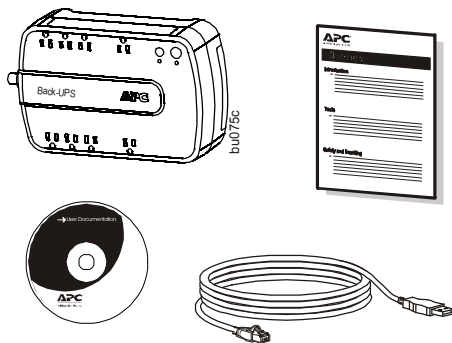# Operation Manual
Back-UPS™ ES 550/700

Inventory

## Safety and General Information

Inspect the package contents upon receipt. Notify the carrier and dealer if there is any damage.

Read the Safety Guide supplied with this unit before installing the UPS.

- This UPS is intended for indoor use only.
- Do not operate this UPS in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
- Be sure the air vents on the UPS are not blocked. Allow adequate space for proper ventilation.
- The battery typically lasts for two to three years. Environmental factors impact battery life. Elevated ambient temperatures, poor quality AC power, and frequent short duration discharges will shorten battery life.
- Connect the UPS power cable directly to a wall outlet. Do not use surge protectors or extension cords.

Connect the Battery

The Back-UPS is shipped with one battery cable disconnected. Remove the *"Stop! Connect the Battery"* label that covers the outlets. Prior to connecting any equipment to the unit, connect the battery cable to the unused battery terminal. It is normal for small sparks to be seen when the battery cable is connected to the battery terminal.
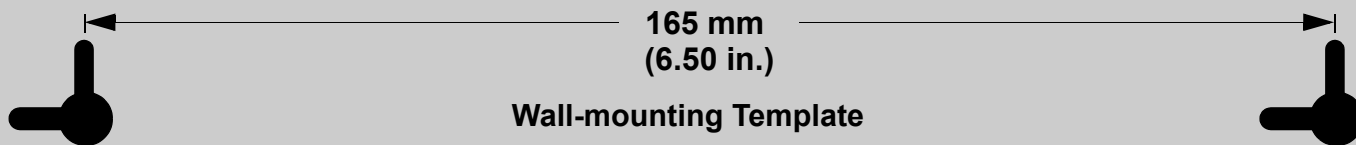
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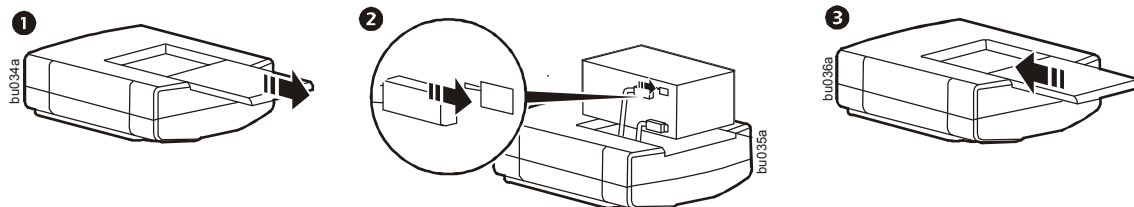
Charge the battery for at least 16 hours before use.
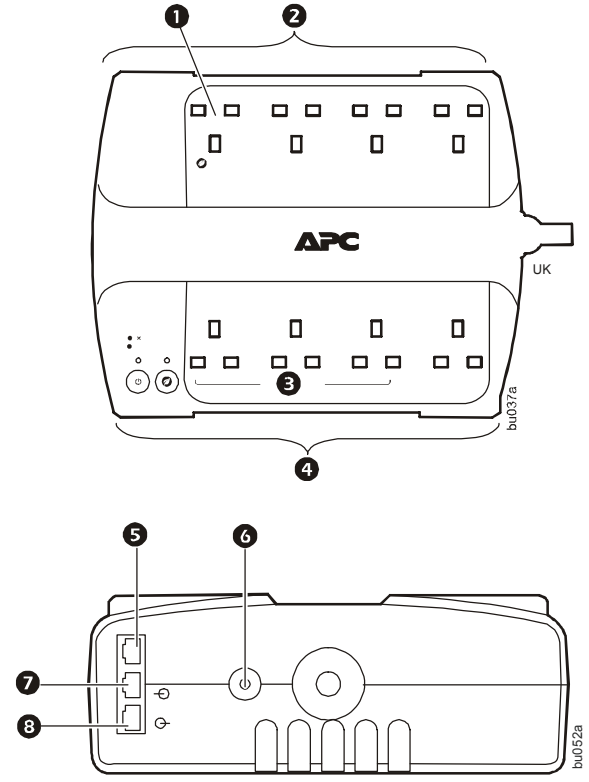
Wall Mount Installation

