

## INSTRUCTION

Your Rapport Software disk includes several convenient operating and data handling modes for your PC jr. It is important that you understand why you have so many options, when to use different options, and how to use them.

### A. Why you have options

Before you can appreciate why you have so many memory options, you need to understand how your PC jr utilizes memory. The "enhanced" PC jr has 128k of internal RAM memory. This memory must be used for storing video buffers, DOS files and the software files you wish to use. Unless you instruct your PC jr differently, the last 16k of your internal 128k of memory is used for the video buffer. (See fig. 1) If you add additional memory to your system (the Rapport memory expansion or IBM's memory expansion), this buffer creates a "hole" in your available memory. (See fig. 2) When this condition exists, DOS will not recognize the additional memory.

Figure 1.  
Standard memory utilization

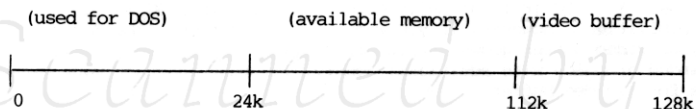
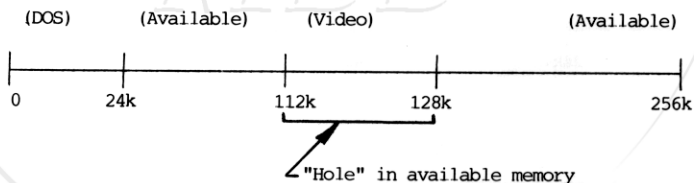
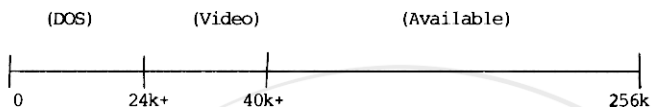


Figure 2.  
Additional 128k of Memory added to PC jr's 128k (standard mode)



The software file that Rapport provides allows movement of the video buffer so it immediately follows the DOS files. (See fig. 3)

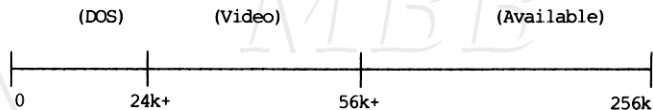
Figure 3.  
Additional 128k of memory added to PC jr's 128k (normal mode)



As you can see, installation of Rapport's software eliminates the "hole" in your memory bank. This allows you to run programs that require additional memory.

If you understand the concept of moving the video buffer, the rest should be easy to follow. Your PC jr is actually more powerful than a PC in the area of graphics capabilities. However, if you want to utilize these expanded graphics features, your video buffer grows in size from 16k to 32k. (See fig. 4) If you want to use expanded graphics with additional memory, you must instruct your PC jr to reserve 32k for a video buffer.

Figure 4.  
Additional 128k of memory added to PC jr's 128k (enhanced mode)

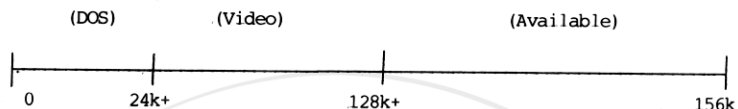


Your PC jr's internal memory is slower than the additional memory provided by Rapport's expansion board. Some PC software will operate at 3 times the speed on Rapport's memory.

If you want to take advantage of this faster operation, you may reserve the entire PC jr memory for DOS and video buffer. (See fig. 5) Operating in the mode gives you all the enhanced graphics capabilities you had if you reserved a 32k video buffer plus page switching features. Page switching is a feature that allows you to create up to 4 32k pages of expanded graphics in your video buffer. This feature is necessary when creating animation on multiple graphics pages.

Figure 5

Additional 128k of memory added to PC jr's 128k (compatible mode)



#### B. Definitions of options

We have now defined 4 modes of memory utilization available to you if you add additional memory to your PC jr's 128k.

1. Standard mode - is in effect when DOS is loaded with no special instructions. Can be used with all PC jr software but leaves a "hole" in memory if you attempt to run software utilizing additional memory.
2. Normal mode - moves a 16k video buffer back so you get maximum utilization of available memory. Not compatible with enhanced graphics.
3. Enhanced mode - moves a 32k video buffer back so you get maximum utilization of available memory when operating with enhanced graphics.
4. Compatible mode - Reserves all 128k of PC jr memory for DOS and video. Allows use of enhanced graphics and page switching and provides fast operation but sacrifices memory.

