

# LCD Backlight Bulb Replacement

## Background

This document describes the procedures required to replace the backlight bulbs (model number BLR-6090) in P2, P3, P4, and P5 LCD PowerStations.

**Warning** Observe normal precautions against static discharge to prevent damage to the PowerStation or the backlight assembly.

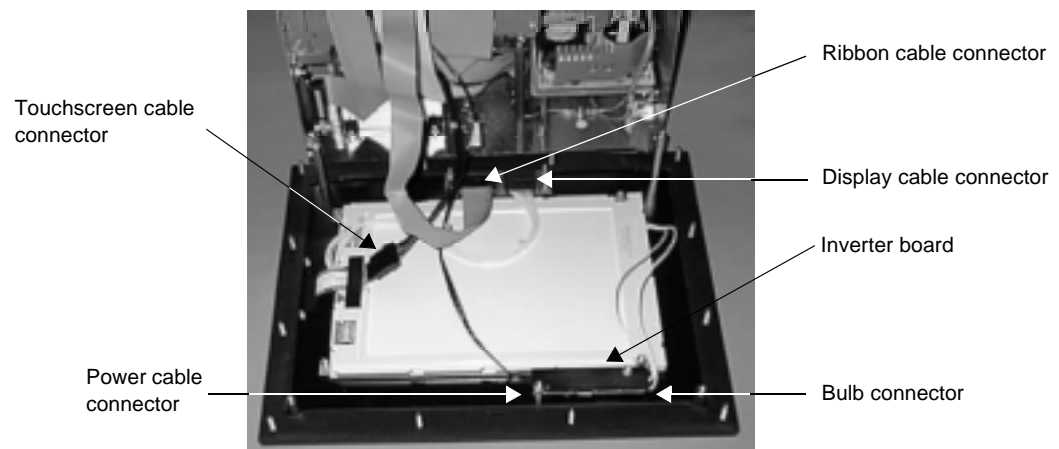
Before beginning the procedure, turn off the unit and disconnect the PowerStation from the power source. You must also remove the unit from its enclosure (if installed) to gain access to the display. Consult the PowerStation Installation Instructions if you need help with the removal.

This procedure requires the following tools:

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

## Removing the Backshell

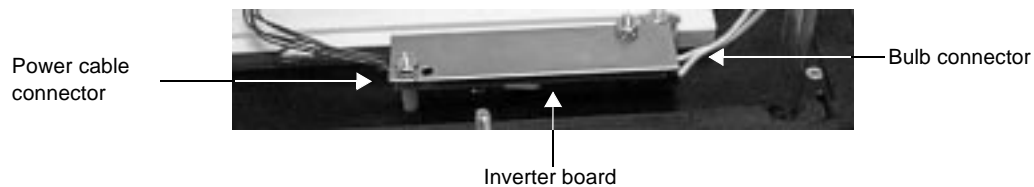
1. Unscrew the four large captive backshell screws located at each corner of the PowerStation.
2. Lift the backshell off the faceplate far enough to gain access to the internal cables. See the following figure for the location of the cable connectors.



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3. Push the ejectors on the ribbon cable connector upward away from the display. This will release the ribbon cable connector.
4. Carefully remove the backshell ribbon cable connector from its holder.
5. Disconnect the remaining 4 cables shown in the previous figure by gently pulling out on the connectors. See the following figure for the location of the cables on the inverter board.



6. Remove the backshell completely.

**Important** Do not touch any of the exposed components on the backlight display, or damage to equipment may result.

## Freeing the Backlight Assembly

Use the following instructions to free the backlight assembly.

1. Pry up one end of the cable holder that holds the touchscreen cable to the backlight assembly, and pull the touchscreen cable out of the holder.

**Note** The display connector is attached to the display below the touchscreen cable. It is not necessary to detach this cable if you have already detached the other end in the previous section.

2. Remove the four nuts securing the display assembly to the faceplate; they are located in each corner. Two of the nuts are quarter-inch, and two are quarter-inch stand-offs.

**Important** When removing the nuts, be careful not to lose the spacer and lock washers located between them and the display assembly.

3. Lift the display assembly away from the faceplate. Carefully flip the display towards you so the front of the unit is in view.
4. Gently lay the display down on the work surface.

## Removing the Backlight Assembly

Use the following instructions to remove the bulb.

1. Remove the three screws securing the backlight to the display. See the following figure for the location of the securing screws.



**Note** On early models, the 2 screws on the same side of the display are covered by the gasket. The gasket material covering the two screws must be removed. On later models, the gasket will be notched to allow accessibility to the screws.

2. Flip the display over so the display is facedown on the workbench.
3. Bend the metal tabs located along the top, bottom, and left side of the display away from the faceplate.
4. Lift the backlight assembly away from the display.

**Important** Be sure that no dust collects on the display while the backlight assembly is being replaced.

## Replacing the Backlight Assembly

Use the following instructions to replace the bulb.

1. Take the replacement backlight kit out of the package.
2. Place the backlight assembly on the display.

**Note** The notched end of the backlight assembly must go over the circuit portion of the display.

3. Bend the metal tabs located along the top, bottom, and left side of the display back over the backlight assembly.

4. Turn the display assembly over so the display is face up.
5. Replace the three screws that were removed in step 1 of the section *Removing the Backlight Assembly* on page 3.

## Reassembling the Display Assembly

1. Lift the display off the work surface. Carefully flip the display away from you so the side of the assembly that faces the front of the unit is parallel to the faceplate.
2. Gently lay the display down on the faceplate.
3. Replace and tighten the four nuts that secure the display to the faceplate. Two of the nuts are quarter-inch, and two are quarter-inch stand-offs.

**Important** When replacing the stand-offs, make sure that you install the spacer and lock washers between the nuts and the backlight assembly.

4. Reconnect all the cables to the locations shown in the figure on page 1. Push firmly on the connectors to be sure they are completely connected.

**Note** The connectors are designed to fit only with the appropriate cable.

## Replacing the Backshell

1. Connect the backshell ribbon cable to the ribbon cable connector, and ensure that the cable is properly oriented on the connector. Place the cable on the connector, and push in on the connector until the ejectors snap into place.
2. Replace the backshell onto the front of the PowerStation making sure that you do not pinch any of the internal cables.
3. Secure the backshell with the four backshell screws.
4. Reconnect the power cord to the PowerStation.
5. Turn on the PowerStation, and resume operation.