Back-UPS® ES 450/550G
User Guide

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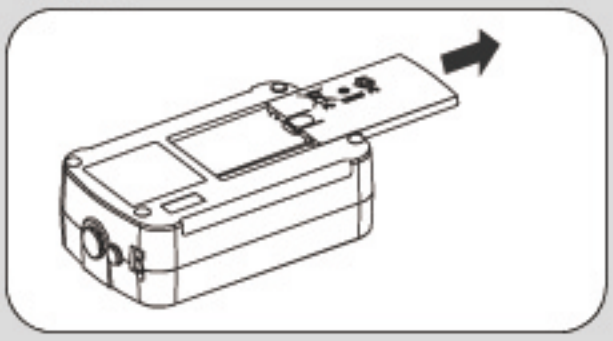
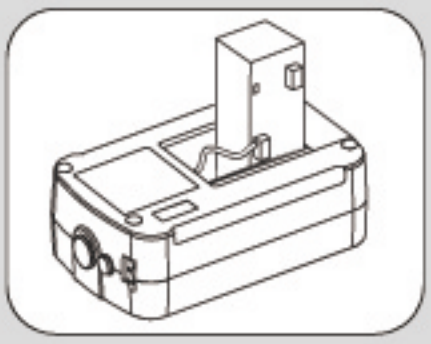
1 Connect Battery

For safety, the Back-UPS ES is shipped with one battery wire disconnected. The UPS will not operate until the wire is connected to the touch-safe battery terminal.
NOTE: Small sparks may occur during battery connection. This is normal.

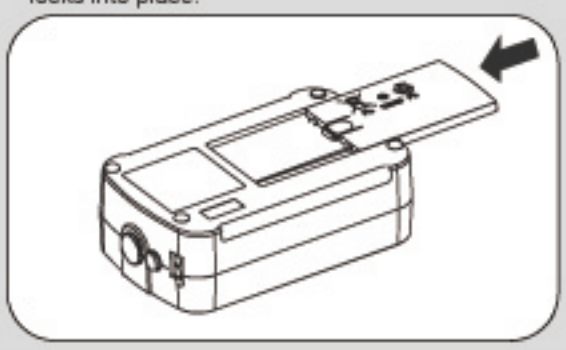
❶ Turn the Back-UPS ES over and press in the release tab. Slide the plastic battery cover off of the Back-UPS.



❷ Connect the battery wire firmly to the battery terminal.



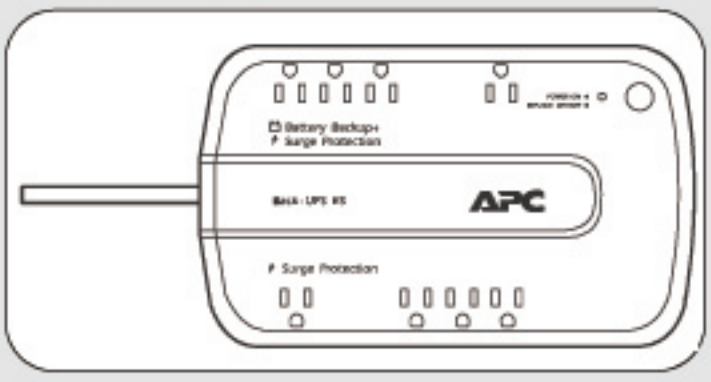
❸ Insert the battery back into the compartment. Slide the plastic battery cover until the release tab locks into place.



2 Connect Equipment

Battery Back-up + Surge Protection

These outlets are powered whenever the Back-UPS ES is switched ON. During a power outage or other utility problems (brownouts, over-voltages), these outlets will be powered for a limited time by the Back-UPS ES. Plug your computer, monitor, and other peripheral devices into the outlets.



Surge Protection

These outlets provide full-time protection from surges even if the Back-UPS ES is switched OFF. Plug your printer, fax machine, scanner, or other peripherals that do not need battery power into these outlets.

Place the Back-UPS ES to avoid:
- Direct sunlight
- Excessive heat
- Excessive humidity or contact with fluids

Plug the Back-UPS ES power cord directly into a wall outlet; not into a surge protector or power strip.

