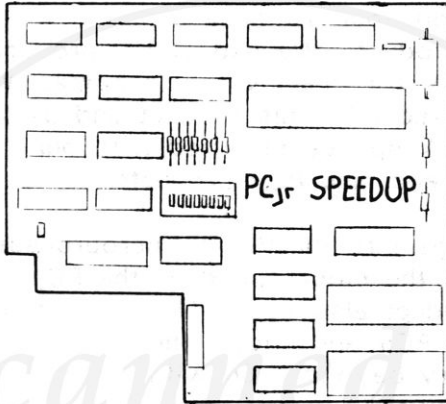PC Enterprises'

jrExcellerator

Installation and Operation Manual

The First Plug-In Speed-Up Board for the PCjr!

PC Enterprises, PO Box 292, Belmar, NJ 07719
(201) 280-0025

If your **PCjr** has not already been set up please do so before installing this option.

This carton should contain the following:

- jrExcellerator Speed-Up Board
- Installation and Operation Manual
- Switch
- Switch Mounting Hardware
- Drill Template

Please inspect this package to determine whether any item appears missing or damaged. If any item is missing or damaged report the missing or damaged item to the place of purchase as soon as possible.

INTRODUCTION

Congratulations on your purchase of a
PC Enterprises product. We expect our product to
serve you reliably for many years to come. We hope
you will be pleased with this product and pledge to
try very hard to keep you satisfied with our
support, service and new PCjr products.

This product plugs into the PCjr's microprocessor
slot and doubles the clock speed of the PCjr. In
addition, the product also adds 16K of program
memory to your PCjr and allows the PCjr to
recognize memory beyond 128K without running memory
management software.

INSTALLATION REQUIREMENTS

SYSTEM REQUIREMENTS

This product requires that the PCjr's microprocessor be mounted in a socket. If your PCjr's microprocessor is not installed in a socket (figure 8) you will not be able to use this product unless a qualified person is found to remove the microprocessor and install a socket.

TOOLS REQUIRED

Medium sized flat-blade screwdriver or small coin. Flashlight or other source of bright light.

TOOLS (OPTIONAL)

The jrExcellerator allows you to install an external PC/PCjr Memory Mode Switch on the front panel of the PCjr. The use of this switch is strictly optional.

Two methods are provided to mount the external switch. The first method allows mounting without drilling any holes (see figure 1). The disadvantage of this method is that it requires you disable the PCjr wireless receiver. This means you must use a keyboard which connects to the PCjr with a cord.
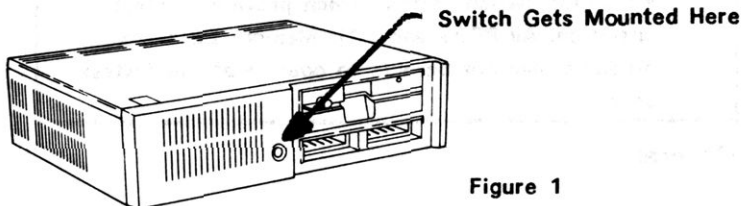
Switch Gets Mounted Here

Figure 1

The second method requires drilling a hole in the PCjr's front panel. If you decide to use this method you can still use your wireless keyboards with the PCjr - but you'll also need:

1/4" Drill Bit
Electric or Hand Drill.

SETTING UP THE HARDWARE

Before you install the jrExcellerator you must set up the jrExcellerator to work with your computer. This is accomplished with one eight position (DIP) switch and two shorting (jumper) clips.

DIP Switch Settings

An eight position switch is used to set up the jrExcellerator. The table below serves as a quick reference guide. A detailed description of each feature, along with recommended switch settings is also included in this section.

Switch	Off (Open)	On (Closed)
1	1 RAM Wait State*	2 RAM Wait States
2	1 ROM Wait State*	2 ROM Wait States
3	Fast READY*	Normal READY
4	Delayed ALE	Normal ALE*
5	For Test Purposes Only - Must be OFF	
6	Not Used	
7	Manual Install	Automatic Install
8	PC Memory Mode	PCjr Memory Mode

* Denotes switch setting which provides fastest operation. All PCjrs and PCjr Memory Expansion products may not be able to operate at the fastest speed.

General

If your PCjr has more than 128K of memory the memory expansion product you selected to increase the PCjr's memory may or may not prevent you from operating at the fastest possible speed.

"Recommended Switch Settings" have been determined based upon testing of the jrExcellerator with memory expansion sidecars manufactured by

PC Enterprises and other manufacturers. Results on your system may vary. We suggest you initially set up the jrExcellerator as recommended below then test your system. Once you conclude everything is working properly feel free to experiment with the switch settings to determine the optimum set up for your PCjr.

Switch 1 - RAM Wait States

Programs loaded from diskettes are normally run from the PCjr's RAM.

Each normal PCjr RAM cycle takes four clock cycles to complete. When the PCjr is operated at 4.77 MHz a clock cycle occurs every 210 nanoseconds. This means a RAM cycle takes 840 ns.

When the clock speed is increased to 9.54 MHz a clock cycle now occurs every 105 ns. A RAM cycle now takes either five or six clock cycles - depending upon the setting of switch 1.

