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**iPSC<sup>®</sup>/2 INSTALLATION GUIDE**  
**FOR DOUBLE-UNIT SYSTEM**  
*(Preliminary)*

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intel Corporation

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### **WARNING**

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A 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 commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

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# CHAPTER 1

## INTRODUCTION

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### PURPOSE

This manual provides detailed instructions for installing the iPSC/2 system with two computational units. It also serves as a reference for your site system administrator.

### SCOPE

This manual contains instructions for unpacking, installing, and checking out the cube, which includes two computational units and the system resource manager (SRM), which includes a computer, monitor, and keyboard. Additional information on the system resource manager can be found in the SYP301 Installation and User's Guide and the SAMSUNG User's Manual.

### CONTENT SUMMARY

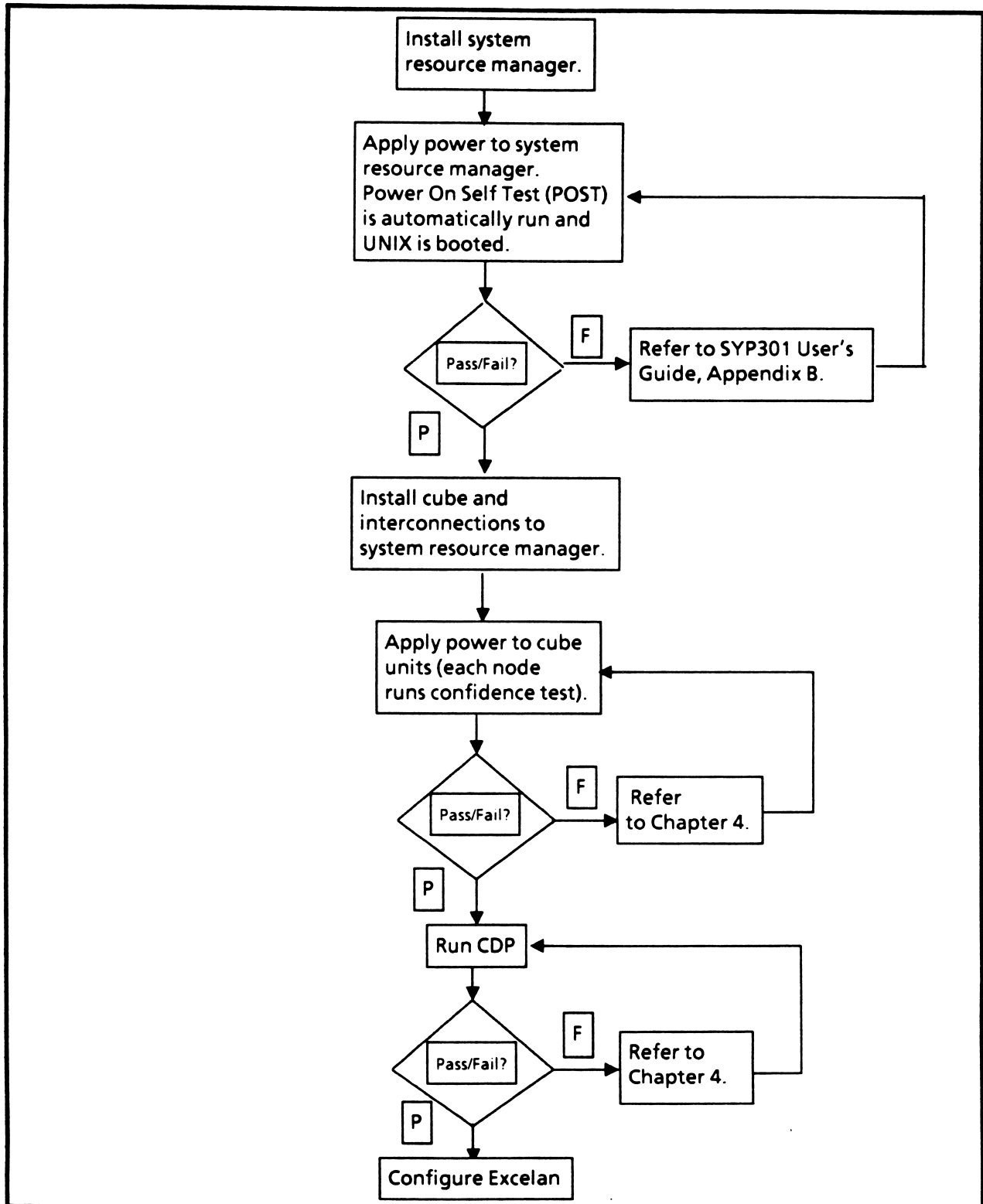
Chapter	Title	Contents
1	Introduction	Gives the recommended installation strategy and necessary installation tools.
2	Unpacking System	Lists the containers the customer should have received. Covers inspection instructions and what to do if damage has occurred. Explains unpacking, taking inventory, inspecting, and setting up each component.
3	Hardware Installation	Gives step-by-step procedures for installing the cube and the system resource manger.
4	Power Up and Checkout	Explains how to power up the system and run the Cube Diagnostic Program (CDP) to verify proper installation.
5	Excelan Installation	Gives procedure for installation of Excelan network connection.

## **INSTALLATION STRATEGY**

The overall installation strategy is:

- install the system resource manager, power up, and verify operation. UNIX is automatically booted at power up.
- install the cube and connect it to the system resource manager.
- power up system...confidence tests are automatically executed.
- run the Cube Diagnostic Program (CDP) to verify proper operation of the entire system.
- if customer is connecting the computer to a network, configure Excelan connection.

This installation strategy is shown in Figure 1-1.



**Figure 1-1**  
**Installation Strategy**

## TOOLS

You need the following tools for unpacking and installing the iPSC/2 system:

### *Unpacking*

9/16" open-ended wrench

tape cutter

### *Installing*

3/16" ball-point Allen wrench

5/36" ball-point Allen wrench

5/16" thin-wall nut driver

small, straight-slot screwdriver

#1 small-tip Phillips screwdriver

#2 medium-tip Phillips screwdriver

super glue

---

## CHAPTER 2

# UNPACKING SYSTEM

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### INTRODUCTION

This chapter tells you the proper methods for unpacking the iPSC/2 system components. Perform the procedures in the order presented in this chapter.

This chapter covers these topics:

- Checking shipping containers to verify all of them have arrived.
- Inspecting shipping containers for visible and concealed damage and what to do if you discover any damage.
- Unpacking, inventory, inspection, and physical set-up instructions for each component.

---

**NOTE** Inform the customer to keep all shipping containers for at least the first month in case any device must be returned. If possible, they should keep the containers permanently in case they ever need to move the system.

---

## CHECKING SHIPPING CONTAINERS

Before you do any unpacking, be sure that everything has arrived at the customer's site. The iPSC/2 system is shipped in the following containers:

**Table 2-1  
Shipping Containers**

No. of Cartons	Carton Description	Unit	Component Description
2	Wooden crate 28 x 28 x 53	Cube	Intel's computational unit
1	Cardboard carton 33 x 29 x 19	SRM Computer	Intel's 301 computer, user manuals, power cords.
1	Cardboard carton 15 x 15 x 15	Monitor	SAMSUNG monitor, user guide, power cord.
1	Cardboard carton 35 x 17 x 12	Accessories	Includes keyboard, kits, cables, and other miscellaneous items.
1	Cardboard carton 13 x 10 x 3	Software	Includes backup copy of software
2	Cardboard carton 19 x 12 x 14	Manuals	Includes complete set of iPSC/2 manuals, (4 binders) complete set of UNIX manuals, C Program Language manual, and the Excelan 386 binder with manuals and disks.

## INSPECTING SHIPPING CONTAINERS

Before opening the shipping containers, inspect them to see if there are any signs of damage.

<i>Visible damage</i>	If the freight bill was signed by someone when the equipment was delivered, but shipping container damage was not noted at the time, you should write down the extent and type of damage. This can later be used if a claim must be filed.
<i>Concealed damage</i>	If, after unpacking (described later in this section), you find equipment damage, call the carrier and request an inspection. Save the shipping container and all the packing material. Make sure that the customer retains a copy of the inspection report.

Follow these guidelines if there are problems:

<i>Damage</i>	If the equipment is visibly damaged, the claim must be filed with the carrier who delivered the equipment.
<i>Malfunction</i>	If the equipment does not work, but is not visibly damaged call iSC Customer Service for assistance (503) 629-7777.

## PRIOR TO UNPACKING

1. Review the layout plan with the customer and verify AC voltage, air flow, adequate room, etc. as described in the Site Preparation Guide.
2. If necessary, move the shipping containers to an open area with adequate room to unpack the equipment.
3. Unless it is unavoidable, do not move the shipping containers into the installation site. Move the equipment there after it is unpacked.

## UNPACKING CUBE

The following instructions explain unpacking and positioning the cube's two computational units.

---

### NOTE

You will find a copy of this manual attached to the inside of the crate door. After you have completed the installation, place this manual in the iPSC/2 System Administration binder.

