

P1P Touchscreen Installation Guide

Occasionally you will need to replace the P1 Pentium PowerStation's touchscreen, depending on the environment where you are operating the unit. Before you begin, read the section on *Electrostatic Discharge Precautions*.

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, follow these simple precautions to protect you and the PowerStation from harmful ESD.

- To avoid electric shock, always disconnect power from the PowerStation before opening or disassembling the unit. **Do not** touch any components on 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.
- Wear a grounding wrist strap for continuous protection.
- 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 or SDRAM module in its anti-static packaging when it is not installed in the PowerStation. Place it on a static dissipative mat when you are working on it.

Once you have read and understand the ESD safety precautions, you are ready to remove the touchscreen from the PowerStation.

Replacing the Touchscreen

This section includes the following tasks—removing the old touchscreen, cleaning the touchscreen, and installing the new one.

Removing the Touchscreen

To disassemble the unit, you will need a flat head and a Phillips head screwdriver. Then complete the following steps:

1. Turn off the PowerStation.
2. Disconnect the unit from the power source.
3. Remove the unit from its enclosure if it's installed in one.
4. Place the unit on its back on a static dissipative mat in a location free from dirt and moisture and protected against static discharge.
5. Locate the notches on the sides of the unit.
6. Insert a flat head screwdriver into one of the notches and twist.
Figure 1 displays the notch locations.

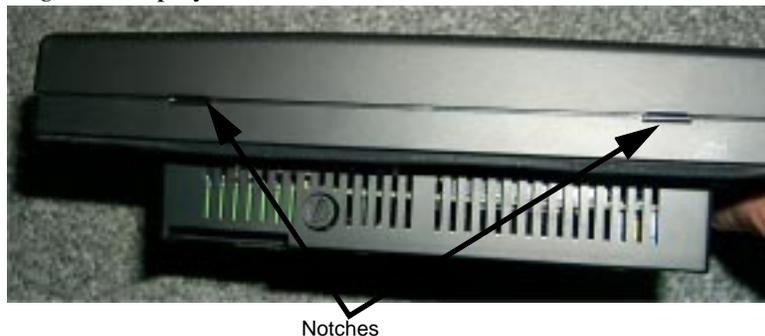


Figure 1 Notch Locations

7. Repeat step 6 on as many notches as necessary until the protective casing is loosened from the unit.
8. Remove the casing and set aside.

Important The rubber gasket that fits along the rim of the unit seals out moisture. Push it back into place if it comes out when you remove the touchscreen.

9. Remove the 8 screws securing the touchscreen to the back shell and set aside.
10. Carefully, lift the touchscreen and the display assembly approximately one to two inches to locate the touchscreen ribbon cable as shown in *Figure 2*.

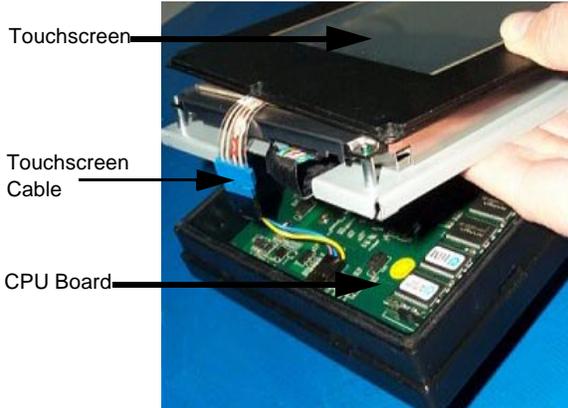


Figure 2 Touchscreen Cable

11. Disconnect the touchscreen cable from the CPU card.
12. Place the touchscreen face-down on a clean surface to avoid scratching the LCD display.
13. Rest the VGA display unit on the PowerStation shell as shown in *Figure 3*.



Figure 3 Display positioned on the PowerStation shell

Cleaning the Touchscreen

Before you install the new touchscreen, you may want to clean it. You can clean the touchscreen using warm soapy water and a soft cloth. You may also use any non-abrasive cleaner as long as it conforms to the guidelines listed in the *Faceplate Chemical Resistance* section.

Do not use any harsh material or powder, such as steel wool or abrasive cleansers, to clean the polyester surface. The surface is sensitive to scraping, sharp blows, or punctures. Keep screwdrivers or other sharp objects away from the surface of the touchscreen.

