

CD-ROM DRIVE INSTALLATION

Introduction

CD-ROM and CD-ROM R/W drives can be added or swapped on the PS Series workstations.

The CD-ROM Drive Replacement/Update kit includes a CD-ROM or CD-ROM R/W drive, four screws, and an Electrostatic Discharge Kit.

Important CD-ROM R/W drives are not designed to be used in Class 1, Div 2 environments.

Both CD-ROM and CD-ROM R/W drives are identical in their installation and upgrade procedures, therefore throughout these instructions both drives will be referred to as simply CD-ROM drives.

There are differences in the location of connectors between the 266MHz CPU board and the 566MHz CPU board. Refer to the figure applicable to your specific configuration.

Before You Start

You will need the following items:

- CD-ROM Drive Replacement/Update kit Model CDR-2000 or CDR-2001
- CD-ROM Drive Installation instructions
- Screwdriver
- Pliers, if this is the first CD-ROM drive to be installed in the unit

Precautions

The following precautions are essential during the installation of sensitive components:



Warning

For safety reasons, the PowerStation should be opened only by qualified service personnel.



Warning

Be sure to observe electrostatic discharge (ESD) precautions while working inside the unit.

Electrostatic Discharge Precautions Preparation

Important Open the Electrostatic Discharge Kit and follow the directions for attaching the wrist strap and handling sensitive electronic components.

Removing the Backcover

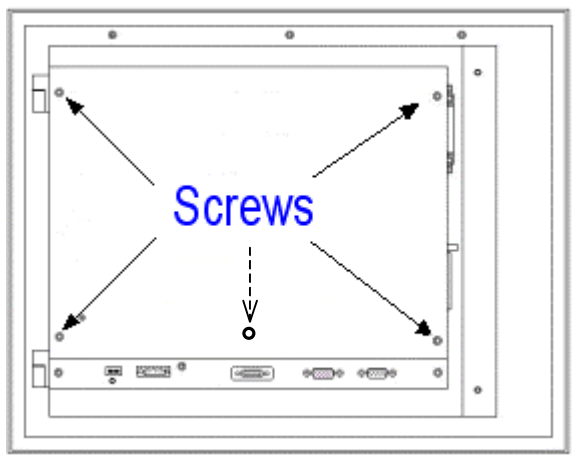
To open the unit, follow these steps:

1. Turn off the unit.
2. Disconnect the unit from the power source.
3. Disconnect all cables attached to the unit.

Caution Before you complete the next step, you must wear an ESD wrist strap connected to a good, known, earth ground to avoid damaging the unit.

4. Remove the fastening screws from the back cover of the unit. Set screws aside.

Note The unit illustrated below is a PS15-2. However, the four corner screws are located in the same place for all units within the PowerStation PS series regardless of the model number. The PXXX-3 and -5 (ISA majority backplate expansion) and PXXX-4 and -6 (PCI majority backplate expansion) have an additional fifth screw, indicated below by the dashed arrow.