The UPS can be installed vertically or horizontally to a wall. Use the template to assist with installation and a fastener (not included) that can support at least 6.8 kg.

1. Hold the template against the wall surface and use a nail or pin to mark the center of each hole.

2. Install a fastener into the wall at the marked locations. Allow 8 mm of the fastener to protrude from the wall.

3. Install the unit on the wall, using the fasteners.

165 mm
(6.50 in.)

Wall-mounting Template

Connect the Equipment

❶	USB and Serial Data port	To use PowerChute software, connect a USB cable (not supplied), to the USB and serial port.
❷	Battery Backup + Surge Protection outlets	These outlets provide battery backup power to connected equipment for a limited period of time during power outages and voltage fluctuations.
		The Battery Backup + Surge Protection outlets provide battery power to connected equipment only when the Back-UPS is turned on.
		Connect critical equipment such as a computer, computer monitor, modem or other data sensitive devices to these outlets.
		Do not connect aquarium equipment, laser printers, paper shredders, sump pumps, or fans to these outlets as the modified sine wave output of the Back-UPS may cause these devices to experience a decrease in performance.
		Do not connect surge protectors or extension cords to these outlets.
❸	Controlled outlets	These outlets provide surge protection for connected devices.
		To conserve energy the Controlled by Master outlets will disconnect from AC power whenever the device plugged into the MASTER outlet is turned off or goes into Standby or Hibernation mode.
		Connect a printer, scanner or other noncritical devices that do not require battery backup protection.
❹	Surge Protection outlets	These outlets provide full-time protection for connected equipment from power surges when the Back-UPS is turned on or off.
		The Surge Protection outlets do not provide battery backup to connected equipment.
		Connect a printer, scanner or other noncritical devices that do not require battery backup protection.
❹	AC Power Input	Use the supplied power cable to connect the unit to AC power.
❺	Data Port	Use the supplied RJ45/USB cable to connect the Back-UPS unit to a computer to install the software.
❻	Circuit breaker	Use to reset the system after an overload condition has occurred causing the circuit breaker to trip.
❻	Master outlet	Connect the master device to this outlet, in most cases, this will be the main computer.
		In addition to providing battery backup power and surge protection, this outlet will signal the Controlled by Master outlets to disconnect from AC power when the master device is either turned off or goes into Standby or Hibernation mode.
❼	DSL/Modem/ FAX/Phone	Use an Ethernet cable to connect a modem to the IN port, and a computer to the OUT port.
❽	Wall Outlet	Connect the unit to a data line wall outlet

PowerChute™ Personal Edition Software

Overview

PowerChute Personal Edition Software allows you to use your computer to access additional power protection and management features of the Back-UPS.

Using PowerChute, you can:

• Preserve work in progress during a power outage by putting your computer into Hibernate mode. When the power returns, the computer will appear exactly as it did before the power outage.

• Configure the Back-UPS management features, such as power-saving outlets, shutdown parameters, audible alarms, and more.

• Monitor and view the status of the Back-UPS, including the estimated runtime, power consumption, power event history, and more.

Available features will vary by Back-UPS model and operating system.

