

The Orphan Peanut

THE CHRONICLE OF THE ATLANTA PCjr USERS GROUP

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DOS 5.0

THE BARE ESSENTIALS FOR RUNNING MICROSOFT DOS 5.0 ON THE PCjr

by John M. King

If you have tried to upgrade to DOS 5 on your PCjr, you have probably encountered some major difficulties. For example, the Microsoft MS-DOS package won't upgrade your IBM PC-DOS disks. The messages in SETUP, the installation program, are almost impossible to read. A DOS 5 system disk that will boot other computers won't boot your PCjr. And if your Junior booted, the keyboard is locked.

Well, after fighting my way through these and other problems as a beta tester for Microsoft, I wrote a long article for the *JRNEWSLETTER* detailing the solutions. Everything I know is there, so I suggest you look for it if you really want to run Microsoft DOS 5. If you haven't gotten the *JRNEWSLETTER* article yet, here are the bare essentials for running DOS 5.

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SETUP PROBLEMS

The MS-DOS 5 upgrade disks are not bootable. You must run SETUP.EXE, which is on the first of the upgrade disks, to unpack the compressed files and create a bootable disk. Unfortunately, the Microsoft DOS 5 SETUP will not run under

NOTICE!
BECAUSE OF LABOR DAY AND
ROSH HASHANAH, THE
SEPTEMBER APCjrUG
MEETING WILL BE HELD ON THE
DAY FOLLOWING THE NORMAL
MEETING DAY - **DON'T COME**
ON **SEPTEMBER 2**

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The Orphan Peanut

is the official newsletter of the *Atlanta PCjr Users Group*, a distressingly non-profit organization dedicated to the health and well-being of the first Orphan and first "clone" from IBM - the "Peanut". The Group's single purpose is as stated in Article 2 of our Constitution:

"... to provide a forum for members to share information, experiences, and techniques of use that will help other members derive maximum benefit and enjoyment from their PCjr."

The ORPHAN PEANUT is designed, laid out, and entirely created on a PCjr with 736 KB of RAM or 8 MHz of clock speed (but not both together), a Microsoft Mouse, a second floppy drive (3.5") from PC Enterprises, and two 20-megabyte hard disks from RIM via Paul Rau Consulting. There's other stuff as well, but we forget.

Software used includes *TEXTRA* word processing (ver. 6.0) and *QEdit* (2.1) text editor, Power Up! Software's *EXPRESS PUBLISHER* 2.0 desktop publishing, and sundry other programs of varying usefulness.

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DOS 5.0 - For PCjrs, Too!

From Page 1)

the IBM PC-DOS 2.10 that came with your PCjr. IBM provides their own version of DOS 5 to upgrade IBM PC-DOS, but I have not tried it.

When you start SETUP, it attempts to configure itself for your video system. It does not "understand" PCjr video and sets 40 columns, black and white mode. This makes the SETUP screens close to unreadable, messages to swap disks are lost, and you will fail to create all even DOS 5 working disks.

If you don't have access to another computer, or a Racore equipped PCjr, on which SETUP runs correctly, run SETUP as best you can. The first disk you create will be a bootable "Startup" disk, and you can unpack the supplemental programs individually with the EXPAND.EXE program.

GETTING DOS 5 TO BOOT

Regardless of how much memory is installed on your PCjr, the system initially informs DOS of only 128K. Since DOS 5 requires a minimum of 256K RAM, it will refuse to load. (Memory management software is designed to change the 28K value to the true amount of RAM but runs only after DOS is loaded.) To run DOS 5, we must change the amount of RAM reported from 28K to the full amount before DOS is loaded. A patch of the boot record on the Startup disk can do this.

The boot record is the small program that loads DOS and which is written to the first sector of every disk when it is formatted. We can modify this program with DEBUG to report the full amount of RAM before loading DOS 5 as shown

in DEBUG Listing 1. Create a script file by typing the commands in a word processor which can save in pure ASCII. The semicolons and comments which follow may be omitted. Save the script under the name DOS5BOOT.SCR.

