PA Touchscreen and Display Replacement Assemblies

This document describes the procedures required to replace the touchscreen and display assemblies in the PA Series PowerStations, including the following replacement assembly kits:

- BZK-0501
- BZK-0601
- BZK-08S1

- BZK-08S5
- BZK-08T1
- BZK-08T5

This document includes instructions for the following procedures:

- *Opening the PowerStation*
- *Replacing the Touchscreen and Display Assembly*
- *Reassembling the Unit*
- *Calibrating the Touchscreen*

Before You Start

Before attempting to replace the touchscreen in the PowerStation, be sure to follow the steps below.

1   Turn off the unit and disconnect the PowerStation from the power source.
2   Remove the unit from it's enclosure (if installed) to gain access to the display.
3   Place the PowerStation on an Electrostatic Discharge (ESD) mat.

Electrostatic Discharge (ESD) Precautions

Modern integrated electronic devices are extremely sensitive to electrostatic discharges (ESD) and fields. Before you open the system, be sure to follow these simple precautions to protect you and the equipment from harm resulting from ESD.

- Always disconnect power from the equipment before opening or removing the backshell. Do not touch any components of the PowerStation while it is on.
- Only handle internal components of the equipment 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 video controller board inside the backshell.

- Be particularly careful not to touch the components on the video controller board.

- Keep any monitor part in its anti-static packaging when it is not installed and place it on a static dissipative mat when you are working on it.

Opening the PowerStation

In order to replace the touchscreen and display assemblies, you must first open the PowerStation.

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

1 Remove the compact flash from the unit.

2 Place the PowerStation on an ESD mat, display face down.

3 Remove the screws holding the back cover on the PowerStation as shown in Figure 1. The following table lists the number of screws to remove based on the specific replacement assembly kit.

Replacement Assembly	Number of Screws to Remove
PA05S BZK-0501	4 screws
PA06S BZK-0601	4 screws
PA08S BZK-08S1	6 screws
PA08S BZK-08S5	6 screws
PA08S BZK-08T1	6 screws
PA08S BZK-08T5	6 screws

Figure 1: Removing the Screws on the Backshell

Figure 1a: 5/6″ PA PowerStation   **Figure 1b:** 8″ PA PowerStation
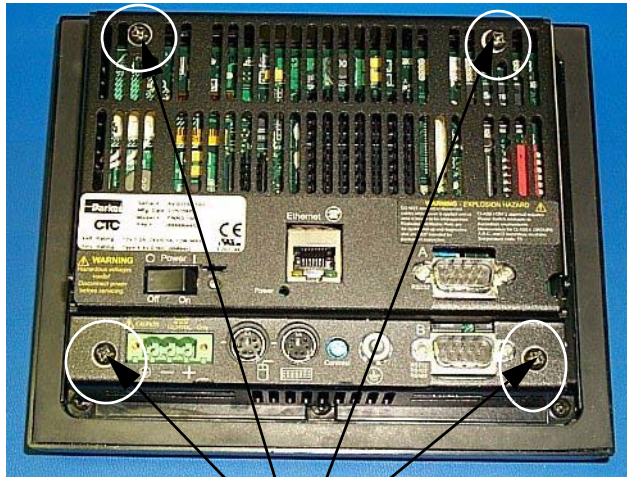
Screws to remove on the
5/6″ PA PowerStation
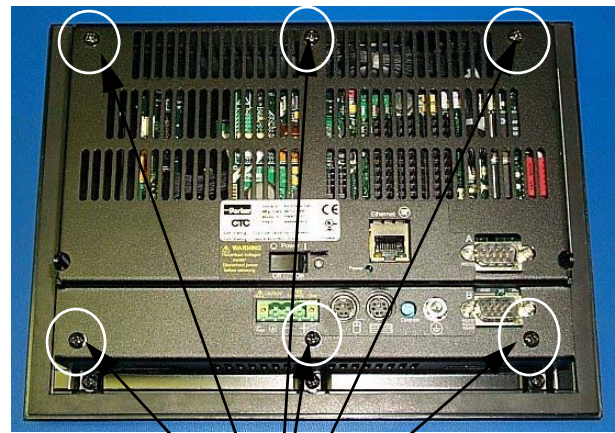
Screws to remove on the
8″ PA PowerStation

4   Remove the back cover and set it aside.

Replacing the Touchscreen and Display Assembly

Follow the instructions below to replace the touchscreen and display assemblies.