With Switch 1 OFF the jrExcellerator inserts one additional wait state. The new memory cycle now takes five clock cycles or 525 ns. With Switch 1 ON two additional wait states are inserted. In this configuration the new memory cycle takes six clock cycles for a total of 630 ns.

Optimum performance is obtained with the shortest memory cycle (switch 1 OFF). Unfortunately, if you have expanded your PCjr's memory (beyond 128K) your memory expansion board may or may not be able to operate with only one added wait state.

Recommended Initial Setting

If you have a total of 128K of memory; or if you have either the PC Enterprises or the IBM Memory Expansion Sidecar chances are that you'll be able

to operate at the fastest possible speed. Set switch 1 Off (only one added wait state).

If you have a Tecmar or Microsoft sidecar set switch 1 ON (two added wait states).

Switch 2 - ROM Wait States

Most PCjr cartridges, and a few sidecars, contain programs which are run from ROM. Switch 2 controls the number of wait states inserted into each ROM memory cycle. Under normal circumstances a ROM memory cycle on the PCjr also consists of four clock cycles.

The jrExcellerator modifies each ROM memory cycle to consist of either five clock cycles (one added wait state) or six clock cycles (two added wait states).

Recommended Initial Setting

Many PCjr cartridges and sidecars use ROM modules which are too slow to work reliably at 9.54 MHz when only one additional wait state is added. As a result there's a good chance you'll need to add two wait states to each ROM memory cycle.

When you add two wait states to the ROM memory cycle you will slow down programs which run from ROM but will not effect programs run from RAM. For this reason we suggest you begin by setting switch 2 to the ON position (two added wait states). Under most circumstances this switch setting will not cause any significant degradation in performance.

If you prefer to operate with only one added ROM wait state you should first verify that your PCjr keyboard and system unit works reliably with all the cartridges and sidecars you intend to use installed and activated.

Switch 3 - Ready Signal

The PCjr uses a signal named "READY" to tell the microprocessor when it is permissable to change the information on the bus. When the microprocessor senses the READY signal it changes the information on the bus during the next clock cycle.

A problem may exist with certain slower add-on memory expansion boards. When the READY timing is generated from the "fast" clock the microprocessor may change the information on the bus before the memory expansion board is actually ready.

The jrExcellerator therefore permits you to select whether READY signal timing is generated from the fast or the normal clock.

When switch 3 is in the OFF position the READY signal will be generated based upon the fast (9.54 MHz) clock cycle.

When switch 3 is in the ON position the READY signal is generated based upon the normal (4.77 MHz) clock cycle.

Optimum performance is achieved when switch 3 is in the OFF position, however, slower memory expansion boards may not work reliably in this configuration. If your memory expansion board does not work reliably with switch 3 off you will need to pay a performance penalty by setting switch 3 to the ON position.

Recommended Switch Setting

If you have a total of 128K of memory; or if you have either the PC Enterprises, Microsoft, or IBM memory expansion sidecar start by setting switch 3 OFF (fast ready).

If you have a Tecmar memory expansion we suggest you set switch 3 ON (Normal Ready).

If after testing your system you determine your system is not working reliably be sure to set switch 3 to the ON position (Normal Ready) and retest.

Switch 4 - Delayed Address Latch Enable

Many memory expansion sidecars use the Address Latch Enable (ALE) signal to begin a memory cycle. When the ALE signal occurs a memory cycle will begin if the "Chip Select" input (which must be generated by your memory board) is also active.

A problem exists with memory boards which have slow decode circuitry. If your memory board does not generate the "Chip Select" signal before ALE occurs the memory board will not work correctly. This problem is solved when you set switch 4 to the OFF position. When switch 4 is off the jrExcellerator will delay the ALE signal. Although delaying the ALE signal will permit your memory board to work properly, a noticeable performance penalty will be paid.

Recommended Initial Setting

If your PCjr has a total of 128K of memory; or if you are using either the PC Enterprises, Tecmar, or IBM memory expansion sidecar you will not normally need to delay the ALE signal. Set switch 4 to the ON position (Normal ALE).

If you are using the Microsoft sidecar we suggest you set switch 4 to the OFF position (Delayed ALE).

If when you test your system you determine it will not work correctly with switch 4 in the ON position (Normal ALE) try setting switch 4 to the OFF position (Delayed ALE) and retest.

Switch 5 - For Test Purposes Only. Must be OFF.

Switch 6 - This switch is not used.

Switch 7 - Automatic Software Installation

The jrExcellerator includes a feature which enables
you to switch between fast and slow speeds from the
keyboard. Software to support this feature is
included on a ROM module which is part of the
jrExcellerator. Switch 7 determines whether this
software is run automatically - or manually.

When the computer is started with switch 7 in the
ON position the jrExcellerator automatically
installs the software which permits you to switch
speeds with the keyboard.

With switch 7 in the OFF position you must manually
install the software by entering the command
FASTKEY from the DOS prompt.

Warning

Be sure you do not change switch 7 while the
computer is operating. While changing this switch
will not cause any damage to your hardware it will
cause any program running at the time to end
abruptly.

Recommended Initial Setting

If you do NOT normally use PC Enterprises' Keyboard
Buffer or Combo Cartridge set switch 7 ON. In this
configuration you will be able to switch speeds
from the keyboard without first entering the
FASTKEY command from the DOS prompt.