The easiest way to do this patch is to copy DOS5BOOT.SCR and your old version of DEBUG to the DOS 5 Startup disk. (You must use DEBUG from your old version of DOS since you cannot yet boot up with DOS 5.) If you have more than one drive, be sure to put the DOS 5 disk in drive A and issue the command:

```
DEBUG < DOS5BOOT.SCR.
```

If the first command, "U 0000 L 3" does not display "xxxx:0000 xxxx JMP 003E" and "xxxx:0002 xx NOP", where xxxx are any characters, this patch will not work. The "D 01A0" command will display the message: "Non-System disk or disk error. Replace and strike any key when ready." The command "E 01BF" followed by 00 will replace the R of "Replace" to end the message at that point. The new code will be written in place of the remainder of the message following the "A 01C0" command.

DEBUG Listing 1. Boot Sector Patch for DOS 5.

```
L 0000 1 0000 L 3 A 0000 JMP 01C0 ; Leave blank  
line to end assembly  
  
D 01A0 E 01BF 00 A 01C0 ; Put PCjr code here,  
overwrite after R of "Replace."  
PUSH DS ; Save current DS segment  
MOV AX,40  
MOV DS,AX ; Point at ROM BIOS data area at  
0040:00  
MOV AX,[0015]; Point at True RAM size  
MOV [0018],AX ; Put it in Usable RAM size instead of
```

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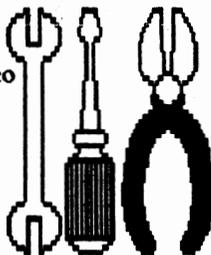
Checking Out Your PCjr

by Colln Tuttle

The PCjr has a feature which even the PCAT doesn't have. It is a feature which can be essential to proper performance of your computer, yet many people have forgotten that it exists. It is the internal test program which you can call up by pressing the Control-Alt-Insert keys simultaneously.

The first thing the test checks out is the memory. You are then given a visual menu listing of test options.

Within this menu, you can check out your Diskette Drive, your Video Display Light Pen, Joystick, Sound, Keyboard, Modem, and Printer.



The test will tell you if each item is working properly, and if anything is wrong, the test will suggest that you take your computer in for service. By using the tests you can get an idea as to which item on your computer is acting up, rather than paying a technician to determine which item is working incorrectly. For more information on the test program on the PCjr check your "Guide to Operations" book which you received with your Junior.

If you are a bit more technically inclined, and like to repair your own computer, you can also use the test point to tell you in greater detail what is wrong with your computer. To get this added information, you will need to purchase the IBM Hardware Maintenance And Service Manual for the IBM PCjr, IBM Number

1502294. It is getting difficult to locate this manual, but it is still obtainable through mail order companies.

If you get the service manual, you receive several strange looking plugs, which plug into the connectors in the back of your PCjr. When these plugs are used, you get additional codes on your test screen. You can look up the codes in the manual, and determine what could be wrong and possible corrective measures. The only real disadvantage of the manual is that many times, the corrective measures are costly replacements, such as to replace the system board, rather than replacing a specific chip on the board. They are however, for the most part, not extremely difficult fixes. You are told to replace a board or part, as opposed to soldering a wire or chip. The manual also shows diagrams, how to replace most parts of the computer, as well as how to make some adjustments.

This manual is the manual used by technicians to diagnose any problem you encounter with your computer. If you feel comfortable opening up your PCjr (after all it is out of warranty) and taking it apart to try to fix it, then you should definitely get a copy of the Hardware Service Manual. If, on the other hand, you are intimidated by your computer, and would rather never look inside the case, then you should definitely avoid looking at this manual, as it shows you exactly how to dismantle your PCjr and even more importantly, how to reassemble what you have dissected.

(The above article was originally published in the OKC Jr Orphans Chronicle.)



Helping Children Learn on the PCjr

Editor's Note: Here's an article from the pages of Jr newsletter that we thought would be of interest to many of the APCjrUG members with small children. If you fit in this category and feel you could contribute something of this nature, please contact me at 2731.]

Mary LeCompte

I have five young children, ages two through eight, who are learning with their PCjr. Over the past four years we have purchased over 50 educational programs ranging from those that help learn the alphabet to those that teach typing skills. The children often choose their PCjr over the television (and they really enjoy the television).

Also, it works! All of our school age children are at least a grade level above average in reading and math.