5. If you have a unit with ISA or PCI cards, you will need to remove the bracket that holds the cards in place.

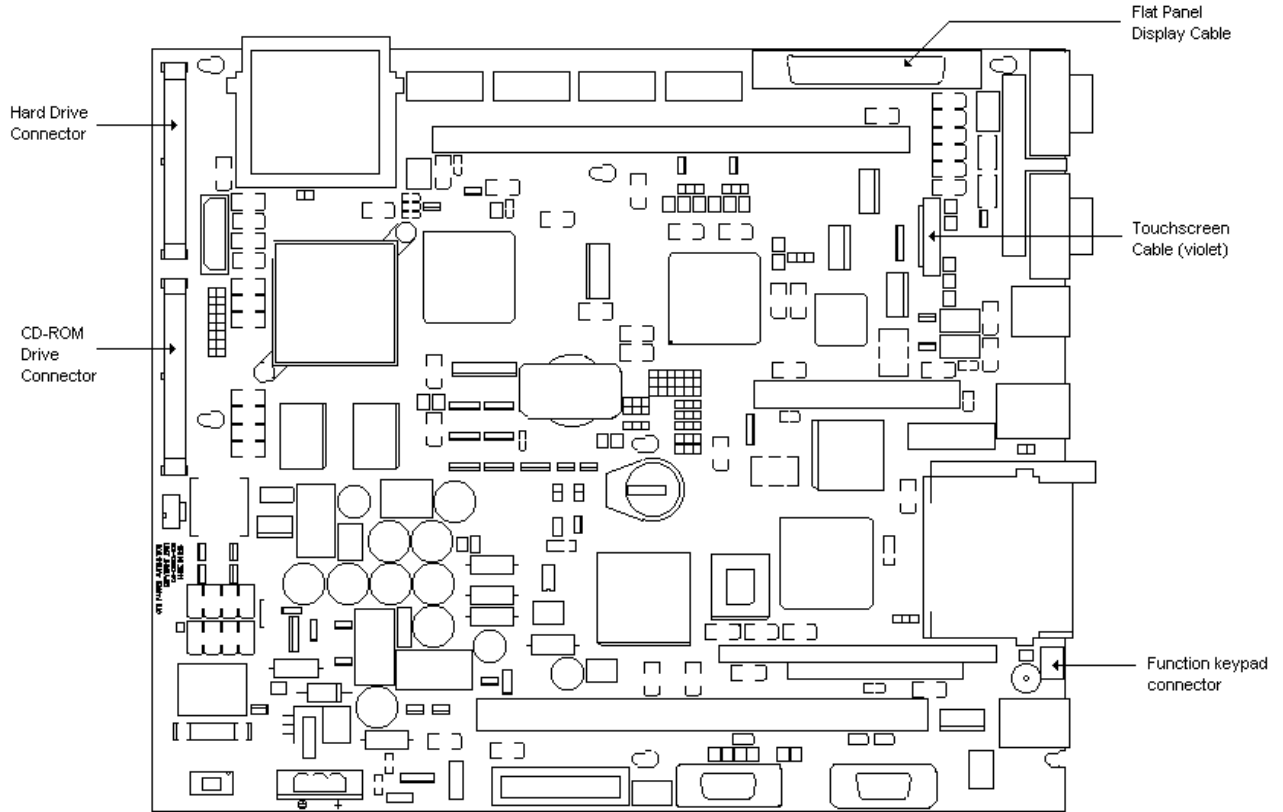
The back cover is removed and the CPU board is accessible.

