

## SunISDN SBus Board Installation

## 4

This chapter discusses how to install any SunISDN board into the two-Slot, three-Slot, and four-Slot desktop SPARCstation platforms. Refer to *Installing SBus Cards in Desktop SPARCstation* or *Installing SBus Cards in Deskside and Data Cabinet System* for specific information about installing a SunISDN board in your system unit.

Observe the following safety precautions when you install an SBus board.



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**Warning** – Before installing the board, make sure the system power switch is in the Off (O position). When the power is off, the green light on the front is not lit and the fan in the power supply is not running.

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**Warning** – A lithium battery is molded into the NVRAM—TOD chip on the main logic board. The battery is not a customer-replaceable part. The battery may explode if mistreated. Do not dispose of the battery in fire. Do not disassemble it or attempt to recharge it.

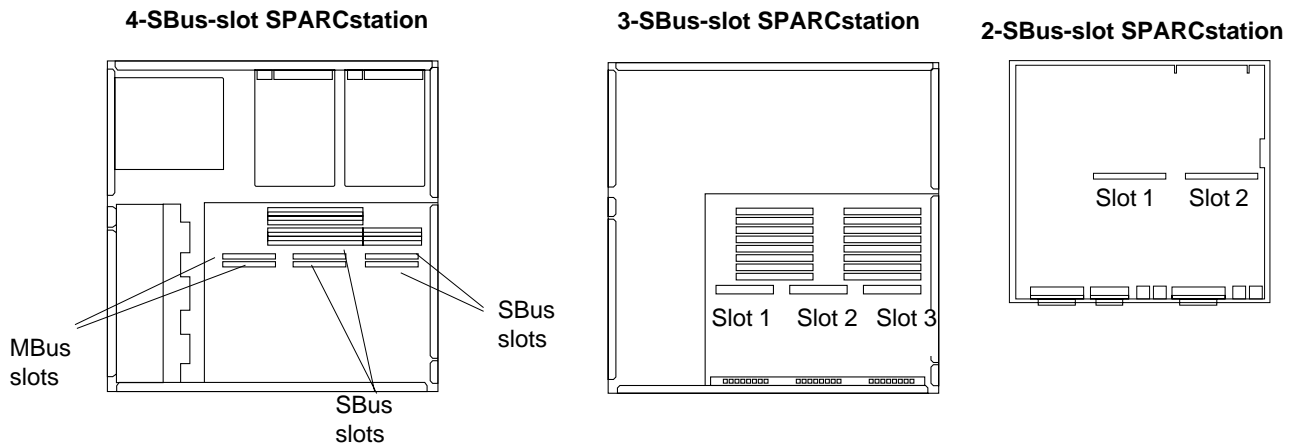
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**Warning** – After installing the board, do not power up the system without replacing the cover to secure the enclosure. Failure to take this precaution may result in personal injury and system damage.

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**Note** - Installation of the SunISDN board in the SPARCstation 1 and SPARCstation 1+ requires the board to be installed in either slot 1 or 2.

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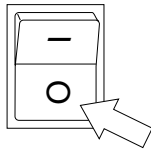
To install SBus boards, you need to complete these procedures:

- Preparing to install the SBus board
- Opening the system
- Attaching the wrist strap
- Identifying the SBus slot
- Preparing the SBus slot
- Preparing the SunISDN board
- Installing the SunISDN board
- Closing the system
- Completing the installation

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## *Preparing to Install*

- 1. Read the instructions for your SBus product.**  
Pay particular attention to the section describing the jumper or switch settings, slot requirements, and tools needed.
- 2. Shut down your system.**  
Become superuser, perform a backup of your system if necessary, and then halt the system. Refer to your system administration manual or to your operating system documentation for complete instructions.
- 3. Turn off the power (O position) to all peripherals, the monitor, and the computer system in any order. Do not disconnect the power cord from the system and from the wall outlet.**



- 4. Remove all cables except the power cord from the back of the system.**

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**Note** - If you are installing an SBus board into a new system, make sure that you attach the power cord to the power outlet on the system and to the wall outlet.

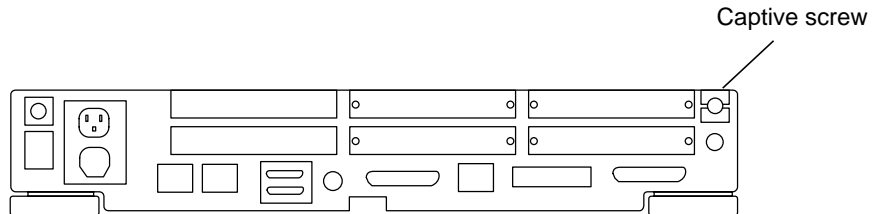
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## Opening the System

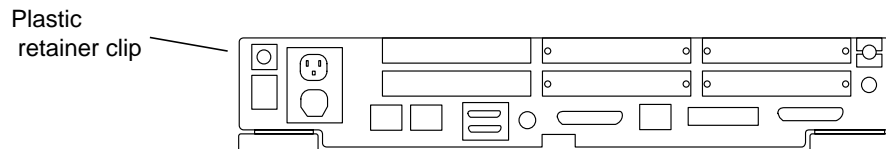
To open the system, refer to the section which applies to your system.