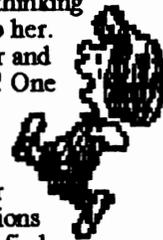
I know other families whose children barely use their computer. I want my kids to use computers not only for the educational programs that educational programs can introduce, but also because computers will reinforce, part of their future schooling and careers. Here are a few ideas I have found effective in making the PCjr a useful tool for my children:

AVAILABILITY: My family started out with a PCjr four years ago. Between my increasing use of it for budgeting and correspondence, and my husband's use of it for work, we found ourselves telling the kids more than occasionally that they could not use it when they asked. Finally, we bought a second junior just for them, available whenever they wanted to play.

LOCATION: Another thing that encourages the kids to use the computer is its location. I spend much of my time in and around the kitchen and the kids often want to be around me. Locating their PCjr on a small desk in the corner of the kitchen lets them be near me and gives them something to do other than what I'm doing. This arrangement lets me conveniently alternate between the work I have to get done and the assistance (and encouragement) they frequently need when taking on a new computer challenge.

FREEDOM TO INVESTIGATE: Initially I learned how to use programs in order to teach my children how to use them. One program, Donald Duck's Playground, particularly baffled me. My then six year-old daughter stood at my side nagging me to let her try. I was having a lot of trouble trying to catch things in the "Produce Bin". My daughter was watching me struggle, saying "Let me try it! Let me try it!"

Finally, I gave up and let her try, thinking she would be back to have me help her. She spent 14 hours at the computer and then taught me to use the program! One of the best programs we have, I presented at a PC Club meeting and had my daughter demonstrate it. Children approach the computer with no fear. They have no inhibitions about trying things. They explore, find things, and use the computer very creatively. (And they have much better eye-hand coordination than their parents, as my experience with "Produce Bin" in Donald Duck's Playground proved to me. After that, I taught my children how to turn on the computer





HELPING CHILDREN LEARN ON THE PCJR

(From Page 5)

and how to handle a disk and I allow them free access to the computer and their programs.

ALTERNATE MEDIA WITHIN A LEARNING ROUTINE:

For my pre-school and elementary school age children, I have found scheduling a set "computer time" to be effective in using the computer to teach mundane skills. Every morning and every evening, including weekends, they spend 30 minutes with school work. On a rotating basis, one of them is allowed to use an arithmetic, spelling, or vocabulary game on the computer for that period. The ones who are not on the computer read books or work in reading or math workbooks. They all look forward to their turns on the computer for the sake of variety in learning methods. Their enthusiasm carries over to their free use of the computer during the rest of the day also.



VARIETY OF PROGRAMS: When children have only a few games to play over and over, they come to look at the computer as a dose of medicine. As I said above, I have over 50 educational games. We have programs for

learning geography, math, reading, spelling, matching skills, numbers, and so on. Some of them I have obtained at practically no cost from bulletin boards using my modem. However, the best

things in life are often not free, so I usually buy them at a discount store that allows me to "test



drive", such as Egghead Discount Software. Ask before you buy whether you may try the program in the store, or at least return the program if it is not to your satisfaction. Before buying, check to see whether the program is copy-protected. If so, check the terms for obtaining replacement disks. I try to make copies of all of the programs I purchase using CopyIIPC, because my kids sometimes act like children! If your child ruins an original program disk and you don't have a back-up, you're sunk. Some programs, even though they cannot be copied, allow you to make a "working copy". You then boot up the game with the original, put the original in a safe place, and run the game with the copy. Over four years, I have had to replace only two original disks at a cost of \$5 each.



PARTING OUT PCjr: Numeric keypad-\$15, power attachment-\$35, serial cable-\$10, keyboard cable-\$15, cartridge games-\$15@, cartridge base/manual-\$30, configuration: PC ID: quiksilver, keyboard buffer, jvideo cartridges-\$15@, joystick-\$15@, proprinter-\$100, parallel print attachment-\$45, 512kb Microsoft jr booster with MS mouse/light simulator-\$200, internal keyboard adaptor-\$35, thin font module-\$10.00, keyboard with five more slots-\$30.00, SPC 33mb Seagate hard drive/sidecar/case/power-\$350, siamese slots-\$15, tandy mod.chip-\$5, internal true.com1: serial card-\$40, jr tech reference and hardware service manuals-\$20@, T28 K-\$100, jr color display-\$100. ALL PRICES/SHIPPING ARE NEGOTIABLE. RICHARD SCHNEIDER, 3210 HAWTHORN ST., SAN DIEGO, CA 92104, (619) 563-4871.