1   Disconnect the appropriate cables from the CPU board. Use the table below to find the specific figure to reference and cables to disconnect. Be sure to disconnect the cables from the end located on the CPU board.

Replacement Kit	Cable to Disconnect	See...
BZK-0501	Backlight cable Touchscreen tail/cable	Figure 2
BZK-0601	Backlight cable Touchscreen tail/cable	Figure 2
BZK-08S1	Backlight cable Touchscreen tail/cable Display cable	Figure 3, on page 5
BZK-08S5	Backlight cable Touchscreen tail/cable Display cable	Figure 3, on page 5
BZK-08T1	Backlight cable Touchscreen tail/cable Display cable	Figure 4, on page 5
BZK-08T5	Backlight cable Touchscreen tail/cable	Figure 5, on page 6

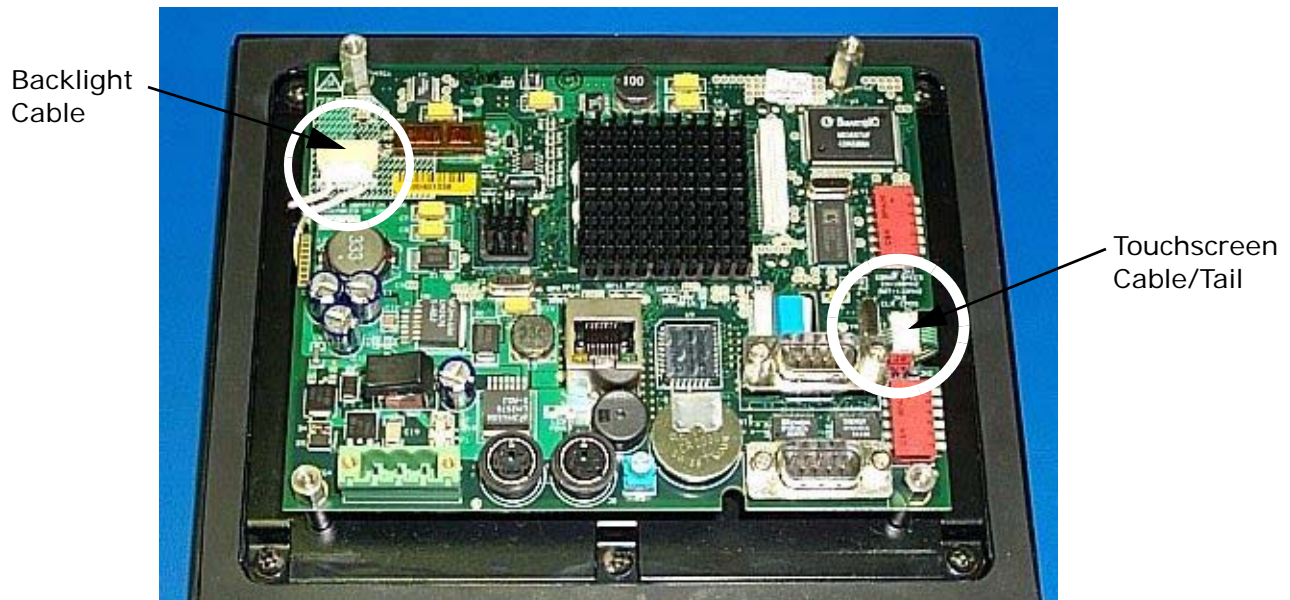**Figure 2: Accessing the BZK-0501/BZK-0601 Internal Cables**