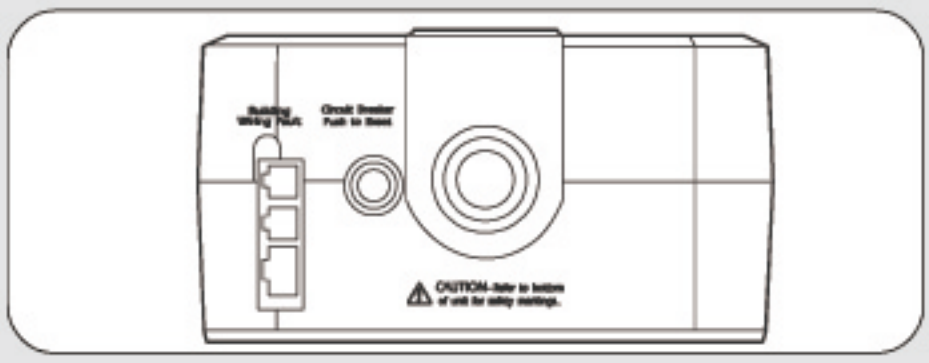
Connect Computer Cable

The supplied cable and software provide automatic file saving and shutdown of the operating system in the case of a sustained power outage.

Connect the cable to the Data Port of the Back-UPS ES. Connect the other end of the cable to the USB port on your computer. The software will automatically find the computer's USB Port.

Connect Modem / Phone / DSL / Fax

The Back-UPS protects a single line (2-wire) phone (including Digital Subscriber Line - DSL), Home Phoneline Networking Association (HPNA) type equipment, modem, or fax machines from surges when connected through the UPS as shown in the drawing below.



3 Turn the Unit On and Install the Software

Press the ON/OFF switch turn the unit ON.

A single short beep and the green "Power On" indicator confirms the Back-UPS ES is on and ready to provide protection.

The Back-UPS ES should charge for at least 16 hours to ensure sufficient runtime. The unit is being charged whenever it is connected to utility power, whether the unit is turned ON or OFF.

If the red Building Wiring Fault indicator (located on the end near the power cord) is lit, your building wiring presents a shock hazard that should be corrected by a qualified electrician.

Install the PowerChute Personal Edition software.
Place the PowerChute CD into the computer and following the installation instructions on the screen.

4 Transfer Voltage and Sensitivity Adjustment (Optional)

To adjust the transfer voltage:

1. Plug the Back-UPS into the utility power source. The Back-UPS will be in "Standby mode" (no indicators are lit).
2. Press the ON/OFF push button fully in for 10 seconds. The Online LED will begin glowing in a cyclical order: GREEN-AMBER-RED, indicating it is going into "Program mode".
3. The Back-UPS will then indicate the current sensitivity, as shown in the *Transfer Voltage and Sensitivity Adjustment* table below.
4. To select the LOW sensitivity setting, press the ON/OFF push button until the LED begins flashing GREEN.
5. To select the MEDIUM sensitivity setting, press the ON/OFF push button until the LED begins flashing RED.
6. To select the HIGH sensitivity setting, press the ON/OFF push button until the LED begins flashing AMBER.
7. To exit Programming mode, once sensitivity is set, wait approximately 5 seconds, and all of the LED indicators will be off (unlit).

Status Indicators

The Back-UPS ES indicates operating status using a combination of visual and audible indicators. Use the following table to identify the status of the Back-UPS ES.

Status	Visual Indications (Power On - Green) (Replace Battery - Red)	Audible Indication	Alarm Terminates When
Power On - UPS is supplying conditioned utility power to the load.	Power On pushbutton - ON (lit)	None	Not applicable.
On Battery - UPS is supplying battery power to the load connected to the Battery outlets.	Power On pushbutton - ON (off during beep)	Beeping 4 times every 30 seconds	UPS transfers back to Power On operation, or when UPS is turned off.
Low Battery Warning - UPS is supplying battery power to the load connected to the battery outlets, and the battery is near exhaustion.	Power On indicator is flashing	Rapid beeping (every 1/2 second)	UPS transfers back to normal operation, or when UPS is turned off.
Replace Battery - The battery is disconnected. The battery is in need of charging, or is at the end of its usual life and must be replaced.	Replace Battery indicator is Flashing Power On and Replace Battery indicators - flashing (alternating)	Constant tone Constant tone	UPS is turned off with the power switch.
Overload Shutdown - During On Battery operation a battery power supplied outlet overload was detected.	None	Constant tone	UPS is turned off with the power switch.
Sleep Mode - During On Battery operation the battery power has been completely exhausted and the UPS is waiting for utility power to return to normal.	None	Beeping once every 4 seconds	Utility power is restored, or if utility power is not restored within 32 seconds, or the UPS is turned off.
Building Wiring Fault - Your building wiring presents a shock hazard that should be corrected by a licensed electrician.	Building Wiring Fault LED (red) - ON	None	UPS is unplugged, or UPS is plugged into a properly wired outlet.

Indicators Flashing	Sensitivity Setting	Input Voltage Range (For Utility Operation)	When to Use
Green Flashing	LOW	88-142	Input voltage is extremely low or high. Not recommended for computer loads.
Red Flashing	MEDIUM (factory default)	92-139	Back-UPS frequently goes on battery.
Amber Flashing	HIGH	96-136	Connected equipment is sensitive to voltage fluctuations.