
Chapter 3. Installing Options

This chapter provides instructions to help you add options to your system unit. If you have several internal options to install, install them all at one time, while the system unit is still open. Install all SBC options first to prevent removing newly installed adapters or drives to access the SBC.

Use the figures in "General Layout of Components" on page 1-2 to locate components. Before performing any installation procedures, be sure to read the information in "Safety Information" on page D-8 and in "Handling Electrostatic-Discharge-Sensitive Devices" on page D-13. That information will help you work more safely with your computer and options.

CAUTION:

- **Power must always be turned off before performing any removal/replacement procedures. Electrical power and any backup power source also should be disconnected. To make sure that power is switched off and disconnected correctly, start every removal and replacement procedure with "Switching Off Power and Disconnecting Cables."**
- **Depending on the options installed, the system unit could weigh more than one person can comfortably lift. Do not attempt to lift it by yourself; get another person to help you.**

Attention

Whenever handling electronic components, use precautions to prevent component damage due to electrostatic discharge. See "Handling Electrostatic-Discharge-Sensitive Devices" on page D-13 for a list of those precautions.

Switching Off Power and Disconnecting Cables

Use the following procedure to turn off the system unit and disconnect all cables before beginning any removal or replacement procedure. If you need to remove the system unit from its mounting place, use this procedure before removing the system unit.

1. Remove any data media (diskettes, optical discs, and tapes).
2. Turn off the computer and all attached devices.
3. Record the location of all cables connected to the system unit to prevent confusing them while they are unplugged.
4. If you have a modem or fax machine attached, disconnect the telephone line from the wall outlet and then from the system unit.
5. Disconnect all electrical power and any backup power source.
6. Disconnect all other cables connected to the system unit. Where applicable, unplug the cable at the receptacle end first, and then at the device end.

When reassembling the system unit, reverse these steps.

Now you are ready to proceed.

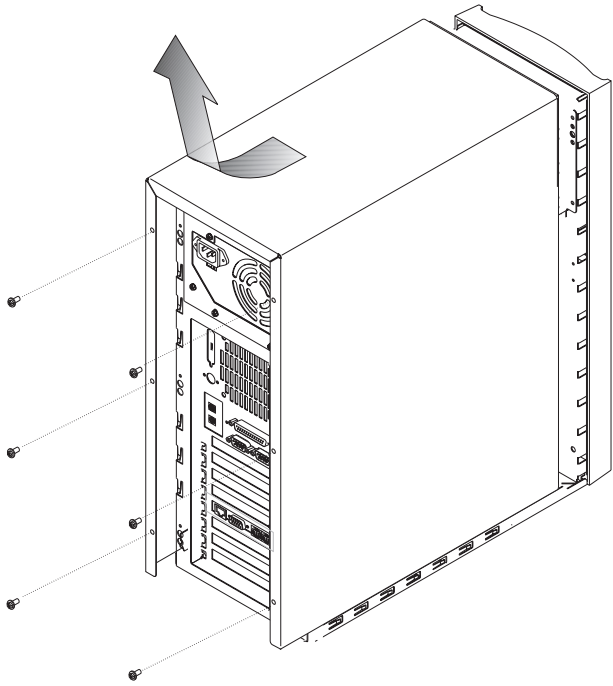
Removing the Cover

CAUTION:

The system unit weighs 13.5 kilograms (30 pounds). If you must move it, do not try to lift it by yourself; get another person to help you.

To open the system unit, do the following.

1. Remove the six screws on the rear of the system unit that hold the cover in place.



2. Slide the cover toward the rear of the unit until the front end of the cover is clear of the front panel.
3. Lift the cover off the chassis.

Installing Memory

The SBC has two memory connectors (bank 0 and bank 1). Each connector supports 32-MB, 64-MB, 128-MB, and 256-MB non-parity DIMMs.

