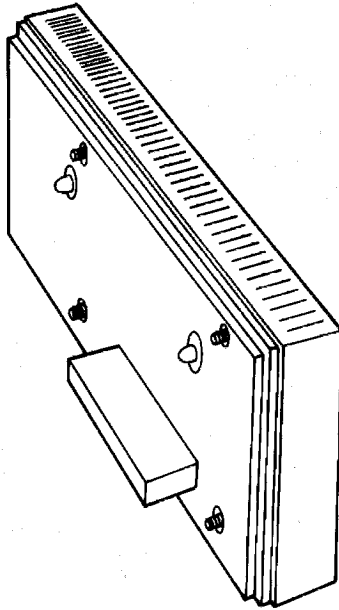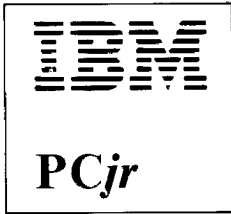# IBM PC*jr* Cluster Attachment Installation Instructions

If your IBM PC*jr* has not been set up at this time, do so before installing this option.

Some options may not be compatible with the Cluster Attachment. Contact your dealer for information.

This option consists of the following:

• Cluster Attachment

• Cluster Terminating Plug

If any items are missing or damaged, notify your place of purchase.

LIMITED WARRANTY

The International Business Machines Corporation warrants this IBM Personal Computer Product to be in good working order for a period of one year from the date of purchase from IBM or an Authorized IBM Personal Computer Dealer. Should this Product fail to be in good working order at any time during this one year warranty period, IBM will, at its option, repair or replace this Product at no additional charge except as set forth below. Repair parts and replacement Products will be furnished on an exchange basis and will be either reconditioned or new. All replaced parts and Products become the property of IBM. This limited warranty does not include service to repair damage to the Product resulting from accident, disaster, misuse, abuse, or non-IBM modification of the Product.

Limited Warranty service may be obtained by delivering the Product during the one year warranty period to an Authorized IBM Personal Computer Dealer, or any IBM Service/Exchange Center and providing proof of purchase date. If this Product is delivered by mail, you agree to insure the Product or assume the risk of loss or damage in transit, to prepay shipping charges to the warranty service location and to use the original shipping container or equivalent. Contact an Authorized IBM Personal Computer Dealer or write to IBM Personal Computer, Sales and Service, P.O. Box 1328-W, Boca Raton, Florida 33432, for further information.

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THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

FOR WARRANTY SERVICE OR ASSISTANCE IT IS RECOMMENDED THAT THIS PRODUCT BE RETURNED TO THE AUTHORIZED IBM PERSONAL COMPUTER DEALER FROM WHOM IT WAS PURCHASED OR TO ANY IBM SERVICE/EXCHANGE CENTER.

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

Warning: This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

INSTRUCTIONS TO USER

This equipment generates and uses radio frequency energy and if not installed and used properly, i.e., in strict accordance with the operating instructions, reference manuals, and the service manual, may cause interference to radio or television reception. It has been tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a residential installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna.

- Relocate the equipment with respect to the receiver.

- Move the equipment away from the receiver.

- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

- Ensure that side option mounting screws, attachment connector screws, and ground wires are tightly secured.

- If peripherals not offered by IBM are used with this equipment, it is suggested that you use shielded, grounded cables with in-line filters, if necessary.

If necessary, consult your dealer service representative for additional suggestions.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. It is the responsibility of the user to correct such interference.

CAUTION

This product is equipped with a UL listed and CSA-certified plug for the the user's safety. It is to be used in conjunction with a properly grounded 115 Vac receptacle to avoid electrical shock.

Contents

General

Notes:

Installation Requirements

DANGER
TO HELP PROTECT FROM LIGHTNING AND OTHER SOURCES OF ELECTRICAL SHOCK, IBM REQUIRES THAT THE COAXIAL CABLE SHIELDING BE GROUNDED, AND NEITHER THE FRAME NOR COVERS OF THE IBM PC*jr* BE USED AS THE GROUNDING POINT.

