. This allows you to keep typing without losing characters or being halted by a beep. The Keyboard Buffer also prevents four known DOS bugs and two BIOS bugs from causing your computer to crash.

Each of the above features is available on its own cartridge for \$29.95. The Combo Cartridge V. 2.0, with all three features built in, is \$69.95. Users who already have one or two of the cartridges can upgrade at reduced prices.

Also, there's a mysterious dividend for those who buy the Combo Cartridge. Pat Calabria says the company left room for a fourth feature in the Combo Cartridge. He says they are working on another cartridge feature, which is currently a secret. When it is developed, owners of the Combo Cartridge V. 2.0 will be able to send their cartridges in and have the new feature programmed into their cartridge for a nominal fee (less than \$10).

For more information or to place an order, call PC Enterprises at 1-800-922-PCJR.

Flight Simulator 3.0 Does Work On PCjr's, But

The latest version of Flight Simulator, version 3.0, does work on PCjr's, but there are a couple of problems.

It only uses 4 colors and there are a few minor keyboard glitches. However, the Metro PCjr Users Group has embarked upon a PCjr compatibility project, with the new version of Flight Simulator as its first target.

Carl Haub, president of the group, says he and other members of the group are working to try to overcome the limited color and keyboard problems. They are also trying to find a way around the incompatibility of the new scenery disks.

Carl will report his findings in an upcoming issue of Jr Newsletter.

Want To Compress Large Lotus Files? SQZ! Does It For You Very Nicely

Lotus 1-2-3 users can end up with huge files clogging many diskettes and making file management very unwieldy.

The solution is SQZ!, a very efficient file compression program that you can put on your Lotus disk and run it

DOS 3.3 Full of Bugs But No Worse Than Others

You'd think after all these years Microsoft and IBM would come out with one version of DOS that is bug free. But DOS 3.3 has just as many as previous versions.

It's easy to criticize, though. It can't be easy to accommodate all the hardware that's out there now. And each version that comes along is more powerful and thus has new elements which haven't been put through the tests of time.

The new version of DOS causes intermittent read and write failures with many hard drives, including the Seagate 225. This has to do with the interleave factor of 3, which causes problems with some non-IBM hard drives. Changing the interleave to 5 may solve the problem.

There are also some problems with the configuration drive for the PS/2, Models 50,60 and 80, causing read errors and format failures. Also, when powering up, DOS 3.3 may give error messages. BACKUP.COM has also been known to foul up. It crashes under certain circumstances when backing up more than 79 sub-directories.

A patch disk is supposedly available from IBM dealers, although in the past many dealers never heard of the patches distributed by IBM to fix earlier versions of DOS. We doubt that many PCjr users will be using DOS 3.3, but if you do, and you need the patch, ask for 913mn for 5.25" or 917mn for 3.5" versions.

How to run DOS 3.3 on your PCjr

DOS 3.3, like its younger siblings, will run on your PCjr. The only problem you may encounter is with the KEYB command, which IBM includes as part of its initializing instructions. Just keep KEYB out of your autoexec.bat file and DOS 3.3 should run smoothly.

without a hitch. To give you an idea how powerful a squeeze can be, SQZ! will crunch a 133K Lotus file down to just 3K.

The compression will vary, but you can be sure SQZ! will get a file down to less than five percent of its original size. Then it will sit there all curled up and small, waiting for you to summon it back to its original size whenever you need to work with it.

Reader Feedback

(Continued from page 8.)

be placed in front of NUL (as in COPY *.* C: >NUL) for this to work.

Finally, I've got a couple of problems myself. First off, I've found that lately, if I have a "Buffers=" line in my CONFIG.SYS file my A: drive will make a sound on boot up similar to what it makes when it tries to read a bad disk sector. When I remove the "Buffers=" line the problem vanishes! Is there a solution to this?

The second problem concerns files suddenly and without warning becoming corrupted for no apparent reason. For example, a couple of times I've gone to boot my system only to have the A: drive just sit there and spin. After booting with another DOS disk and using CHKDSK to examine the bad one I get a message that the IBMDOS.COM file has been truncated and something else I don't recall off hand. This has also happened to a file from the play disk for **Mixed Up Mother Goose** by Sierra On-Line. Has anyone else reported this problem? What is the cause and is there a solution?