Warning Once the touchscreen is installed **DO NOT** clean the unit while Interact is in Run mode. Clean the unit while power is removed to keep from inadvertently activating an Interact device (button, slide, etc.).

Faceplate Chemical Resistance

The faceplate of the PowerStation can resist the chemicals listed in *Table 1* with no visible effect.

Faceplate Chemical Resistance		
Acetone	Sulfuric Acid 10%	Motor Oil
MEK	Hydrochloric Acid 10%	Gasoline
Toluene	Acetic Acid 10%	Machine Oil
Methylene Chloride	Phosphoric Acid	Salad Oil
Isopropyl Alcohol	Sodium Hydroxide 10%	Silicone
Xylene	Carbon Tetrachloride	Silicone Grease G31
Hexane	Potassium Hydroxide	Kerosene
Butyl Cellosolve	Ammonia Water 10%	Gas Oil
Cyclohexanone	Sodium Chloride 26%	Silicone Oil
Trichloroethylene	Zinc Chloride 81%	Engine Oil
Ethanol	Cottonseed Oil	Cleanser
Methanol	Glycerin	
Nitric Acid 10%	Grease	

Table 1 Faceplate Chemical Resistance

Installing the Touchscreen

To install a new touchscreen, complete the following steps:

1. Unpack the replacement touchscreen and examine it for damage or defects.

Note If you did not clean the touchscreen, see *Cleaning the Touchscreen* on page 4. Then continue with step 2.

2. Lift the display assembly out of the unit about two inches and rest it on the rim of the unit.
3. Place the touchscreen on top of the display assembly.

Important The touchscreen should be positioned on top of the display with the touchscreen cable located on the same side as the connector on the motherboard.

4. Lift the touchscreen and display unit together about one to two inches to locate the touchscreen cable connector. See *Figure 4*.

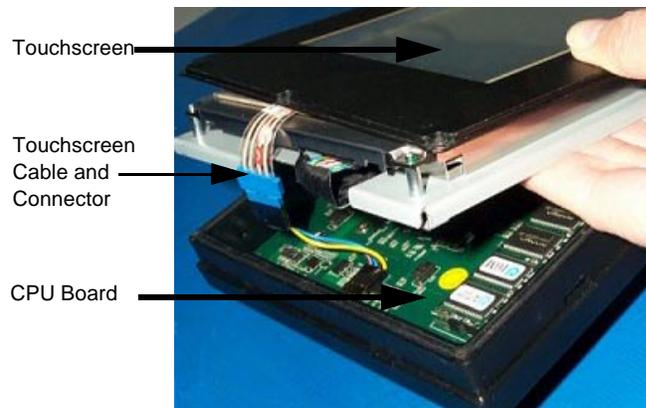


Figure 4 Touchscreen Cable Connector

Note: Pin one is marked with a small triangle.

5. Align pin one on the touchscreen plug with pin one on the connector.
6. Plug the touchscreen ribbon cable into the CPU card.
7. Tuck the excess cable into the unit under the display.
8. Place the display unit back in the PowerStation shell.

9. Place the touchscreen on top of the display unit.

Important: The rubber gasket that fits along the rim of the unit seals out the moisture.

10. Tuck the rubber gasket into place along the rim of the unit so that it is securely seated and seals out moisture. See *Figure 5*.



Figure 5 Rubber Gasket

11. Line up the screw holes on the touchscreen with the screw holes on the unit.
12. Insert the screws and tighten until the metal plate is flush with the plastic backshell.
13. Align the Power LED cutout on the protective casing with the power LED on the touchscreen.
14. Snap the protective casing onto the unit.

This completes assembly of the unit. You can now install the unit in its protective enclosure and connect the power. If you think you may need to calibrate the touchscreen, see *Calibrating the Touchscreen* on page 7 of this guide.

Calibrating the Touchscreen

The PowerStation's touchscreen is calibrated before leaving CTC Parker. However, you may need to calibrate the touchscreen for one of several reasons:

- when you use the PowerStation for the first time
- when you replace the touchscreen
- when the position of the cursor does not match the location where the user touches the screen

Using the MachineShop Shell Calibration Utility

The MachineShop Shell comes with a calibration utility that allows you to calibrate the touchscreen in DOS mode. The calibration utility requires a keyboard and involves calibrating the touchscreen for text and for graphics.