---

### *Unpacking Instructions*

Do this procedure for both computational unit crates.

1. Position crate so that you have access to four bolts holding front door on.
2. Use 9/16 open-ended wrench to unscrew and remove four bolts.
3. Remove door. Notice base retainer board attached to door.
4. Rotate door 180° and lay door on the floor so that base retainer board is directly in front of crate forming a ramp.
5. Unscrew bolts connecting crate to base pallet.
6. Tip crate back and lay on floor.
7. Attach Velcro strips on crate door and base pallet at two locations.

---

### WARNING

The unit is quite heavy (215 pounds). There must be two people, one on either side of unit, to remove and steady it as it is taken out of the crate.

---

8. Grasp unit and roll down ramp to floor on its casters.
9. Remove styrofoam covering top of unit.
10. After you have placed the units in the installation location, remove plastic wrap around power cord.

### ***Inventory Instructions***

Each crate only contains a computational unit. To verify each unit's identity:

1. Open front doors by pulling out the lever located at the bottom right.
2. Observe label located on front door seal indicating the unit's number. Units are numbered 0 and 1.

### ***Inspection Instructions***

1. Inspect all of the parts for evidence of damage. Check for scratches, and dents.
2. If any damage is found, either:
  - a. contact the carrier if the damage appears to have happened during shipment.
  - b. contact Intel if the damage appears to have happened during manufacture.

### ***Physical Setup***

1. Move the computational units into the general area where the installation will take place; roughly where they will be located (according to the customer's layout plan) once installed.
2. Arrange units in order from right to left (looking at the units from the front).

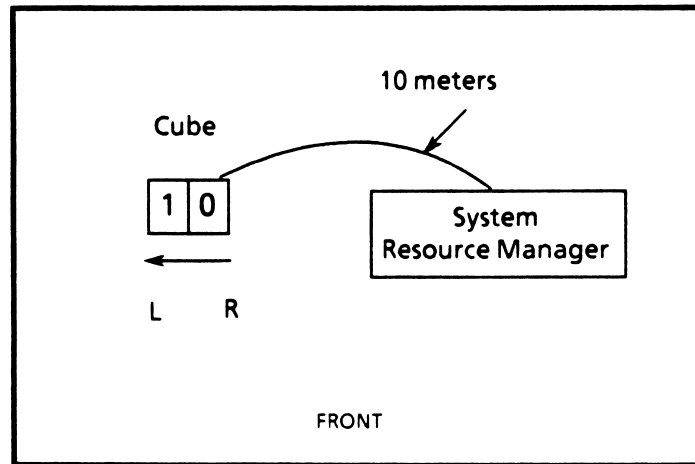
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**NOTE** The units must be placed in numerical order...0 then 1.  
0 is on the right.

---

3. The installation site for the units should be:
- a. not more than 10 meters (38.2 feet) from system resource manager.
  - b. a dry, level location.
  - c. an area with access space for cables and air flow.

Refer to Site Preparation Guide for more details. Figure 2-1 shows a suitable arrangement.



**Figure 2-1**  
**Installation Arrangement**

## UNPACKING MONITOR

Open the carton using a tape cutter.

### *Inventory Instructions*

This carton should contain:

Qty.	Item
1	Display unit with video cable
1	SAMSUNG User's Guide
1	AC power cord (See SRM computer container for alternate jumper power cord to connect to SRM computer.)

### *Inspection Instructions*

1. Inspect all of the parts for evidence of damage. Check for scratches, dents, and damaged cables.
2. If any damage is found, either:
  - a. contact the carrier if the damage appears to have happened during shipment
  - b. contact Intel if the damage appears to have happened during manufacture

### *Physical Setup*

Move the monitor to the installation site and locate it according to the customer's layout plan. This should be:

- not more than 2 feet from the SRM computer
- on a table or desk top
- an area with access space for cables

## UNPACKING SRM COMPUTER

Open the carton using a tape cutter.

### *Inventory Instructions*

This carton should contain:

Qty	Item
1	Base processor unit
1	AC power cord
1	AC jumper power cord (computer to monitor connection)
1	iSBC 386AT User's Guide
1	SYP301 Installation and User's Guide
1	Vega User's Manual
1	Bell Technologies User's Manual

### *Inspection Instructions*

1. Inspect all of the parts for evidence of damage. Check for scratches, dents, damaged cables, and remove rear I/O panel and ensure connections are secure.
2. If any damage is found, either:
  - a. contact the carrier if the damage appears to have happened during shipment
  - b. contact Intel if the damage appears to have happened during manufacture.

### *Physical Setup*

Move the computer into the installation site and locate it according to the customer's layout plan. Refer to Site Preparation Guide for more information. This should be:

- not more than 10 meters (38.2 feet) from cube
- on a table or desk top
- an area with access space for cables and air flow

## UNPACKING ACCESSORIES CONTAINER

1. Open container using a tape cutter.
2. Do not remove any of the contents until after container is located in installation site.

### *Inventory Instructions*

This container has three cartons which contain the following:

Cartons	Qty.	Item
[	1	leg assembly kit: 4 leg castings, 4 covers, 4 levelers, and associated hardware
	1	wedge adapter kit: 2 wedge castings, 2 adapter covers, 2 levelers, and associated hardware
	1	filler plate kit: 1 front filler plate, 1 rear filler plate, and hardware
	1	splice plate kit: 2 splice plates and hardware
	1	side grill kit: 2 side grills and hardware
[	1	package of grounding nuts and lock washers
	5	60-pin radial cables
	1	AC enable cable (cube interconnect)
	1	SRM direct-connect, interface cable
	1	RS422 10-pin ribbon cable
[	1	keyboard

**Physical Setup**

1. Move accessories carton into installation site.
2. Remove all assembly kits and place them near the computational units.
3. Remove power cord for monitor and place near computer.
3. Remove grounding hardware and cables and place near the rear of the computational units.
4. Remove keyboard and place near computer.

**UNPACKING SOFTWARE CONTAINER**

**Inventory Instructions**

This container has the following:

Qty	Item
1	iPSC/2 Release Notes diskette
1	UNIX boot diskette
1	UNIX System V cartridge tape
1	iPSC/2 System software cartridge tape

**Physical Setup**

Remove the software diskettes, cartridge tape, and binder. Have the customer place these on a bookshelf.

## UNPACKING MANUALS CONTAINER

### *Inventory Instructions*

This container has two cartons containing the following:

Cartons	Qty.	Item
[	4	Binders containing iPSC/2 manual set and FORTRAN Language Reference Manual
	1	Binder containing Excelan manuals and disks
	1	C Programming Language manual, perfect-bound
[	1	Set of UNIX manuals, perfect-bound

### *Physical Setup*

Remove the binders and manuals and have the customer place on a bookshelf.

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## CHAPTER 3

# HARDWARE INSTALLATION

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### INTRODUCTION

This chapter gives detailed hardware installation procedures for the iPSC/2 system with two computational units. Be sure you have completed the unpacking and positioning of the components as described in the previous chapter before proceeding with the installation.

### INSTALLING MONITOR

Both the AC jumper power cord and signal cable for the monitor plug into the SRM computer. Refer to Figure 3-1 and follow these instructions to install the monitor:

---

**NOTE** If outside the United States, check the plug on the power cord to make sure it conforms to local electrical standards. Refer to the section at the end of this chapter for instructions.

---

1. Insert AC jumper power cord in power connector on back of monitor. (Use the ac jumper power cord provided with the SRM computer to connect directly to the computer. The power cord provided with the monitor only plugs into a wall receptacle).
2. Connect other end of jumper power cord to MONITOR receptacle on back of SRM computer.
3. Connect signal cable coming from monitor to 9-pin signal connector in Slot 4 on back of SRM computer.
4. The monitor voltage is set at the factory and is not field configurable. If you need to change it for any reason, call iSC Customer Service (503) 629-7777.