Keyboard for Young Learners

by Jack Anderson

One of the most difficult obstacles that must be overcome before young children can effectively use the PCjr as a learning tool is the keyboard. So, we are not addressing the alleged poor quality of the original nor the merits of its replacement. The difficulty is that the keys are laid out to be used by a touch typist! Children, on the other hand, are taught the ABC's by adults in straight alphabetical order. "B comes right after A, that's what Mom told me and that's how the song goes." So, after my young son, Keith, who can recite the ABC's, was so confused the first time he tried to use the PCjr's keyboard, I tried to help him play an early learning game on the family PCjr. That was before Sunburst Communications joined forces with Koala Technologies and Jim Henson, the Muppet guy. They have produced a keyboard for young learners. Want to make the computer do something? Press the big green "GO" key. Had enough of that action? Press the stop sign shaped "stop" key. Cursor control, up, down, left and right is achieved by pressing one of the four points on the large compass. On Miss Piggy's "HELP" key, she is tied to a railroad track and yelling "HELP!". This key brings Kermit, who demonstrates the use of this keyboard without saying a word!

A ruler, oversized naturally, lays across the top of the letter key area and displays the numbers from zero to nine. This ruler also shows the traditional one-eighth inch increments that most of us learned about on our first, wooden, grade school ruler.

I have always liked my PCjr's ability to display sixteen colors. So, I was happy to see that color

selections could be changed by pressing one of the keys disguised as a color cup in a child's water color paint set. Selections are; black, white, red, orange, yellow, green, blue or violet.

There are some keys that older children would use too. The punctuation marks of "!", "?", ";", and "." are included with the math symbols for addition, subtraction, multiplication, division and equals. The "OOPS!" key will move you back one step if you change your mind. And then, there is my youngest son's personal

Editor's Note: This article was taken from the indispensable jrNewsletter, for which we thank Editor/Publisher (and APCjrUG member) Tom Crider. Because it's a couple of years old, we called SUNBURST to verify that the product was still available. They said it was, but we now think we may have been talking about two different products and we didn't have a chance to get through to them to straighten it out before we went to the printer. If you call, please make sure you're talking about the same product. The people there were very nice and helpful - it's just that we're not sure we made our enquiry clear. There are a number of products for sale by this company that parents of young children might be interested in, so give them a call

favorite the "ERASER" key. By pressing it Eric can clear the screen and start from scratch. The "ZAP" key causes the program to restart.

The Muppet Learning Keys comes with a very interesting three part program for learning the letters that make up our alphabet. Each program is a "stage" on which to perform a different



KEYBOARD FOR YOUNG LEARNERS

(From Page 7)

learning activity. First is the DISCOVERY STAGE. Any key the young learner presses in this program will cause something with a name that begins with that letter to appear on stage with motion and sound. Pressing the "A" causes an alligator in straw hat to dance a jig; press the number "4" and three others join him. A card at the side of the stage shows the letter (upper or lower case) or number that has been pressed. The associations established during this first stage are maintained through out the other programs. This is important because on the LETTERS STAGE the

alligator is presented and the player must press the correct key. The NUMBERS STAGE works much the same way as the LETTERS STAGE. You'll see a screen full of archways. Pictures appear one at a time until a number from one to nine is represented. Your child is challenged to count the pictures and press that number on the ruler. As always, the correct response causes animated action and music. Incorrect actions cause the PCjr to make a little noise, politely requesting another try.

Each stage will play just as shipped. You can also customize the activities to fit your own child's needs by using the Parent Control screen. Some Parent Control options available are:

- Upper or lower case letters
- Sequential or random order of presentation
- Letter selection grouping
- Number selection grouping



The Muppet Learning Keys keyboard is not compatible with any IBM computer except the IBM PCjr. It connects to the number one joystick port. One item not covered in the documentation is that this keyboard wants to be the only peripheral connected to a joystick port. Your regular keyboard can stay plugged in and is still usable, but you must disconnect any other item from the joystick ports. Software installation is a fairly straight forward matter. There is a "driver" that must be used so that Junior recognize input from the keyboard. It is placed into your CONFIG.SYS file either automatically by the INSTALL program or manually.