DIMM Considerations

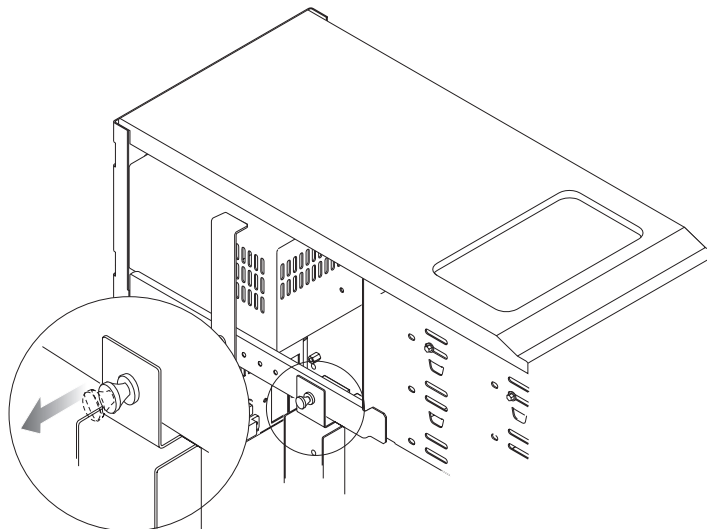
Use only IBM-approved memory. Contact your IBM representative for memory upgrades.

The DIMM in bank 0 has a height restriction of 1.5 inches (38.1 millimeters).

The DIMM in bank 1 is limited by the adapter in expansion slot 5 (slot 4 either must be empty or have only a small adapter installed, or have the USB removed). The height restriction for bank 1 is 1.25 to 1.375 inches (31.8 to 34.9 millimeters). The dimension is affected by the adapter in slot 5.

Before installing memory, use the following procedures to remove the SBC.

1. Remove the cover (refer to page 3-2).
2. Remove the card retainer bracket.

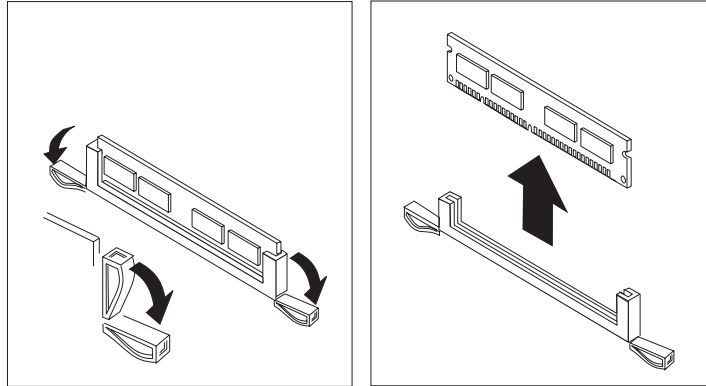


3. Record the position of any adapters that interfere with disconnecting cables from the SBC and remove those adapters (see "Removing and Replacing Adapters" on page 7-36).
4. Remove the screw that secures the SBC to the chassis.
5. Disconnect all cables from the SBC.
6. Pull the cables away from the SBC and carefully lift the SBC out of the system unit. (You might have to rock the SBC slightly from front to rear to loosen it from the connector.)
7. Place the SBC on a flat, clean, static-free surface, with the component-side facing up and the backplane connector toward you.
8. If you are replacing the DIMM in bank 0, continue with "Installing Memory in Bank 0" on page 3-4. If you are installing memory in bank 1, go to "Installing Memory in Bank 1" on page 3-5.

