SOMETHING NEW

The following article was extracted from the March, 1992 issue of Jr Newsletter, the last surviving national PCjr publication. And we thank Publisher (and APCjrUG member) Tom Crider for his support.]

New Bus Expansion Card Features Two Expansion Slots

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

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

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

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

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

Jr's lack of DMA and the Hard Drive

Direct Memory Access (DMA) was not incorporated into the PCjr. Because it has no DMA, when jr writes to a disk the

New Stuff...

operation is under the control of the CPU and the rest of the system stops during the write. Standard hard drive controller cards typically use DMA to allow the CPU to operate during read write operations. The PCjr's lack of DMA was the major stumbling block to adding hard disks to jr.

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

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

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

Features of Kennedy Unit

Kennedy's adaptor allows users to have both a hard disk controller and an Ad Lib music card on the PCjr. The Ad Lib music card requires a 14 MHz oscillator. The 14 MHz is available within the junior but not available in the bus. While it is possible to hardwire the 14 MHz

signal from another area of the PCjr to the bus adaptor, Kennedy's unit is supplied with an additional component to generate the 14 MHz signal.

Additional Power Supply Prevents Burnout

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

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

Kennedy has assembled a number of units and some of the units will be marketed by OOwl Software.
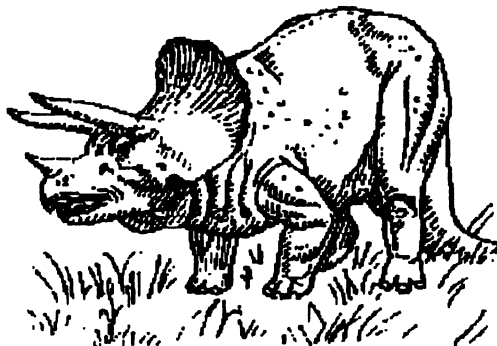
GOOBER PEAS
Editor's Page

Several things come to mind as subjects for commentary this month. As most of you know from hearing me whine for the last couple of months, my mother has been in the hospital with a rather badly broken knee since early February, and it's been a little strain to "keep all the balls in the

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SPECIAL NOTE

As we were assembling this issue of The ORPHAN PEANUT, we received some news we'd like to pass on to you concerning one of our most popular members, Wesley Mercer, the APCjrUG Secretary.

Wesley is presently in the Intensive Care Unit of Saint Joseph's Hospital on Johnson Ferry Road in the Sandy Springs area. He's recuperating from heart bypass surgery and expects to recover completely in time, but it's still a major operation and carries with it the usual concerns. Since he's in the ICU, he can't receive visitors or gifts of flowers or other little goodies, but a card would be nice. Just send it to him at his home: 12450 Charlotte Drive, Crabapple, GA, 30201-1408, and Mrs. Mercer will make sure he gets it. Please don't call either the hospital or his home until we let you know it's okay - his family has plenty to hold their attention as it is.

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air" during that period. For those kind souls who have expressed interest and concern, let me say that the healing process is slow, but well under way, and Mom was released from the convalescent center about a week ago. Things are still hectic, but slowing down to a slightly

less frenetic pace.

A couple of new things are of interest to Atlanta PCjrUG members this month - for the first time in quite a while, we have a new (well, new to me; he's been around for a while) vendor of PCjr parts, enhancements, and supplies. Unfortunately, he's in Minnesota, but hey, sending off for our upgrades is nothing new, is it? His name and address is: Elmer Hungate, R.R. # 1, Box 324, Dodge center, MN 55927. His phone number is (507) 374-2795, and if you have PRODIGY, his ID on that service is WFFT94A. Elmer sent me a copy of his small and unfancy catalog - two 8 x 11" pages with price lists on three sides and an address area on the fourth - and many of his prices are excellent values. This is a resource that it may be well worth your while to investigate. Oh, I forgot to mention that Elmer also does some repair and circuit board modification work as well, but you should check this service out yourself.

Still on the subject of PCjr product vendors, Paul Rau has completed his move from California to Tennessee. I haven't called to harass them yet, but I love talking to his wife, Jeannette (who really does all the work), so it probably won't be long before I do. The new address: Paul Rau Consulting (PRC), 537 Sugg Place, Dyersburg, TN 38024. Phone number: (901) 287-9147.