If a compatibility problem is ever encountered you
can un-install, or remove the FASTKEY software by
entering the command: FASTKEY /R.

If you normally use a PC Enterprises Keyboard
Buffer or Combo Cartridge (available separately)
you should not use the automatic install feature.
Set switch 7 OFF and refer to the section of this
manual titled, "DISKSYNC" for more information.

Switch 8 - PC/PCjr Memory Mode Switch

The PC/PCjr Memory Mode Switch controls a feature
which lets the PCjr recognize all expansion memory
(up to 736K) without running any memory management
software. In addition, this feature also adds 16K
of program memory (use the DOS CHKDSK program to
confirm).

The disadvantage of the PC Memory Mode is that
certain PCjr-specific programs will not run
correctly in the PC mode. If you do not want to use
this feature select the PCjr mode and your PCjr
will continue running all PCjr programs which ran
before the jrExcellerator was installed.

If you use the PC Memory Mode please read and be
sure to understand the section of this manual
titled, "Understanding the PC/PCjr Memory Mode
Feature".

Warning

Be sure you do not change memory modes while the
computer is operating. While changing modes will
not cause any damage to your hardware it may cause
the program you are running at the time to end
abruptly.

Understanding the PC/PCjr Memory Mode Feature

The Enhanced Model of the PCjr has a built in Color
Graphics Card (PCjr-CGA) and a total of 128K of
internal memory. The built in PCjr-CGA card
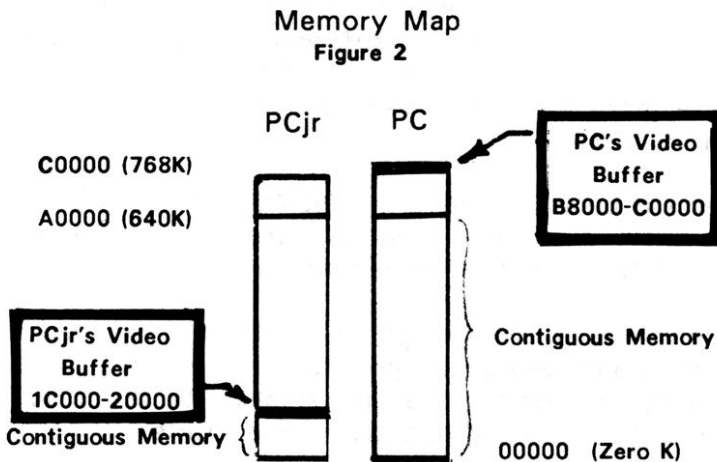provides the interface between the PCjr and the
display.

The PCjr-CGA card uses 16K of the PCjr's internal memory to store information displayed on the screen (video information). This leaves 112K available for programs.

The memory allocated for the PCjr-CGA card is referred to as the video buffer and is normally located between 112 and 128K (addresses 1C000 through 1FFFF) - although this address can be changed with software.

A problem arises when you expand the PCjr to include more than 128K of memory. DOS requires all program memory to be contiguous - and the video buffer prevents DOS from seeing the memory above 128K (see figure 2).

The IBM PC does not use any internal memory for it's video buffer. Instead it has a separate 16K block of memory addressed at B8000 - above the normal 640K limit of DOS.

Programs designed to run on an IBM PC with a CGA card therefore write screen information to the B8000 block. This would normally cause a compatibility problem because the PCjr does not have any memory at address B8000.

Memory Map
Figure 2

PCjr   PC

C0000 (768K)   PC's Video
A0000 (640K)   Buffer
                                B8000-C0000

                                Contiguous Memory

PCjr's Video
Buffer
1C000-20000

Contiguous Memory {   00000 (Zero K)

To solve this problem the PCjr was designed so that any information written to the location used by the IBM PC to store video information (B8000) is automatically redirected to the PCjr's video buffer at address 1C000.

If a separate block of memory is added to the PCjr the PCjr would not need to use the 1C000 block to store video information. In this case the PCjr would recognize all program memory without running any memory management software - because all program memory is now contiguous.

Switch 8 of the jrExcellerator, in-effect, does just this. When switch 8 is set in the OFF position a separate memory device on the jrExcellerator replaces the top portion of the PCjr's internal memory. All attempts to read or write to the top 16K of the PCjr's internal memory are now routed to memory on the jrExcellerator.

The top portion of the PCjr's internal memory is now used exclusively as the video buffer. The only way information can now be written to this memory is by writing the information to the B8000 block - and allowing the PCjr to redirect as before.

The primary benefit of this feature is that the PCjr now recognizes added memory without running any memory management software. Computer operation is now simplified. Even self booting programs which require more than 112K now recognize all your memory and run.

A second benefit is that a 128K PCjr now has all 128K (instead of only 112K) available for programs (Use the DOS CHKDSK command to confirm).

The only real disadvantage of the PC Memory Mode is that programs designed specifically to run on the PCjr may not write screen information to the B8000 block, but may write directly to the PCjr's internal memory instead. If this happens the PCjr-

specific program will not run correctly in the
PC Memory Mode.

Although PCjr-specific programs are not very common
they do exist. In fact, all programs which run on
the PCjr in the 16-color mode are PCjr-specific
programs (remember, the IBM PC can not normally
display more than four colors at a time).

