

Replacing the Battery in the Patriot SPS 250, SPS 300 and SPS 450

This PAT describes how to replace the battery in Patriot SPS 250, SPS 300, and SPS 450 units. Replacing the battery should take about 30 minutes.

Batteries should be replaced by a qualified technician. If you have any questions or problems, please call BEST's Technical Support Center at 800-356-5737. (Outside of the U.S. and Canada, call your local BEST office.)

To replace the battery, you will need the following (**use insulated tools**):

- Needle Nose Pliers
- Black Electrical Tape
- Phillips Screwdriver — 6" long below handle*

***Note:** The screwdriver should be six inches long below the handle so you can replace the inside screws easily. Using a magnetic screwdriver makes removing and replacing the screws easier.

Before you go on to Section 1, read the important safety warnings on the next page.

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IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS

This publication contains important instructions that should be followed during battery replacement.

WARNING

The battery used in this system is capable of producing dangerous voltages and high currents. The battery may cause severe injury if terminals are shorted together or to ground (earth). Extreme care must be taken to avoid electrical shock and burns from contacting battery terminals or shorting terminals during battery replacement.

BEST's batteries come with a one-year warranty. Using a battery not supplied by BEST invalidates any BEST service agreement.

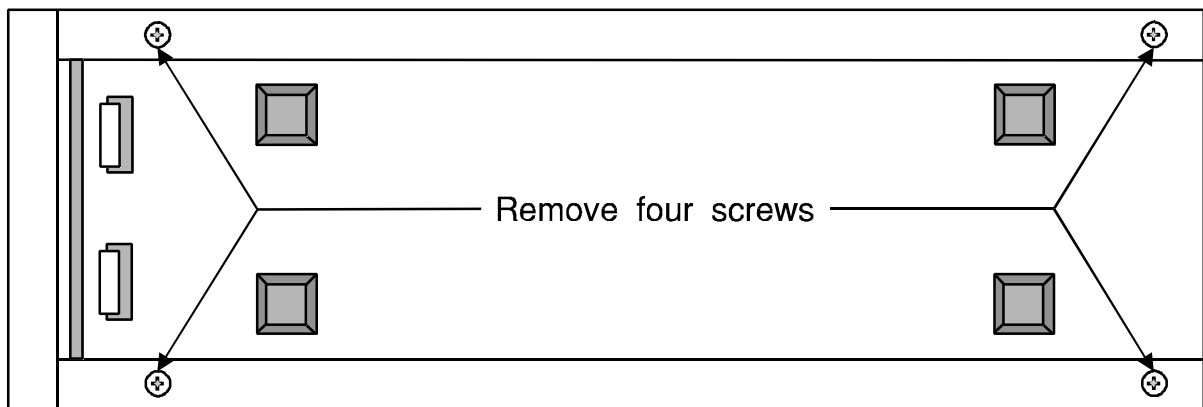
A qualified technician who is familiar with the Patriot should replace the battery. The technician must take these precautions:

1. Protective clothing and eye wear must be worn. Batteries contain caustic acids and toxic materials and can rupture or leak if mistreated. Remove rings and metal wristwatches or other jewelry. Don't carry metal objects in pockets where they can fall into the Patriot.
2. Tools must be insulated so that they will not short battery terminals. At no time can a tool be allowed to short a battery terminal to another battery terminal or to the Patriot's cabinet. Do not lay tools or metal parts on top of the battery.
3. When connecting cables, never allow a cable to short across a battery's terminals or to the Patriot's cabinet.
4. Align the cables on the battery terminals so that the connector will not contact any part of the Patriot's cabinet even if the battery is moved. Keep the cable away from any sharp metal edges.
5. Install the battery cables so they cannot be pinched by the Patriot's cabinet.

Section 1: Removing the Patriot's Cover

1. Before you replace the batteries, shut off the equipment plugged into the Patriot and unplug the equipment.
2. Next, follow these three steps:
 - Turn the On/Off (1/0) switch on the back of the Patriot off (to 0).
 - Unplug the Patriot.
 - Remove the power cord from the back of the unit.
3. Carefully turn the Patriot on its side, and look at the bottom of the unit. Remove the four screws and washers in the corners (shown in Figure 1 below).