### Opening the Four SBus-Slot-SPARCstation

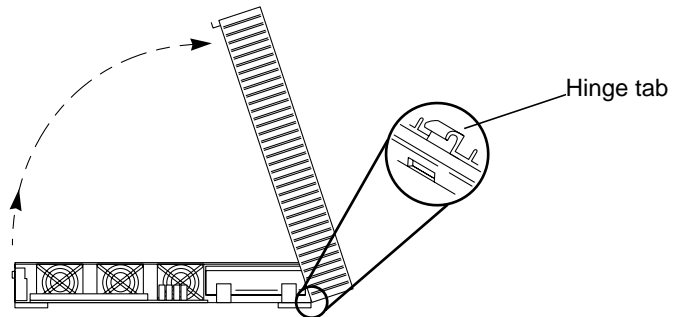
1. Loosen the Phillips-head captive screw on the top right corner of the back panel. The screw will remain attached to the back panel after it is fully loosened from the cover.



2. Press the plastic retainer clip with a Phillips screwdriver as you lift the cover from the back panel with your other hand.



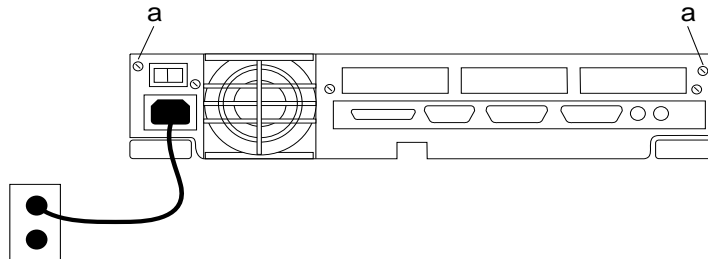
3. Face the back panel, and grasp the sides of the cover at the rear. Lift up the cover. Push the cover forward until its hinge tabs are free of the system unit.



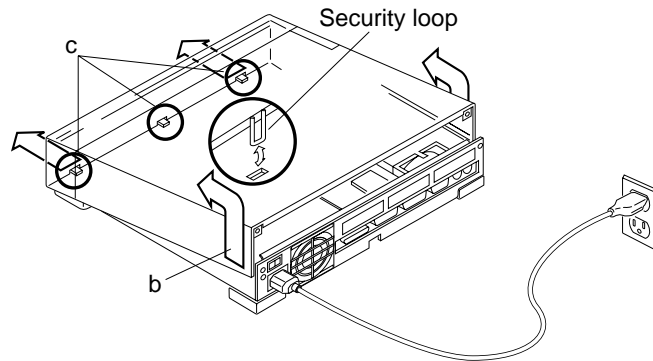
4. Go to “Attaching the Wrist Strap” on page 23.

### *Opening the Three-SBus-Slot SPARCstation*

1. Remove the two Phillips-head screws (a) from the top corners of the back panel.



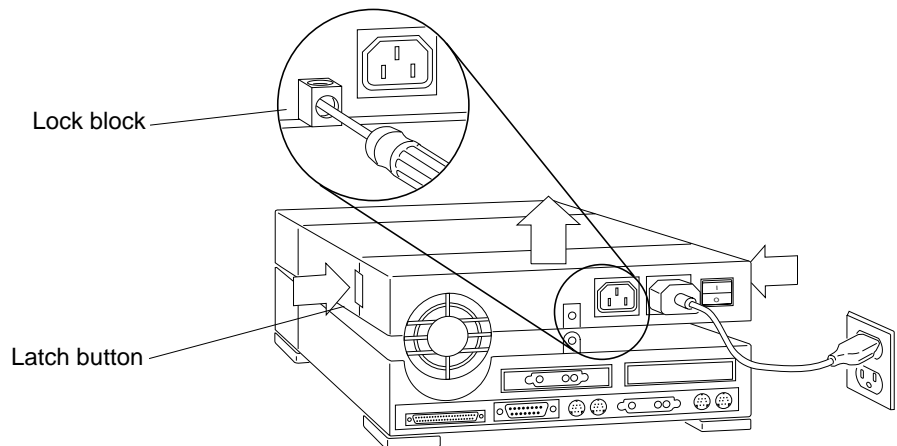
2. Grasp the sides of the cover at the rear and tilt the cover up until the security loop just clears the chassis.



3. Push the cover toward the front about 1/2 inch (13 mm) so the tabs (c) clear the chassis. Lift up (b) to remove the cover.
4. Go to “Attaching the Wrist Strap” on page 23.

### *Opening the Two-SBus-Slot SPARCstation*

1. Remove the Phillips-head screw holding the lock block to the back panel.



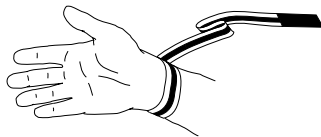
2. Applying slight downward pressure on the top of the unit, press in on the latch buttons. Lift the unit top up and toward the front panel.

Do not lift the top too high because the top and bottom are connected by cables.