The best of both worlds can be obtained if you
install an external PC/PCjr Memory Mode switch. In
this case you'll be able to operate in either mode
without disassembling your computer to change the
setting of switch 8.

Recommended Initial Settings

If you DO NOT wish to operate in the PC Memory Mode
set switch 8 to the ON position. In this
configuration you will NOT use the jrExcellerator
RAM and your computer WILL RUN ALL of your PCjr
software. Of course, you'll still need to run your
memory software to recognize any memory you have
added beyond 128K.

If you DO wish to use the PC Memory Mode set
switch 8 OFF. In this configuration, you will not
need (AND MUST NOT USE) any memory software to
recognize memory beyond 128K.

If you intend to install the optional external
PC/PCjr Memory Mode Switch be sure switch 8 is set
to the OFF position.

Shorting Clips

The jrExcellerator also contains two sets of
headers (pins) which are used together with
shorting clips (jumpers) to determine the default
configuration. Shorting clips are designed to be
plugged onto, thereby shorting together, two pins.

Locate the group of three pins on the
jrExcellerator which are labeled SPEED. This
jumper determines whether the computer starts in
the Fast or the Slow mode. Most people will prefer
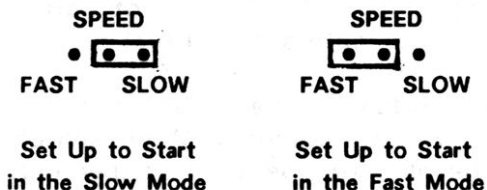the computer to start in the FAST mode. See figure 3.

SPEED   SPEED

• � SLOW   FAST   largesquare •

FAST   SLOW   FAST   SLOW

Set Up to Start   Set Up to Start
in the Slow Mode   in the Fast Mode

Figure 3

The second group of pins determine the address that
the jrExcellerator ROM module uses. These pins are
labeled "ROM ADDRESS" and are preset at our
facility to an address which we do not expect to
conflict with other PCjr products.

If your computer will not start when the
jrExcellerator is installed the problem may be a
compatibility problem with another product you are
using. Remove any other products you have installed
to determine whether a compatibility problem
exists. If a compatibility problem is determined to
exist move the ROM ADDRESS jumper to select another
address.

STEP BY STEP INSTALLATION INSTRUCTIONS

1   Turn off all power to your computer and
     it's accessories and remove all power cords
     from the wall.

2   Turn the PCjr around so the rear is facing
     you.

3   Wait five minutes to allow the PCjr and
     internal options to cool.

4   Using a medium sized flat-blade screw-driver or small coin remove the PCjr's top cover. See figure 4.

Figure 4

Slots
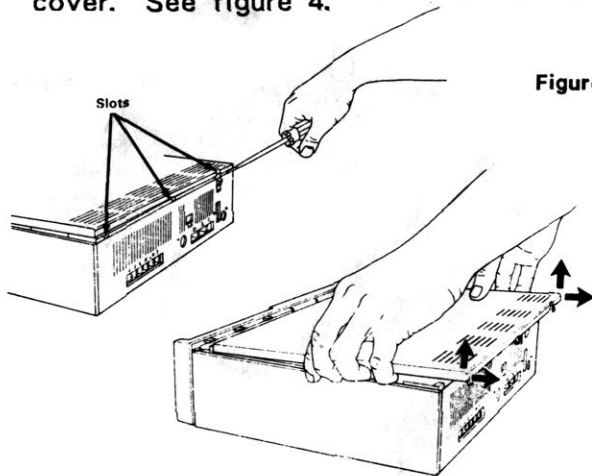
5   Turn the PCjr around so the front is facing you.

6   Locate and remove the Diskette Drive Adapter card by lifting it up and out of the PCjr. Place the card, with the disk drive signal cable still attached, anywhere which is out of the way. See figure 5.

Figure 5

Signal Cable

Rear Guide

Diskette-Drive Adapter

Diskette-Drive System Slot

Diskette-Drive System Connector
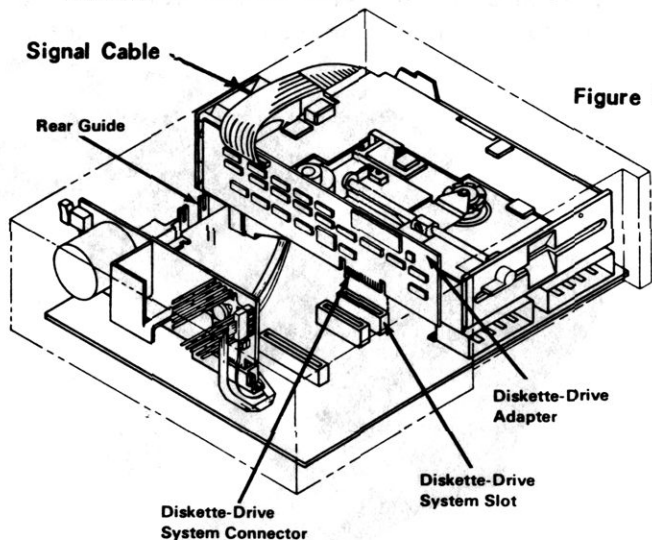
7   Locate and unplug the black flat-cable
     which is attached to the PCjr power
     supply. This is the diskette drive power
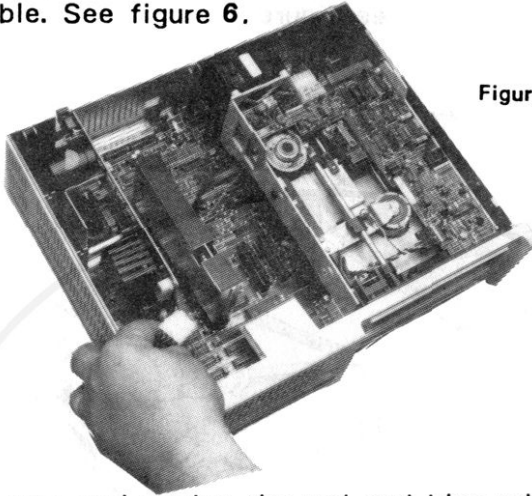   cable. See figure **6**.