Steven Miller, Grand Terrace, CA

EDITOR'S NOTE: Whew, we feel like a butterfly in a shooting gallery after a letter like this. But the criticisms are well put and, for the most part, legitimate. We'll respond to them in order.

First, the PC ID Cartridge has been reported by several readers to enable them to create larger files with Writing Assistant. Perhaps we need to provide more details. Since we don't have Writing Assistant ourselves, we can't test this immediately, but we'll try to get back to you with more info.

Second, yes, it's true, PCjrs do not have CGA graphics, strictly speaking. That statement was made in answer to a question by a reader who asked whether it was necessary to get a graphics card installed in a PCjr. We answered that, unlike IBM PCs, XTs, etc., which are not made with graphics capabilities built in, PCjrs do have graphics capabilities built in. What our PCjrs have is their own type of graphics, similar to VGA. Not, as Steven points out, CGA. PCjrs can, however, run software written for CGA graphics provided the software is "well behaved", meaning that it goes through the computer's BIOS rather than directly to video addresses, which are different on PCjrs.

Steven correctly points out an omission in the December issue. We failed to print the ">" before NUL and the function won't work without it. We apologize for the omission.

As for the two problems cited in the last part of Steven's letter, we have not encountered either of them. Both of our PCjrs work just fine with a buffers statement in the config.sys file and the drives don't seem to emit more noise with the

buffers statement than without it. As for the corruption of files, we would suspect either a virus at work (although this is highly unlikely) or a disk drive problem.

Fantasy User Finds Problem, 3X5 Upgrade Coming Soon

Like many of your subscribers, I am also pleased with the articles, tips, and information found in your newsletter. I plan to renew my subscription when the time comes.

Today I would like to ask a couple of questions, though I know you are unable to answer all or any of them personally. My hardware is the JR with a Racore drive 2 (no DMA) and Racore 512K expansion board. 640K total. Epson LX80 and JUKI 1600 printer. And I am using DOS 2.1.

I purchased the program **Fantasy** a couple of years ago. Every time I pressed ESC to bring up the command line, the Ctrl-PrtSc would activate, making Fantasy very irritating to use. Then at a computer swap meet, I met John King, the president of San Francisco PCjr Users Group. He told me about the DOS 2.1 patch. I got a copy of it, patched it in, and it worked perfectly. I was told from Fantasy that until the patch came out they were going to drop support for the Jr. (This patch is on Disk #40 - Ed.)

Now I am using **Fantasy Publisher**, the update to Fantasy. This supports the feature of drawing pre-designed borders around marked blocks (as long as they are not too small). A feature I can't get to work on my Jr. It will make full page borders just fine. When I give the command to put a border around the marked block, my A: drive lights up and won't stop. I have to reboot. When I do this command on a regular PC or Clone, it works. So I know it's in the Jr. Any ideas?

The program **3X5** is used constantly. I see you have it in your library, so I hope you're familiar with it. So far the only trouble I am having with it is when I want to print records I have searched for or a list of records. It won't print properly. It either doesn't do a carriage return or is erratic on the margins or won't print everything in the record, even if it's just a couple lines long. I did find by accident that using a print spooler cures the problem by about 95%. When I wrote to the address given at the end of the manual, I got my letter back with a postal stamp that the address is no longer good and no forwarding address is known. This program and the company seemed very promising. Any chance of finding out what happened so I can write them again? This is the address given in the on disk manual: Softshell Corporation, P.O. Box 18522, Baltimore, MD 21237.

I would need to take several English, writing and grammar courses (this poor letter is proof) to ever create a

(Continued on page 18.)

Reader Feedback

(Continued from page 17.)

newsletter of any caliber. I do a lot of typing for people now by just copying what they have hand written. Mostly term papers at school time. Several people have asked me about creating newsletters and small flyers for their small clubs. I just don't know what amount or kind of equipment would be needed. The design and layout of jr Newsletter has interested me since the first issue. Could you in some future issue list the software and hardware you use to create jr Newsletter?

That is about it, at least for this letter. Thank you for your time and hope to hear something on any of these questions.