- To ensure proper operation of the Cluster, the shielding of the coaxial cable cannot be grounded at more than one point.

- If compliance to local electrical codes requires multiple ground points, then triaxial cable (double shielded) must be used. In using the triaxial cable, only the outer shielding can be grounded and under no circumstances should the outer shield be connected to the inner shield.

- This installation should be performed by a licensed electrician.

- The IBM PC*jr* Cluster Attachment is designed to interconnect up to 64 IBM Personal Computers (PCs) and requires the use of RG59U coaxial cable.

- An installation manager is needed to plan, install, and maintain the Cluster (a Cluster is all of the interconnected Personal Computers, attachments, and coaxial cables). As the Cluster is installed, the installation manager develops a Cluster Map. The Cluster Map is a diagram or listing of the PC location, the station (PC on the Cluster) address, and the order in which the stations are connected.

Tools Required

- Medium-size flat blade screwdriver.

Installation Instructions

1. Turn your IBM *PCjr* power off.

2. Turn all external options power off (printer, television, cassette, etc.).

3. Unplug the power cords for your IBM *PCjr* and all options from the wall outlets.

Off Position
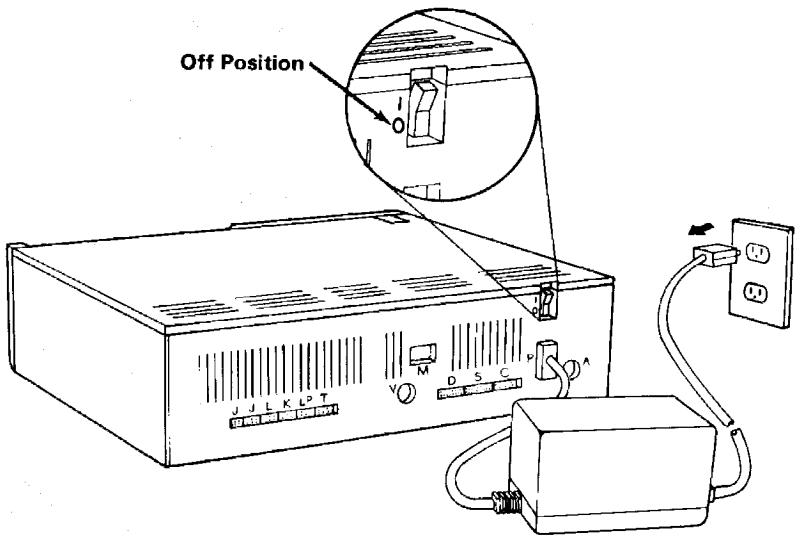
4. Turn your IBM *PCjr* so the right side is toward you.
   Remove the option attachment cover.

   Note: It may be necessary to gently pry the
   cover off by inserting a screwdriver between the
   option attachment cover and the side of your
   IBM *PCjr*.

Option
Attachment
Cover
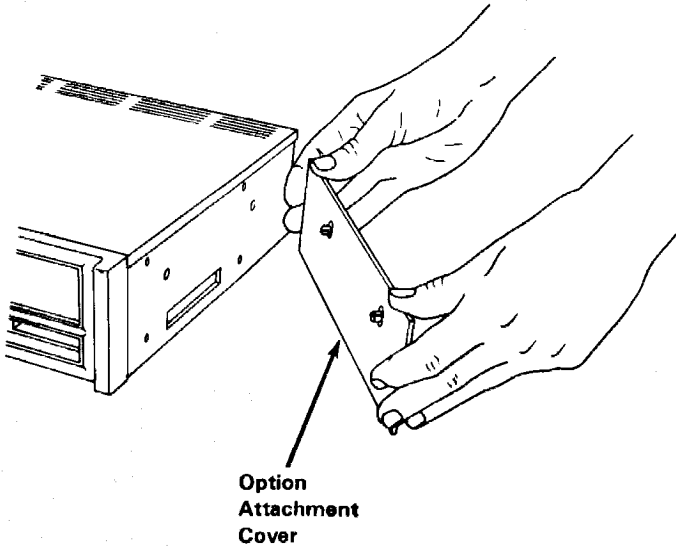
5. Look at the figure below and familiarize yourself with the Cluster Attachment and the location of the switch block.