## INSTALLING SRM COMPUTER

Refer to Figure 3-1 and follow these instructions to install the SRM computer and keyboard :

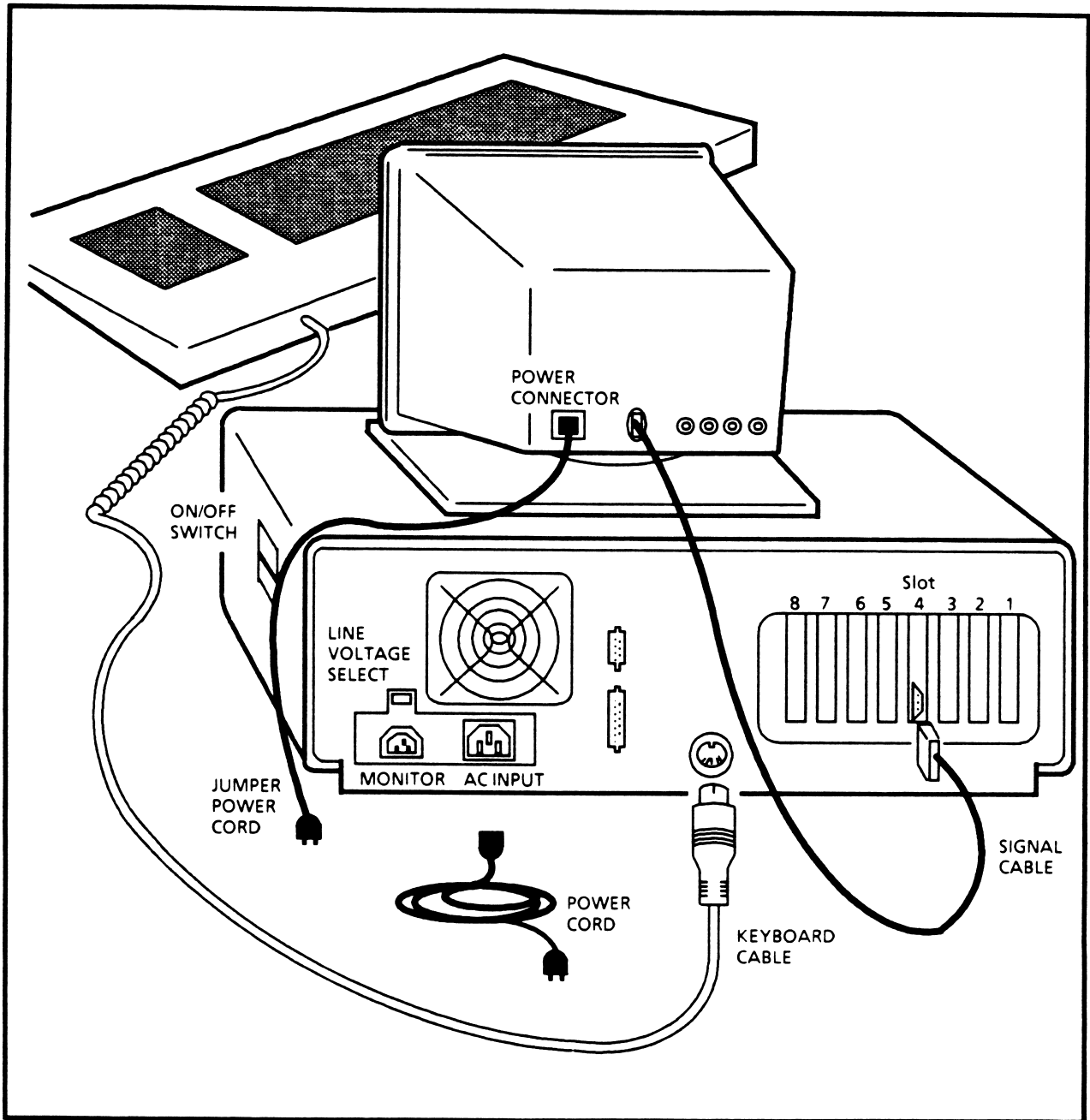
1. Check Line Voltage Select Switch on back of the computer before you connect power cord. The proper setting is 115V for the United States and Canada, and 230V for Europe. See Figure 3-1.

---

**NOTE** If outside the United States, check the plug on the power cord to make sure it conforms to local electrical standards. Refer to the section at the end of this chapter for instructions.

---

2. Insert keyboard cable connector coming from keyboard in the round socket on the back of computer. The groove in the connector should be up.
3. Insert power cord in AC INPUT receptacle on back of SRM computer.
4. Plug SRM computer power cord into 110V wall receptacle.
5. Turn on monitor by pushing the ON/OFF switch to ON position (located on the front of the video module). Green light appears but screen will not illuminate until SRM computer is turned on.
6. Turn on computer by pushing ON/OFF switch to ON position (located on the right side of the computer). The Power On Self Test (POST) is automatically run and UNIX is booted. Refer to Chapter 4 for more information on power up and checkout.
7. Stop UNIX by doing the following:
  - a. Log on as root
  - b. Invoke the *shutdown* command by entering:  
  
*shutdown*
8. Wait for the message, "Reset the CPU to reboot" appears, then turn computer and monitor off by pushing ON/OFF switches to OFF position. Refer to Chapter 4 for more information on power down.



**Installing Monitor and SRM Computer**  
**Figure 3-1**

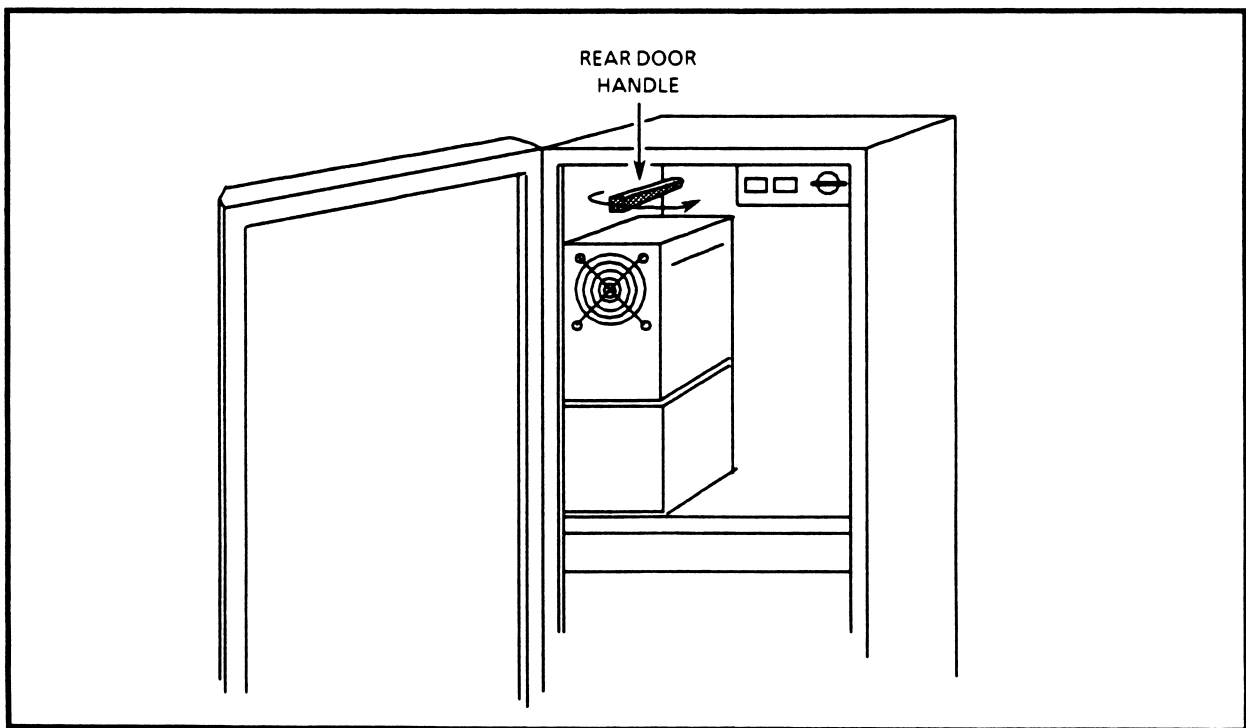
## INSTALLING CUBE

Locate the units in the approximate, final location, leaving adequate room to move around them. You can now perform the following procedures.

### *Opening Rear Door*

Repeat this procedure on both units to open the rear doors.

1. Open front door by moving lever located at bottom right counterclockwise 180°.
2. Remove iPSC/2 front plate. Using a #1 small-tip Phillips screwdriver, unscrew the 10 screws holding it in place.
3. Set front plate and screws aside. They will not be replaced until the end of installation.
4. Reach through top left opening and find rear door lever.
5. Move lever counterclockwise 90° to release back door as shown in Figure 3-2.