Accessing the CD-ROM Drive Area

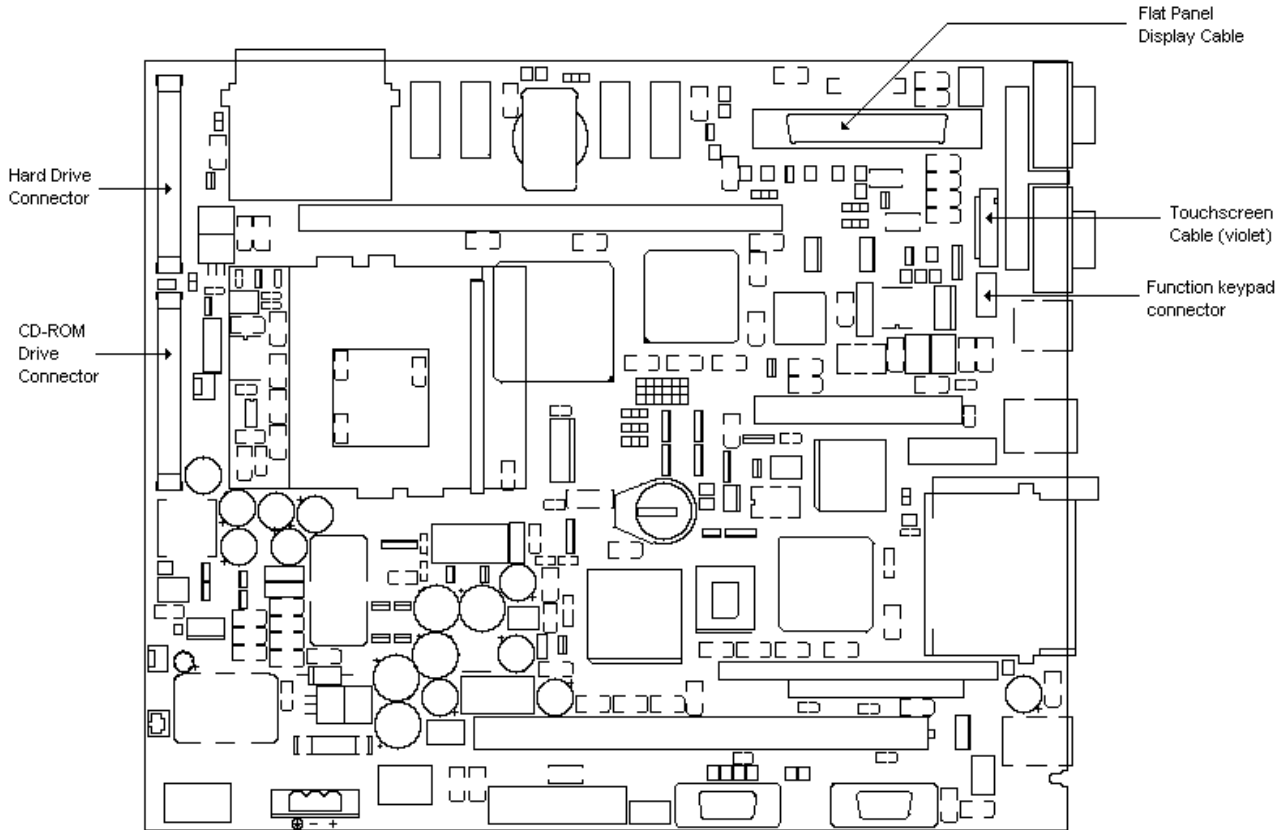
To access the CD-ROM drive area from the CPU board, complete the following steps:

1. Detach the flat panel display cable from the CPU board connector, if the unit is attached to a display. Otherwise, skip to step 4. Refer to the figures on the next page.
2. Detach the function keypad cable, if the unit is attached to a faceplate with a function keypad. Refer to the figures on the next page.
3. Detach the touchscreen cable from the CPU board connector, if the unit is attached to a display. Refer to the figures on the next page.
4. Detach the CD-ROM drive cable from the CPU board connector, if the unit has a pre-existing CD-ROM drive. Refer to the figures on the next page.
5. Detach the hard drive cable from the CPU board connector, if the unit has a hard drive. Refer to the figures on the next page.

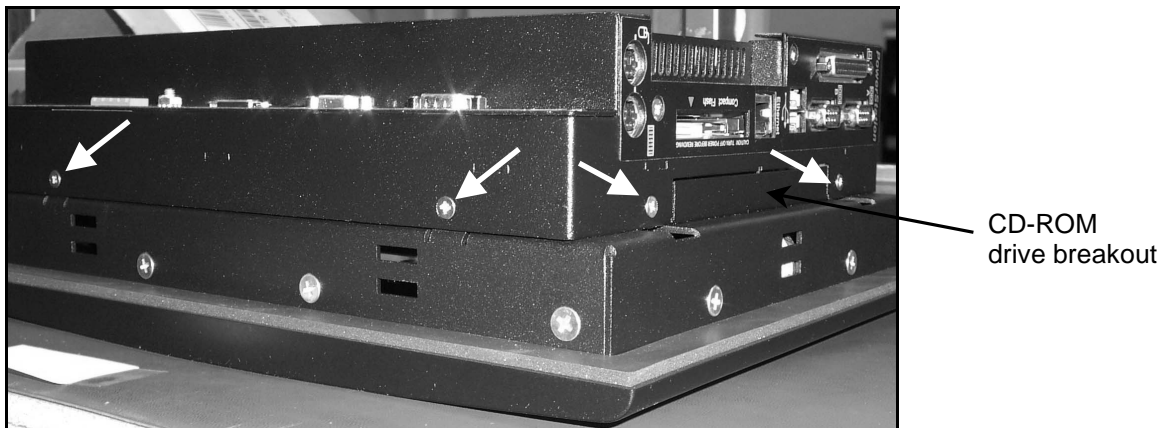
266MHz CPU Board Locations



566MHz and 1GHz CPU Board Locations



6. To access the CD-ROM drive area, which is on the other side of the CPU board, remove the 6 screws attaching the backshell to the display and set the screws aside.