Figure 6

8   Locate and unplug the red and blue wires
     which are attached to the PCjr power
     supply. These wires can be found directly
     underneath the flat-black cable. The other
     end of these wires connect to the PCjr's
     internal fan.

9   Remove the disk drive by firmly grasping
     the drive as shown in the photo - then
     pull straight up. At times, a fair amount
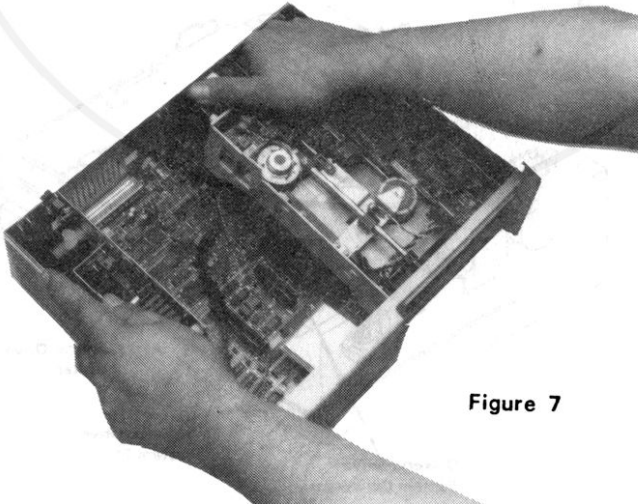   of force will be necessary. See figure 7.

Figure 7

10   Locate the computer's microprocessor. This will be the 40 pin IC shown in the photo. The marking 8088 should appear somewhere within the number marked on the chip. See figure 9.

11   Determine whether your computer's microprocessor is in a socket or whether it is soldered in place. If it is soldered in place you will not be able to install the jrExcellerator. See figure 8.

This chip is in a socket

This chip is soldered in place
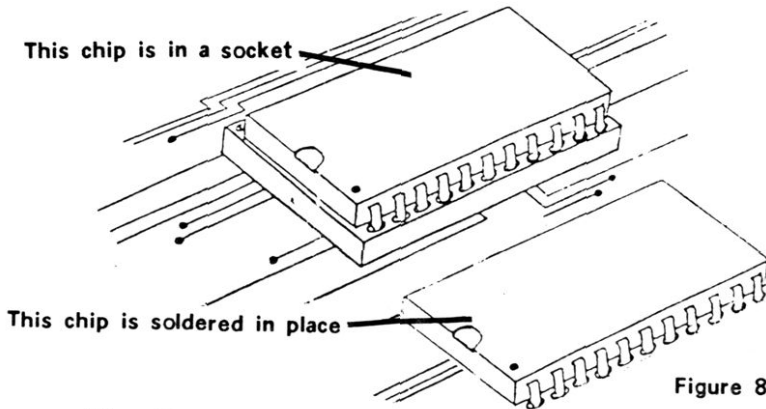
Figure 8

12   Remove the microprocessor by slipping a small screwdriver underneath the microprocessor between it and the socket - then gently lifting up. See figure 9.

8284 Clock Chip

8088 Microprocessor

Figure 9

80045 - 9.54 MHz Speed Up Board - Page 17
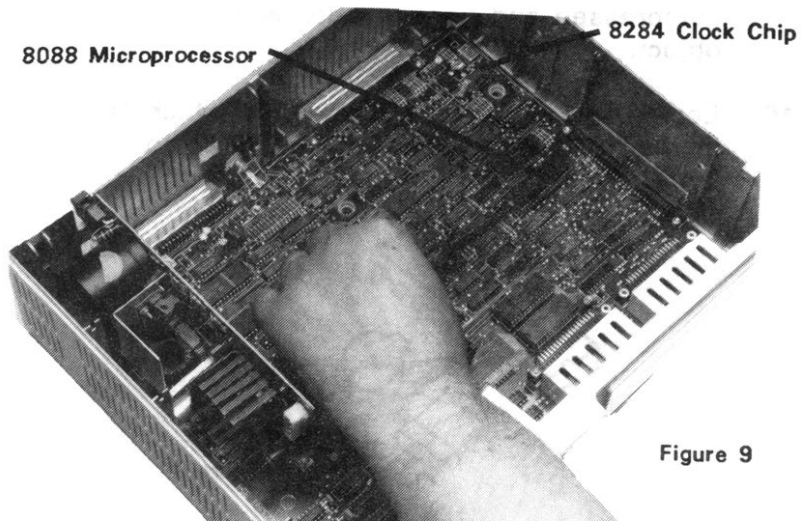
13   Examine the pins on the bottom of the
      jrExcellerator and be sure they are
      straight and properly aligned. If not,
      straighten them with a pair of needle nose
      pliers.