**Figure 3-2**  
**Rear Door Handle**

### Joining Units At Base

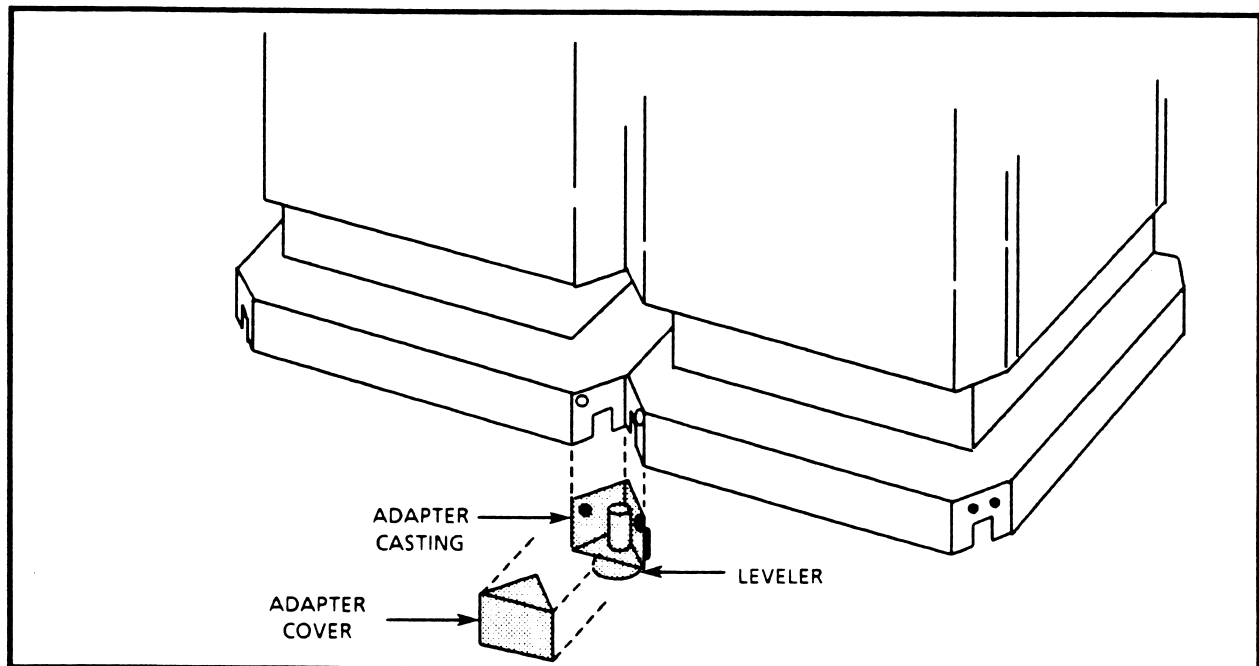
Do this procedure front and back where bases of units join.

To join units, make sure you have:

- wedge adapter castings (2)
- 1/4-20 UNC by 1/2" long button head cap screws (4)
- wedge adapter covers with Velcro seal (2)

You will adjust levelers and install foot covers at end of installation.

1. Roll computational units together so that they are flush against one another. The units must be in order from right to left...0 then 1.
2. Make sure leveler is screwed all the way into the adapter casting.
3. Slide tabs on back of wedge adapter casting up under bases of units matching two screw holes (one on each corner of unit) as shown in Figure 3-3.



**Figure 3-3**  
**Wedge Adapter Castings and Covers**

4. Insert button head cap screw into each hole.

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**NOTE** Before you tighten screws on wedge adapter castings, position both front and back castings and place the screws in the holes.

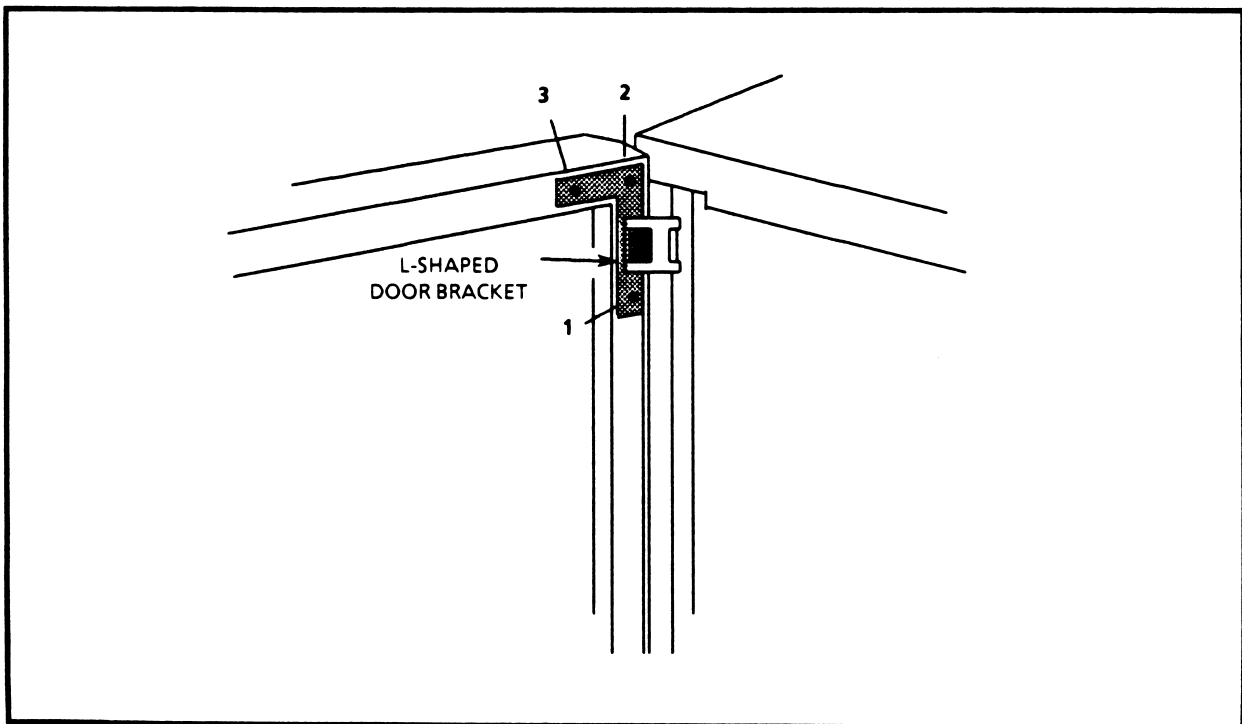
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5. Start tightening screws in place using 5/36" Allen wrench. Don't tighten screws completely until you have the top screws started.

### **Removing Door**

Do the following procedure twice.

1. Unplug cable located near top hinge of front door.
2. Remove **front** door on unit 0 and remove **back** door on unit 1 by performing the following steps:
  - a. Locate L-shaped brackets that hold hinges at top and bottom of door. Refer to Figure 3-4.



**Figure 3-4**  
**L-Shaped Door Bracket**

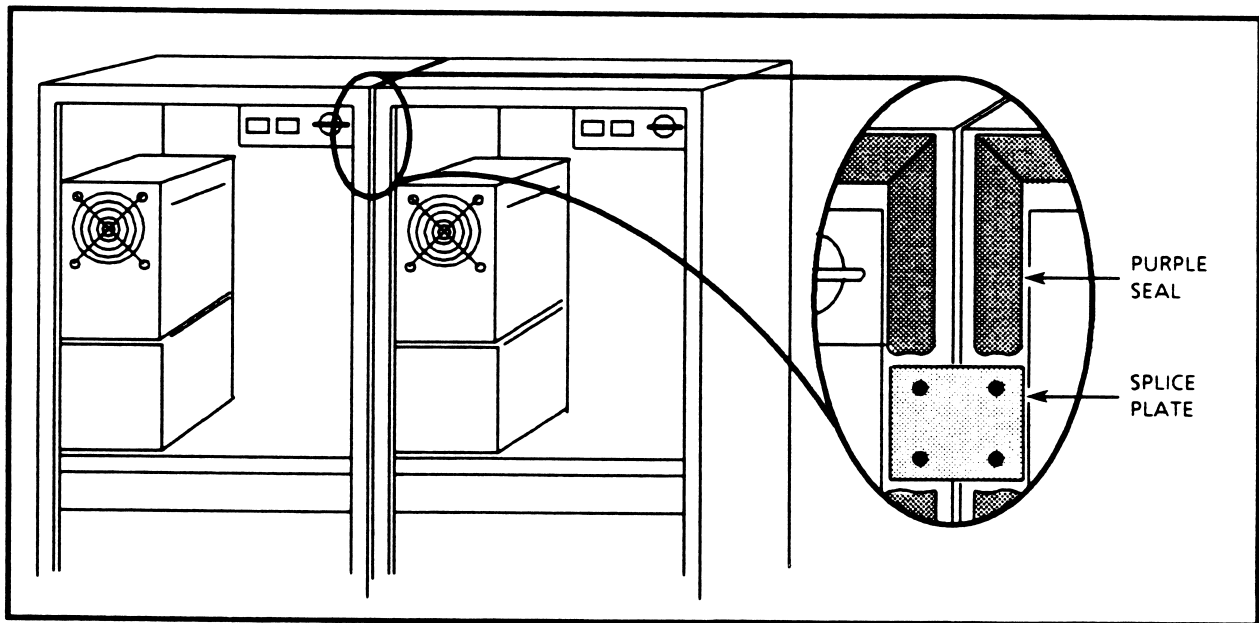
- b. Use a #2 medium-tip Phillips screwdriver to remove three screws from L-shaped bracket at **bottom** of door.
- c. Remove three screws from L-shaped bracket at **top** of door in the order shown in Figure 3-3.
- d. Push door outward to release door from hinges.
- e. Set doors and screws aside. They will not be replaced until the end of the installation.

