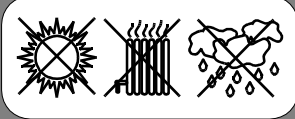# APC®
## www.apc.com

# Back-UPS® ES 500
## User's Guide

## 1 Place and Power On

**1** Place the Back-UPS ES to avoid:
- Direct sunlight
- Excessive heat
- Excessive moisture

**2** Plug the Back-UPS ES 500 power cord directly into a wall outlet; not into a surge protector or power strip.

**3** Press the On / Off button to power the unit on. The indicator next to the On/Off button will illuminate green to confirm the Back-UPS ES is on and ready to provide protection.

Note: The Back-UPS ES must charge for 12 hours to ensure full runtime. The unit charges whenever it is connected to utility power and is switched on.
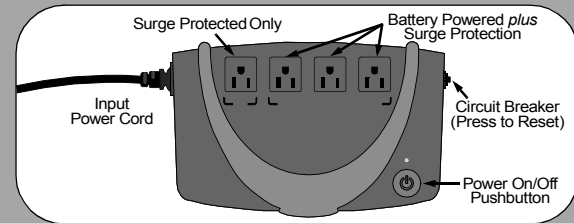
IMPORTANT: It is recommended that you DO NOT turn on your monitor until the UPS has been powered on and has completed self-test (approximately 16 seconds).

Back-UPS 500 ES
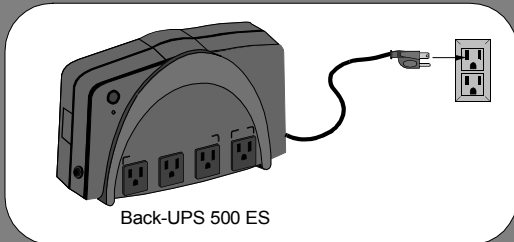
## 2 Connect Equipment

### Battery Powered *plus* Surge Protection

These outlets are powered whenever the Back-UPS ES is switched on. During a power outage or other utility problem (brownouts, over-voltages), these outlets are powered for a limited time by the Back-UPS ES. Plug a computer and monitor into these outlets. Once the equipment is connected to the Back-UPS ES, power on the connected equipment.

Surge Protected Only | Battery Powered *plus* Surge Protection
Input Power Cord | Circuit Breaker (Press to Reset) | Power On/Off Pushbutton

### Surge Protected Outlet

This outlet provides protection from surges no matter if the Back-UPS is switched on or off. Plug a printer, fax machine, scanner, or other peripheral that does not need battery power during a power failure into this outlet.

## 3 Back-UPS ES Status Indications and Specifications

| Status | Visual Indication | Audible Indication | Alarm Terminates When |
|---|---|---|---|
| **On Line** - UPS is supplying conditioned utility power to the load | Power On LED - ON | None | Not Applicable |
| **On Battery** - UPS is supplying battery power to the load connected to the Battery outlets | Power On LED - ON (off during beep) | Beeping 4 times every 30 seconds | UPS transfers back to On Line 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 LED - Flashing | Rapid beeping (1 second intervals) | UPS transfers back to On Line operation, or when UPS is turned off. |
| **Overload Shutdown** - During On Battery operation a battery power supplied outlet overload was detected. | Power On LED - OFF | Constant tone | UPS 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. | Power On LED - OFF | Beeping once every 4 seconds | UPS transfers back to On Line operation, or when UPS is turned off. |
| Self-Test in progress | Power On LED - On | None | Not Applicable |
| Self-Test failed (need service) | Power On LED - flashing 2 times per second | Short beeping 2 times every 2 seconds for 1 minute repeated every 5 hours | When unit is turned off or enters backup mode or passes self-test. The user should contact APC for service options. |

**UPS Power On Indicator**
**Power On/Off Switch**
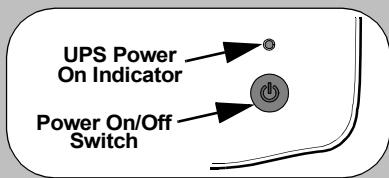
Specifications

| Feature | Item | Specification |
|---|---|---|
| **Input** | Voltage / Frequency | 220 VAC / 57-63 Hz |
| | Low Voltage Transfer | 180 VAC |
| | High Voltage Transfer | 260 VAC |
| **Output** | UPS Capacity (3 battery powered outlets) | 500 VA / 300 Watts |
| | Surge Capacity (all 4 outlets) | 5 Amps |
| | Voltage (on battery) | 220 Vrms +8/-8% |
| | Frequency (on battery) | 60 Hz +/- 1 Hz |
| | Transfer Time (ms) | 8 ms typical, 10 ms max. |
| **Surge Protection** | AC Surge Protection | 450 Joules |
| | Telephone Surge Protection | None |
| | AC Input Protection | Circuit Breaker Switch |
| **Battery** | Battery Type | Sealed Lead Acid |
| | Recharge Time | 10-12 Hours |
| | Average Life Span | 2-4 Years |
| **Physical** | Net Weight | 3.6 kg (7.9 lb) |
| | Size | 29.79 cm x 18.3 cm x 8.49 cm (11.73 in x 7.2 in x 3.34 in) |

### Service
1. Consult the Troubleshooting table above to eliminate common problems.
2. If problems persist, contact APC Technical Support; please be prepared to provide: date of purchase, model number and serial number (on bottom of UPS).
3. Please be prepared to troubleshoot the problem over the phone. If this is not successful, and the unit is still under warranty, the Technical Support Representative will provide all necessary information to return the unit for replacement.