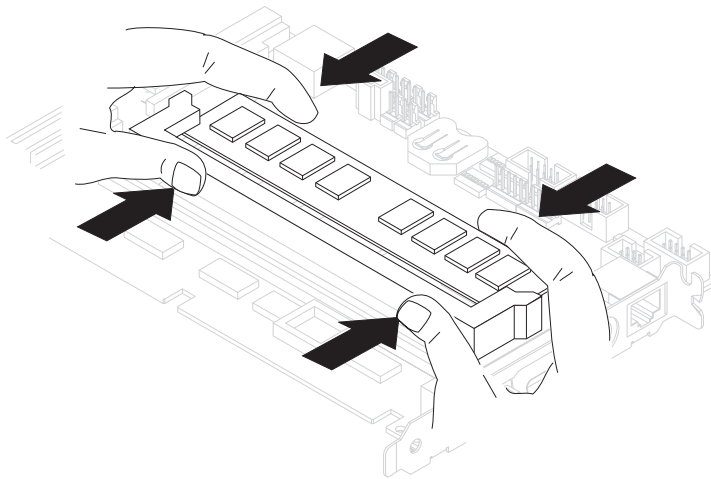
Installing Memory in Bank 0

Use the following procedures to install memory in bank 0.

1. Push outward against the release levers at both ends of the DIMM connector. The DIMM will rise about 0.25 inch.



2. Lift the DIMM out of the connector.
3. Align the centering notches on the new DIMM with the keys in the connector (the keys are in the center slot of the connector). Then insert the DIMM into the connector and squeeze the DIMM into the connector as shown. The release levers will move to the closed position when the DIMM is fully seated in the connector.

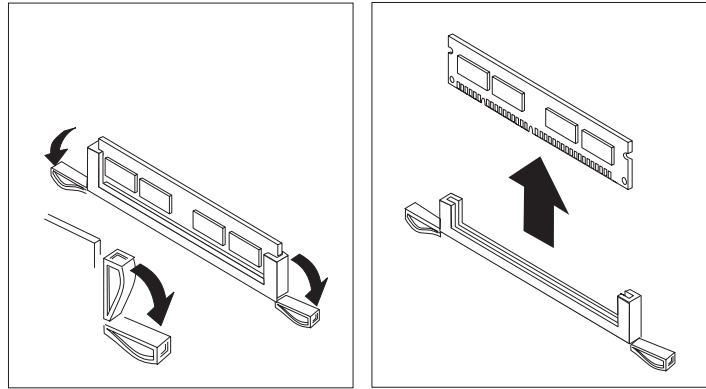


4. Record the configuration changes in Appendix A, "System Records."
5. If you are also installing memory in bank 1, continue with "Installing Memory in Bank 1." Otherwise, reinstall the SBC and reconnect all internal cables.
6. Reinstall any adapters into the same slots from which they were removed.

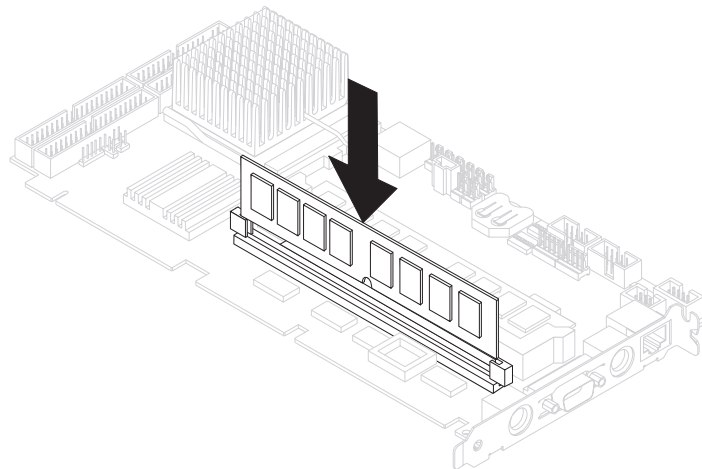
Installing Memory in Bank 1

Use the following procedures to install memory in bank 1.

1. If you are replacing the DIMM in bank 1, continue with the next step. Otherwise, go to step 4.
2. Push outward against the release levers at both ends of the DIMM connector. The DIMM will rise about 0.25 inch.



3. Lift the DIMM out of the connector.
4. Align the centering notches on the new DIMM with the keys in the connector (the keys are in the center slot of the connector). Then insert the DIMM into the connector and press the DIMM into the connector as shown. The release levers will move to the closed position when the DIMM is fully seated in the connector.