If you choose not to install PowerChute, the Back-UPS will still provide backup power and power protection to connected equipment. However, you will only be able to configure a limited number of features using the display interface.

Compatibility

PowerChute is compatible with Windows operating systems only. For a detailed list of supported operating systems, go to **www.apc.com,** select **Software & Firmware**.

For Mac operating systems, we recommend using the native shutdown application (within System Preferences) which recognizes your battery backup and allows you to configure shutdown of your system during power outages. To access this application, connect a USB cable from the Back-UPS DATA PORT (POWERCHUTE PORT) to a USB port on your computer, and see the documentation provided with your computer.

Install PowerChute™ Software

To install PowerChute Personal Edition (PCPE) software, connect the supplied USB cable between the data port on the UPS and to a computer with access to the web.

On the computer, go to www.apc.com/tools/download. Select "Software Upgrades - PowerChute Personal Edition" in the "Filter by Software/Firmware" drop down menu. Select the appropriate operating system. Follow directions to download the software.

Turn on the Back-UPS

Press the ON/OFF switch to turn the unit ON. A single short beep and the green "Power On" indicator confirms that Back-UPS ES is on and ready to provide protection. The UPS will automatically perform a self-test when power is applied to the unit, the green LED will flash during the self-test.

Note: Prior to first use, charge the Back-UPS for at least 16 hours to ensure sufficient runtime. The unit is charging whenever it is connected to AC power, whether the unit is turned ON or OFF.

Operation

Power-Saving feature

 This Back-UPS is equipped with power saving outlets that conserve electricity. Configure the Back-UPS to recognize a Master device, such as a computer or an A/V receiver, and Controlled by master peripheral devices, such as a printer, speakers, or a scanner. When the Master device goes into Standby or Hibernation mode, or is turned off, the Controlled by Master device(s) will be turned off as well.

The Back-UPS ships with this Power-Saving feature DISABLED. To configure this feature, follow the instructions below or use PowerChute software.

Enable the Power-Saving Controlled outlets. Press and hold MASTER ENABLE button for two seconds. The Back-UPS will beep to indicate the feature is enabled. The green LED above the MASTER ENABLE button will illuminate.

Disable the Power-Saving Controlled outlets. Press and hold MASTER ENABLE button for two seconds. The Back-UPS will beep to indicate the feature is disabled. The green LED above the MASTER ENABLE button will extinguish.

Setting the threshold. The amount of power used by a device in Standby or Hibernation mode varies dependant on the connected device. If the Controlled outlets do not turn off when the Master device is in Standby or Hibernation mode. It may be necessary to adjust the threshold at which the Master outlet signals the Controlled outlets to shut down.

1. Be sure a master device is connected to the Master outlet. Place that device into Standby or Hibernation mode, or turn it off.
2. Press and hold the Master Enable button for six seconds, until the leaf icon flashes three times and the Back-UPS beeps three times.

The Back-UPS will now recognize and save the threshold level as the new threshold setting for the master device.

Status Indicators

| Status	LED Indicator	Audible Indicator On	Audible Indicator Terminates
Power On The Back-UPS is supplying AC power to connected equipment.	The **Power** LED illuminates green.	None	N/A
On Battery The Back-UPS is supplying battery power to battery backup outlets.	The **Power** LED illuminates green. The LED is not illuminated during the beeps.	Back-UPS beeps 4 times every 30 seconds.	The beeping stops when AC power is restored or the Back-UPS is turned off.
Low Battery warning The Back-UPS is supplying battery power to the battery backup outlets and the battery is near a total discharge state.	The **Power** LED flashes green.	The Back-UPS emits rapid beeping. (once every second)	The beeping stops when AC power is restored or the Back-UPS is turned off.
Replace Battery • The battery is disconnected. • The battery needs to be charged or replaced.	• The **Master Enable** LED flashes red. • **Master Enable** and **Power** LEDs flash alternately.	Constant tone	The Back-UPS is turned off.
Overload Shutdown While operating on battery power an overload condition has occurred in one or more of the battery backup outlets.	None	Constant tone	The Back-UPS is turned off.
Sleep Mode While operating on battery power the battery is completely discharged. The Back-UPS will awaken once AC power is restored.	None	The Back-UPS beeps once every four seconds.	• AC power is restored • AC power is not restored within 32 seconds • The Back-UPS is turned off
Master Function Enabled/Disabled.	The **Master Enable** LED illuminates / extinguishes	None	N/A