Paul E. Pierce, Winton, CA

EDITOR'S NOTE: We have not tried Fontasy Publisher, so we don't have an answer to that problem. Perhaps another reader will. As for Softshell, the makers of 3X5, they are very much alive and we are about to add an updated version of this excellent program to the software store. Their new address is 1100 Benjamin Rd., Bel Air, MD 21014.

We use our PCjr with PC-Write (and sometimes WordPerfect) to write this newsletter. The page layout and typesetting is done on a Northgate 386 using Pagemaker and an HP Laserjet. It's really too big a job for our PCjr. We finally had to admit there are SOME things that require a larger computer - like laying out and typesetting a 24 page newsletter every month.

* * * PCjr CLASSIFIEDS * * *

SOFTWARE FOR PCjr - Disposing of my accumulation of more than 35 software programs that I no longer use. These are original "brand-name" spreadsheets, word processors and games by MicroPro, IBM, Springboards, etc., all complete and excellent + to new. Call Bill at (703) 451-1751 after 8:30 PM for detailed list. (8)

WANTED - Kaola pad. Call Monday to Friday. Dr. Perez (201) 676-1000 Extension 1241. (8)

TWO IBM PCjrs - 128K each. One PCjr RGB color monitor, One Tecmar Captain with 128K, One Tecmar Cadet with 384K, One Racore Drive 2 with DMA and 512K, One IBM parallel Sidecar, One extra PCjr Power transformer, MANY OTHER PCjr ITEMS. All hardware in good condition and can be shipped in original cartons. Poor health mandates early sale for \$1000 firm for entire systems. May negotiate on separate items at higher price. Call Jack at (904) 328-2972. (8)

Easy-To-Use Batch File Speeds Up Writing Assistant

Recent articles in your newsletter have dealt with tips on using IBM's **Writing Assistant**. For those that have enough memory but maybe not the expertise, the enclosed autoexec file may be helpful. Once set up, even the spouse that won't go near the computer will be able to use the word processor by simply turning on the machine. The speed of everything including the spell checker is greatly enhanced.

Many of the commands to boot and create the 360K RAM disk are generic to my Tecmar **Captain** and **Cadet** (640K). My Junior still has only one drive. After booting, a diskette to store documents is placed in the A: drive. This diskette must have a copy of the autoexec.bat file on it to function continuously. (Do not type the words in parenthesis. They are just there to explain what certain commands in the batch file will do.)

```

CONPCJR -D3          (Boot with three drives active)
echo off
MODE 80
DOSTIME
memdisk c:           (Create the 360K RAM disk)
copy write.exe c:    (Copy Writing Assistant to RAM disk)
copy wrdprf.wdl c:
copy printers.lc c:
copy write.swp c:
c:
echo *****
echo" *
echo" * Place Assistant Series Data Diskette in Drive A *
echo" *
echo" * Be sure to save any letters with A: before the *
echo" * filename. That is, save as A:filename. *
echo" *
echo" *****
pause
write                (Start Writing Assistant)
echo" If you did not save your file as A:filename, copy it from
echo" Drive C to Drive A before you turn off the computer.
echo" Otherwise, it will be lost forever.
A:                   (Return to Drive A:)

```

Larry Schreiber, Davenport, IA

Want a \$200 database manager for \$5.95 ?
 Try PC-File III (Disk #4) on page 21. It's powerful, full of features and easy to learn.

* * * **PCjr CLASSIFIEDS** * * *

FOR SALE - Wordstar Professional 4.0 \$75. Many games. Send SASE for list. John Eustis, 1245 Tonti St., LaSalle, IL 61301. (7)

OKIMATE 20 COLOR PRINTER - IBM Plug 'n' Print module, Serial cable, 10 extra ribbons. In excellent condition and in original box all for \$150. Nancy Blair, P.O. Box 548, Truckee, CA 95734 (916) 587-4821 after 5 pm PDT. (7)

IBM PCjr 128K - IBM color monitor, cartridge BASIC, 2 PCjr joysticks (1 never used) and compact printer. Software - Filing Assistant, WordPerfect, Kings Quest, Flight Simulator, Mine Shaft, Zork III, Touchdown Football and many more. All in excellent condition, never repaired, hardly used. Make offer - Chuck Boyer, 1812 Effingham, Fort Collins, CO 81526 (303) 226-1109. (7)