6. The switch block sets the station address and remote initial program load (IPL) of the Cluster Attachment. Obtain your station address and remote IPL status from your installation manager. Refer to the Switch-Setting Charts on the following pages and set the switches. Using your station address and remote IPL status, fill in the Cluster Attachment figure in Step 4 of the "Cluster Attachment Test" located at the back of Section 6, "Testing Your IBM PCjr." Then continue with Step 7.
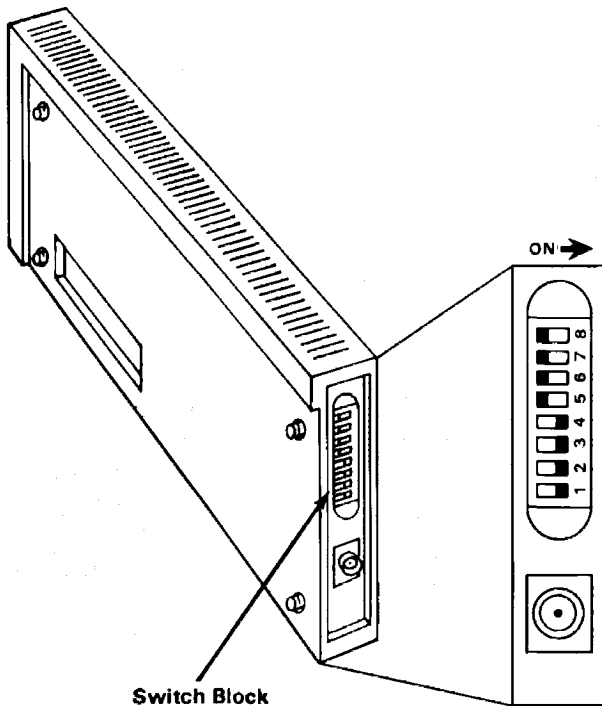
Switch Block

Cluster Attachment Switch Settings

The switch block on the Cluster Attachment is set as shown in the following figures. These switch settings are necessary for the system to recognize your station address and remote IPL (remote IPL is a request for an operating program from another station on the Cluster).
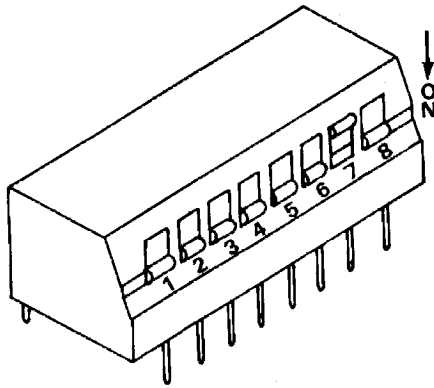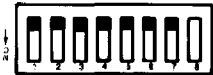
Switch	Function
1-2-3-4-5-6	Station Address
7	Reserved (always off)
8	Remote IPL on/off
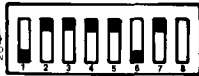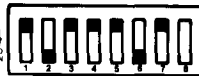
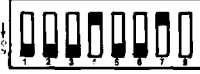The following figure shows the switch settings for
switch 8 - remote IPL on/off:

Remote IPL On: Switch 8	
Remote IPL Off: Switch 8	
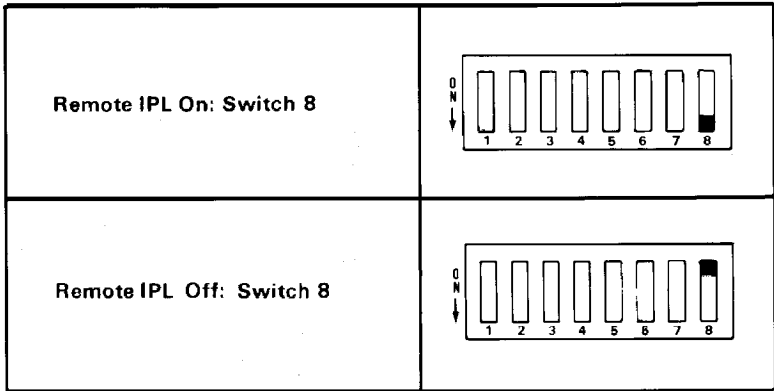
The following figures show the switch settings for station addresses 0 thru 21.