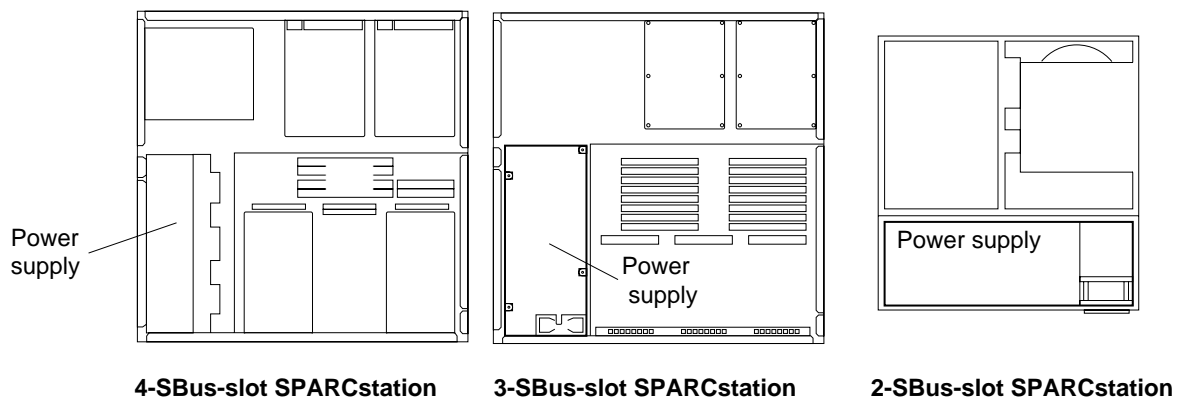
3. Lay the unit top flat next to the unit bottom.
4. Go to “Attaching the Wrist Strap” on page 23.

### *Attaching the Wrist Strap*

1. Unwrap the first two folds of the wrist strap and wrap the adhesive side firmly against your wrist.

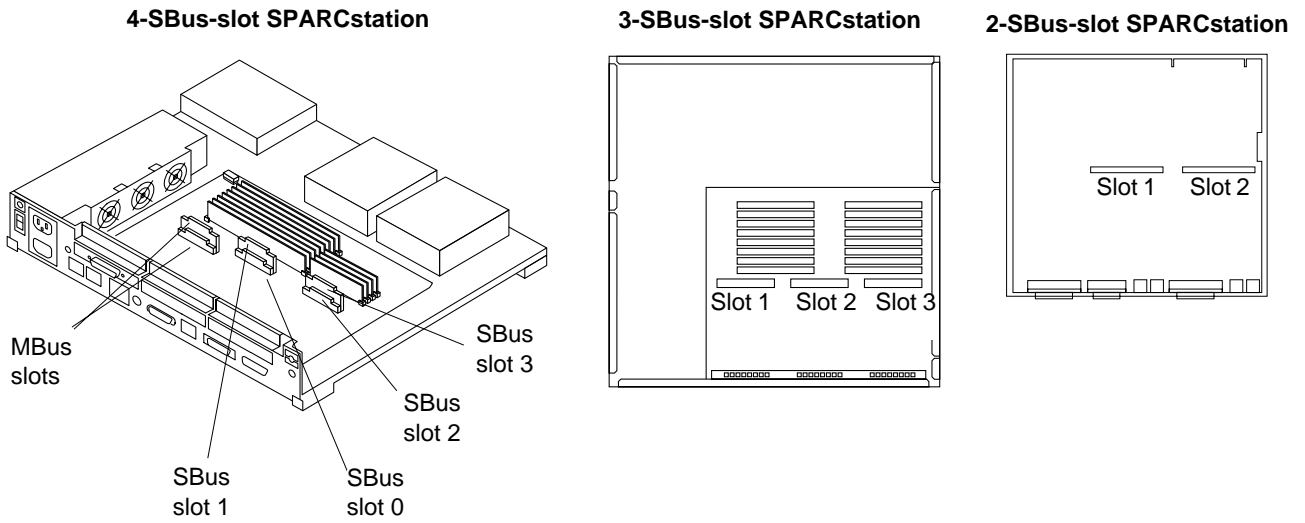


2. Peel the liner from the copper foil at the opposite end of the wrist strap.
3. Attach the copper end of the wrist strap to the top of the power supply metal casing.



## Identifying the SBus Slot

Identify the SBus slot you want to use. For the four-SBus-slot SPARCstation, install the boards in the lower SBus slots first (SBus slots 0 and 2).



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**Note** - Installation of the SunISDN board in the SPARCstation 1 and SPARCstation 1+ requires the board to be installed in either slot 1 or 2. If the board is installed in a "slave only" SBus slot, an error message will display as follows: `WARNING: A DBRI device is installed in a slave-only S-Bus slot.`

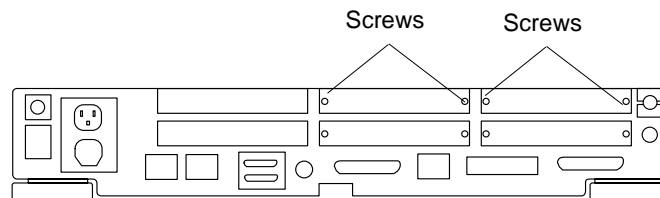
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## Preparing the SBus Slot