DESPERATELY SEEKING - IBM's Writing To Read program to send to missionary friends overseas who are teaching their young children at home. I already have the speech attachment. Now what I need is the program. Please Contact Kathleen C. Jaeger, 712 Sedgefield Dr., Newport News, VA 23605 (804) 595-5764. (7)

PCjr 640K - Tecmar jr Captain, IBM color monitor & Graphics Printer, Basic Cartridge, 2 keyboards with cord, PC-DOS 2.1, PCjr Newsletter back issues, Executive Writer, Number Works, Tecmar utilities, tech documentation. Superb condition. Was \$1988.91 new. Will accept best reasonable offer. Call after 7 pm, Eastern time (201) 838-5010. (7)

PCjr 256K - V20, 2 disk drives and parallel printer port. Color monitor, serial cable and keyboard cable included. \$550. Brother M1009 w/cable \$110. (214) 907-6716 days, (214) 985-9772 eves & weekends (8)

Classified Ads are free to subscribers of jr Newsletter. Just send us your typewritten ad (no more than five lines on an 8 1/2 X 11 typed page) and we'll run it for you for two months. Ads are \$10 per issue for non-subscribers. Send to jr Newsletter, Box 163, Southbury, CT 06488

PCjr, 640K - Racore 2nd Drive (Panasonic), NEC V-20 Chip, clock, PC ID Cartridge, Keytronic Numeric keypad, Princeton HX-12 RGB color monitor, Cartridge BASIC, PCjr ColorPaint Cartridge, games, spare power supply and 3 keyboards. \$900, you pay shipping. Contact: David Chin, (516) 599-7238 after 6PM EST (8)

WANTED - Desperately seeking PCjr Color Paint cartridges for small elementary school. Traded up to something more powerful or simply letting yours collect dust? Let me know, I'll buy it! Call Mike at (215) 566-4640 anytime and leave message. I'll answer promptly and gratefully (8)

PCjr 128K - color monitor, parallel printer port - \$550. jr keyboards \$25 each, jr power expansion attachments - \$30 each. Neil Dobry (405) 848-9672 (8)

PCjr 640K - on Quadram Board, 2 joysticks, internal 300 baud modem, jr parallel printer port, jr color monitor, cart. BASIC, keyboard and keyboard adapter, new 360K drive, 2nd power supply, manuals. \$500. T. Ruane, 50 Ludlowville Rd., Lansing, NY 14882 (607) 533-7671 after 6pm (8)

WANTED - Racore PC Keyboard Adapter for the PCjr. Call Chris Kelley (617) 570-5362. (8)

PCjr 256K - Color Monitor; Tecmar jr Captain; Clock/Calendar; Parallel Port, 2 PCjr joysticks; Keyboard w/cable; DOS 2.1; Cartridge Basic; all manuals, cables and software. \$400 or offer. Bob Fuchs (616) 676-0391 or (616) 531-5300. (8)

300 BAUD INTERNAL MODEM - For sale. Asking \$40 will pay UPS. Like new. Have upgraded to a 1200 baud. Mike Kennedy: Home (314) 869-5534 Work (314) 234-1396. (8)

640K PCjr - Tecmar Capt. & Cadet, Jr Color Monitor, Legacy controller for 2 drives, Int. modem, V-20, numerical keypad, BASIC & JrSync carts., Manuals: tech, maint, Dos and users, much software - \$650. New Racore 128/384K Board-\$50, New IBM power expansion \$30. Greg Kuzma (617) 628-2016. (8)

WANTED - Unmodified Microsoft memory expansion sidecar w/128K for PCjr. Mouse preferred but not essential. Contact K.A. Edmunson at (205) 895-5250 days and (205) 353-7395 after 5PM CDT. (8)

Questions and Answers

(Continued from page 4.)

17 V. swings. (#1 to #3 is 34 V.) Now, because the dividers, capacitors and coils networks on the jr's internal board which set up the various lower D.C. supplies are also designed to operate at 60 Hz they might be mis-tuned for the lower frequency and a simple step-down transformer designed for 220 V. to 34 V. center tapped, 50 Hz might not be the solution. Any Authorized IBM dealer or Service Facility can advise you. You could also call IBM before you leave (which means today!) and tell them what you want to do. PC jrs were sold all over Europe and are quite popular there. One of our readers has informed us that he has taken his jr to South and Central America and has had NO problems at all. We'd appreciate any further information about adapters etc.