### Joining Units At Top

Do the following procedure twice...at top front and back of adjoining units.

splice plate (2)  
#4-40 UNC by 1/4" long flat head screw (8)

1. Locate holes punched in purple seal (approximately four inches from top).
2. Gently peel up purple seal and silver mesh from edge of units to be joined as shown in Figure 3-5. **DO NOT DAMAGE OR CUT SEAL.**



**Figure 3-5  
Splice Plate**

3. Slide splice plate under purple seal.
4. Align splice plate over four holes (two on each unit).

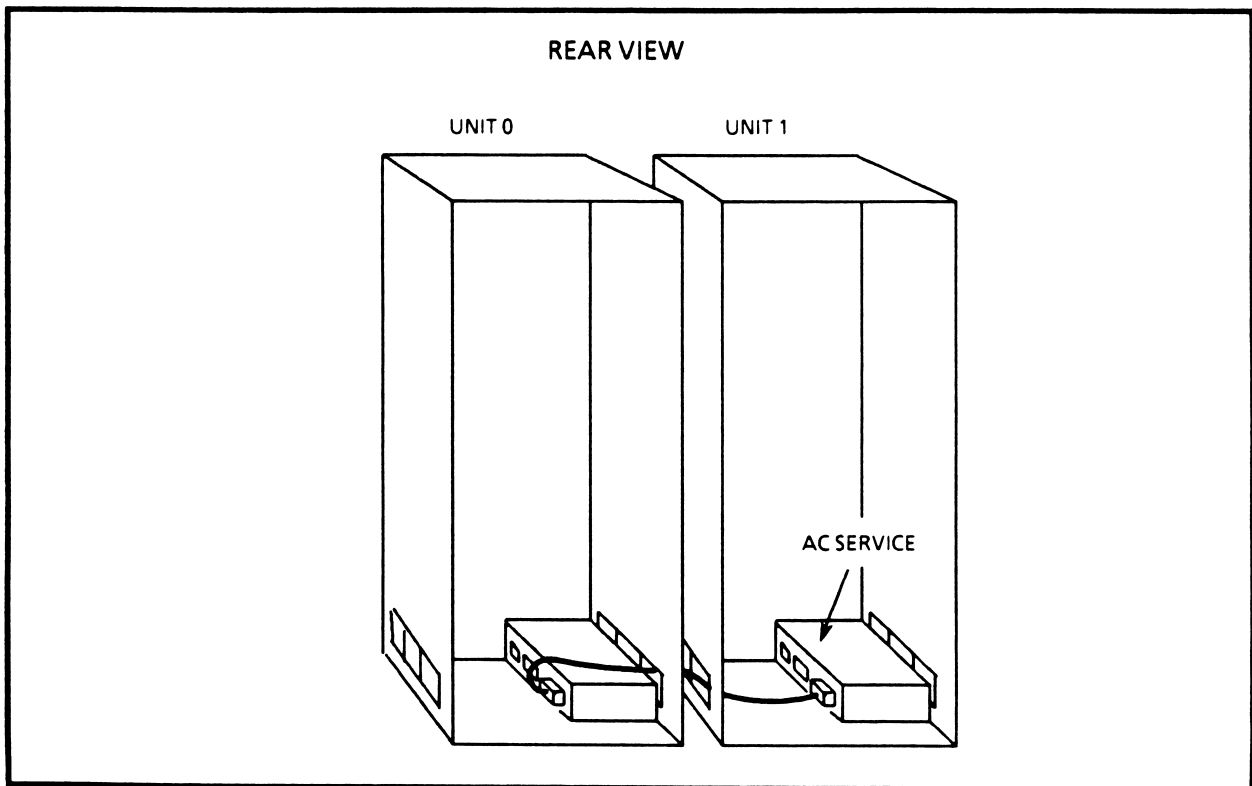
5. Insert flat head screw into each screw hole.
6. After all screws have been started, tighten both splice plate and lower wedge screws using a #1 small-tip Phillips screwdriver. Be careful not to strip the threads.
7. Apply small amount of super glue to back of purple seal and lay it over its original location.

### ***Installing Internal Cables***

To install internal cables, be sure you have:

- 60-pin radial cables (5)
- ac enable cable (1)
- 10-pin RS422 ribbon cable (1)

1. To install ac enable cable, refer to Figure 3-6 and proceed as follows:



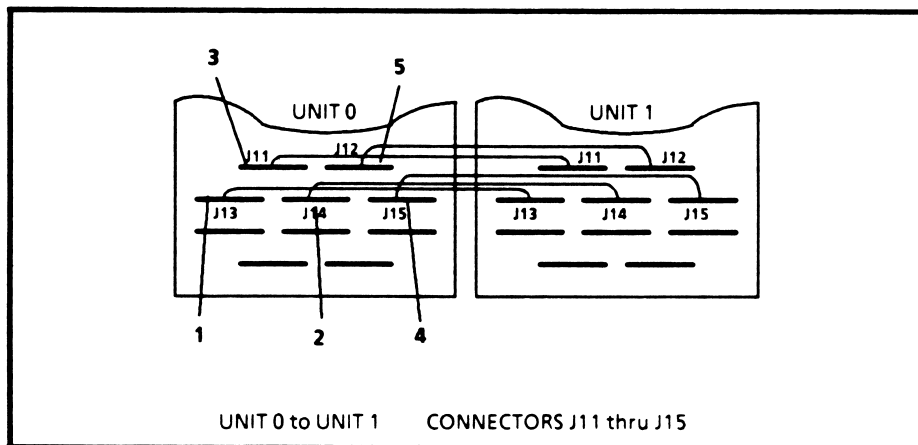
**Figure 3-6**  
**AC Enable Cable Connection**

- a. Plug white, female 4-pin AMP connector at either end of ac enable cable into male connector in ac service in base of unit 0.
  - b. Push cable through front, side opening at base into unit 1.
  - c. Plug white, female AMP connector at other end of cable into male connector in ac service in base of unit 1.
2. Install the five radial cables separately as follows:
- a. Figure 3-7 shows the units' backplanes. The lines between them are the cable connections.

Notice that the cables connect units 1 and 0 using connectors J11 through J15.

Route cables through opening directly below backplane, not through opening between bottom of chassis and base of unit.

Start with first cable and connect both ends to J13.



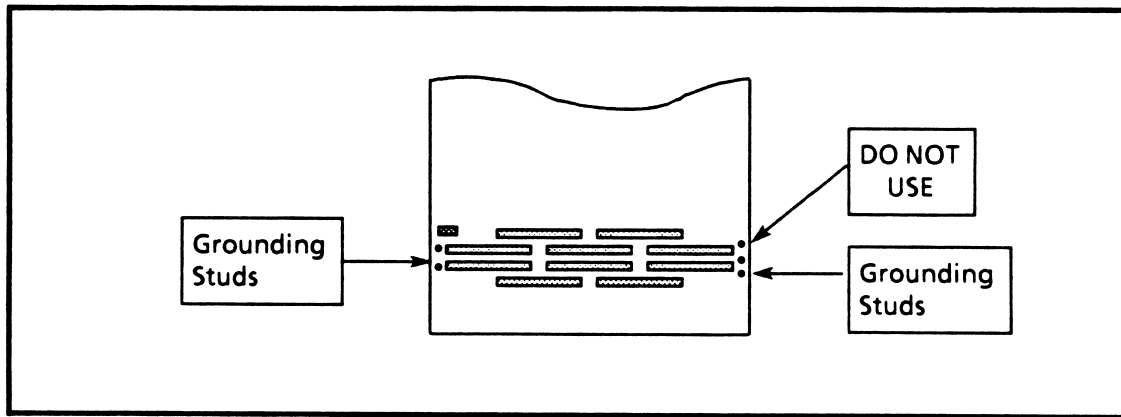
**Figure 3-7**  
**60-pin Cable Connections**

- (1.) Plug female connector on radial cable into appropriate male connector on the backplane (pin 1 of cable to pin 1 of connector).
- (2.) Be sure that plastic clips at both ends of male connector snap over female connector.
- (3.) Plug female connector at other end of same ribbon cable into appropriate male connector.
- (4.) Be sure that plastic clips at both ends of male connector snap over female connector.

(5.) Bring the single ground lead to the nearest grounding stud.

Continue this process by taking the next cable and connecting both ends to J14 and so on.

- b. Attach grounding straps on 60-pin radial cables, locate five #6-32 THDS grounding studs to the left and right of the radial connectors. Three are on the right and two on the left as shown in Figure 3-8. Notice that the top right grounding stud cannot be used.