Station Address	Switch Block	Station Address	Switch Block
0		11	
1		12	
2		13	
3		14	
4		15	
5		16	
6		17	
7		18	
8		19	
9		20	
10		21	

The following figures show the switch settings for station addresses 22 thru 43.

Station Address	Switch Block	Station Address	Switch Block
22		33	
23		34	
24		35	
25		36	
26		37	
27		38	
28		39	
29		40	
30		41	
31		42	
32		43	

General

The following figures show the switch settings for station addresses 44 thru 63.

Station Address	Switch Block	Station Address	Switch Block
44		55	
45		56	
46		57	
47		58	
48		59	
49		60	
50		61	
51		62	
52		63	
53			
54			

12

7. Position the IBM PC*jr* Cluster Attachment so the mounting holes and attachment slot line up with the mounting pins and the Cluster connector. Then press the Cluster Attachment into place.

8. Tighten the four mounting screws until they are snug.

   Note: Use a medium-size flat blade screwdriver.

Mounting Holes Mounting Pins

Four Mounting Screws

Cluster Attachment Slot Cluster Attachment Connector
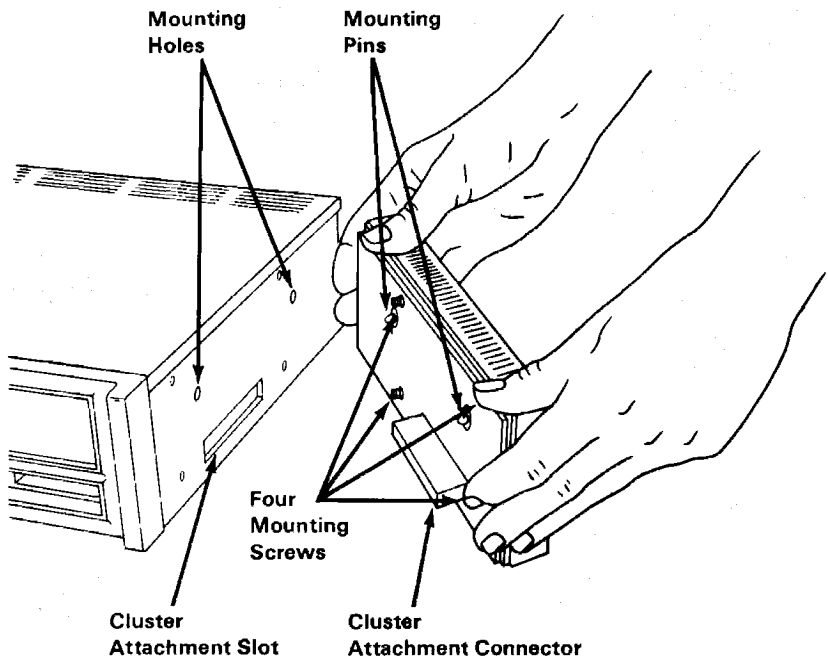
9. Install the option attachment cover. Make sure it is pressed firmly into the mounting holes.