Fortunately, Sunburst worked in a conversion file that will allow the Muppet Keyboard to be used with just about any program. You simply select this option from the main menu, or invoke the file from your AUTOEXEC.BAT file.

My children have successfully played "Mixed up Mother Goose" and many other early learning programs with this great keyboard.

I became interested in buying a Muppet Learning Keys keyboard after seeing one at my son's school. The only source I know about at the present time is **SUNBURST TECHNOLOGY IN PLEASANTVILLE, NY**. An order can be placed at **1-800-431-1934**. This is the one purchase that will make Junior a real learning machine for the young children your family.

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A > DIR _

by David Blagg, President, APCjrUG

Birthdays are events that I don't often celebrate unless they are associated with young people in the process of becoming adults. I made an exception in August. IBM introduced the PC on August 12th, and it happens that this year was the tenth anniversary.

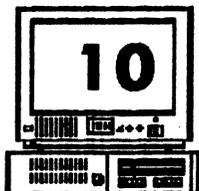
The PC, of course, was the precursor of the beloved PCjr which came along in 1983. In time IBM introduced a number of new computers to the PC "family." Growth has been nothing short of spectacular. Things unheard of ten years ago are commonplace in today's computers. Options and possibilities exist to meet just about any need imaginable in the computer market--at least by today's standard for imagination. In fact, the market for personal computers was once thought to be relatively small. Today it is measured in the billions of dollars.

And the PCjr is holding its own. The little orphan 'peanut' is just right for lots of applications. As all of us know, with some extra effort and the help of knowledgeable friends the PCjr will do most of the tasks that much larger and more expensive computers will do. But how long will that last?

I don't have the answer, but I know where to start looking: right here, in our APCjrUG. It is in this group that many of us found the tools and techniques that enabled us to use the PCjr to its fullest capacity. That means software patches and hardware modifications, memory expansion, more drives, hard disks, greater speed--you name it. We probably know about it and have at least one member who has tried it or uses it or knows someone who does.

As we start a new Fall season of meetings, let us be mindful that our user group is only as strong and as helpful as the members who participate in its affairs. Said another way, it is time once again to make your thoughts and desires known to the officers so we can plan another year of meaningful activities. Better yet, don't let us do it for you. Tell us what YOU want to do for the group.

Got a PCjr but need a modem? Bill Pleasant, 390-9043 has a PCjr internal modem he doesn't have a use for. He'll give it to the first person who'll come to Doraville and get it. Now, that's a price you can't beat - even for a 300 baud IBM modem!



DOS 5.0 - For PCjrs, Too!

(From Page 3)

```
128K
; If you have 2 or 3 drives, omit the (two
; semicolons) in the left margin of line 1 and either
; line 2 or 3 (not both).
; AND BYTE PTR [0010],3F
1. Point to byte at 0040:0010
; Zero bits for number of drives
; OR BYTE PTR [0010],40
2. Set bits to indicate 2 drives
; OR BYTE PTR [0010],80
3. Set bits for 3 disk drives
POP DS ; Restore original DS
JMP 003E ; Jump back to normal start of boot record
; Leave blank line to end assembly
W 0 0 0 1 Q
```

After the "Q" command, you will be returned to the DOS prompt, and the modified boot sector will have been written to the DOS 5 Startup disk in drive A. When you boot up, DOS 5 will know the true amount of RAM your PCjr has (up to 640K) and the number of disk drives as well. If you have 736K of RAM, replace the "MOV AX,[0015]" line with "MOV AX,02E0" (note that there are no brackets). Don't forget to delete the old version of DEBUG from this disk when you are done.

THE LOCKED KEYBOARD

Edit the CONFIG.SYS file to include the line "STACKS=0,0" (without the quotes) as the very first line. Put this ahead of everything, even your memory management device driver. When I omitted this line, my keyboard was locked up after booting, and all my PCjr did was beep at me.

Copy your memory management software and any other essential files such as clock utilities to the new boot disk. Modify the CONFIG.SYS and AUTOEXEC.BAT files as necessary, and

that's it! You are ready to explore the intriguing new features of DOS 5.

Your modified Startup disk will boot DOS 5 on any PCjr with 256K or more RAM. You can create additional DOS 5 boot disks by using DISKCOPY to copy your first boot disk, or you can use the DOS5BOOT.SCR procedure on every new boot disk. You don't have to patch ordinary program or data disks.

