

# Replacement Procedure Manual

## Large Capacity Battery



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# Large Capacity Battery Replacement Procedure

Note: This procedure should only be done by a qualified technician. It is recommended that safety glasses be worn while performing this procedure. Please review the following instructions in their entirety before attempting to replace the batteries. Some older battery cabinets and trays used multiple connectors between batteries. These have been eliminated to improve reliability. Please use the new interconnect wires. Also included with the replacement batteries is a charge current limit module that improves battery life. This should be installed if your battery cabinet or tray does not have one installed already. When removing and replacing battery wires be sure not to let the metal ends or metal tools touch other connections. Please refer to the appropriate wiring diagram, either battery cabinet or battery tray. Please call SEI Technical Support at 800-765-4734 if you have any questions.

## Remove Old Batteries

1. Disconnect the battery cabinet or tray from the power system.
2. Remove the fuse from the fuse holder.
3. If you are replacing batteries in a cabinet remove the cabinet cover.
4. Remove the wire from the positive terminal of battery A to the cable connector.
5. Remove the wire from the fuse holder to the negative terminal of battery B.
6. Remove all other wires.
7. Remove the old batteries. These batteries should be taken to a battery recycling center.

## Install New Batteries

1. Install four batteries as shown in the wiring diagram.
2. Connect a black wire between the positive terminal of Battery B and the negative terminal of battery D.
3. Connect a black wire between the positive terminal of Battery D and the negative terminal of battery C.
4. Connect a black wire between the positive terminal of Battery C and the negative terminal of battery A.
5. If the battery cabinet or tray does not have a current limit module, install one as follows.
  - a. Remove the panel mount connector and wiring.
  - b. Locate the correct position to install the current limit module from the wiring diagram. Note the correct orientation.
  - c. Clean and thoroughly dry the surface where the current limit module will be attached.
  - d. Peel off the protective cover from the adhesive on the bottom of the plate.
  - e. Press the module firmly in place to set the adhesive.
  - f. Install the new panel mount connector.
  - g. Connect the black wire from the panel mount connector to the fuse holder.

6. Connect the red wire from the current limit module, marked Battery +, to the positive terminal of Battery A.
7. Connect a black wire from the negative terminal of Battery B to the fuse holder.
8. Recheck all wires and make sure that they are connected according to the appropriate wiring diagram.
9. Make sure all battery connections are tight.
10. Re-install the fuse in the fuse holder.
11. If you have a SEI Battery Tester use it to test the large capacity battery cabinet or tray. Use the 8 amp hour switch position. If you do not have a SEI Battery Tester check the voltage on the connector pins with a digital voltmeter. The reading should be 48 volts or higher.

### **Adjusting The Power Supply**

The power supply output voltage should be adjusted to insure proper battery charge voltage.

#### **DP240/DP140 Power Supply Adjustment**

Note: (This procedure is for a DP140 with a 55 volt nominal power supply. Some DP140s have 48 volt nominal power supplies. The Large Capacity batteries will not work with DP140s with 48 volt nominal power supplies.)

1. Remove the front cover.
2. Apply AC power to the DP240/DP140 Power System.
3. Apply the normal telephone and NT1 load to the power system. (The power system must have a load connected to properly adjust the power supply output voltage.)
4. Connect a DVM, Digital Volt Meter, to one of the external battery connectors.
5. Turn the power supply voltage adjustment pot to obtain a battery charge voltage of 54.6 volts. Turn the pot CCW to increase the voltage and CW to decrease the voltage.

#### **DP700 Power Supply Adjustment**

1. Apply AC power to the DP700.
2. Apply the normal telephone and NT1 load to the DP700. (The DP700 must have a load connected to properly adjust the power supply output voltage.)
3. Connect a DVM, Digital Volt Meter, to the power supply sense voltage. The sense voltage is measured between the white and black wires on the bottom of the power supply. (There are two sets of wires going to the power supply. The top wires are white, green, and black for 120 VAC input. The bottom wires are red, black and white for nominal 55 volts DC output.)
4. Turn the power supply voltage adjustment pot to obtain a sense voltage of 56.0 volts. Turn the pot CCW to increase the voltage and CW to decrease the voltage.
5. Repeat this procedure for each power supply. To get the power supplies properly balanced you may have to repeat this procedure 2 or 3 times.

6. Verify that the battery charge voltage is now 54.6 volts by connecting a DVM to the external battery connector. The battery charge voltage will be approximately 1.4 volts less than the sense voltage. If the battery charge voltage is not 54.6 volts, adjust the sense voltage on each power supply the necessary amount up or down to get the required 54.6 volts. The sense voltage of each power supply must be the same so that they equally share the load.