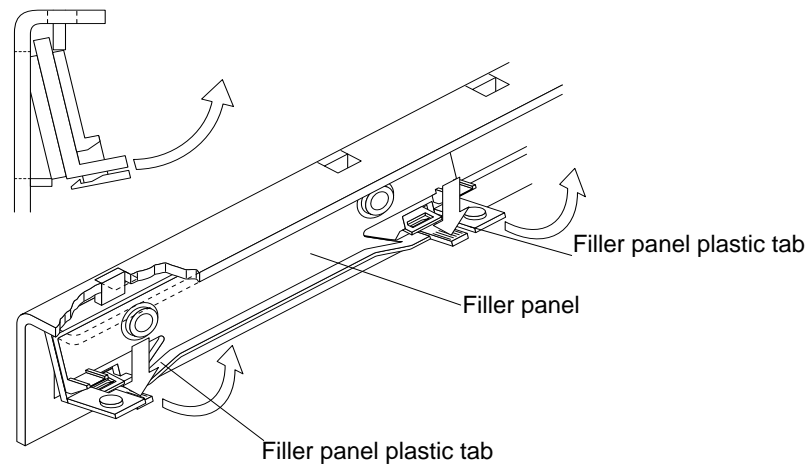
You must either remove the filler panel from a previously unused slot or remove the installed SBus board.

### Removing the Filler Panel from a Four-SBus-Slot SPARCstation

1. Remove both Phillips-head screws and washers from the outside of the filler panel.



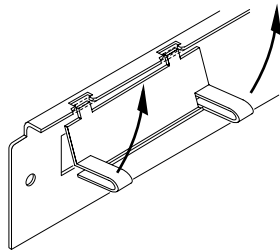
2. Push down on the filler panel plastic tabs one at a time and press inward on the outside of the filler panel. Release the panel.



3. Go to "Preparing the SunISDN Board" on page 29.

### ***Removing the Filler Panel from a Three-SBus-Slot or Two-SBus-Slot SPARCstation***

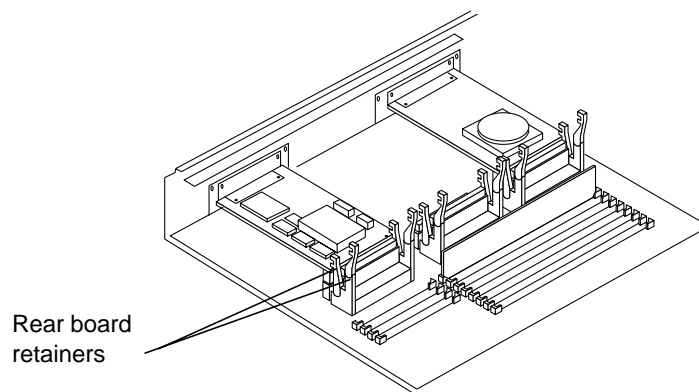
- 1. Lift up on the clips at the bottom of the panel.**
- 2. Pull the panel toward the front of the system.**



- 3. Go to “Preparing the SunISDN Board” on page 29.**

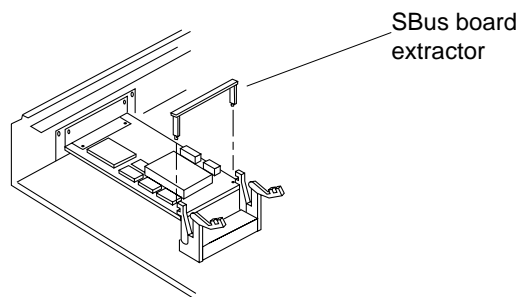
### ***Removing an SBus board from a Four-SBus-Slot SPARCstation***

- 1. Push the rear board retainers away from the edge of the SBus board.**



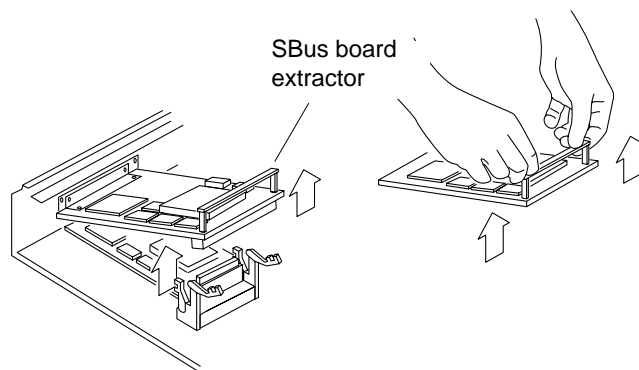
- 2. Install the SBus board extractor (shipped with the system) on the SBus board by inserting the legs of the extractor into the holes on either side of the connector.**

If the system was not shipped with an SBus extractor, go to the next step.



- 3. Hold both ends of the board extractor and pull upwards slowly until the connector is out of the slot.**

If your system was not shipped with an SBus board extractor, place your index fingers or thumbs on the corners of the SBus board. Pull up on the board.



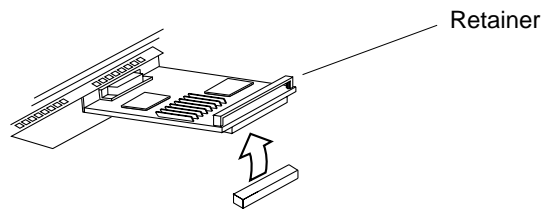
- 4. Remove the board extractor from the SBus board by bending one leg of the extractor slightly to the outside until the hook clears the hole in the SBus board. Remove the other side of the extractor, which should come out easily without bending it.**

Save the extractor. You will need it to remove other SBus boards.