Figure 1



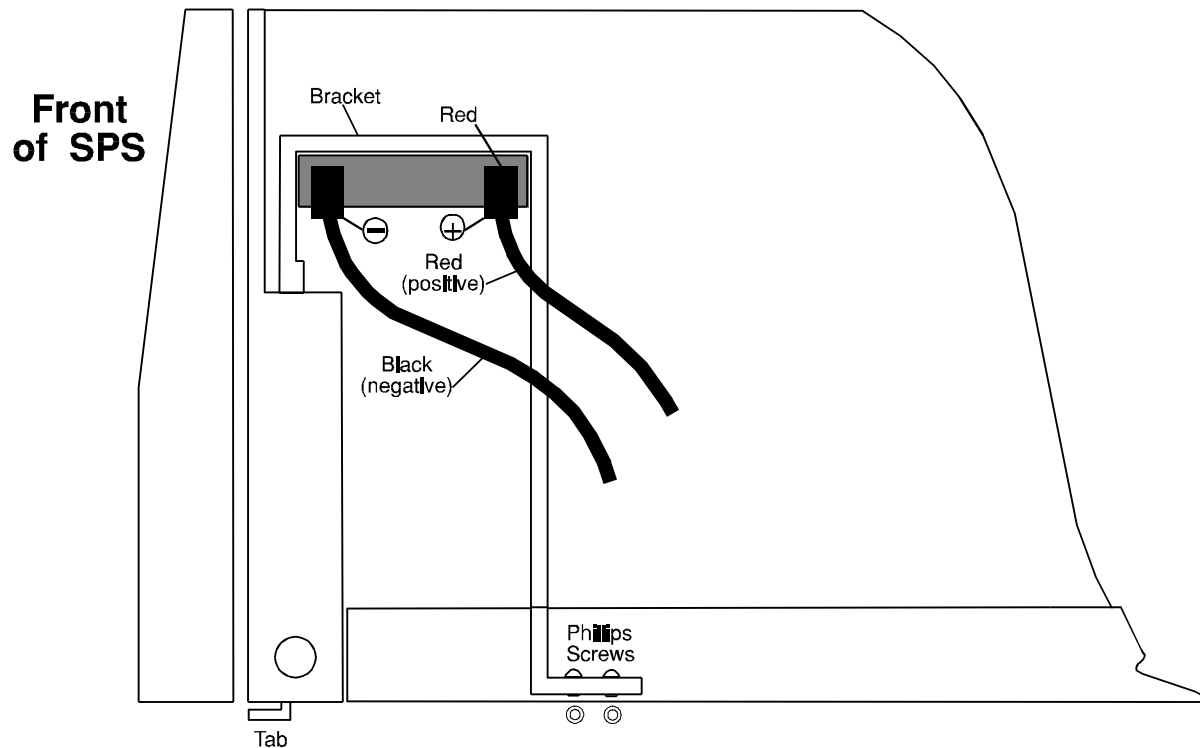
4. Stand the Patriot on its feet again.
5. Make sure the On/Off (1/0) switch on the back of the Patriot is still off.
6. Slide the Patriot's cover back until it comes off.

Section 2: Removing the Battery

Figure 2 on the next page shows the battery and battery connections.

SPS 250, SPS 300 and SPS 450:

Figure 2



Check Figure 2 and read step 7 before you continue.

7. Using the needle nose pliers, disconnect the positive (red) cable from the battery by gently pulling the connector down, away from the battery terminal. (See Figure 2 for terminal locations.)

Put a piece of black electrical tape over the end of the positive (red) cable so it cannot accidentally touch another metal part.

8. Now, turn the On/Off switch on the back of the Patriot on (to 1) for about four seconds to discharge the capacitor. (The capacitor is discharged when the front panel light is no longer lit.)

Then, turn the switch off again.

WARNING!

Make sure you turn the switch off before you continue. When you connect the new battery, there will be dangerous voltage inside the Patriot if the On/Off switch is on. This is true because the unit's battery supplies power even if the Patriot is not connected to its AC input source.

9. Disconnect the negative (black) cable using the needle nose pliers. (See Figure 2 to find the cable.)
10. Now, refer to Figure 2 to find the Phillips screws that attach the battery bracket to the bottom of the Patriot. Remove both screws.
11. The tabs in the front of the battery bracket fit into the slots in the bottom of the Patriot. (See Figure 2.) Slide the bracket toward the back of the unit until the tabs come out of the slots.
12. Remove the thin, white piece of insulation on the outside of the battery bracket, and save the insulation. Next, carefully lift the bracket off of the battery.

Some units also have two thin pieces of insulation inside the bracket on the top and the right side of the battery (the side closest to the positive terminal). If your unit has these insulators, remove them and save them to use with the new battery.

13. Read the caution below; then, lift out the old battery.



Caution:

Make sure that the terminals do not touch the cabinet or any metal part. Assume that the old battery is fully charged, and use the same precautions you would use when handling a new battery. Batteries contain lead. Dispose of the old battery properly.

Do not dispose of a battery or batteries in a fire; the battery may explode. Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

Section 3: Replacing the Battery

14. **When you put in the new battery, be careful not to hit the LED wires between the circuit board and the front of the Patriot; these wires could be damaged if the new battery or the bracket hits them.** Now, put the new battery in place. Figure

2 shows where the battery terminals should be.

15. If there were two pieces of white insulation **inside** the battery bracket (see step 12), put these insulators on the top of the battery and on the right side (next to the positive terminal).
16. Slide the bracket over the battery. Make sure the tabs are toward the front of the Patriot and the holes for the screws are toward the back of the unit. Put the bracket's tabs in the two slots in the bottom of the Patriot. (See Figure 2.)
17. Now, put the two Phillips screws back into the bracket as shown in Figure 2. Then, put back the thin piece of insulation that was outside the bracket against the back. (See step 12.)
18. Before you connect any battery cables, make sure the On/Off switch on the back of the unit is still off.
19. Use the needle nose pliers to reconnect the negative (black) cable to the terminal marked "Black (negative)" on Figure 2.



Caution:

When you reconnect the last cable (in step 20), there will be an arc at the battery terminal.

20. Now, remove the tape from the positive (red) cable and use the needle nose pliers to connect this cable to the positive terminal as shown in Figure 2.

Section 4: Replacing the Patriot's Cover

21. As you put the cover back on the Patriot, make sure the vent holes are on the side opposite the circuit boards. To secure the cover, carefully turn the Patriot on its side and put the four cover screws back in the bottom of the unit.
22. Stand the Patriot on its feet again.
23. Plug the Patriot's power cord back into the unit and the input receptacle.
24. Turn the Patriot's On/Off switch on (to 1). To make sure the Patriot's battery is fully charged, let the unit charge the battery for at least 12 hours. (The battery charges automatically whenever the light is on but is not blinking.)
25. To finish the procedure, follow these three steps:
 - Turn the Patriot's On/Off switch off (to 0).
 - Turn off the loads (the equipment the Patriot protects) and plug them into the unit's receptacles.

- Turn the Patriot's On/Off switch on (to 1), and switch on the equipment plugged into the unit.