14   Carefully position the jrExcellerator as
      shown in figure 10 - then press into the
      microprocessor's socket. Make certain
      none of the pins overlap the left or right
      edge of the socket.

      *Helpful hint: Be sure you are sitting down, looking
      straight ahead, and that you have enough light to
      see what you are doing. Also remove any cartridges
      you have installed so you can look through the
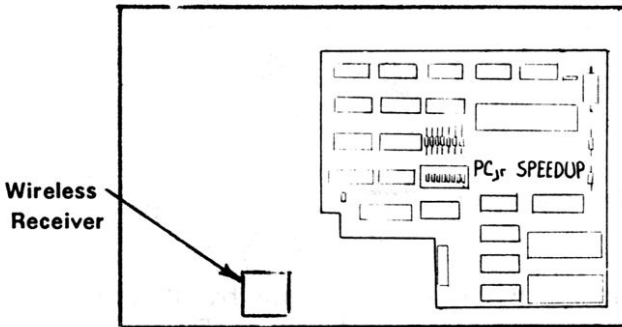   cartridge slots.*

Figure 10

15   Locate the EZ Hook (attached to the black
      wire) and notice how the EZ Hook can be
      compressed and hooked onto another
      object.

16   Locate the computer's clock chip which is
      marked 8284 and attach the EZ hook to
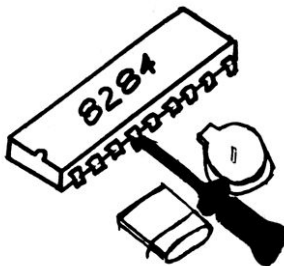   pin 4. See figure 11.

Figure 11

Now it's time to mount the external PC/PCjr Memory Mode Switch. If your keyboard attaches to the PCjr system unit with a cord you can mount the switch in the round hole on the front panel of the PCjr. If you decide to use this hole to mount the external switch continue with step 17.

If you do want to use the external switch, but do not want to disconnect the PCjr's wireless receiver, you can mount the switch above the existing hole in the front panel of the PCjr. This process requires that you drill a hole in the front panel. If this is the mounting you select skip to step 21.

If you do not intend to install the optional externally mounted PC/PCjr Memory Mode Switch skip now to step 25.

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17   Remove the PCjr's Wireless Receiver by pulling it straight up and out. The Wireless Receiver is located behind the round hole in the front panel of the PCjr and resembles a metal box (figure 10).

18   Place the black rubber grommet inside the round hole in the front panel of the PCjr (figure 1).

19   Insert the toggle switch through the grommet and secure it in place with the hardware provided.

20   Plug the connector attached to the switch onto the pins on the jrExcellerator labeled Memory Select Switch - then skip to step 25.

21   Proceed with these instructions if you
      intend to drill a hole in the front panel
      of your PCjr to mount the external
      PC/PCjr switch. A paper template is
      provided to mark the location where the
      hole should be drilled.

      Locate the paper template and tape it
      onto the front panel of the PCjr.

22   Drill a 1/4 " hole in the location
      indicated on the template.

23   Insert the toggle switch through the hole
      and attach with the mounting hardware
      provided.

24   Locate the connector at the end of the
      wires attached to the switch. Now plug
      this connector onto the pins labeled
      Memory Select Switch.

25   Refer to the section of this manual
      titled "Testing" - then re-install all
      removed components.

Using the Keyboard to Select Speed Modes

The jrExcellerator permits you to change speeds
while running a program ("on the fly"). To change
speeds you simply press a special combination of
keys. The specific keys that you must press depends
upon the type of keyboard you use.

PCjr Keyboards		
	Fast Speed	Press and hold the left Shift and ALT key then press the Fn Key followed by the + key.
	Slow Speed	Press and hold the left Shift and ALT key then press the Fn Key followed by the -key.

Full Size Keyboards

Fast Speed	Press and hold the left Shift and ALT key then press the + key located on the numeric keypad.
Slow Speed	Press and hold the left Shift and ALT key then press the - key located on the numeric keypad.

Other Features

The software contained on the jrExcellerator's ROM adds several new commands. The following commands can be entered from the DOS prompt without any diskettes in your drives.

SPEEDCHK

This is a program which displays the current clock speed of your PCjr.

FASTKEY

You will not be able to use the feature which lets you change speeds with the keyboard until the supporting software is installed. If DIP switch 7 is in the ON position when the computer is first started the supporting software will be automatically installed. When your computer is started with switch 7 in the OFF position you will need to install the FASTKEY program manually. To do this enter the command: FASTKEY from the DOS prompt.

DISKSYNC

A few programs or other peripherals may not work properly when the disk drive is operated at the faster clock speed. If you should encounter such a problem you may enter the DISKSYNC command and the

PCjr will switch back to the slow clock speed during disk drive accesses.

Using this program will not significantly effect the overall performance of the PCjr because the transfer rate between a computer and a disk drive is essentially related to drive rotation speed - not clock speed.