Backlight Cable

Touchscreen Cable/Tail

Figure 3: Accessing the BZK-08S1/BZK-08S5 Internal Cables

Backlight Cable

Display Cable

Touchscreen Cable/Tail

Figure 4: Accessing the BZK-08T1 Internal Cables

Backlight Cable

Display Cable

Touchscreen Cable/Tail

Figure 5: Accessing the BZK-08T5 Internal Cables

Backlight
Cable

Touchscreen
Cable/Tail
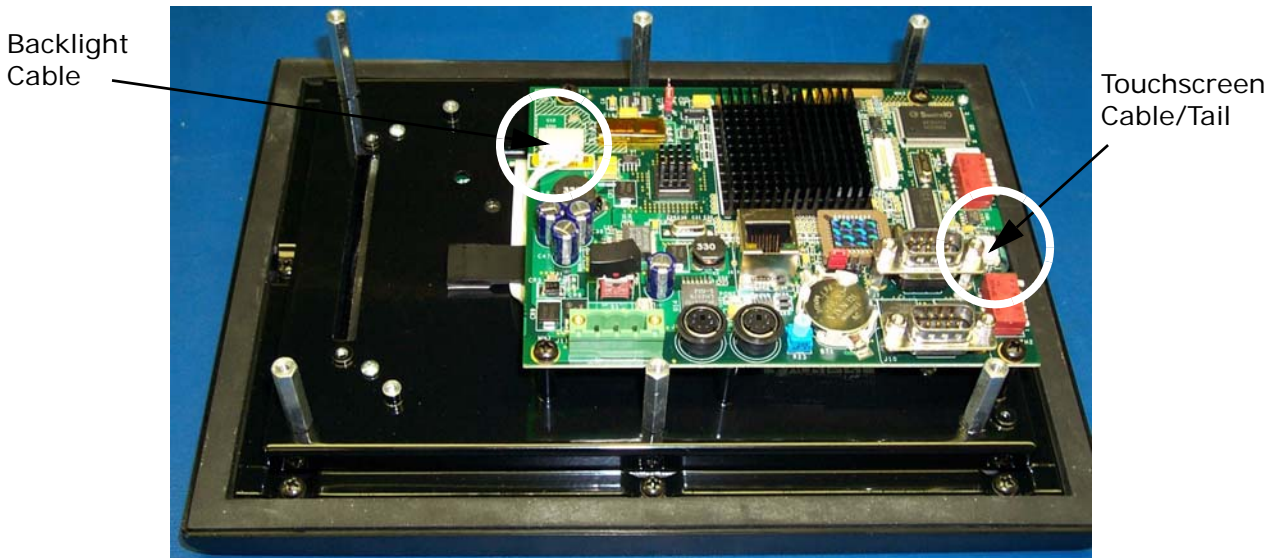
2   Remove the 4 screws or 4 standoffs holding the CPU board onto the display assembly as shown in Figure 6, on page 7.

Figure 6: Removing the CPU Board
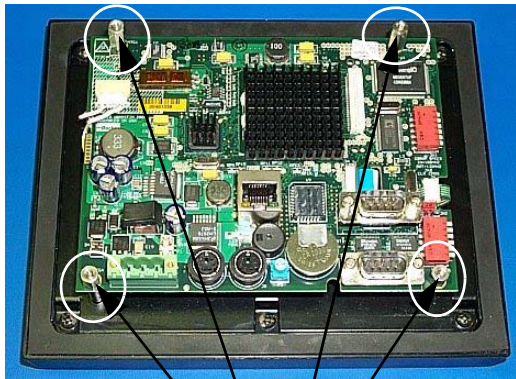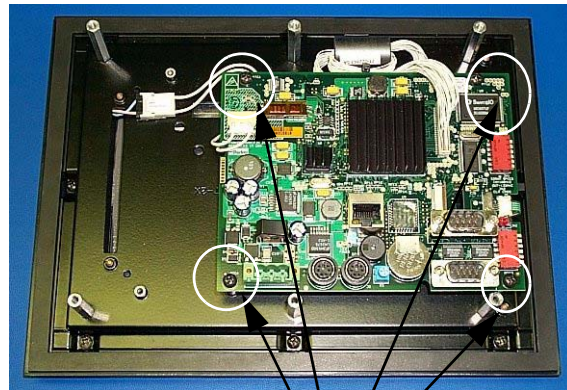
Figure 3a: BZK-0501/BZK-0601