Troubleshooting

Problem	Probable Cause	Solution
Back-UPS will not turn on.	Battery is disconnected or AC power is not available at the wall outlet.	Connect the battery and ensure power is available at the wall outlet.
No power available at the Surge Protection Only outlets.	Surge Protection Only outlets have been overloaded and disconnected by the circuit breaker.	Reduce the amount of equipment plugged into Surge Protection Only outlets and re-set the circuit breaker.
	AC power not available at the wall outlet.	Ensure the fuse or circuit breaker for the outlet is not tripped, and that the wall switch controlling the outlet (if any) is in the ON position.
Connected equipment loses power.	Equipment is connected to the Surge Protection Only outlets.	Ensure the equipment you want to stay powered during a power failure is plugged into the Battery Backup/Surge Protection outlets and NOT the Surge Protection Only outlets.
	The Back-UPS is overloaded.	Make sure the equipment plugged into the Battery Backup/Surge Protection outlets of the unit are not overloading the capacity of the unit. Try removing some of the equipment and see if the problem continues.
	PowerChute Personal Edition software has performed a shutdown due to a power failure.	The Back-UPS is operating normally.
	The Back-UPS has exhausted its available battery power.	The Back-UPS can only operate on battery power for a limited amount of time. The unit will eventually turn off when the available battery power has been used. Re-charge for a minimum of 16 hours.
	Connected equipment does not accept the step-approximated sine waveform of the Back-UPS.	The output waveform is designed for computers and computer-related equipment. It is not designed for use with motor-type equipment.
	The Back-UPS may require service.	Contact Schneider Electric IT (SEIT) Technical Support.
The Power On indicator is lit and the Back-UPS is beeping four times every 30 seconds.	The Back-UPS is using battery.	The Back-UPS is operating normally and using battery power. Once On Battery, you should save your current work, power down your equipment, and turn the unit OFF. Once normal power is restored, you may turn the unit back ON and power your equipment.

Problem	Probable Cause	Solution
The Power On indicator flashes once per second and the Back-UPS beeps once per second at the same time.	Battery capacity is low (about 2 minutes of use remaining).	The Back-UPS is about to shut off due to a low battery charge condition! When the unit beeps once every second, the battery has about 2 minutes of power remaining. Immediately power down your computer and turn the unit OFF. When normal power returns, the unit will recharge the battery.
Inadequate runtime.	The battery is not fully charged.	Allow the unit to charge by leaving it plugged into the wall for at least 16 hours.
	Battery is near the end of useful life.	As a battery ages, the amount of runtime available will decrease. You can replace the battery by ordering one at www.apc.com. Batteries also age prematurely if the Back-UPS is placed near excessive heat.
The device connected to the Master outlet goes into Sleep or Standby mode, but the equipment connected to the Controlled outlets do not turn off.	The "green" function is turned off or the threshold setting is incorrect.	Re-configure the Master and Controlled outlets. See Connect the Equipment on page 2.
	The threshold setting of the device connected to the Master outlet is not configured properly.	Re-configure the threshold settings of the device connected to the Master outlet.
Power is not supplied to some outlets.	The Controlled Outlets may be turned OFF.	Disable the Master/Controlled outlets.
The Controlled Outlets are not supplying power, even though the Master device is not in sleep mode.	The Master Outlet threshold may be incorrectly set.	Re-configure the Master Outlet, ensure the device connected to the Master Outlet is in sleep or standby mode, or is OFF, when the threshold is set.

