PowerStation Flash Memory Replacement

Introduction

This document describes procedures for replacing the flash memory on PowerStations. The P2, P3, and P5 PowerStations come equipped with flash memory in place of a hard drive.

This document includes instructions for opening the PowerStation, removing and installing flash memory modules, setting flash memory jumpers, closing the PowerStation, and formatting flash memory.

Important   The PowerStation uses special flash memory SIMM modules that are available from CTC Parker. Using flash memory modules from a different source will cause unreliable memory storage. Also, CTC Parker cannot guarantee the integrity of backup operations.

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.

- To avoid electric shock, always disconnect the power from the Power-Station before you remove the back cover. Do not touch any components of the CPU card or other cards while the PowerStation is on.
- 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.
- 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 any card 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.

Before You Start

Be sure to back up any important data or projects. Refer to the *Interact Getting Started Guide* or *MachineLogic Getting Started Guide* for instructions on how to back up projects.

Be sure you have the following tools:

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

Opening the PowerStation

In order to replace flash memory, you must first open the PowerStation.

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

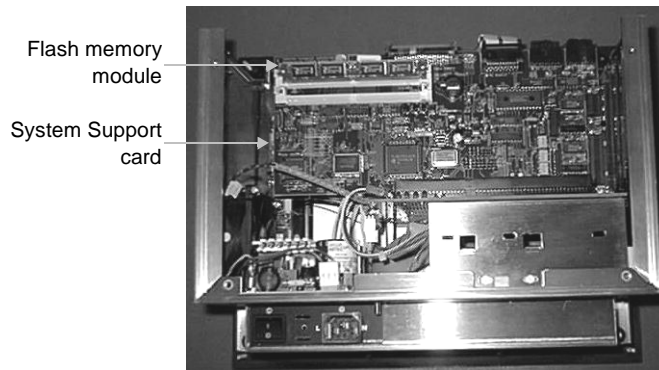**To open the PowerStation, complete the following steps:**

1. Turn off the PowerStation.

2. Disconnect the unit from the power source.

3. Remove the PowerStation from its enclosure (if previously installed).

4. Place the unit on a static dissipative mat in a location free from dirt and moisture and protected against electrostatic discharge.

   You must also wear an ESD wrist strap connected to a known earth ground.

5. Place the unit on its display and remove the four screws securing the back cover.

6. Remove the back cover from the unit.

Removing a Flash Memory Module

Once you have opened the PowerStation, you can remove the old flash memory module(s). Flash memory modules are located on the System Support Card, which is located directly in front of the CPU card as you face the back of the unit. You can also identify the System Support card as the card with the 9-pin and 25-pin D-SUB connectors. The System Support card is shown in the illustration below.

Flash memory module

System Support card

In order to remove a flash memory module, complete the following steps:

1. Locate the flash SIMM sockets located in the upper left corner of the System Support Card (see the preceding illustration).

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. Gently turn the flash memory module upright from its 45-degree angle.

4. Pull the flash memory module outward in order to remove it. Place the flash memory module on an anti-static surface.

Installing a Flash Memory Module

The steps to install a new flash memory module are the reverse of those for removing a module.

To install a flash memory module, complete the following steps:

1. Insert the flash memory module into the socket, with the notch on the memory module to the left. The notch on the memory module aligns with the ridge on the socket, as shown in the illustration below.

Tabs of SIMM socket fit these holes

Ridges of SIMM socket fits these notches

2. Gently push the module down to a 45 degree angle until the tabs on the socket snap onto the flash memory module. Make sure the socket ejectors are holding the flash memory module in place.

Setting the Flash Memory Jumpers

Like most PCs, the PowerStation uses jumpers to set addresses and enable or disable various functions of the system. The PowerStation has four sets of jumpers for configuring the serial ports, touch screen, and flash memory (if available). The jumper settings for the flash memory are shown below.

JP5

This set of jumpers is only available on units with flash memory. It controls where the flash memory appears in memory. The flash memory uses a 12 Kbyte region of memory, starting at the specified address.

A	B		
●		C8000	Starting address of mapped
	●	D0000	(used) region
●	●	D8000	

Closing the PowerStation

After you have replaced the flash memory, close the PowerStation.

To close the PowerStation, complete the following steps:

1. Replace the back cover on the PowerStation and fasten the four screws that you removed in step 5 of *Opening the PowerStation* on page 2.

2. Reinstall the PowerStation in its enclosure (if previously installed).

3. Reconnect the PowerStation to the power source.

Formatting the Flash Memory

If you install new flash memory in your PowerStation, or if the flash memory becomes corrupted, you must format the flash memory, using the Flash Setup disk. This procedure will erase all data previously stored on the memory module.

Important   Do **not** use the PowerStation's DOS Format command to format the flash memory.

To format the flash memory, complete the following steps:

1. Insert the Flash Setup disk into the PowerStation's floppy drive.

2. Start the PowerStation.

3. When the Startup menu appears, select option 2 and press Enter to begin the flash memory test.

  Warning   The flash memory test erases the flash memory before testing the flash memory capabilities. Be sure to back up any important data stored on the memory module before you begin the flash memory test.

4. When a warning message appears, press Y to continue with the flash memory test.

5. When the test is complete, press any key to restart the PowerStation.

6. When the Startup menu appears, select option 1 and press Enter to format the flash memory and make it bootable.

   The setup utility copies the most common DOS commands onto the flash memory.

7. When the flash memory preparation is complete, remove the Flash Setup disk.

    Failure to remove the disk will restart the cycle when you restart the PowerStation.

8. Press any key to restart the PowerStation.

    The flash memory becomes drive C.

    Note   The above procedure does not install the MachineShop Shell. The Shell must be installed using the MachineShop Shell Installation disk. For instructions on how to create the MachineShop Shell Installation Disk, see the *MachineShop Installation Booklet.*