

PowerStation DRAM Replacement

Background

This document describes the procedure for adding or replacing the DRAM on PowerStations. All PowerStations use DRAM that is comparable to what is found in most PCs. The size and quantity of DRAM varies depending on the PowerStation model and the CPU card. Refer to the CPU manual for more information about the size and quantity of DRAM your unit can support.

This procedure requires the following tools:

- Slotted head (#2) screwdriver
- Phillips head (#0) screwdriver
- Quarter-inch nut driver

Electrostatic Discharge Precautions

Modern integrated electronic devices, especially CPUs and memory chips, are extremely sensitive to electrostatic discharges (ESD) and fields. Before you disassemble the PowerStation, be sure to follow these simple precautions to protect you and the PowerStation from harm resulting from ESD.

1. To avoid electric shock, always disconnect the power from the PowerStation before you remove the backshell cover or separate the backshell from the front panel. Do not touch any components of the CPU card or other cards while the PowerStation is on.
2. Disconnect power before making any hardware configuration changes. The sudden rush of power as you connect a jumper or install a card may damage sensitive electronic components.
3. Only handle internal components in an ESD-safe location using appropriate grounding methods.
 - Always ground yourself to remove any static charge before you touch the CPU card.
 - Be particularly careful not to touch the chip connectors.
 - Keep DRAM in its anti-static packaging when it is not installed in the PowerStation, and place it on a static dissipative mat when you are working on it.
 - Wear a grounding wrist strap for continuous protection.

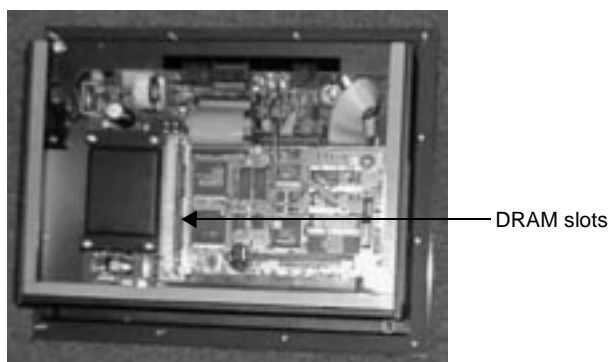
Disassembling the PowerStation

If you have read and understand the ESD safety precautions, you are ready to disassemble the PowerStation. Follow these steps to disassemble the unit:

Important As you begin to disassemble the unit, you will encounter several different screw sizes. When you reassemble the PowerStation, be sure to replace the same size screw in the same location as the one that was removed. Failure to do so could result in damage to the unit.

1. Turn off power to the unit.
2. Disconnect the unit from the power source.
3. Remove the unit from its enclosure, if installed.
4. Place the unit on a static dissipative mat in a location free from dirt and moisture and protected against static discharge. You must also wear an ESD wrist strap connected to a good, known, earth ground.
5. Place the unit on its display, and remove the screws securing the back cover.
6. Remove the back cover from the unit.

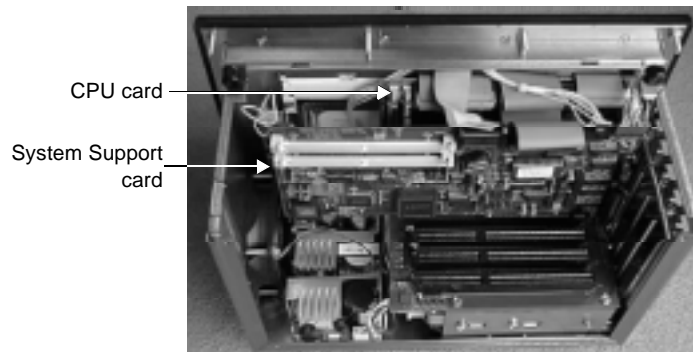
On P2 PowerStations, the DRAM slots are visible as soon as you remove the back cover. The DRAM slots are vertical, as shown below.



If you have a P2 PowerStation skip to the section *Removing a DRAM Module* on page 4. For all other PowerStations, you must remove the System Support card. This procedure is described on page 3.

Removing the System Support Card

The DRAM slots for P3, P4, P5, and P7 PowerStation are located on the CPU card, behind the System Support card. You can identify the System Support card as the card with the 9-pin and 25-pin D-SUB connectors. The System Support card is shown below:



To add or replace DRAM on these PowerStations you must remove the System Support card. Follow these steps to remove the System Support card.