5. Place the SBus board on an antistatic surface (an antistatic mat or the antistatic bag the SBus board was shipped in).

*Removing an SBus Board from a Three-SBus-Slot or Two-SBus-Slot SPARCstation*

1. Put your index fingers or thumbs under the corners of the board.
2. Pull up on the board, not the retainer.

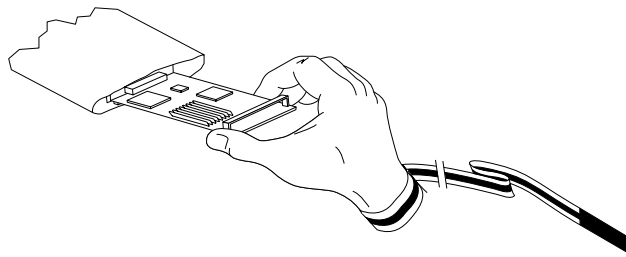


3. Place the SBus board on an antistatic surface (an antistatic mat or the antistatic bag the board was shipped in).

## *Preparing the SunISDN Board*

- 1. Remove the new board from its antistatic bag. Hold the board by the edges.**

Place the SBus board on an antistatic surface (either an antistatic mat or the antistatic bag the board was shipped in).



- 2. If required for your board, set the jumpers or switches on the board.**  
Refer to the guide for your SBus product for the settings.
- 3. In selected countries, save the label from the antistatic bag. You can stick this label on the inside cover of this manual.**  
These countries include France and Holland.

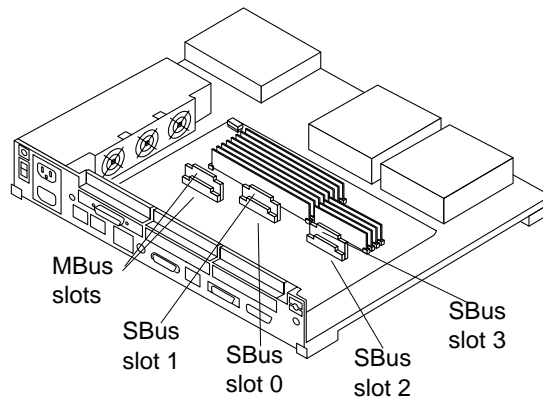
## Installing the SunISDN Board in a Four-SBus-Slot SPARCstation

The SPARCstation 10 has four SBus slots. SBus slot 1 is above SBus slot 0 and SBus slot 3 is above SBus slot 2.

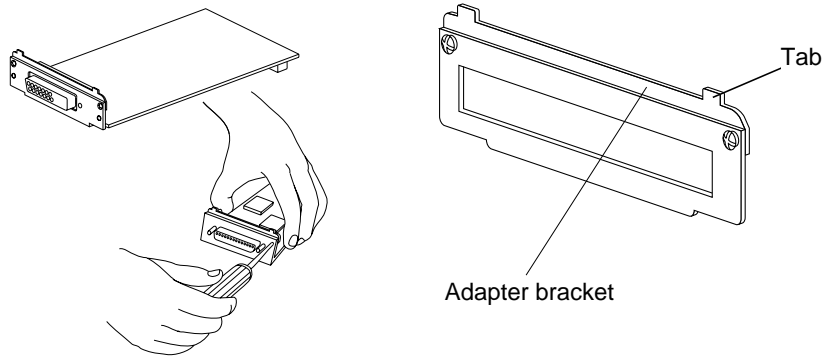
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**Note** – Install SBus boards in the lower SBus slots first.

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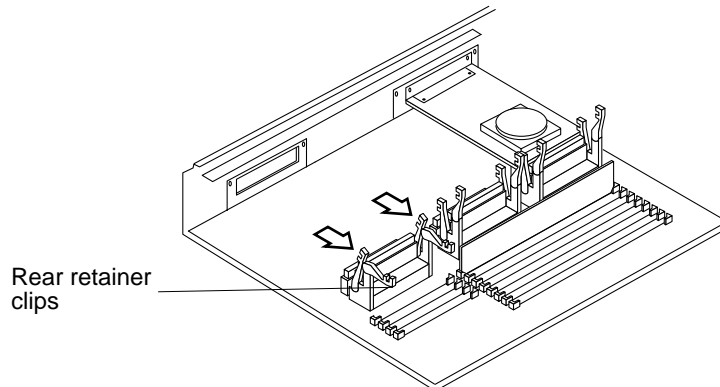


1. If the board you are installing has tabs on the backplate, remove the adapter bracket.
  - a. Remove the two screws that attach the adapter bracket to the backplate.

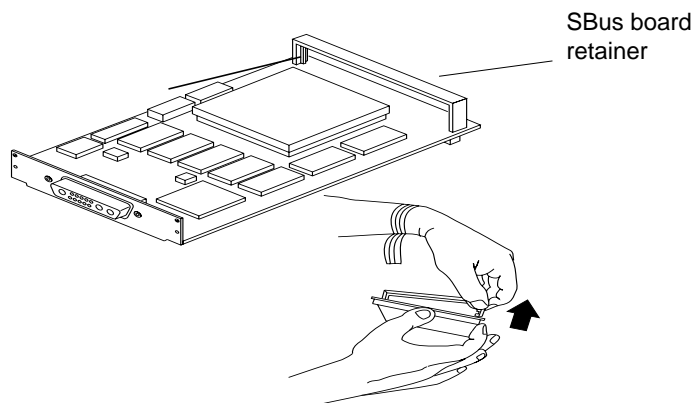


b. Save the adapter bracket and the screws in case you need to use them when installing SBus boards in other systems.