7. Flip the backshell over.

You now have access to the CD-ROM drive area. If there is an existing CD-ROM drive in the system, skip to section *Removing Existing CD-ROM Drive* on page 6.

If no CD-ROM has ever been installed in this unit



If no CD-ROM drive has ever been installed in this unit, it will be necessary to remove the CD-ROM breakout, and check the jumper settings.

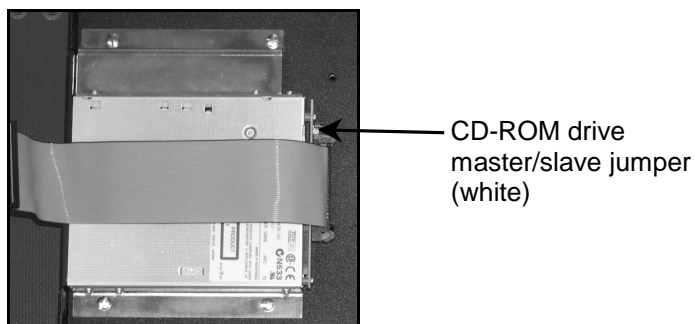
Remove CD-ROM breakout



1. Locate the breakout panel, next to the cable connectors, as shown in the above photograph.
2. Remove the breakout panel with pliers, using a twisting motion to break the three attachment points.
3. File or trim any sharp edges left at the three attachment points, otherwise they may hinder the gliding of the CD drawer.

Check the jumper settings

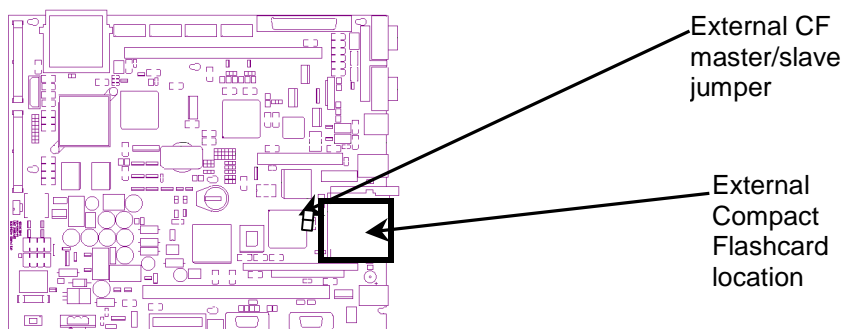
When you are installing a CD-ROM drive in a system that has not previously contained one, the CD-ROM drive and the External Compact Flashcard have to be jumpered properly according to master/slave status.



1. Set up the CD-ROM drive as master by making sure that the CD-ROM drive master/slave jumper shown below is set to OFF,  or . The jumper is usually set to master when the CD-ROM drive is shipped.



Note "Jumper set to OFF" means no connection between the two jumper pins. No connection requires either the jumper covering only one pin , or the jumper being removed altogether .

2. Determine whether you have an External Compact Flashcard (CF) on your system by checking your CPU board for a Flashcard in the following location:



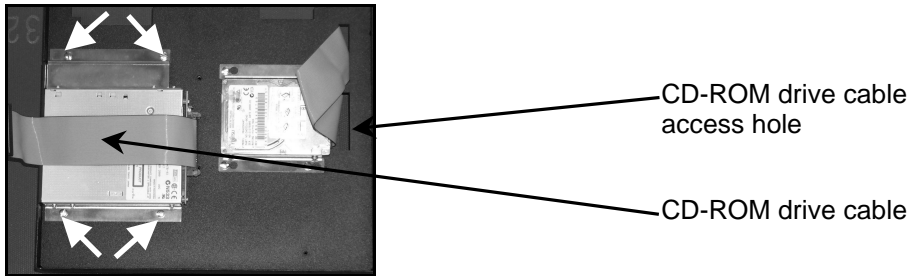
3. Set up the External Compact Flashcard (CF) as a slave by setting the External CF master/slave jumper shown above to OFF,  or .
4. Skip to the section *Installing the New CD-ROM Drive*.