Q. Is there a way to use the function keys without having to hit the green Fn key first? It is really a pain.

A. Yes, with most any keyboard re-definition software, but there is always a trade-off that may make it not worth doing. For example, if you use software to turn your numeric keys into function keys, you will have to come up with alternative keystrokes to use for the numbers. There are some other ways to make life a little easier, though. Example: In DOS, type in the number 634 and you'll get Fn-6 (^Z, end file) then Fn-3 (Repeat last line in buffer) then Fn-4 (skip all chars to marked char.) etc. Now, when you just want to type in simple numbers, you will have to touch some other 'hot key' combination to get them. An easier and more permanent solution is to buy a separate add-on numeric keypad or a replacement keyboards. There are several types to choose from and they all have separate function keys.

Q. What kind of modem works best, internal or external?

A. Best is an absolute term which we cannot apply to this answer. IF you can make do with 300 Baud you can buy an IBM internal modem at a real bargain AND your serial port is already tied up, perhaps this is "best" for you. On the other hand, an external, IF Hayes command compatible, AND has the Baud rate you need AND the serial port is free or has a switch to share it OR you later may want to connect the modem to another computer you will find this "best" for your use. You will also need a "PC jr Adapter Cable for Serial Devices" to connect with any external modem. As far as comparative reliability is concerned, that is entirely a function of the manufacturer, not whether it is internal or external. Software is available for both internal and external modems but it is quite different for each kind. The IBM internal does NOT use the Hayes command set and is difficult to use with some communications software. Be sure the software you

choose does not insist on DMA and can be used on a jr. The Software Store has a selection of communications software for all kinds of modems.

Q. I get "error loading .DIR" from PCPLUSTD. (Ed Note: This is a Test Drive, of sorts) Another reader writes that he is having trouble with PROCOMM loading properly and gets "allocation errors", and a third writes that he can do a DIR and see plenty of files but cannot load any of them... and so it goes...All these problems are probably related.

A. Excluding the idea of a virus having attacked, your FAT has gone to wherever wrecked or dead things go. "My what!!" you ask. Your FAT, the "File Allocation Table" on the diskette. Try this at the DOS prompt: A:CHKDSK B:/V <Enter> (Be sure CHKDSK.COM is on a good, no problem disk in drive A:) Now put one of these problem diskettes in B: as prompted and watch the fun! Now try the same thing with a different diskette for B:, one which runs fine, to see the difference. If you find that the information on pages 2-38 through 2-41 and pages 2-119 through 2-121 of the pink DOS manual is too complicated to believe, just re-format the bad diskette and start over... You DO make back-ups of your important programs and files quite often, don't you? Uh, oh.... How did this happen?

Well, one way we have heard of is to have DOS 2.1 loaded at boot-up time and try to write or delete a file or write over an existing one on a diskette which has already been formatted with DOS 3.xx! DOS 2.1 has a shorter, different FAT than the latest versions and may be writing to the wrong part of the FAT. This doesn't happen the other way around, though. DOS 3.xx has been designed to recognize previous versions and will adjust to write correctly and record properly in the FAT of any earlier versions of a formatted diskette.

A worn, damaged or faulty diskette is most likely the culprit, however. Here's what happens: during formatting, DOS automatically marks any unusable sector(s) on the diskette and stores the information in the FAT. The bad sector(s) in your case show up AFTER formatting, when the diskette has been in use for some time, and by then it's too late. Dirty heads in the drive or cheapie brand X diskettes sometimes contribute to writing faulty data on the tracks, too. Clean the heads once a month, what the heck... and remember, MAKE BACK-UPS!

Q. If I add an external hard drive made for the jr will I be able to use it on another computer if I upgrade sometime in the future? Modems, printers, monitors, etc. don't seem to be a problem.

A. We don't see why not. The electronics for adding an external hard disk to the jr are in the controller, not the drive. Perhaps a new cable might be the only thing needed.

jr Newsletter Software Store

This software is the best public domain and user-supported software for the PCjr we've been able to find. All the programs in this collection have been tested on our PCjrs and are highly recommended. Some of these programs are equal to or better than commercial programs costing hundreds of dollars. The programs in this collection are available for \$5.95 per disk.