**Figure 3-8**  
**Grounding Studs**

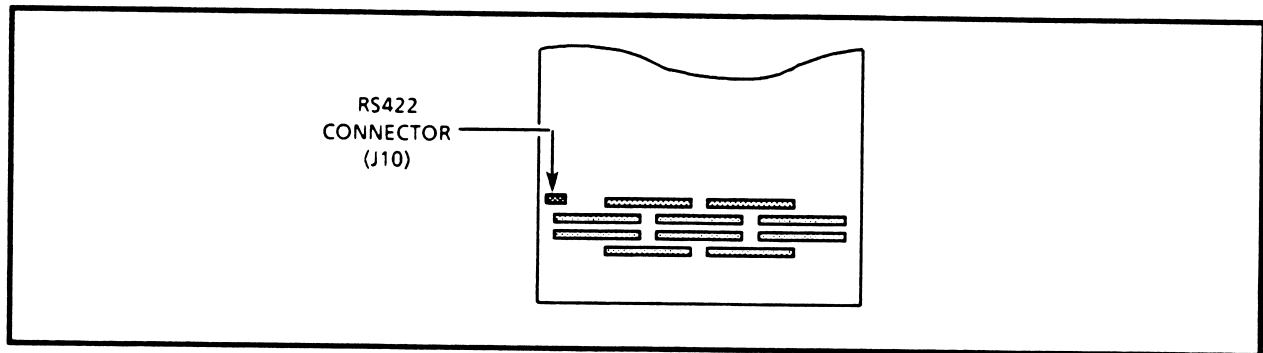
- (1.) Distribute 5 grounding straps from the radial cable connectors so that three go to one side and two to the other.
- (2.) Remove star lock washer and nut if already in place.
- (3.) Put grounding strap on stud.
- (4.) Put star lock washer on stud.
- (5.) Place #6-32 THDS nut back on stud using a 5/16" thin-wall nut driver and tighten lightly. DO NOT APPLY VERY MUCH TORQUE.

3. To install RS422 10-pin ribbon cable, proceed as follows:
  - a. Plug female connector at either end of RS422 cable into male connector (J10) at bottom of backplane of unit 0. Observe arrow on female connector. Insert connector so that the arrow points to pin 1 (top, right).

---

**NOTE** Blue pin 1 indicator wire is always on the right.

---

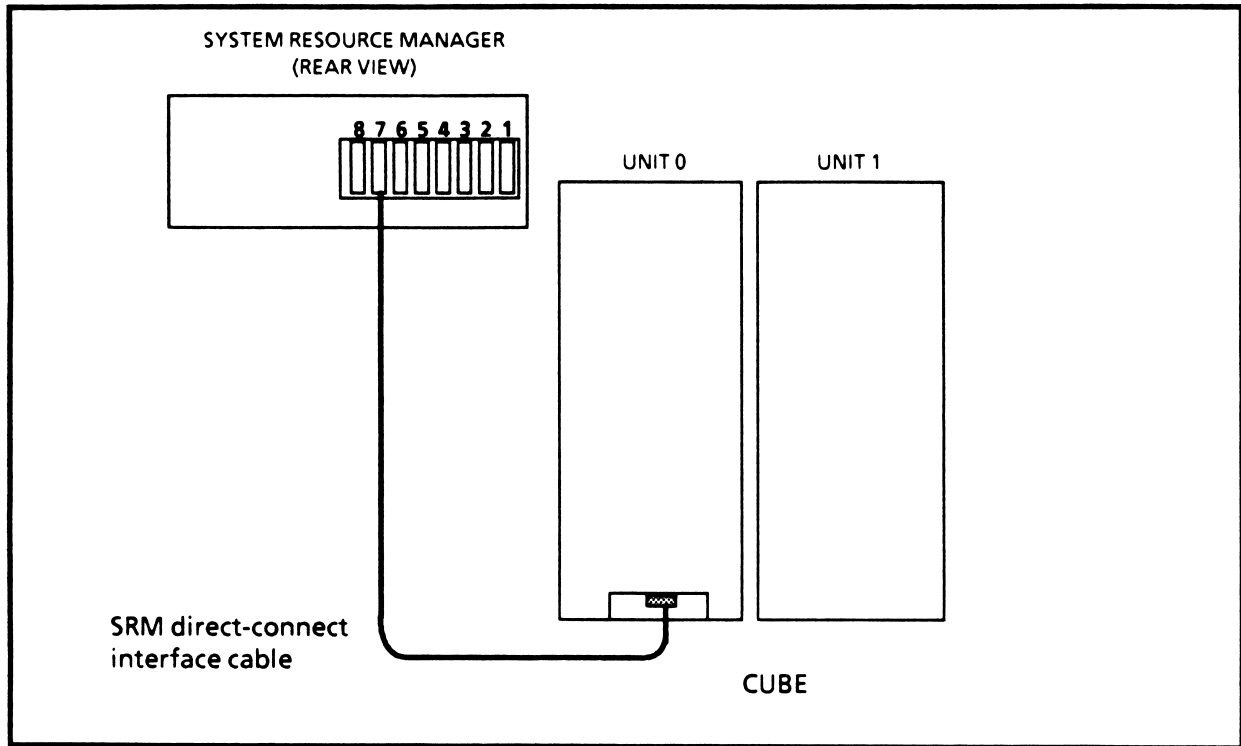


**Figure 3-9**  
**RS422 Connector**

- b. Be sure that plastic clips at both sides of male connector snap over female connector.
- c. Push cable through back, side opening of unit 1.
- d. Plug female connector at other end of RS422 cable into male connector at top of backplane of unit 1.
- e. Be sure that plastic clips at both sides of male connector snap over female connector.

### Installing Cable from System Resource Manager to Unit 0

Connect SRM direct-connect, interface cable as follows:



**Figure 3-10**  
**Cube to System Resource Manager Cable Connections**

1. Plug 25-pin male connector on SRM cable into Slot 7 on back of SRM computer.
2. Screw down both ends of male connector using a small straight slot screwdriver.
3. Plug 25-pin male connector on cable into unit 0's female connector located in I/O panel at bottom rear of unit.
4. Screw down both ends of male connector using a small straight-slot screwdriver.

### Attaching Base Filler Plates, Front

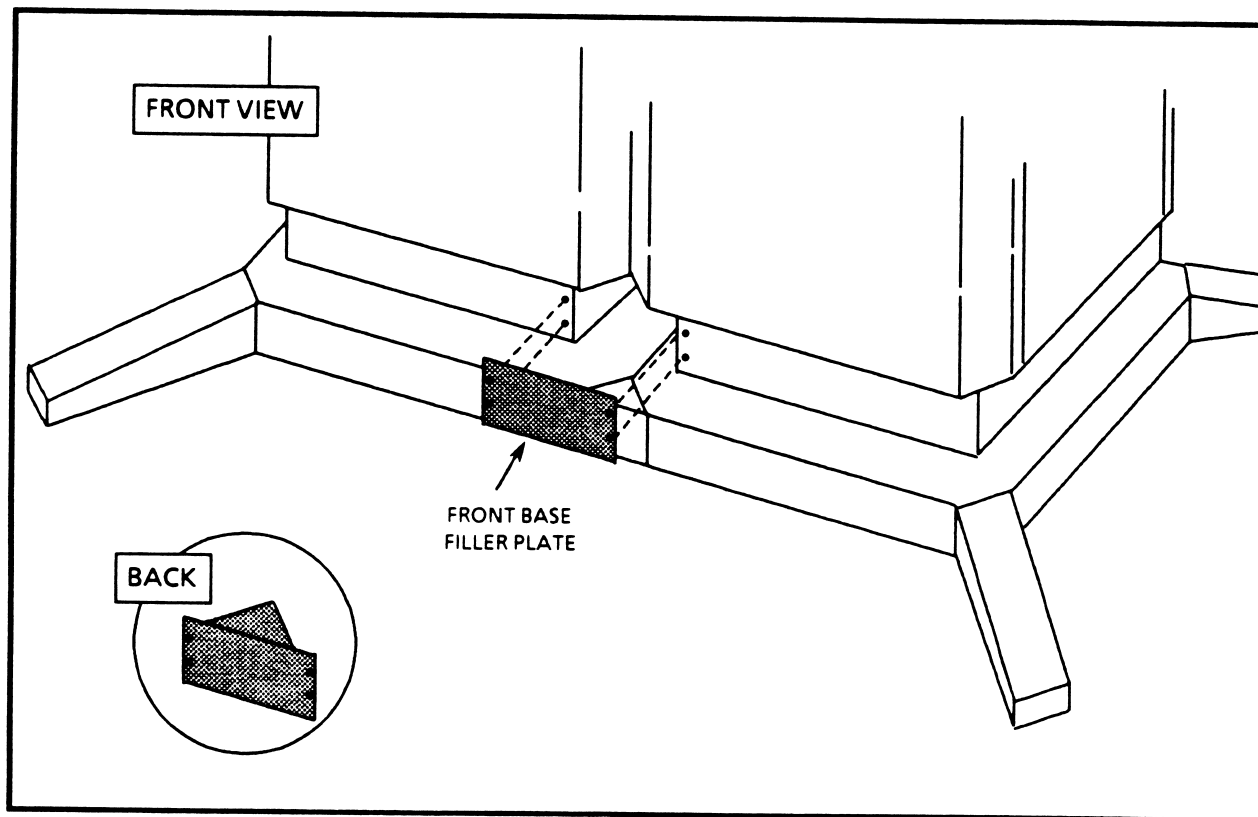
Do this procedure at front where bases of units join.

To attach base filler plates, be sure you have:

base filler plates (1)

#8-32 UNC by 1/4" pan head screws with black oxide finish (4)

1. Align base filler plate over opening above adapter cover. Refer to Figure 3-11.



**Figure 3-11**  
**Base Filler Plates**

2. Insert pan head screw into each hole.
3. Tighten screws in place using a #1 small-tip Phillips screwdriver.

### ***Attaching Base Filler Plates, Back***

Do this procedure at back where bases of units join.