1. Disconnect the cables from the top of the System Support card.
2. Remove the screw that secures the System Support card to the unit.
3. Remove the System Support card by carefully pulling up on the card.

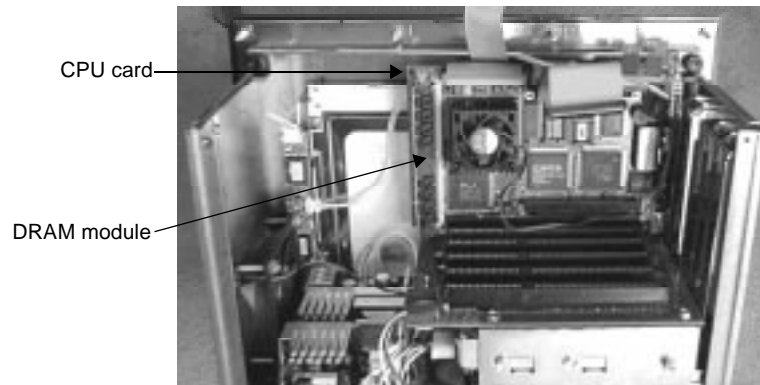
Note If necessary, remove any other cards that will give you additional room to access the CPU card.

4. Place the System Support card (and any other cards removed) on a clean and static-free work surface. If possible, place the cards in anti-static bags until you are ready to reassemble the unit.

Removing a DRAM Module

Follow these instructions to remove a DRAM module from the CPU card.

1. Locate the DRAM SIMM socket(s) located on the left side of the CPU card. The number of SIMM sockets varies depending on the PowerStation model and the CPU card.



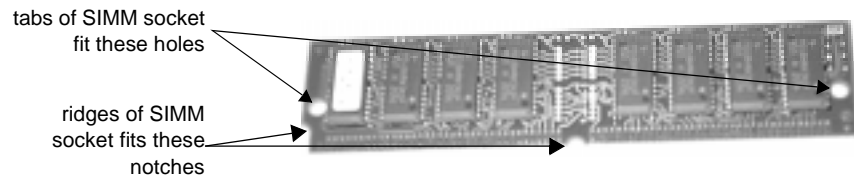
2. Push outward on the socket ejectors. It might be necessary to use a small screwdriver or the tip of a pen to push on the ejectors.
3. Tilt the DRAM module slightly to the left (away from the fan on the CPU card, if present), and lift the module out of its socket at an angle.
4. Place the DRAM module in an anti-static bag for storage if you do not plan to reinstall the DRAM module at this time.

Installing a DRAM Module

Follow these instructions to install a DRAM module in the CPU card.

1. Carefully insert the DRAM module into its socket at a 45-degree angle. If there are SIMMs on only one side, place them facing up.

Note The notch on the bottom of the DRAM module will align with the ridge on the socket.



2. Gently but firmly push the module upright into the socket until the metal clips snap into place securing the module.

If you have a P2 PowerStation, skip to the section *Reassembling the PowerStation* on page 6. For all other PowerStations, continue with section below.

Reinstalling the System Support Card

1. Place the System Support card in its slot (J3), gently but firmly pushing down on the card until it is fully seated.
2. Replace the screw that secures the System Support card to the unit.
3. Reinstall any other cards removed, and secure them to the unit.
4. Reattach the cables to the System Support card.

Reassembling the PowerStation

When you are finished installing the DRAM, follow these steps to reassemble the PowerStation.

Important When you reassemble the PowerStation, be sure to replace the same size screw in the same location as the one that was removed. Failure to do so could result in damage to the unit.

1. Reinstall the unit's back cover.
2. Reinstall the unit in its enclosure, if previously installed.
3. Restore power to the unit by plugging the power cord into the back of the unit.
4. Power up the unit.

Note If the PowerStation begins to beep when you power up the unit, it means that the DRAM module(s) are not properly seated. Remove the back cover (and disassemble the PowerStation, if necessary) to verify that the DRAM is properly seated.

This completes the DRAM installation. The PowerStation will automatically recognize amount of installed memory the next time you power it up. If errors occur, refer to the CPU manual that came with the PowerStation.