More new stuff: Former APCjrUG member and general all-around bon vivant Chuck Watson has opened up his own BBS, The SILVER EAGLE. Because of his past connection with PCjrs and

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Telecommunication Hints

by John M. King, Former President of the Late Lamented San Francisco PCjr Users Group

Do you have a modem installed and connected to the phone line? Do you have communications software? Have you tried calling an electronic Bulletin Board System (BBS)? Did you have any problems?

Last month, we covered installing a modem and software for electronic communications. I'll assume you've done that and made your first call to a BBS. If you were successful, you'll find some hints here to make your communications more efficient. If you had problems, I think you'll find the solutions you need.

When you called a BBS, did you see lots of weird symbols and Greek letters mixed randomly with normal letters, instead of readable messages? If so, you probably had the parameters set wrong in your communications program.

In many programs, including my favorites, JRTELE and PROCOMM, Alt-P brings up the parameter menu screen. The common choices are 8-N-1 for most BBSs and 7-E-1 for banks, libraries and other BBSs. The best thing to do when you start with the wrong parameters is hang up, change the parameters, and call back. If you have the PCjr internal modem, make the software change, reboot your computer, then

What, me modem?

call back. The messages from the other computer should now be readable.

Here's another problem. You call a BBS or other computer and see everything you type double as in "YYoouurr NNaammee." There is a simple explanation for this. Keyboard input for communications software goes to the modem rather than directly to the screen. The modem can be set to echo this to the screen or not. Why would you want the modem to echo to the screen? Well, if you were doing some testing before calling another computer, you might want the modem to echo what you typed so you could see it.

When you are connected to another computer, what you type is echoed back by the distant computer to your computer and displayed as it is received. If your modem is also echoing everything, you will see double. If this is the case, you need to change the Echo or Duplex setting to stop your modem from echoing. In JRTELE or PROCOMM, press the Alt-E key combination, and the duplicate letters will stop.

A related, minor problem can occur with line feeds. If everything is double spaced, you are getting an extra linefeed. If lines print right over previous lines on the screen, you are missing a line feed. The problem can be corrected in the program setup menus. To correct it during a call, use Alt-N in JRTELE or Alt-Fn 3 in
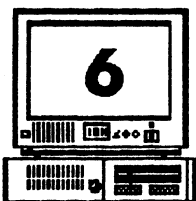
Telecommunication Hints

PROCOMM.

Have you seen unexpected characters, symbols, or Greek letters appear while connected to a BBS? These may be due to noise on the telephone line. Loose phone connectors in your house can cause noise. Check them by wiggling the lines while watching the screen. A spectacular source of noise is someone picking up a receiver on the line you are using and trying to dial or talk. You will see lots of garbage on the screen until they hang up.

If you use PROCOMM, here is a problem you'll want to avoid. PROCOMM uses overlay files which is gets from the disk. If the disk is replaced during a session, the files on the new disk will be wiped out when PROCOMM tries to find its overlays. The solution is not to change the disk. If you have one disk drive, copy the PROCOMM program files to a ramdisk if you have enough memory. As an alternative, use a ramdisk for files which you want to download or upload if they will not fit on the disk with PROCOMM.

JRTELE is much more polite about disk swaps. It won't clobber a disk that replaces the program disk during a session, so you can change disks to download files to different disks. However, if you update the dialing directory or default parameters, the new data will be written to the disk in the drive. If that's not the JRTELE program disk, the updates won't be available the next time you start the program.

That's enough about problems. Once you have a little success calling BBSs, you will be able to learn rapidly through practice and by reading the help files on the BBS. Now let's see what can be done to improve the efficiency of electronic communications.

The first thing to do is to use the keyboard macro feature of your communications program. JRTELE lets you assign up to 25 characters to each function key. You can make Fn 1 print out your name and Fn 2 your password to speed up logging onto a BBS. The Alt-Key macros in PROCOMM are capable of more complex strings, but the idea is the same. Let one key combination do the work of many that you use regularly.