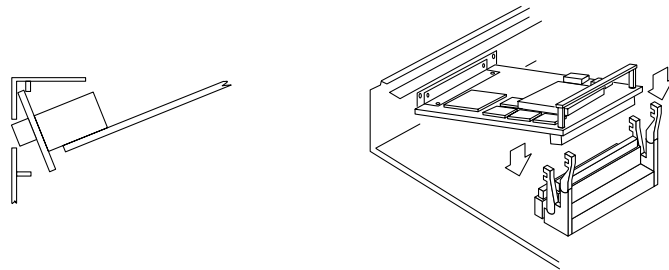
2. Push both rear board retainer clips back.



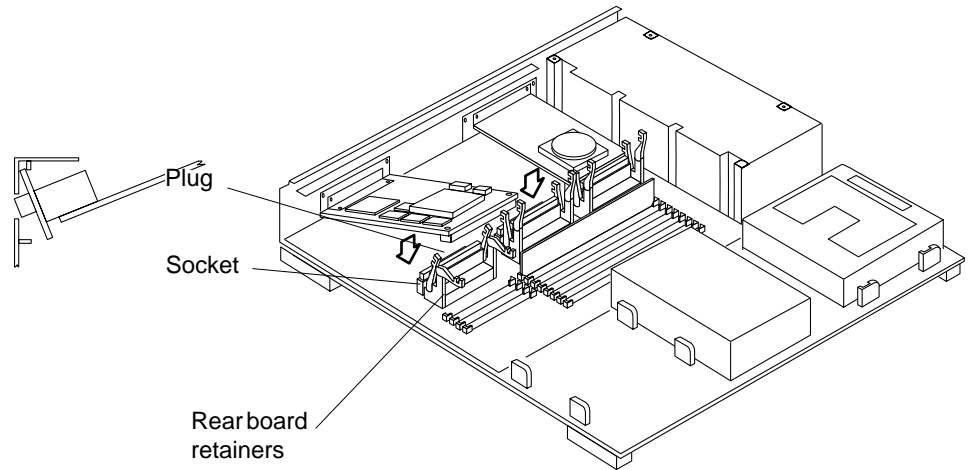
3. Remove the board retainer from the SBus board by bending one leg of the retainer slightly to the outside until the hook clears the hole in the SBus board. Remove the other side of the retainer, which should come out easily without bending it.



- 4. Slide the board at an angle into the back panel of the system. Hook the board backplate under the lip on the back panel. Be sure the board backplate shows through the slots on the back panel.**  
The connector for your board may not line up with other connectors in the back panel.

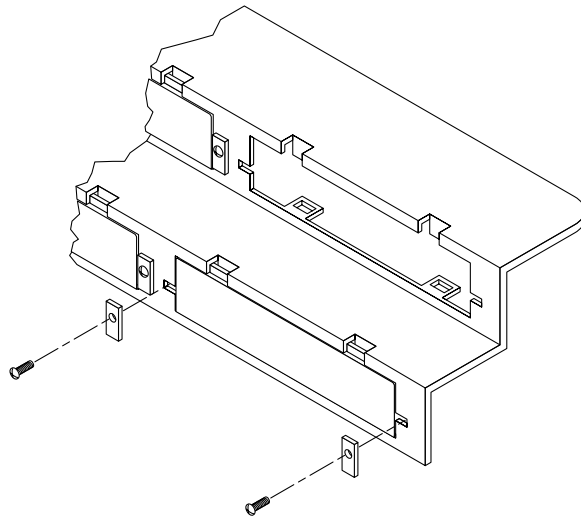


- 5. Align the plug with the socket. Gently press the corners of the board to push the plug into the socket.**  
Do not force the board or you may damage the pins on the board.



- 6. Push the rear board retainer clips forward over the edge of the SBus board.**

7. **Insert a washer and the screw you removed earlier into the two screw holes adjacent to the SBus board on the back panel.**  
Insert the washer vertically (narrow side across).



8. **Repeat steps 1 through 7 to install the top SBus boards.**
9. **Go to the section that describes closing your system. For example, "Closing the Four-SBus-Slot SPARCstation."**

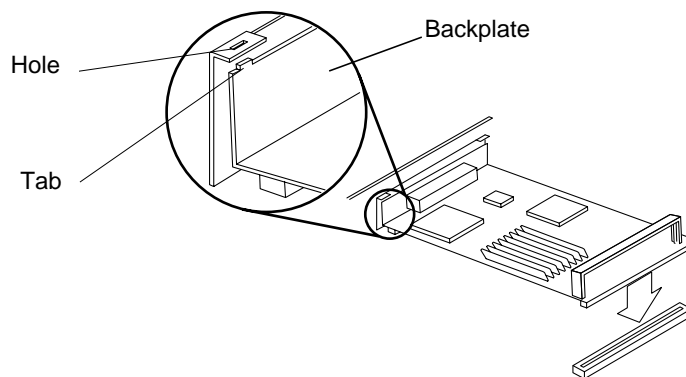
## *Installing the SunISDN Board in a Three-SBus-Slot or Two-SBus-Slot SPARCstation*