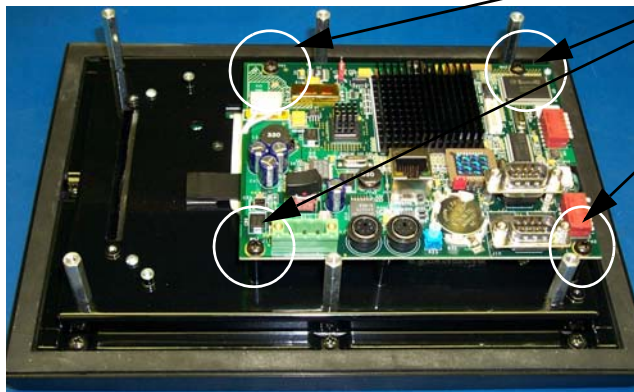**Figure 3b:** BZK-08S1/BZK-08S5

Standoffs

Screws

Figure 3c: BZK-08T5

Figure 3d: BZK-08T1

3   If you are working with the BZK-0501, BZK-0601 or the BZK-08T5 slowly lift the CPU board up to access the video cable connected to the display (as shown in Figure 7, on page 8) and disconnect the cable.

Important: Be careful not to lift the board too quickly and accidently pull the cables off of it.

**Figure 7: Accessing the Video Cable**

Figure 7a: Accessing the Video Cable on the BZK-0501/BZK-0601

Disconnect the video cable
from the Touchscreen display.
The video cable should remain
connected to the CPU board.

Figure 7b: Accessing the Video Cable on the BZK-08T5

Disconnect the video cable
from the CPU board. Here, the
video cable should remain
with the Touchscreen display.
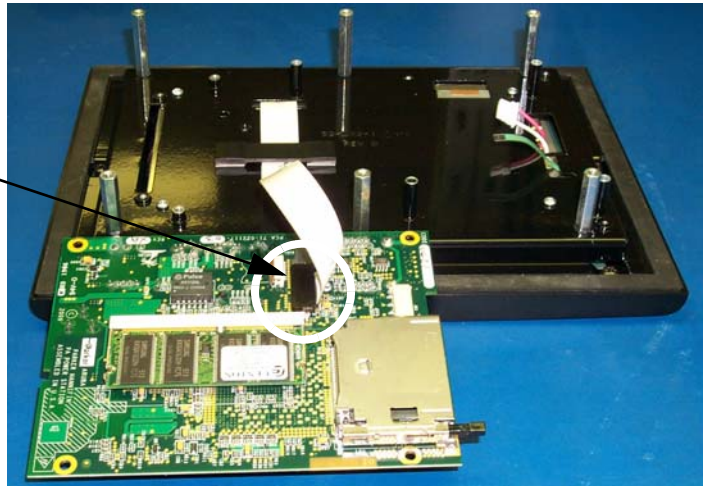
4   Remove the CPU board and video cable assembly and replace it with
the new assembly kit. See *Reassembling the Unit* on page 9, for
details.

Reassembling the Unit

Follow the instructions below to reassemble your PowerStation after replacing the touchscreen.

Caution: Do not crease the touchscreen tail when inserting it into the CPU board connector. Use a pair of needle-nose pliers when inserting the touchscreen tail into the connector.

1   If you are working with the BZK-0501, BZK-0601 or the BZK-08T5, reconnect the video cable to the display (see Figure 7, on page 8).