Large communications programs such as PROCOMM, QMODEM, Boyen, and others go far beyond simple keyboard macros to increase your efficiency. They have their own programming languages, or scripts, which allow large parts of a communications session to be automated. A script can not only send desired characters, but it can wait for specific messages from the other computer before proceeding. If you are going to use a large communications system, such as Compuserve, a script file will save you lots of time, effort, and money by moving you through the layers of menus efficiently.
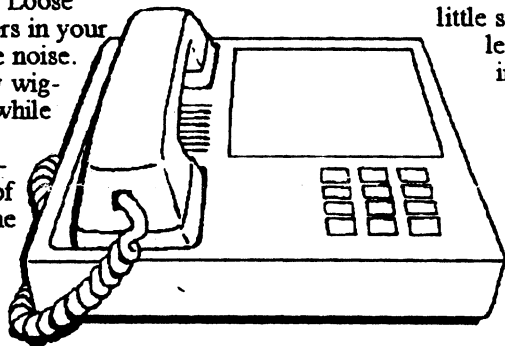
Telecommunication Hints
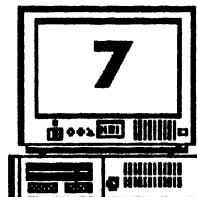
Another way to be more efficient when using a BBS, is to scroll through messages without pausing and capture the screen information to disk to read after you have hung up. When the call is gng distance, this can save a lot of time and money. JRTELE and PROCOMM both have this feature.

If you use PROCOMM, here's a way to save even more time. Write your BBS messages in your wordprocessor and save them in ASCII format before placing a call. After logging on, give the commands to start writing a message. These are typically an E to "Enter a message" followed your responses to several prompts. When you would normally begin typing the body of the message, give PROCOMM the Fn PgUp command to do an upload. Select ASCII from the upload protocol menu which pops up, and then enter the name of the ASCII file with the message. The message will appear on the screen just as if you were typing it rapidly. Magic!

Even a low speed, 300 baud modem can upload messages from disk much faster than anyone can type. Unfortunately, JRTELE doesn't handle ASCII uploads in the same way as PROCOMM, but many other programs do.

An ASCII message upload is just one example of a file transfer. Let's look at file transfers in more detail since a good part of the fun of calling a BBS is to share program files.

Programs (files with .COM and .EXE extensions) cannot be sent by an ASCII transfer because they contain nonASCII characters. Furthermore, ASCII transfers provide no error checking. If there is noise on the line some of the characters received may not be part of the original file, or some characters may be lost. For text, this is only a nuisance. In a program file, incorrect or missing characters could lock up your computer when the program is run.

We need a way to transfer files, so that there are no errors when we are done. In computer language, we need a file transfer protocol that's better than ASCII.

The most common of these is XMODEM. XMODEM incorporates error checking to ensure that every byte is transferred correctly. The file is sent in 128 byte blocks, and a check made after each block is sent to ensure that is was received correctly. If there was an error, the block is discarded and resent automatically until it is correct. Even if your communications program reports a few errors during a transfer, you don't need to worry. The bad blocks will be discarded, and the file you receive will be fine.
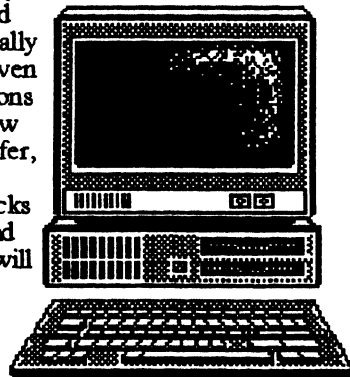
There are a few peculiarities in file transfers by XMODEM that you should be aware of. Because 128 byte blocks are sent, the received file size will be a multiple of 128. If the original file was 400 bytes, the received file will be 512 bytes (4 x 128). The last 112 bytes will be zeros. These fill the block and have no effect on the program.
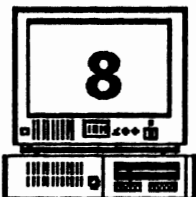
Telecommunication Hints

The date on the file will be the date it was received, not the date shown on the original file. That's because the date is the "file creation date", and this copy was created on your computer.

With XMODEM, which both JRTELE and PROCOMM offer, we can be sure that all the programs we download from bulletin boards near and far will work exactly as they were written. Now, let's look at how the program files are stored on a typical BBS, so we can go get them.