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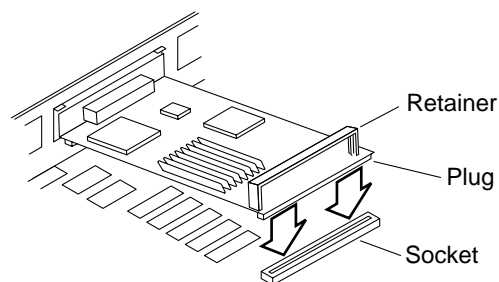
**Note** – Installation of the SunISDN in the SPARCstation 1 and SPARCstation 1+ requires the board to be installed in either slot 1 or 2.

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- 1. Slide the board at an angle into the back panel of the system.**
- 2. Hook the tabs on the board backplate into the holes in the back panel.**



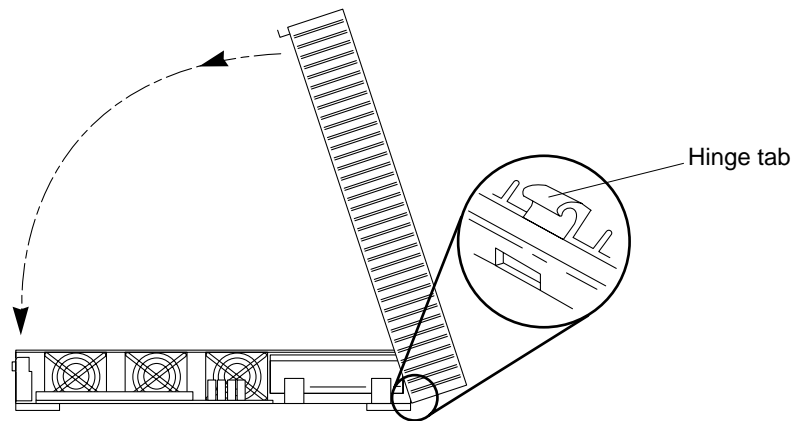
- 3. Push the board against the back panel.**  
The connector for your board may not line up with other connectors in the back panel.
- 4. Check that the plug is aligned with the socket and gently press the corners of the board (not the retainer) to push the plug into the socket.**  
Do not force the board or you may damage the pins on the board.



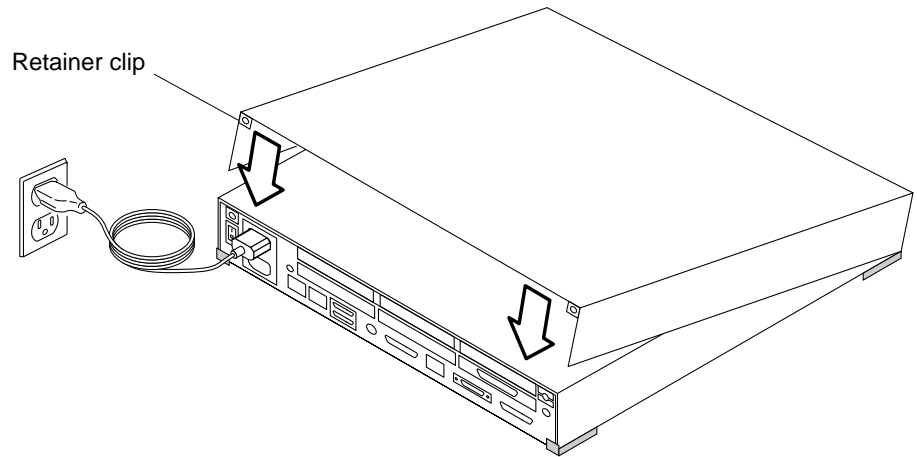
5. Refer to the documentation for your SBus product for instructions on any additional hardware setup.

### *Closing the Four-SBus-Slot SPARCstation*

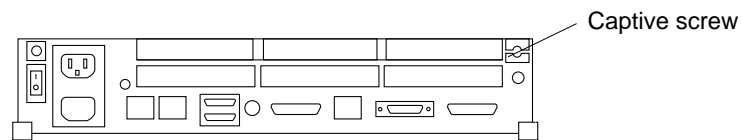
1. Remove the wrist strap first from your wrist and then from the power supply.
2. Hold the cover as shown in the following figure and gently guide the hinge tabs on the cover into the tab slots on the front of the system unit. Slowly lower the cover onto the system unit.



- 3. Gently press down on the left and right sides of the cover.**  
Guide the cover so that the retainer clip snaps the cover to the back panel.