### Warranty
The standard warranty is 2 years from the date of purchase.

### APC Contact Information
**APC Philippines** +63 2 637 5456 (5642)
**Website** http://www.apc.com
**Online Technical Support** http://support.apc.com

## 4 Troubleshooting and Battery Replacement

Use the table below to solve minor Back-UPS installation or operation problems. Consult APC Online Technical Support or call APC Technical Support for assistance with problems that cannot be solved using the table below.

| | | |
|---|---|---|
| Back-UPS ES will not turn on. | Battery is discharged and utility power is not available at the wall outlet. | Ensure power is available at the wall outlet. If the Back-UPS ES will not turn on, contact APC Technical Support (see *APC Contact Information*). |
| No power available at the Surge Protection outlet. | Surge Protection outlet has been overloaded or the circuit breaker has "tripped". | Reduce the amount of equipment plugged into Surge Protection outlets. Check the circuit breaker and reset the breaker by pushing it fully inward. |
| Connected equipment loses power. | Utility power not available at the wall outlet. | Ensure that the fuse or circuit breaker for the wall outlet is not tripped, and that the wall switch controlling the outlet (if any) is in the ON position. |
| | Equipment is connected to the "Surge Protection" outlet. | Ensure that the equipment you want to stay powered during a power failure is plugged into the "Battery Powered *plus* Surge Protection" outlets and NOT the "Surge Protection Outlet". |
| | The Back-UPS ES is overloaded. | Make sure that the equipment plugged into the 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 plus software has performed a shutdown due to a power failure. | The Back-UPS ES is operating normally. |
| | The Back-UPS ES has exhausted its available battery power. | The Back-UPS ES 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. Allow the unit to recharge for 16 hours before continuing use of the unit. |
| | Connected equipment does not accept the step-approximated sine waveform the Back-UPS ES. | The output waveform is designed for computers and computer-related equipment. It is not designed for use with motor-type equipment. |
| | The Back-UPS ES may require service. | Contact APC Technical Support for further troubleshooting (see *APC Contact Information*). |
| The On Line indicator is lit and the Back-UPS ES is beeping four times every 30 seconds. | The Back-UPS ES is using battery. | The Back-UPS ES 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. |
| The Power On indicator flashes once per second and the Back-UPS ES beeps once per second at the same time. | Battery capacity is low (about 2 minutes of use remaining). | The Back-UPS ES 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 at least 16 hours. |
| | Battery is near the end of useful life. | As a battery ages, the amount of runtime available will decrease. Batteries also age prematurely if the Back-UPS ES is placed near excessive heat. |
| | | You can replace the battery by ordering one at our website: www.apc.com. |

### Battery Replacement
Battery replacement must be performed by **qualified service personnel** using the following procedures:
**Caution**: **A battery can present a risk of electrical shock and high short circuit current. The following precautions should be observed when working on batteries: Remove watches, rings, or other metal objects. Use tools with insulated handles.**
1. Disconnect all equipment plugged into the Back-UPS.
2. Turn off the Back-UPS and disconnect it from the wall outlet.
3. Lay the Back-UPS on a flat, stable surface with the wall mounting holes facing upward.
4. Loosen fully, the four screws which secure the rear cover to the Back-UPS.
5. Lift the rear cover straight up and off of the Back-UPS. To avoid losing the screws, do not invert the rear cover. Do not touch the printed circuit board or the chassis.
6. Disconnect the red wire from the battery terminal by grasping the black portion of the wire and pull straight back from the connector.
7. Grasp the battery and rotate it 90 degrees (stand it upright).
8. Disconnect the black wire from the battery terminal by grasping the black portion of the wire and pull straight back from the connector.
   **Caution**: Do not dispose of the battery in a fire. The battery may explode. Do not open or mutilate the battery. Released electrolyte is harmful to the skin and eyes. It may be toxic.
9. Recycle or dispose of the old battery in accordance with local requirements, or return it to APC to ensure proper recycling.
10. Unpack and inspect the replacement battery. Ensure the replacement battery is not cracked or leaking. If the battery is damaged, contact APC Customer Service.
11. Set the replacement battery in the Back-UPS with the terminals facing upward.
12. Connect the black wire to the negative (-) terminal of the battery.
13. Lay the replacement battery into the Back-UPS chassis. Ensure the black wire is not pinched under the battery.
14. Connect the red wire to the positive (+) terminal of the battery. Ensure the red wire is fully in the battery enclosure.
15. Place the rear cover on the Back-UPS chassis and tighten the four screws loosened in step 4.
16. Plug the Back-UPS into the wall outlet, press the Power pushbutton on the Back-UPS to turn it on, and allow the battery to charge for 16 hours.
17. Plug equipment to be protected into the Back-UPS and resume normal operation.