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

*** NEW * BAKER'S DOZEN.** 13 powerful utilities by shareware star Jim utton. 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)

THE BEST OF JR NEWSLETTER. The best and most informative articles from twelve issues of jr Newsletter (June 1986 through May 1987 issues) are contained on this disk. More than 50 articles on compatability, problem solving, software, maintenance, memory expansion, how-to projects, tips on using DOS, and more! 128K (Disk #54)

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

BEST OF JR NEWSLETTER II. All the major articles and columns from June 1987 through May 1988 issues of jr Newsletter. Subjects cover most aspects of PCjr operations with tips on compatibility, DOS, expanding and speeding up PCjrs, best software, etc. Easy search function finds subjects quickly. 128K ok. (Disk #66)

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

PC-WRITE. This extremely popular word processing program is both powerful and easy to use. A review in PC World said "PC-Write may well be more versatile than WordStar; it's certainly more straightforward." Version 2.5 runs well on 128K. Version 2.7 has more features, comes on two diskettes and requires 256K to run without the spelling checker, which requires 384K. (Order Disk #1 for 128K V2.5. Order Disks #2A and 2B for V2.7)

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

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

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

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 logon, 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)

PC-TOUCH. Designed to teach and practice touch typing. As you type, an on- screen line shows the number of erroneous keystrokes, and your accuracy rating as a percentage of keystrokes. 128K. (Disk #18)

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.

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)

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)

(Continues on Page 22)

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)

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

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)

PCjr COMPATIBILITY DISK. lists over 500 software titles, along with info on how they run (or don't run) on PCjrs. Also tips on how to make software PCjr compatible. 128K. (Disk #60)

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)

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

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

PCJR PATCHES. Many patches to fix software that ordinarily won't run on PCjrs. Includes patches for Starflight, Advanced Flight Simulator, Quick Basic, Turbo Basic, Double DOS, and Bard's Tale (16 colors). (Disk #56)

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. 128K. (Disk #57)

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. (Disk #58)

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

PCJR PATCHES V.2.0. Patches to fix software that ordinarily won't run on PCjrs. V.2.0 adds patches for Arctic Fox, Managing Your Money 3.0, Autocad, King's Quest II, updates Turbo C and QuickBASIC patches. Also patches for Starflight, Advanced Flight Trainer, Double DOS, Bard's Tale (16 colors), Turbo BASIC, and BASICA. (Disk #56)

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

CROSSWORD CREATOR. Helps crossword fans design their own puzzles. Handles puzzles up to 200 words and clues. Makes a standard cross-word puzzle print-out, or can save the puzzles for solution on disk. Requires 256K and Epson or IBM compatible printer for printouts. (Disk #71)

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

PC-DESKTEAM. Enables you to have an alarm clock, calendar, typewriter, calculator, and phone book accessible from your keyboard. Can be a resident program while you are using other software if you have the memory. 128K will run it alone. Need more to run it with other software. (Disk #22)

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)

PC-CHECK MANAGER. A menu-driven program that can

handle multiple checkbooks, unlimited payees and ledger account assignments. Requires 256K. (Disk #25)

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)

EDUCATIONAL SOFTWARE

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

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)

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

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

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

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

GAMES

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

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

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

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

PC-CHESS. A full color many-featured chess program, with four levels of play. You can play against the computer or another human, save games to disk, set up the board yourself and switch sides if you want. It has two clocks for elapsed time for each player, allows castling, en passant and pawn promotion with validity checking, plus other features. 128K. (Disk #44)

ZAXXON/GALAXY TREK. Two exciting high tech shoot-em-up games. In Zaxxon you fly through an obstacle course, shooting while you go, up and over walls, and eventually through space. Galaxy Trek makes you the commander of a Star Ship which you maneuver through the universe seeking to destroy a fleet of Megaton warships before they conquer the planets. 128K. (Disk #45)

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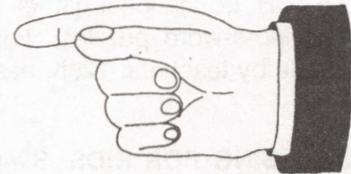
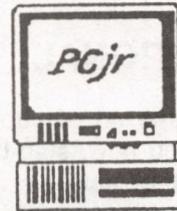
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