In the files section a BBS, you will see files with the familiar .COM and .EXE extensions of executable programs. You will also see files with .DOC and .TXT extensions which are ASCII text files. What may be new to you will be the files with .ARC and .ZIP extensions. These are compressed files. BBS operators store files in ARCed or ZIPped form to conserve disk space and minimize downloading time.

Compressed files are ordinary program, data, and text files which have been operated on by a file compression utility. These programs can squeeze text files down to less than half their original size and reduce program files by 10 to 30 percent. They can also combine several files, perhaps a program and its documentation, into a single file so everything stays together. The same utility or a related one can open up the compressed file into its original files. The sizes and dates of files extracted from a compressed file are the same as the original files.

The most common compression programs are ARC.EXE from System Enhancement Associates in Wayne, NJ and PKZIP.EXE by Phil Katz of PKware in Glendale, WI. ARC both compresses and expands files, and PKZIP has a companion program, PKUNZIP, to restore the original files. These utilities work similarly, but they are not compatible. If you download a compressed file with the .ARC extension (FILENAME.ARC), you will need ARC.EXE to uncompress it. Similarly, if the compressed file has the .ZIP extension, you will have to use PKUNZIP to open it.

Fortunately, most BBSs have the necessary compression utilities available for downloading. Look for a name like ARC51.EXE for version 5.1 of ARC.EXE or PKZ090.EXE for version 0.90 of PKZIP.EXE and PKUNZIP.EXE.

With your modem, communications program, ARC and PKZIP/PKUNZIP, you can obtain new software and communicate with people all over the country. All it will cost you is your time and the phone charges.

A last item, Allen Ueckert, the author of JRTELE, is not planning any further updates to his program. As a result, he is no longer accepting registration fees. He says, use it and have fun.

A > DIR_

by David Blagg, President, APCjrUG

Every now and then I have an experience which reminds me that I am grateful the PCjr has been around long enough to get rid of most of the bugs.

One such experience occurred recently. I had a call from a user who was trying to swap disks between a PCjr 360K disk drive and a high density 1.2M, 5-1/4 inch drive. It did not work. More accurately, some of it did not work. There are two technical reasons why.

First, the drives have different capacities -- 360K compared with 1.2M. The 360K drive was developed before the 1.2M drive, and was the one that was standard with the "enhanced" PCjr. With much computer hardware, when a new design is released it includes the ability to adapt to what was produced earlier. This is the case with the disk drives. The high density drive can read files which were created with the smaller 360K drive, or even the much older 160K single sided drives. But the older drive cannot read what was written to a newer drive. One way around this problem is to format disks on the newer drive using the DOS FORMAT command switches to create a 360K disk with 9 tracks per side. That should do it, right?

Not always, and this leads to the second technical problem. When a disk is formatted one of the things that happens is FORMAT places information on every disk in something called the boot record. This information includes the DOS version used in the FORMAT. Do you have a hunch what is coming? Earlier versions of DOS provided for a specific amount of room to store certain information about the files on the disk. This was true with version 2.1 which was released with the PCjr. But versions after 3.x have a larger storage area for the same information. As a result, a 360K disk which was formatted with, say DOS 3.3, will not always work properly on a machine running DOS 2.1. Of course, a disk formatted with DOS 2.1 can be read on a machine running DOS 3.x or higher because of the "backward compatibility" described above.

Confused? So was I. To sort all these things out was a real struggle, especially when I was using disks on both an office 386 machine and my PCjr. I did it, but every now and then I would overlook some detail and it would cause problems. And as with other apparently complicated things there was a simple solution. Format some blank disks on the PCjr, then keep them handy as you move to another machine. It precludes all kinds of problems.

contribute, call Dan Lambert and talk it over. You'll be glad you did

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Volume 4, Number 11
May, 1992

The Orphan Peanut

GOOBER PEAS
Editor's Page

(From Page 4)

the APCjrUG, Chuck is setting up a PCjr Conference and is trying to get the PCjr echo from the local RIME national network hub. You can dial the SILVER EAGLE at (404) 438-0725 for 24 hours a day at modem settings of N,8,1 (the standard) and it will accept baud rates from 300 to 19,200. It's not likely that most PCjr owners will want to communicate outside that range, but if you do, let me know and I'll see that your request reaches Chuck.