Special note for those who also use the
PC Enterprises Keyboard Buffer or Combo Cartridge

These products require the use of the DISKSYNC program which must be run before the JRSYNC program. Once both programs have been run, you may install the FASTKEY program if desired.

FASTMEM

The PCjr's internal 128K of memory operates much more slowly than the memory in most PCjr memory expansion products. Software that you run will therefore execute more quickly when the software is prevented from loading in the PCjr's first 128K.

Perhaps the best way to prevent programs from loading in the PCjr's internal 128K is to use the first 128K to run a background program, or a RAMDISK. If you are already doing this you will not need to use the FASTMEM program at all.

If, however, you do not have or know how to use one of these programs, or do not want to bother using such a program, the FASTMEM command offers an easy-to-use alternative.

When you enter the FASTMEM command the jrExcellerator will fill up the PCjr's slower internal memory forcing other programs you load to load into and execute from your faster expansion memory.

Cursor Size

Each time the keyboard is used to change the clock speed the FASTMEM program also changes the size and shape of the cursor as an indication of the speed that has been selected. See figure 12.

Figure 12

| Normal | Fast Mode | Slow Mode |
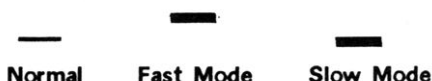
It's important to understand that the cursor size and shape does not effect processing speed - it's simply an indicator. If another program you run changes the size and shape of the cursor for its own purposes the processing speed you are using will not be effected.

COMPATIBILITY

General

The IBM PCjr and most PCjr add-on products were designed to operate with the system clock running at 4.77 MHz. The jrExcellerator is a product which doubles the clock speed of the computer.

While the conservative design of the PCjr permits most to operate reliably at the faster clock speed it is important that you remember: speed up boards attempt to make computers operate more quickly than they were designed to operate.

The jrExcellerator includes several features to enable operation with systems which could not otherwise handle the faster speed. Nevertheless, it's still possible that certain PCjrs or PCjr add-on products may not work at the faster speed.

If this should happen, a compatibility problem exists and you will not be able to use the jrExcellerator (in the fast mode) at the same time as the product with which it is incompatible.

PC/PCjr Memory Mode Switch

Certain programs are designed to run differently on a PCjr and a PC. These are actually PCjr-specific programs. If you try to run a PCjr-specific program while you are in the PC Memory Mode the program may not run correctly.

If this problem should occur there are two common solutions. First, you may use the PC/PCjr Memory Mode switch to select the PCjr mode; or you may purchase and install a device which changes the Identification Byte of the PCjr to that of a PC - thereby fooling software into running as it would on an IBM PC. The PC Enterprises Configuration Cartridge is one such product.

TESTING

It's a great idea to run a quick test on your PCjr before everything is put back together. This way you could be sure the jrExcellerator is installed properly and the EZ clip secured to the correct location before you put everything back together.

To perform the quick test plug the PCjr power transformer and monitor into the wall - then momentarily turn the PCjr's power switch on.

The PCjr title screen should appear. If the title screen does not appear please refer to the section of this manual titled, "Common Problems".

Next, run the PCjr's built in memory test. To start the memory test, press and hold the Ctrl and Alt keys then press the Ins key.

The computer will start counting memory at the bottom of the screen. If all is fine the system will count up to the total amount of memory installed (or 640K whichever comes first) - then start over.

If a memory problem is detected the computer stops counting and displays the memory location which failed.

Once you have set up and installed your jrExcellerator you should perform this test to verify that all is fine before you put your PCjr back together. It's a good idea to let this test run for several hours.

IF YOU HAVE A PROBLEM

Please verify that the jrExcellerator is properly set up and installed and firmly seated in the microprocessor's socket. Also verify that all of the jrExcellerator's pins were properly inserted into the microprocessor's slot.

If you check these things and the problem continues, attempt to determine whether the problem is caused by a compatibility problem with another add-on item you have installed. This can be done by removing any other items (Cartridges, sidecars, etc.) and retesting the jrExcellerator to determine whether the problem goes away.

If you decide that you need our help contact our Customer Service Department. Be sure your system is within reach and you are prepared to demonstrate the problem while talking to one of our representatives. Although the people in our Customer Service department are not technical, they generally known more about compatibility problems and there solutions than anyone else. If necessary, they can also issue a return number or tell you how to get in touch with someone who is technical.

COMMON PROBLEMS

Black Screen and Two Beeps

EZ clip not connected to pin 4 of clock chip.

White Screen

The jrExcellerator may be loose in the microprocessor socket, misaligned, or not plugged in correctly.

Error A Message

An Error A will be displayed if your system fails the "power on" memory test. This is the memory test which runs automatically when the computer is started. Your system will fail this test if it is set up to operate at a faster speed than it can handle.

Most PCjr's are quite capable of operating reliably at the fastest speed. If you encounter an Error A message remove any memory expansion products installed and retest your PCjr. This will tell you whether the problem is caused by the jrExcellerator or by your memory expansion sidecar.

If the problem is caused by your memory expansion product you will need to slow down the jrExcellerator by changing one or more of the switch settings selected. Refer to the Quick Reference Switch Guide (page 4). If a setting you have selected has an asterisk (*) next to it then you have selected the fastest setting. Select the slower setting then retest your system.