Removing Existing CD-ROM Drive

If you do not have an existing CD-ROM drive, skip to the section *Installing the New CD-ROM Drive*.

If you have an existing CD-ROM drive, you will need to remove the existing drive:

1. Locate the CD-ROM drive assembly.
2. Remove the four screws securing the CD-ROM drive brackets to the workstation.
3. Remove the CD-ROM drive cable from the access hole.



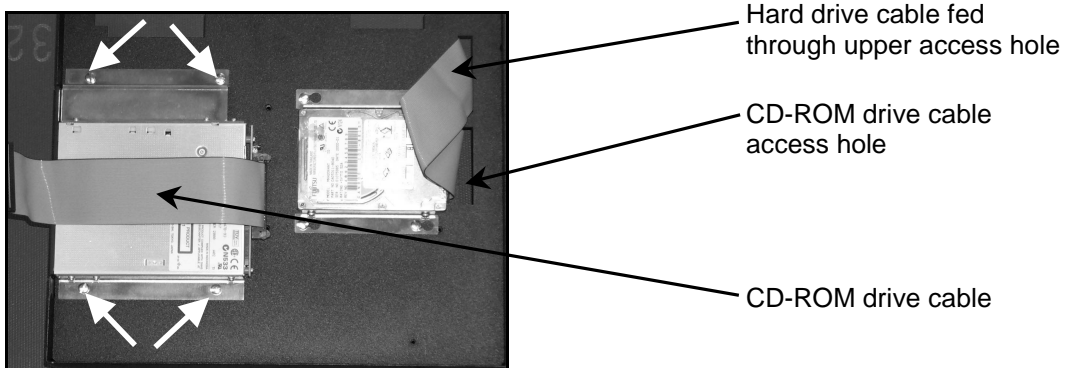
4. Remove the CD-ROM drive.

You are now ready to install the new CD-ROM drive.

Installing the New CD-ROM Drive

To install the new CD-ROM drive, follow these steps:

1. Move aside any cables that may hinder replacement of the CD-ROM drive (e.g. the hard drive cable).
2. Place the new CD-ROM drive as shown in photograph below, lining up the bracket holes and the holes in the plate.
3. Screw in the four screws provided with the CD-ROM Drive Installation kit.



4. Feed the CD-ROM drive cable through the center access hole, as seen in the photograph above.
5. If the unit has a hard drive, feed the hard drive cable through the top access hole, as seen in photograph above.
6. Flip the backcover over to access the CPU board.
7. Plug the CD-ROM drive cable into the CD-ROM drive connector shown on page 3 (266MHz board) or page 4 (566MHz/1GHz board).

8. If the unit has a display, plug the touchscreen cable (violet cable) and the flat panel display cable into the connectors from which they were removed.
9. If the unit has a display with a function keypad, attach the function keypad cable to the function keypad cable connector from which it was removed.
10. If the unit has a hard drive, plug the hard drive cable into the top connector from which it was removed.

Close the Unit

To close the unit, follow these steps:

1. Check that the CD drawer glides freely in and out of the workstation:

Caution No power is required to perform this test. Do not power up the workstation.

- a. Locate the small hole in the front of the CD drawer.
- b. Stick an unbent paper clip end into the hole to open the drawer. Close the drawer gently by hand.

Note If the CD drawer does not glide freely, see the *Troubleshooting* section before reassembling the workstation.