To attach base filler plates with wedge extension, be sure you have:

- base filler plates with wedge extension (1)
- #8-32 UNC by 1/4" pan head screws with black oxide finish (4)

1. Align base filler plate over opening above adapter cover. Refer to Figure 3-15.
2. Insert pan head screw into each hole.
3. Tighten screws in place using a #1 small-tip Phillips screwdriver.

### ***Attaching Side Grills***

Do this procedure on outside lower edges of cube at the base of units 0 and 1.

To attach side grills be sure you have:

- side grills (2)
- #8-32 UNC by 1/4" pan head screws with black oxide finish (8)

1. Align side grill over side opening at base of unit. The outside edges of the grill are slightly tapered. Put the wider end at the bottom.
2. Insert pan head screw into each hole.
3. Tighten screws in place using a #1 small-tip Phillips screwdriver.

### ***Replacing Doors***

Replace doors on units they were removed from. You will close doors in a later step.

1. Align holes in doors with those in L-shaped brackets.
2. Insert and tighten screws in reverse order from their removal...first, in top, then in bottom L-shaped brackets.
3. Reconnect wire to LED's on door.

### ***Connecting Power Cables***

Do this procedure for both units.

1. Verify that circuit breaker located at bottom back of computational unit is in OFF position (breaker is set to right).
2. Be sure that key switch at top front of unit is in horizontal (OFF) position.
3. Plug power cord into 220-volt wall receptacle. For installations abroad, refer to the Installations Outside the United States section at the end of this chapter.

### Attaching Legs

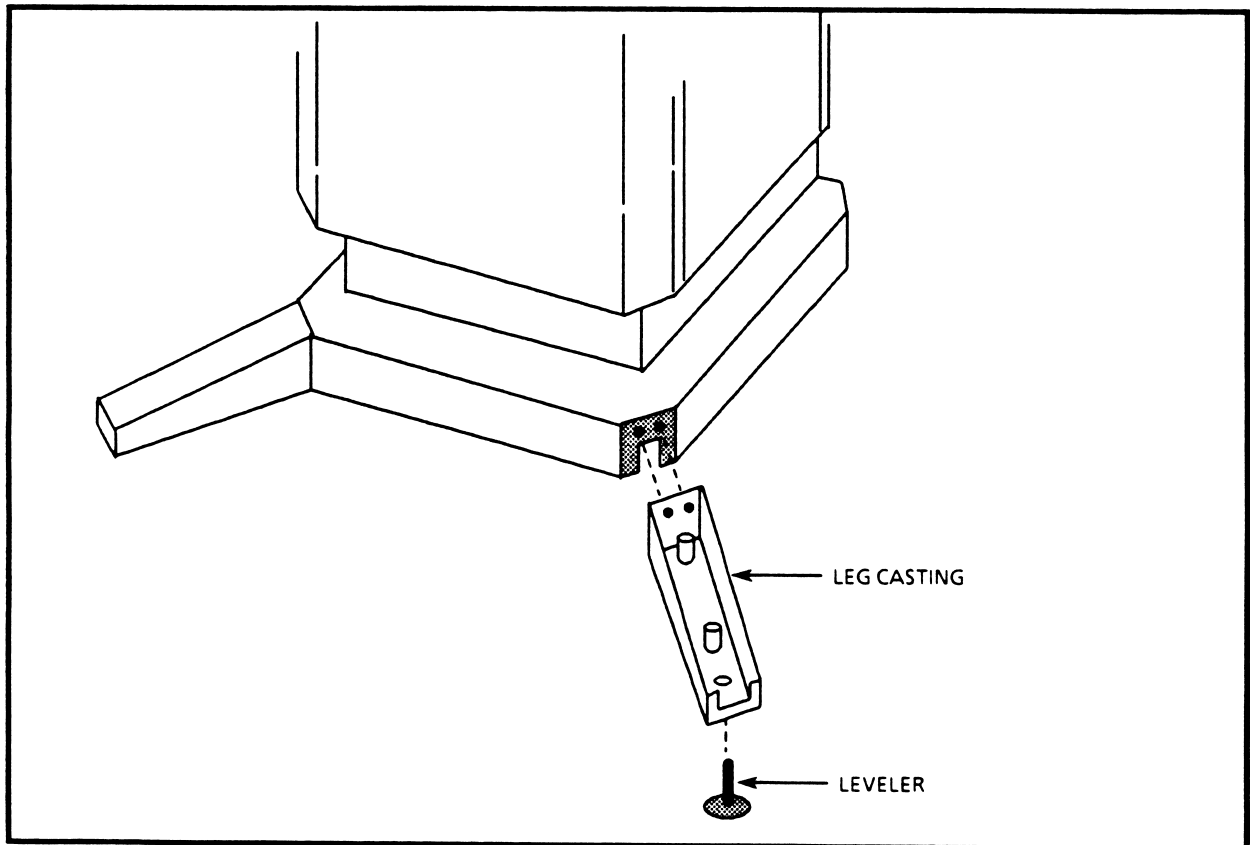
Do this procedure on four outside corners of adjoined units.

To attach legs, make sure you have:

- leg castings with levelers (4)
- foot covers (4)
- 1/4" by 1/2" socket head cap screws (8)

You will adjust levelers and install foot covers at end of installation.

1. Make sure leveler is screwed all the way into leg casting.
2. Align each leg casting over two holes on each corner of unit by sliding the tab on leg up into base. Refer to Figure 3-12.



**Figure 3-12**  
**Attaching Legs**

3. Insert socket head cap screw into each hole.
4. Tighten screws in place using a 3/16" Allen wrench. Be careful not to strip the threads.

## INSTALLATIONS OUTSIDE THE UNITED STATES

You may have to replace the power plug on the monitor, computer, or cube to conform to local electrical standards. If you replace the plug on the power cord or change the cord itself, note the following warning and wire color coding:

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### **WARNING**

To prevent possible electrical shock or damage to the system, only qualified technical personnel should change the power cord plug. Also, check local electrical standards before selecting a power cord plug.

---

When changing the power cord plug make sure you connect all the wires properly. For installations outside the United States, the power cord has the following colored wire convention:

- The green wire with yellow stripes connects to earth ground.
- The light blue wire connects to the neutral or grounded side of the power line.
- The brown wire connects to the hot or ungrounded side of the power line.

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## CHAPTER 4

# POWER UP AND CHECKOUT

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### INTRODUCTION

This chapter covers positioning the components in their final locations. This chapter also outlines applying power to the system and running the confidence test on each component. Finally, it explains how to run the Cube Diagnostic Program (CDP).

### POSITIONING SYSTEM RESOURCE MANAGER

1. Position the SRM computer and monitor in final locations.
2. Plug SRM computer AC power cord into wall receptacle.

### POSITIONING CUBE

Follow these instructions for positioning the cube in its operating location.

#### *Closing Doors And Positioning Units*

Do this procedure twice to close doors on all units.

1. Close rear door of unit as follows:
  - a. Move door lever counterclockwise to spring position, then close.
  - b. From front of unit, reach through opening in left top.
  - c. Move rear door lever clockwise 90° so that it rests against left side of unit.

2. Replace iPSC/2 front plate.
3. Using small-tip #1 Phillips screwdriver, screw in 10 #4 1/4" pan head screws with plastic washers that hold iPSC/2 front plate back in place.
4. Move lever at bottom of front door to "open" position (away from unit) until spring tension is felt.
5. Close front door and lock tight by moving lever clockwise 180°, toward unit.
6. Roll unit to its operating position leaving sufficient access space at back for air flow and cables. See Site Preparation Guide for more information.

### ***Leveling Cube***

1. Adjust levelers in both the wedge adapter castings (between units) and the legs so that they make a snug connection between floor and unit.
2. Place wedge adaptor cover over wedge adapter casting matching Velcro seals to secure.
3. Place foot covers over legs matching Velcro seals to secure them.

## APPLYING POWER

Perform these steps in the order given to apply power to the system. A confidence test is run automatically when the SRM computer and cube are turned on. If you encounter any problems performing the following procedures, call iSC Customer Service (503) 629-7777.