If the only difference between the IBM PC and the IBM PC jr was memory, these four options would be all that you needed. However, there are other differences in the two systems and these relate to keyboard and video commands. Rapport has modified these commands with hardware changes in our side assembly. The switch we provide allows you to make these changes when operating in the PC position (switch inward) while still being able to operate as a PC jr in the jr position (switch outward).

When you want to run PC software, we suggest you always run with the switch in the PC position (PC mode). Even though the majority of software does not require this mode, some software will and you are safe if you run all PC software in PC mode.

Since PC software does not utilize enhanced graphics, there is no need for a 32k video buffer option. The only options you have in PC mode are normal mode and compatible mode. Since you cannot use extended graphics in the PC mode, we call the compatible mode SPEEDER when used for PC applications.

The following table details the memory options you have with Rapport hardware and software.

	<u>PC jr mode</u>	<u>PC mode</u>
Standard	X	
Normal	X	X
Enhanced	X	
Compatible (Speeder)	X	X

C. When to use options

Don't let all these available operating modes frighten you. If you follow these simple rules you won't be confused.

1. When operating software written for the IBM PC, always operate in the PC mode (switch on Rapport side unit is inward)
2. When operating software specifically designed for the PC jr, follow the directions included with the software to determine how to install Normal, Enhanced or Compatible device drivers.

D. How to use options

At this time refer to page 12 of your Rapport Installation Instructions. Follow software installation instructions from step 1 through step 37 and refer back to this addendum for step 38.

38 - Type COPY B:JRVIDEO.COM

39 - Press the ENTER key.

You will see this on your screen:

A>

This file is now installed on your DOS working disk.

40 - Type EDLIN CONFIG.SYS

41 - Press the ENTER key.

You will see this on your screen:

New file  
\*  
(or)  
End of file  
\*

42 - Type I

43 - Press the ENTER key.

You will see this on your screen:

1:\*

44 - Type DEVICE=JRVIDEO.COM

45 - Press the ENTER key.

You will see this on your screen:

2:\*

46 - Depress CTRL key and while holding it down press C.

You will see this on your screen:

\*

47 - Type E.

48 - Press the ENTER key.

You will see this on your screen:

A >

Your normal mode CONFIG.SYS file is now installed on your DOS working disk.

49 - Remove your Rapport software disk from drive B.

50 - Depress CTRL, ALT, DEL keys.

You will see this on your screen:

A > PCVIDEO

A > POW2CLK

A >

A >

Your Rapport software is now installed on your DOS working disk.

If you boot your system with this DOS disk you will be operating in the Normal mode. If your switch is in the jr position, you will be in JR Normal mode. If your switch is in the PC position, you will be operating in PC Normal mode.

If you want to operate in Standard jr mode, boot your system with an unmodified DOS disk.

If you want to operate in Normal jr mode, Enhanced jr mode, or Compatible jr mode, you must install the proper device drivers in a CONFIG.SYS file. The proper commands are listed below:

<u>Mode</u>	<u>Specify</u>	<u>User Memory</u>	<u>PC jr Video Memory</u>	<u>Video Modes Allowed</u>
Normal	DEVICE=JRVIDEO.COM	Maximum for Normal Applications	16k	All text modes 160x200 16 color 320x200 4 color 640x200 2 color 1 graphic page
Enhanced	DEVICE=JRVIDEO.COM /E	Maximum for Enhanced Applications	32k	All text modes 160x200 16 color 320x200 4 color 640x200 2 color 320x200 16 color 640x200 4 color 1 32k page 2 16k pages
Compatible	DEVICE=JRVIDEO.COM /C	Applications Use Only the Expanded	96k	All text modes 160x200 16 color 320x200 4 color 640x200 2 color 320x200 16 color 640x200 4 color 3 32k pages 6 16k pages

See section F of these instructions for installation of CONFIG.SYS files.

In the PC mode, you can execute the program SPEEDER and increase the speed of execution of your PC jr by up to 3.5 times. This program need only be executed once (twice for DOS version 1.1) at system startup. If you want to operate in the Speeder mode, you should install SPEEDER in the AUTOEXEC.BAT file after PCVIDEO on your DOS disk. (see section on AUTOEXEC file execution).