DOS 5.0 requires the use of HUSH.COM or the -X switch with JRCONFIG to reset the PCjr disk drive parameters to minimize drive noise. This is the same as with DOS 3.0 and higher.

WHAT ELSE IS THERE?

My jrNewsletter article provides a TSR program to hold the PCjr in 80 column mode, so that SETUP will run correctly. There are also some pointers on software incompatibility with DOS 5 as well as a patch to FORMAT.COM so that it will create bootable PCjr disks with the /S option. In addition, the disk space and RAM requirements of DOS 5 are examined in some detail. One key finding is that DOS 5.0 consumes only 35K more RAM than DOS 2.1.

The longer article also describes how to edit the DOSSHELL.INI file to stop the DOSSHELL screen from blinking. Selecting the Eight Colors or Mono 2 options from the Colors section of the Options menu is an alternate fix.

I'm not sure if I was the only Beta tester with a PCjr, but there must not have been many because Microsoft sure didn't feel compelled to make it easy to run their new DOS on our Juniors. However, with the boot sector patch and the tips presented here, you can try out MS-DOS 5.



GOOBER PEAS

This issue of The PEANUT was going to be strictly dedicated to "back-to-school" stuff, but then we got in the article by John King on DOS 5 as we were putting it together. Since DOS 5 has been the subject of more than a few inquiries for the past couple of months, we decided to feature both. I think you'll find there's something of interest for almost everybody here in September.

The meeting this month will be along the same lines, so if you need or want to talk about educational software (or even DOS 5.0, come on out to STANCOM on September 3. (**NOT SEPTEMBER 2**, remember!). For that matter, come on out anyhow...you never know what you might learn that could make your life interesting.

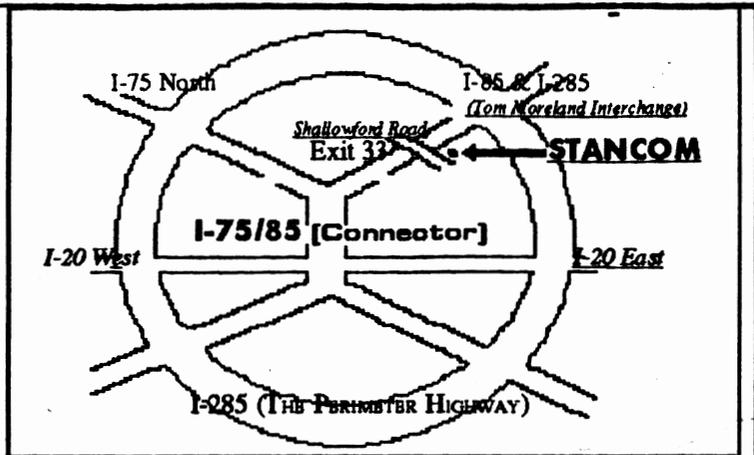
Something interesting is happening all of a sudden. We asked PC WORLD, one of the top Personal Computer magazines, to include the Atlanta PCjr Users group in their listing of User Groups nationwide, and we keep getting phone calls from all over the country. To date, we've sent information out to Kansas, North Carolina, a lady in Ohio who wrote

that she is in dire need of help, and even to a man from Ottawa, Canada. In addition, we've given out information on vendors and other resources to people from Florida to California and several locations in between. It's been fun, but awfully time-consuming, so if the newsletter seems even more spacey than usual, blame it on the Junior users fro coast to coast who want and need a kind word or two. (*Note to Tom Crider of jr Newsletter: yes, I've been recommending your marvelous publication - now, about a discount...*)

There are ominous signs on the horizon concerning the future of PCjr User Groups in general and several that I know of in particular. Both membership and attendance are declining generally, and some drastic changes seem imminent. We won't go into this in this month's issue, but we advise all Junior owners and users to start thinking about what the future of this organization should be. At the moment, we aren't among the troubled Groups, but we really need to plan our course. Think it over, and when we ask for your ideas in the next couple of months, be ready to lay it on us. Please.

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



the overpass you will see a building on the left with *STANCOM* in large 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 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



**SEE PAGE
1 FOR AN
IMPORTANT
MESSAGE!**