ALPHA BATTERY BACKUP
TESTING PROCEDURE

• If cabinet is running as it should on the Utility’s Line power, check LINE IN and LINE OUT power to confirm it is running through the battery backup with approximately 120V as shown:
• If it is not, check for proper wiring and that all of the switches are in the closed position.

• While the cabinet is running on Line power, if the cabinet is wired correctly, there should not be any backfeed to the generator plug or any power coming from Generator as shown:

  ![Image of wiring and backfeed](image1.jpg)

  ![Image of voltage meter](image2.jpg)

  o If it is not, check for proper wiring and that all of the switches are in the closed position.

• The next step is to test the battery backup while it is running the signal. Kill the disconnect and confirm that the traffic signal is still running, the UPS indicator light is illuminated (on the roadway side of the cabinet), and the battery backup displays that it is running by showing “Inverter” as shown:

  ![Image of battery backup](image3.jpg)

  ![Image of voltage meter](image4.jpg)

  ![Image of UPS indicator](image5.jpg)
• While the cabinet is still being run by the battery backup, test the LINE IN to confirm that power is not flowing into the UPS from the external power, test the FROM UPS OUT to check if it is outputting 120V to the signal cabinet as shown:

  o If it is not, check for proper wiring and that all of the switches are in the closed position.
- The UPS should have a switch that the battery backup unit can be switched to run through the UPS or to Bypass it. While the cabinet is being run by the battery backup, if the switch is moved from UPS to BYPASS, the signal should go dark.

- The alarms (common ones: Special Status 3=On Battery, Special Status 4=Running On Battery for 2 Hours, Special Status 5 or Automatic Flash=Low Battery) should be programmed into the UPS and the D plug into the controller (or wired to backpanel if a TS-1 cabinet) from the closures on the front of the Display Unit. Additionally, the battery temperature probe should be connected to the UPS Display unit and taped to the third or fourth battery. Alarms can be caused when the battery temperature probe or closures are not properly terminated.
The generator plug should be tested to confirm that when an inverter is plugged into the battery backup to run the signal and/or charge the batteries, it switches to LINE on the Display unit, the UPS indicator light turns off, and the Generator Light turns. Additionally, note that the flip switches on the two units must be closed to GEN and UPS with the Main UPS Supply Breaker switch to the ON position.

For additional information regarding the typical Battery Backup settings, please see the Alpha-Software Settings document.