### *...to the monitor*

1. Turn on the monitor by pushing the ON/OFF switch located on the front of the video module.
2. The green LED located on the lower front should come on. If it does not:
  - a. Verify that the AC power cord is plugged into the SRM computer.
  - b. Call Intel

---

**NOTE**      **Cursor does not appear and the screen does not illuminate until the SRM computer is turned on.**

---

3. If you need more information, refer to the SAMSUNG User's Manual.

### *...to the SRM computer*

1. Turn on the SRM computer by pushing the ON/OFF switch up to the ON position. The ON/OFF switch is located on the right side.
2. The green power indicator light, located on the front of the unit, should come on and the red power indicator light should flash. If not:
  - a. Verify that the AC power cord is plugged in.
  - b. Call Intel
3. The monitor screen should illuminate and the cursor appear. Make sure the screen brightness is set properly by adjusting the brightness control on the back of the monitor. If it does not:
  - a. Verify that the monitor power cord is plugged into the SRM computer.
  - b. Call Intel.
4. The Power-On Self Test (POST) is automatically executed. POST checks the 80386 processor, the keyboard, the display, system memory and most peripheral devices connected to the SRM computer each time you turn on the system. Refer to the SYP301 Installation and User's Guide for more information about POST. If you receive error messages:
  - a. Refer to Appendix B in the SYP301 Installation and User's Guide.
  - b. Call Intel.

**...to the SRM computer (cont.)**

5. When this test is finished running, press RETURN at the "boot:" prompt to load UNIX. You should see the message: "The system is coming up. Please wait". The system is booted when you see the prompt: "Console login:". If you encounter any problems:
  - a. Refer to the SYP301 Installation and User's Guide.
  - b. Call Intel.

**...to the cube**

1. Move white circuit breaker (located at bottom back of all units) to left (ON position). This supplies system with AC power.
2. Verify that amber (AC) indicator light (located at top front of all units) comes on. If not:
  - a. Check AC power cord is plugged into power receptacle.
  - b. Check cube circuit breaker, or breaker box.
  - c. If you confirm cube is receiving power but no power indicators are lit, call Intel.
3. Turn key switch (located at top front of all units) to vertical (ON) position. This supplies the system with DC power.

---

**NOTE** In systems with multiple units, only one key switch needs to be turned on to supply power to rest of system. If more than one key switch is turned on for any reason, you must turn key switch off on every unit to turn system power off.

---

4. Verify that green (DC) indicator light (located at top front of all units) comes on. If not:
  - a. Check cube circuit breaker, or breaker box.
  - b. Call Intel.

**...to the cube (cont.)**

5. **Node Confidence Test (NCT)** is automatically executed. Verify that red and green indicator lights on node boards come on as NCT is executed in parallel on all nodes. Green light stays on when node passes test successfully (except for spare node board and USM board) and red light goes off.
  - a. If only one node board has red indicator lit:
    - (1) Turn key switch to horizontal (OFF) position, wait 10 seconds, then turn back on.
    - (2) If still lit, turn key switch to horizontal (OFF) position.
    - (3) Replace faulty node board with spare board.
    - (4) Turn key switch to vertical (ON) position.
    - (5) If this does not correct problem, call Intel.
  - b. If more than one node board has red indicator lit:
    - (1) Turn key switch to horizontal (OFF) position, wait 10 seconds, then turn back on.
    - (2) If still lit, run CDP. (See iPSC/2 Diagnostic User's Guide for more information on CDP.)
  - c. If neither green nor red indicator is lit, perform following steps:
    - (1) Turn key switch to horizontal (OFF) position.
    - (2) Re-seat the board and then turn key switch to vertical (ON) position.
    - (3) If re-seating does not correct problem, turn key switch to horizontal (OFF) position and replace node board with spare node board.
    - (4) If replacing the board does not correct problem, call Intel.
  - d. If red indicator light on any node board is blinking, call Intel.

## CUBE DIAGNOSTIC PROGRAM

The Cube Diagnostic Program (CDP) checks the communication links between the cube and the system resource manager as well as between all the nodes. In the iPSC/2 Vector System, it also checks the functionality of the cube vector boards. CDP includes the following test suites:

- DLT** the Diagnostic Link Tests (DLT) check the diagnostic link including the system resource manager's interface board, the USM, and the RS422 cable.
- NST** the Node Standalone Tests (NST) check the Node Confidence Test (NCT) results, the node Direct-Connect modules (DCM), and extended RAM on the node boards.
- HLT** the Hypercube Link Tests (HLT) check the DCM link including the system resource manager's DCM module, part of the cube DCM buffer board, node 0's DCM module and the ability of these boards to communicate with the host.
- NLT** the Node Link Tests (NLT) check the internode communication links and node DCM modules.
- CLT** the Cube Link Tests (CLT) check the remaining parts of the cube DCM buffer board and node 0's DCM module that were not checked by HLT.
- OBT** the Optional Board Tests check optional boards such as the vector boards.

1. To invoke CDP you must be root and be in the `/usr/ipsc/diag` directory or have that path defined in your shell path variable. Then type

```
cdp
```

2. The Main Menu will be displayed and you will be prompted to enter which test you want to execute. If you select, "Run Standard Tests", the DLT, NST, HLT, NLT, and CLT tests will be run in that order using default values. OBT will be run after CLT if you are testing the a Vector System.

Error messages are displayed on the main terminal's screen as they occur. If you receive an error message as a result of running CDP:

- Check the cable from the SRM computer to the cube. The connectors should be securely in place on the SRM computer's backpanel and on the plate at the bottom back of cube unit 0.
- Swap the node board (or its neighbor) that you suspect has a problem with the spare node board. (Refer to the iPSC/2 System Administrator's Guide for instructions on swapping node boards.)
- If you are testing a Vector System, identify the vector board you suspect has a problem and call Intel.

For more information on running CDP, refer to Chapter 7 of the iPSC/2 System Administrator's Guide.

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## CHAPTER 5

# EXCELAN INSTALLATION

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### INTRODUCTION

Excelan is the network connection for the iPSC/2 system. This chapter explains hardware installation only. For information on installing Excelan software and setting up files, refer to the EXOS 8014-01 TCP/IP Network Software Reference Manual .

### HARDWARE INSTALLATION

Follow these steps to physically connect the SRM computer to the network.

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**NOTE** Be sure that the transceiver you are using is Ethernet Version 2.0 (IEEE 802.3).

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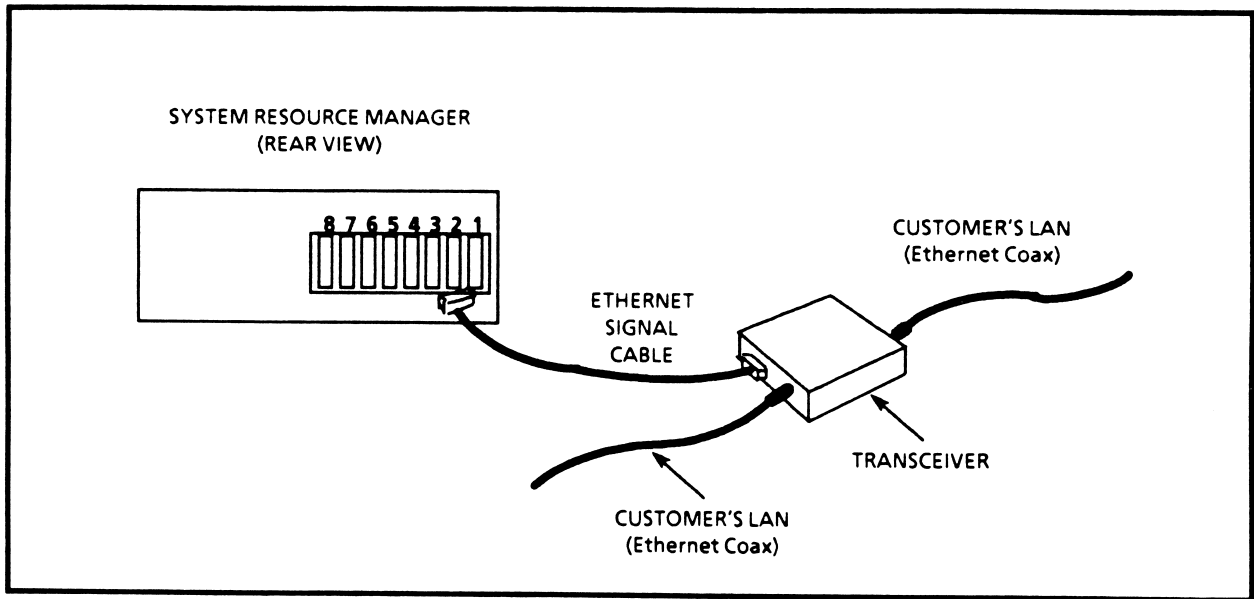
When connecting the SRM computer to the customer's network, the system administrator at the site will have chosen one of the following three interconnect options:

- in-line transceiver (supplied by the customer)
- multiplexer port
- the transceiver kit supplied by iSC and included with install materials. This kit includes the Ethernet signal cable, transceiver, and Ethernet connectors, and terminator.

If the customer is using the kit, he will install the transceiver into the Ethernet Coax.

Regardless of the interconnect option, install the Ethernet signal cable as follows. Use Figure 5-1 as a reference.

1. Plug male connector on Ethernet signal cable into Slot 2 on back of SRM computer.
2. Shift slide lock assembly on female connector so that it locks in place.
3. Plug the female connector on Ethernet signal cable into transceiver.
4. Shift slide lock assembly on female connector so that it locks in place.



**Figure 5-1**  
**Excelan Cable Connection**