Entering the Calibration Mode

In the following steps, you will enter the calibration utility in MachineShop Shell. To enter the calibration utility, complete the following steps:

1. On the MachineShop Shell Main Menu, press the Settings button.

The Settings submenu displays. See *Figure 6*.

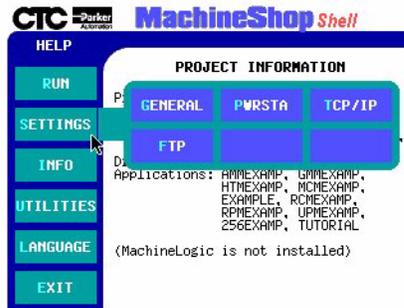


Figure 6 Settings Submenu

2. On the Settings submenu, press the PWRSTA button. The PowerStation Settings menu will appear as shown in *Figure 7*.



Figure 7 PowerStation Settings Menu

3. PowerStation Settings Menu
4. Press Calibrate Touchscreen.

Important A prompt will display indicating that you will need a keyboard to continue. If you need to install a keyboard on the PowerStation, see *Keyboard/Mouse Port* on page 24 of your P1 Pentium user guide. If not, continue with the next step.

5. Press Yes to continue the calibration.
The calibration Main Menu will appear.

Calibrating the Touchscreen

Once you complete the steps under *Entering the Calibration Mode*, you will need to calibrate the touchscreen in modes 03, 12, and 101. Continue with the following steps to calibrate the touchscreen:

1. Press any key to continue with the calibration procedure.
2. Verify that the button mode is set to Drag drop.
 - a. Press Button Mode.
 - b. Select Drag drop using the arrow keys.
3. Touch Calibration.
4. Arrow to mode 03—VGA#3,720x400(80x25).
5. Touch Start.

6. Press the cross hair displayed in the upper left corner of the screen. See *Figure 8*.

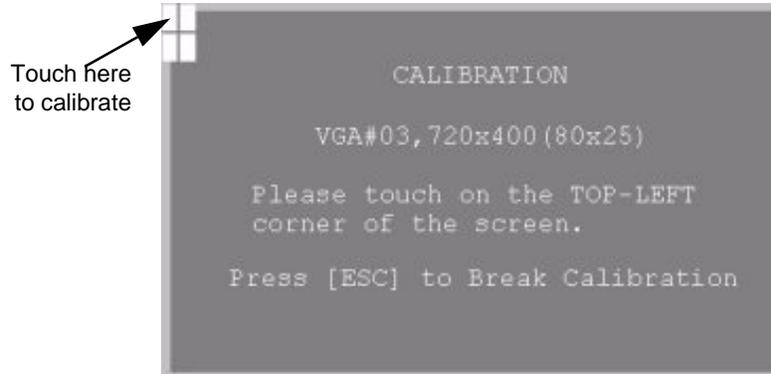


Figure 8 Calibration Intersections

The cursor will automatically advance to the next corner when you touch it.

7. Press the cross hair in each of the three subsequent corners. A confirmation test screen will display.
8. Test the calibration using your finger.

Important If the touchscreen does not appear calibrated, and the cursor moves vertically when your finger moves horizontally on the screen or vice versa, the touchscreen cable may not be connected properly. Pin one on the touchscreen cable should connect with pin one on the connector. Pin one is identified with a triangle.

9. Press the Esc key to return to the calibration mode menu.
10. Arrow to mode 12— VGA#12, 640x480(80x30).
11. Repeat steps 5-9. Then continue with step 12.
12. Arrow to mode 101—VGA#101,640x480,256c.
13. Repeat steps 5-9. Then continue with step 14.
14. Touch Exit or Save and Exit (depending on your display type) to exit the calibration mode menu.
15. Touch Save & Exit or Enter (depending on your display type) to return to the main menu.

The calibration utility will save the calibration settings in a file called ATSMOUSE.INI.

Important If the touchscreen does not appear calibrated, and the cursor moves vertically when your finger moves horizontally on the screen or vice versa, the touchscreen cable may not be connected properly. Pin one on the touchscreen cable should connect with pin one on the connector. Pin one is identified with a triangle.