Specifications

Input	Voltage	230 Vrms Nominal
	Frequency	50/60 Hz (auto sensing)
	Brownout Transfer	180 Vrms, typical
	Over-voltage Transfer	266 Vrms, typical
Output	Voltage On Battery	230 Vac rms +/- 8%
	Total Amperage (8 outlets)	10 Amps (including UPS output)
	UPS Capacity (4 outlets)	550VA/330W 700VA/405W
	Frequency - On Battery	50/60 Hz +/-1 Hz
	Transfer Time	6 ms typical, 10 ms maximum
Protection and Filter	AC Surge Protection	Full time, 451 joules
	Phone/fax/DSL Surge Protection	Single line (2-wire)
	Network Surge Protection	10/100Base-T Ethernet
	EMI/RFI Filter	Full time
	AC Input	Resettable circuit breaker
Battery	Type	Sealed, maintenance-free lead acid
	Average Life	3 - 5 years depending on the number of discharge cycles and environmental temperature
Physical	Net Weight	6.4kg 6.8kg
	Dimensions (H x W x D)	285 x 230 x 86 mm (11.2 x 9.1 x 3.4 in)
	Operating Temperature	0°C to 40 °C (32 °F to 104 °F)
	Storage Temperature	-15 °C to 45 °C (5 °F to 113 °F)
	Operating Relative Humidity	0 to 95% non-condensing
	Operating Elevation	0 to 3000 m (0 to 10,000 ft)

Replace Battery
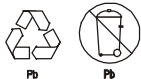
Deliver the used battery to a recycling facility.

Replace the used battery with an APC by Schneider Electric approved battery. Replacement batteries can be ordered through the APC by Schneider Electric Web site, **www.apc.com**. Battery replacement parts are **RBC110** for Back-UPS BE550, and **RBC17** for Back-UPS BE700.

Service

If the unit requires service, do not return it to the dealer. Follow these steps:

1. Review the *Troubleshooting* section of the manual to eliminate common problems.
2. If the problem persists, contact Schneider Electric IT (SEIT) Customer Support through the APC by Schneider Electric Web site, **www.apc.com**.
   a. Note the model number and serial number and the date of purchase. The model and serial numbers are located on the rear panel of the unit and are available through the LCD display on select models.
   b. Call SEIT Customer Support and a technician will attempt to solve the problem over the phone. If this is not possible, the technician will issue a Returned Material Authorization Number (RMA#).
   c. If the unit is under warranty, the repairs are free.
   d. Service procedures and returns may vary internationally. Refer to the APC by Schneider Electric Web site for country specific instructions.
3. Pack the unit in the original packaging whenever possible to avoid damage in transit. Never use foam beads for packaging. Damage sustained in transit is not covered under warranty.
4. **Always DISCONNECT THE UPS BATTERIES before shipping. The United States Department of Transportation (DOT), and the International Air Transport Association (IATA) regulations require that UPS batteries be disconnected before shipping.** The internal batteries may remain in the UPS.
5. Write the RMA# provided by Customer Support on the outside of the package.
6. Return the unit by insured, pre-paid carrier to the address provided by Customer Support

Warranty

The standard warranty is two (2) years from the date of purchase. Schneider Electric IT (SEIT) standard procedure is to replace the original unit with a factory reconditioned unit. Customers who must have the original unit back due to the assignment of asset tags and set depreciation schedules must declare such a need at first contact with an SEIT Technical Support representative. SEIT will ship the replacement unit once the defective unit has been received by the repair department, or cross ship upon the receipt of a valid credit card number. The customer pays for shipping the unit to SEIT. SEIT pays ground freight transportation costs to ship the replacement unit to the customer.

APC by Schneider Electric IT Customer Support Worldwide

For country specific customer support, go to the APC by Schneider Electric Web site, www.apc.com.