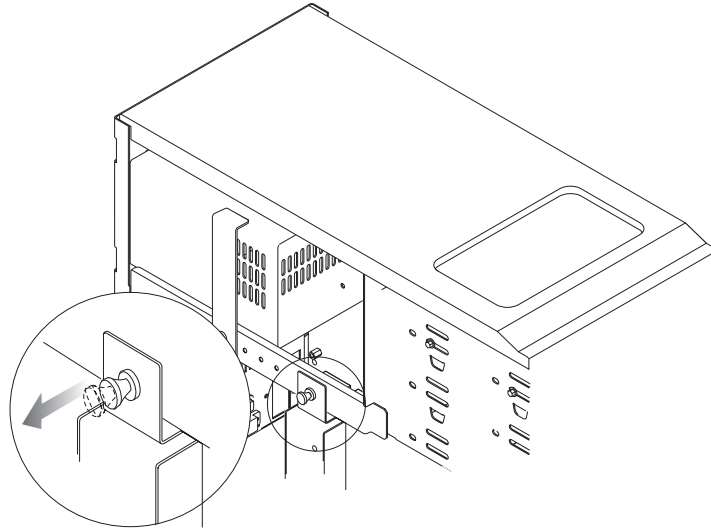


5. Record the configuration changes in Appendix A, "System Records."
6. Reinstall the SBC and reconnect all internal cables.
7. Reinstall any adapters into the same slots from which they were removed.

Installing Adapters

To install an adapter, do the following.

1. Remove the cover from the system unit.
2. Remove the card retainer bracket.



3. Read the instructions that came with the adapter to determine if the adapter must be installed in a certain slot. If not, you can use any empty slot. Determine which empty slot you will use.
4. Record the location of any adapters or drives that are in the way; then remove them.
5. Read the instructions that came with the adapter to determine if you need to set any switches or jumpers on the adapter.
6. Touch the static-protective bag in which the adapter was packaged to any unpainted metal surface on the system unit. Then remove the adapter from the package.
7. Set any required switches or jumpers on the adapter. Also, install any required memory modules on it.
8. Install the adapter as follows.
 - a. Grasp the adapter at the front and rear.
 - b. Align the adapter with the front adapter guide and slide it into the slot. (Some adapters are shorter and do not extend to the front adapter guide.)
 - c. Press the adapter firmly into the expansion slot. Full-length adapters slide into the latch on the front adapter guide.
 - d. Install and tighten the expansion slot screw.
 - e. Record the type of adapter you just installed in Appendix A, "System Records."
9. Reinstall any removed adapters into their original slots.
10. Replace the card retainer.
11. Reinstall the cover.

Installing an Internal Hard Drive

Important

Some drives do not meet the industrially rated environmental specifications of the 7563 Passive Backplane System. Before installing any drive that is not purchased from IBM or an IBM distributor specifically for use in a 7563 Passive Backplane System, be sure the drive specifications meet all environmental conditions to which it might be subjected.

To install an internal hard drive, do the following.

1. Turn off the computer and remove the system unit cover.
2. Read the instructions that came with the drive to determine any special instructions, such as the following.
 - Installing or changing drive installation hardware
 - Setting jumpers or switches
 - Removing or installing a terminator
 - Setting a SCSI ID (SCSI drives only)

Note: When you update your system configuration, as explained in “Using the Configuration/Setup Utility Program” on page 4-5, make sure the drive you installed is included as a startup device under **Start Options** in the Configuration/Setup Utility screen; otherwise, you will not be able to boot your computer from that drive.

In addition, if your hard disk drive cannot run in High Performance mode (the default mode selection for the primary and secondary IDE controllers), use the same screen to switch to Compatible mode.

3. Locate an open bay where the hard drive can be installed.

Note: You need additional hardware to install a 3.5-inch hard drive in a 5.25-inch bay.

4. Use the screws supplied with the hard drive to mount it to the chassis.
5. Connect the power and signal cables to the new hard drive.

Note: Cable connectors are keyed and connect only one way.

6. Reinstall the cover.
7. Record the drive information in Appendix A, “System Records.”