Cluster
Mounting Attachment
Holes

Mounting
Pins

Option
Attachment
Cover

14
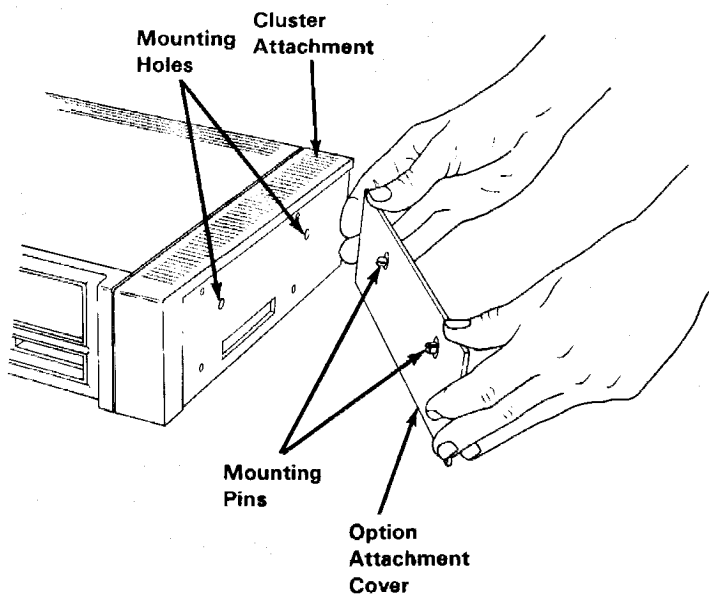
10. When you have completed installation of the Cluster Attachment, contact your installation manager for installation of the coaxial cable. (Refer to the sample Cluster on the following page.)

11. Plug the IBM PC*jr* and all options power cords into wall outlets.

12. Refer to Section 6 "Testing your IBM PC*jr*" and test your Cluster Attachment to determine that it is operating properly.

Important:

Insert these option instructions into Section 5 of the *Guide to Operations* **manual.**

If you have any other options to install, install them at this time.

If you do not have any other options to install, continue with normal operation.

Cluster Information

The following is a sample Cluster and the parts required to install the Cluster cable. The parts to connect two PCs are available in the IBM Personal Computer Cluster Cable Kit (IBM Option 1501207).

One terminating plug (IBM part number 6320352) must be installed at each end of the main coaxial bus and only two terminating plugs can be on the coaxial cable.
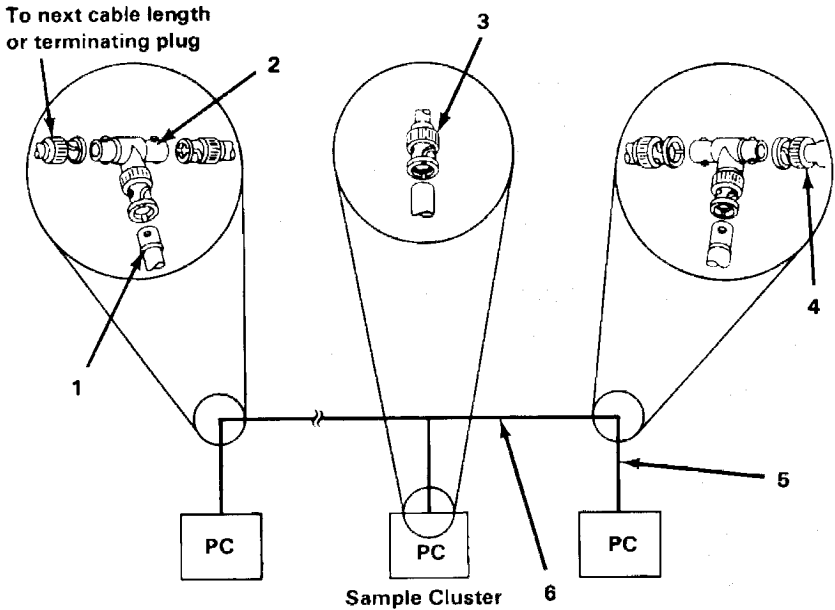

Sample Cluster

Figure Reference	Part Number	Description
1		BNC Jack (20 AWG*)
2		BNC "T" Connector (20 AWG*)
3		BNC Plug (20 AWG*)
4	6320352	Terminating Plug
5		Cluster Drop (RG59U)
		Maximum Length - 5 Meters
		Minimum Length - 1 Meter
6		Cluster Bus (RG59U)
		Maximum Length - 1000 Meters

*AWG - American Wire Gauge