Something else of considerable importance if you value the quality of law enforcement in our communities - longtime APCjrUG member Glen E. Ashman is seeking the Democratic party nomination as Superior Court judge in Clayton County. Glen is a man of integrity and ability,

and if you see his name on your ballot you won't go wrong by voting for him. Glen didn't ask us for an endorsement, and of course I can't speak for the Group, but I can, and do, express a personal opinion based on my association of several years with him.

We've received several donations of unused PCjr parts and equipment for the Friends of Disabled Adults (FODA), and more than a couple of items came from non-APCjrUG members. Let me urge you once again to consider a donation of your old PCjr parts or complete systems; this is really a VERY worthy cause and one I'm proud to have participated in. There's a box on page 9 with more details, so if you even think you might have something to

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It's In The Book--
WHAT DO THEY MEAN BY THAT?
(As defined in *Webster's New World* Dictionary of Computer Terms

Motherboard [System Board]: An interconnecting assembly into which printed circuit cards, boards, or modules are connected. The main circuit board of a microcomputer.

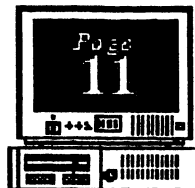**Daughter Card/Board:** a circuit card/board that plugs into a motherboard.

Bus: A channel or path for transferring data and electrical signals

EPROM: Erasable Programmable Read Only Memory - a special [memory chip] that can be erased under high-intensity ultraviolet light and reprogrammed. Can be reprogrammed repeatedly.

APCjrUG

LIBRARIAN'S CHOICE:Disk of the Month

APCJRUG DISK LIBRARY ORDER FORM

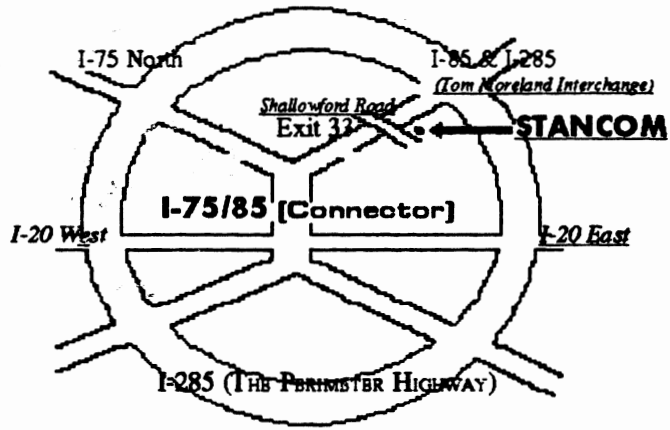| QUANTITY	Disk Name	Price	

~~Beginners Kit @ $10/Members, $15 Nonmembers~~
(Sorry, the Beginners Kit is not presently available)

Please send requests and orders to:
Mr. Leonard D. Brown
Disk Librarian, APCjrUG
537 Lone Oak Drive
Lithonia, GA 30058

GETTING THERE

If you're outside the Perimeter (I-285): Just follow I-285 around Atlanta until you reach the *Tom Moreland Interchange (I-285 and I-85 North)*. Go South on I-85 toward Atlanta until you reach *Exit 33, Shallowford Road.* Exit onto Shallowford Road and turn left to cross over I-85. Immediately past the traffic signal on the *East* side of

I-75 North

I-85 & I-285
(Tom Moreland Interchange)

Shallowford Road
Exit 33 → **STANCOM**

I-20 West   **I-75/85 [Connector]**   I-20 East

I-285 (THE PERIMETER HIGHWAY)

the overpass you will see a buildiing on the left with *STANCOM* in latrge letters on the front of it. If you're inside the Perimeter (I-285): Get on I-85 heading North from the city. Watch for the *Shallowford Road exit*, Number 11 33, and leave the Interstate highway there. Turn right on Shallowford Road, get in the left lane and prepare to immediately turn left into the *STANCOM* parking lot.

The Orphan Peanut

The Chronicle of the Atlanta PCjr Users Group
6575 Amberglades Lane
Atlanta, GA   30328

29 USA

It's Spring!