2. Place the CPU assembly on the touchscreen assembly.
3. Reattach the CPU assembly to the unit with the six screws (two on each side) removed earlier.
4. Place the back cover on the unit.
5. Reattach the back cover using the screws removed earlier.
6. Reconnect the power cable and any other disconnected cables to the unit.
7. Reconnect the unit to the power source.

You may now restart the unit. If this is the first time that a CD-ROM has been installed in the unit, go to the section *First Installation* below. Otherwise, your CD-ROM drive installation is complete.

First Installation

If the unit has never had a CD-ROM drive, you will need to check the BIOS boot options.

Changing the system BIOS Boot Options

Your new CD-ROM drive is a bootable device. When the workstation is turned on, it will attempt to load the operating system (such as Windows or DOS) from a bootable device. If you have several bootable devices on your system, you may need to change the device boot order in the BIOS by changing the Boot Options.

To check or change the Boot Options on your workstation, follow these steps:

1. Turn on your workstation.
2. Press **F2** immediately, before the system finishes the boot sequence.

The **BIOS Setup** screen appears.

Note If the line **Secondary Master** option reads **[None]**, your CD-ROM drive has not been detected. Go to the *Troubleshooting* section.

3. On 266MHz CPU boards; scroll down using the down arrow key until you reach **Boot Options**.
4. On 566MHz/1GHz CPU boards; select the **Boot** tab on the menu bar.

5. Press **Enter**.

The list you see is the boot order list. The system will try to boot from the first item on the list. If the system cannot boot from the first item (usually a Removable Device such as a floppy drive), it tries to boot from the second item (usually the CD drive), and so forth down the list until it can boot.

The system will have automatically detected the new CD-ROM drive, and placed it on the boot order list under a code name (such as Manufacturer's Name CD ROM XXX).

Note If you do not see your freshly installed CD-ROM drive on the boot order list, go to the *Troubleshooting* section.

6. Decide in which order you want the boot list. To change the boot order, shuffle the items around using the plus (+) key to move an item up in the list or the minus (-) key to move the item down in the list.

Note If you want your system to boot from the CD-ROM drive **before** it tries booting from the floppy drive, the hard drive, or the network, the CD-ROM drive item must be at the top of the list.

7. When the boot list is ordered to your satisfaction, press **F10** to save your new settings and exit the **BIOS Setup**.

8. Reboot the workstation.

Troubleshooting

CD Drawer not Opening Freely

If your CD drawer does not glide in and out freely, follow these steps:

1. Make sure the three breakout panel attachment points are filed down.
2. Reposition the drive until the drawer slides in and out freely. Do this by,
 - a. Loosening the four screws attaching the CD-ROM drive to the workstation and reposition the drive.
 - b. Check that the drawer glides freely:
 - i. Locate the small hole in the front of the CD drawer.
 - ii. To open the CD drawer, stick an unbent paper clip end into the hole in the front of the drawer.
 - iii. Close the drawer gently by hand.
3. When the CD-ROM drawer slides freely, tighten the CD-ROM drive screws.
4. Reassemble the unit (skip to step 2 of *Reassembling the Unit*).

CD-ROM drive not Detected

If your CD-ROM drive has not been detected at boot up, follow these steps:

1. Check, in the BIOS Setup, that the Auto-detect option has been turned on:
 - a. Turn on or reboot your workstation.
 - b. Press **F2** before the system finishes booting.
 - c. The **BIOS Setup** screen appears.
 - d. Scroll down using the down arrow key until you reach the **Secondary Master** option.
 - e. Press **Enter** to select **Secondary Master** screen.
 - f. Check the Type.
 - g. If the type is set to **Auto**, exit the **BIOS setup** and skip to step 2. Otherwise,
 - h. Toggle the options until you see **Auto**.
 - i. Press **F10** to save and exit the **BIOS setup**.
 - j. Reboot the workstation. The CD-ROM drive should now be detected automatically. If not,
2. Turn off the workstation.
3. Check that the CD-ROM drive cable is properly seated in the CD-ROM drive socket.
4. Check that the External Compact Flashcard jumper is set to Slave (if you have an External Compact Flashcard).
5. Reboot the workstation.