FINISHING UP THE PAPERWORK

1   If you have any questions which were not answered by the manual, we would like to know about them. We also appreciate your comments concerning the organization and content of this manual.

    To be sure that your comments reach the proper department please jot them down on a separate piece of paper and mail to:

    About your Manual
    Customer Service Department
    PC Enterprises
    P.O. Box 292
    Belmar, NJ 07719

2   Insert these option instructions into Section 5 of the "Guide to Operations" manual which you received when you purchased your PCjr.

3   If you are happy with our product, don't tell us. Tell a friend.

Limited Warranty

PC Enterprises warrants the original purchaser of this product that it will be in good working order for the one year period from the date of purchase from PC Enterprises or authorized dealer. Should this product fail to be in good working order at any time during the warranty period, PC Enterprises will, at it's option, repair or replace the product at no additional cost except that as stated below. Repair parts and replacement products will be furnished either reconditioned or new. All replaced parts and products become the property of PC Enterprises. This warranty does not include service to repair damage to the product as a result of misuse, disaster, accident, or modification of the product.

Warranty service may be obtained by shipping the product to PC Enterprises and providing proof of purchase date. You agree to insure the product or assume the risk of loss or damage in transit, to prepay shipping charges and to use the original shipping container or equivalent. Contact PC Enterprises prior to returning any products for repair to receive a Return Authorization (RA) number. Any products returned without an RA number will be indiscriminately refused.

All express and implied warranties for this product including the warranties of merchantability and fitness for a particular purpose, are limited in duration to the one year period from the date of purchase, and no warranties, whether express or implied, will apply after this period. Some states do not allow limitations on how long an implied warranty lasts, so the above may not apply to you.

If this product is not in good working order as warranted above, your sole remedy shall be repair or replacement as provided above. In no event will PC Enterprises be liable to you for any damages, whether incidental or consequential, arising out of the use of, or inability to use such product. Some states do not allow the exclusion or limitation of incidental or consequential damages for consumer products, whereas the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. Modification or other disassembly of the PC Enterprises' product without written permission from PC Enterprises will void this warranty.

SPECIAL NOTE TO ALL jrEXCELLERATOR USERS

We are aware that some of our speedup board users have been
experiencing some difficulty attaching the EZ clip to pin #4
of the 8284A chip as illustrated on page 18 of the
installation manual. The diagram below depicts an alternate
location for the EZ Clip.

BACK

LEFT   8295A   RIGHT

PCjr's
MICROPROCESSOR
(40 PINS)

P8088

FRONT
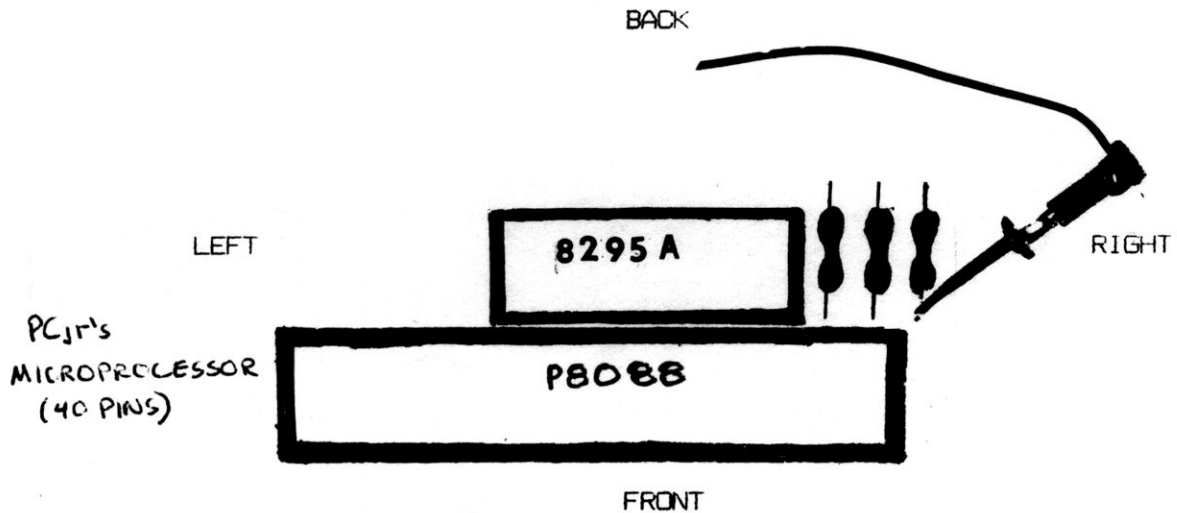
SPECIAL NOTES FOR RACORE USERS WITH DMA

1-When attempting to use the DMA feature of the Racore, the
  jrExcellerator must be in the PCjr Memory Mode. To achieve
  this switch 8 needs to be "on". You should not use the
  external PC/PCjr switch as described in step 21 on page 20
  of the installation manual.

2-The ROM Wait State Switch on the Speedup Board (switch 2)
  should be "off" (1 ROM wait state).
  If switch is "on" you may experience a variety of
  problems.

GENERAL NOTE

Please feel free to call our technicians whenever you have
questions. Our technicians would love to help you!!

(201)280-0072

The technical support hours are currently 12:30 to 4:30
eastern time.