\* PCVIDEO should always be executed prior to any other program when your system is in PC mode.

#### E. How to Use Memory Disk Options

The Memory device driver, when installed, transforms part of your PC jr memory into a "logical" disk. Thus, you have another disk in which to save and load programs and files. Programs and files that are stored in the memory disk are treated just like programs and files on a real diskette except that they are saved and loaded much faster and (unfortunately) if you power off your computer they will be lost. Thus, if you want to save information from your "memory" disk, make sure you COPY the files/programs to a real diskette before you power off your computer or perform a system reset (Ctrl/Alt/Del).

The Memory Disk is referenced by the diskette drive identification of "C:". Most of the DOS diskette commands will apply to the memory disk such as DIR, COPY, ERASE, CHKDSK, etc.; and all applications will access programs and files from the memory disk merely by prefixing the filename with the drive ID of "C:". Of course since the disk is in memory, you effectively have a single diskette always loaded that does not need to be FORMATTED. You can think of it as a "hard" file in memory.

To install the Memory Disk device driver, you can create or edit the DOS configuration file (CONFIG.SYS) on your DOS working diskette (see section V).

The memory Disk device driver is file named MDISK.COM.

You can specify the amount of memory you want to allocate for your memory disk in K (1024) byte increments as a parameter after the device driver filename. The number must be in the range of 24 to 512 or the memory disk will be allocated the default size of 64k bytes. If you specify a number larger than the available memory on your PC jr, then you will receive a memory disk of the default size, 64.

For example:

```
DEVICE=MDISK.COM /128
```

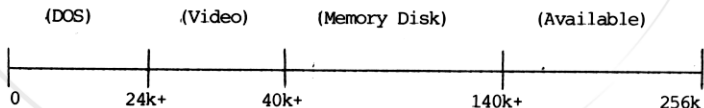
will create a memory disk with the capacity of 128k bytes, or 131,072 characters.

Part of the memory disk (approximately 5k) is used for directory space, so all 128k bytes are not available for programs and files.

```
DEVICE=MDISK.COM /88
```

creates a memory disk with the capacity of 88k bytes.

The following illustrates the PC jr Mode memory configuration for a Memory Disk of 100k and the Expanded Memory device driver operating in "Normal Mode" with an additional 128k memory added to PC jr's 128k:



If you are in PC jr mode and try to install the Memory Disk device driver without specifying the Expanded Memory device driver, only about 88k bytes of memory are available because of DOS and the PC jr video buffer. You MUST install the Expanded Memory device driver to take advantage of any expanded memory. Also you MUST (I repeat MUST) specify the Expanded Memory device driver ahead of the Memory Disk device driver in your CONFIG.SYS file.

#### F. How to Create/Edit the DOS Configuration File

To install any device driver to your DOS working diskette(s) you must create the DOS configuration file named CONFIG.SYS and specify the device driver filename following the characters "DEVICE=". To do this you can use any file editor such as EDLIN or Personal Editor. You can also create it from the keyboard using the DOS command "COPY CON: CONFIG.SYS". For more information on these topics refer to your DOS reference manual.

The filename for the Expanded Memory device driver is JRVIDEO.COM. The filename for the Memory Disk device driver is MDISK.COM.

An example of creating the DOS configuration file is as follows:

STEP	ACTION
1.	Insert your DOS working diskette (with the write protect tab removed) into drive A and close the door.
2.	Enter:  COPY CON: CONFIG.SYS
3.	Enter:  DEVICE=JRVIDEO.COM DEVICE=MDISK.COM /80
4.	Press Fn, then 6, and Enter.
5.	The message "FILE(S) COPIED" and the DOS prompt "A> " will appear when CONFIG.SYS creation is completed.
6.	Insert the RAPPORT add-on diskette into drive B and close the door.
7.	Enter:  COPY JRVIDEO.COM B:
8.	Enter:  COPY MDISK.COM B:

The PC jr Mode Expanded Memory device driver and the memory Diskette Drive device driver are now installed on your DOS working diskette.

The next time you start your system with this DOS diskette, the expanded PC jr memory will be available to DOS and all applications which are loaded by DOS; and you will have an 80k byte disk located in your PC jr memory.

#### CAUTION:

Your Basic cartridge is designed to operate with 64k of memory. You should always operate your system in standard jr mode when running Basic.



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