2   Reattach the CPU board onto the display assembly using the screws or standoffs removed in Step 2, on page 6.

3   Reconnect the cables to the CPU board as shown in Step 1, on page 4.

4   Replace the back cover by securing the screws removed in Step 3, on page 2.

5   Replace the compact flash.

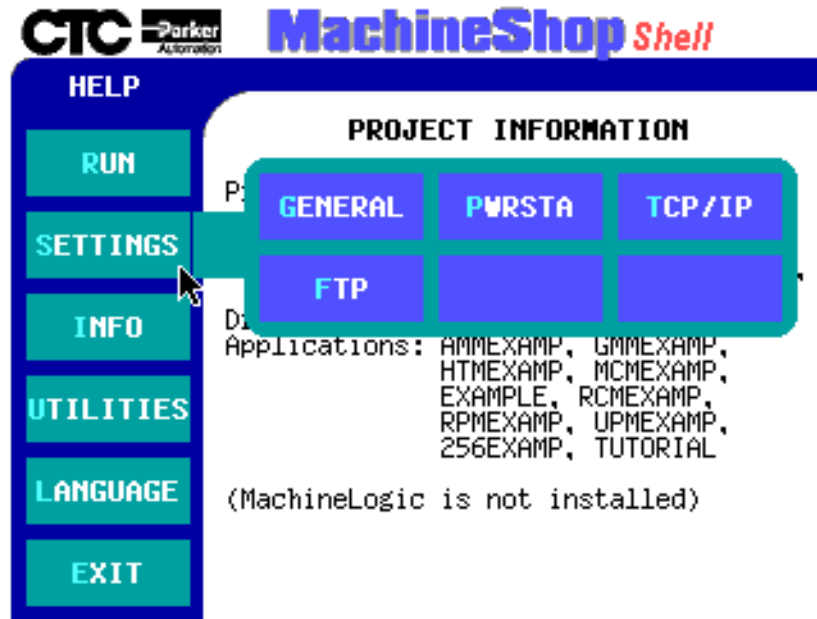6   Calibrate the touchscreen. See *Calibrating the Touchscreen*, for details.

Calibrating the Touchscreen

After replacing the assembly, you need to calibrate the touchscreen. The MachineShop Shell comes with a calibration utility that allows you to calibrate the touchscreen in DOS mode.

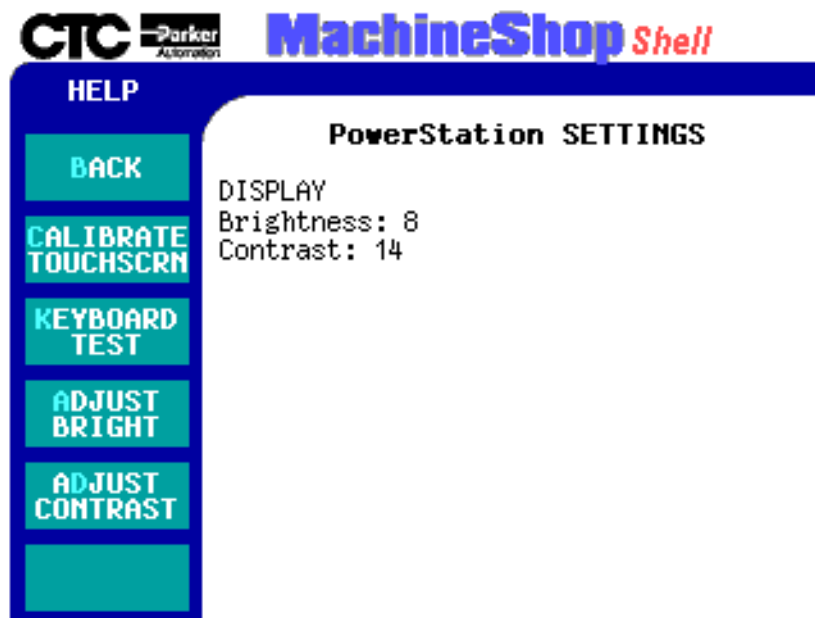Follow the steps below to calibrate the touchscreen:

1   On the MachineShop Shell main menu, press the Settings button (shown in Figure 8).

Figure 8: Settings Submenu

2   On the Settings submenu, press the PWRSTA button. The PowerStation Settings menu is displayed, as shown in Figure 9.

Figure 9: PowerStation Settings Menu

3   Press Calibrate Touchscreen. The calibration routine runs automatically.

4   Use your finger to touch the "+" on the screen.

5   Repeat the previous step two more times. Each time you touch the "+" you hear a faint beep to indicate that the touch has been accepted. After the third time, your touchscreen is calibrated.

If after calibrating the touchscreen, the cursor moves vertically when your finger moves horizontally on the screen or vice versa, the touchscreen cable may not be connected to the motherboard properly. Call a CTC customer support representative.