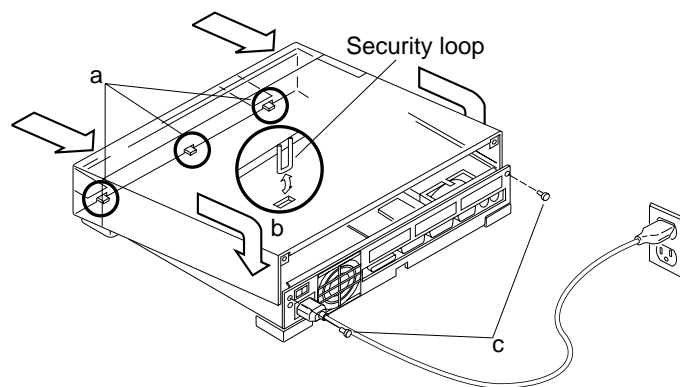
- 4. Tighten the captive screw at the top right side of the back panel to the cover. Do not overtighten the screw.**



- 5. Go to the section “Completing the Installation.”**

## *Closing the Three-SBus-Slot SPARCstation*

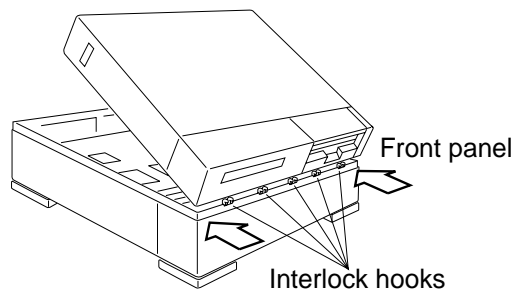
1. Remove the wrist strap first from your wrist and then from the power supply.
2. Replace the cover to the system.



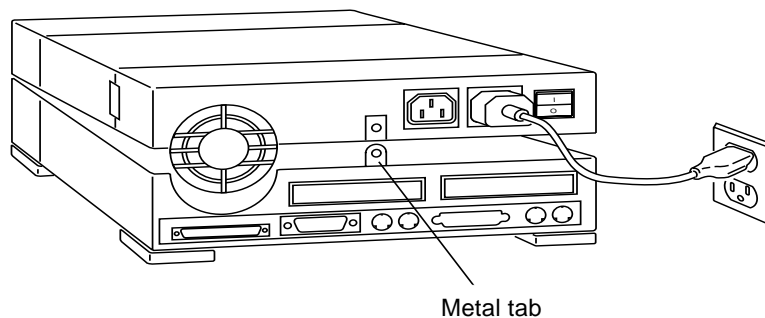
- a. Hold the cover at approximately a 30-degree angle in relation to the chassis. Guide the tabs on the front of the cover into the tab slots on the front of the chassis. Continue to hold the cover.
  - b. Lower the cover. Be sure the security loop clears the diskette drive and seats into the slot on the bottom of the chassis. Make sure the cover fits over the ends of the back panel.
  - c. Insert and tighten the two Phillips-head screws at the top of the back panel. Do not overtighten the screws.
3. Go to the section "Completing the Installation."

## *Closing the Two-SBus-Slot SPARCstation*

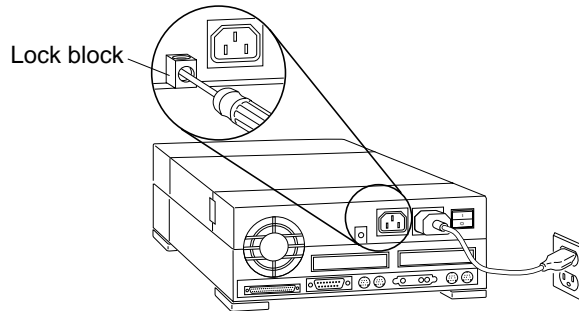
- 1. Remove the wrist strap first from your wrist and then from the power supply.**
- 2. Rotate the unit top to a 15-degree angle and line up the five interlock hooks.**



- 3. Rest the front edges together to connect the interlock hooks by pushing gently toward the unit back.**
- 4. Make sure all cables are fully inside the unit.**
- 5. Lower the unit top making sure the metal tab is just under the case. Push back to secure the connection.**  
The latch buttons click when the unit top is secure.



6. Insert and tighten the screw in the lock block in the back panel. Do not overtighten the screw.

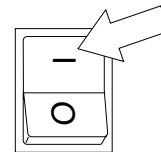


## Completing the Installation



**Warning** - After installing the board, do not power up the system without replacing and securing the top. Failure to take this precaution may result in personal injury and system damage.

1. Reconnect all cables to the back of the system and to your SBus board. Refer to the instructions for your SBus product for cabling information.
2. Turn the power on in this order:
  - a. SBus Expansion Subsystem (if attached to the system unit)
  - b. Peripherals connected to SBus Expansion Subsystem
  - c. Monitor
  - d. Peripherals connected to system unit
  - e. System unit



3. Log in.
4. Refer to the *SunISDN User's Guide* to complete your software installation and configuration.

## *Installing a SunISDN Board in a SPARCsystem 600MP Series Server*

The SunISDN board can be installed into the following SPARCserver machines:

- SPARCserver 630MP
- SPARCserver 670MP
- SPARCserver 690MP

Only qualified Sun service providers should install the ISDN board into SPARCserver 600 MP series systems.

Refer to the following Sun manuals for installation information:

800-5318	<i>600MP System Board and Expansion Memory Installation and Service Manual</i>
800-6366	<i>SBus Card Installation Guide for Deskside and Data Center Cabinet SPARCsystems</i>

Also, refer to the Service Manual that came with your SPARC system hardware.