

## Back-UPS RS

### APC BACK-UPS RS 1500VA LCD 120V



APC Back-UPS RS, 865 Watts / 1500 VA, Input 120V / Output 120V

**Includes:** CD with software, USB cable, User Manual

**Standard Lead Time:** Usually in Stock

## BR1500LCD Features

Battery failure notification	Provides early-warning fault analysis on batteries enabling timely preventive maintenance
Battery-protected and surge-only outlets	Reserves power capacity and run time for connected equipment that require battery back-up while providing surge only protection for less critical equipment
Cold-start capable	Provides temporary battery power when the utility power is out.
Hot-swappable batteries	Ensures clean, uninterrupted power to protected equipment while batteries are being replaced
Disconnected battery notification	Warns when a battery is not available to provide backup power.
Dataline Surge Protection	Provides protection of connected equipment from power surges on the data lines.
Boost Automatic Voltage Regulation (AVR)	Preserves battery life and maximizes runtime by correcting low voltages without discharging the battery.
Automatic self-test	Periodic battery self-test ensures early detection of a battery that needs to be replaced.
Adjustable voltage-transfer points	Maximizes useful battery life by widening the input voltage window or tightening the output voltage regulation.
Adjustable voltage sensitivity	Provides the ability to adapt the UPS for optimal performance in specific power environments or generator applications.
Audible Alarms	Provides notification of changing utility power and UPS conditions.
User-replaceable batteries	Increases availability by allowing a trained user to perform upgrades and replacements of the batteries reducing Mean Time to Repair (MTTR)
USB Connectivity	Provides management of the UPS via a USB port (not available on all models).
Transformer-block spaced outlets	Protect equipment with input transformer blocks without blocking access to other receptacles.
Intelligent Battery Management	Maximizes battery performance, life, and reliability through intelligent, precision charging.
Safety-agency approved	Ensures the product has been tested and approved to work safely with the connected service provider equipment and within the specified environment. UL, FCC, CE, C-Tick approvals.
Lifetime data recovery warranty	Provides peace of mind by providing professional data recovery services in the event data is lost due to the failure of the unit.
Adjustable voltage sensitivity	Provides the ability to adapt the Power Conditioner for optimal performance in specific power environments or generator applications.
Battery replacement without tools	Allows quick, easy battery replacement.
LCD graphics display	Text and mimic diagrams that display modes of operation, system parameters and alarms.

## Back-UPS RS Features & Benefits

### Protection

Battery-protected and surge-only outlets	Reserves power capacity and run time for connected equipment that require battery back-up while providing surge only protection for less critical equipment
Boost and Trim Automatic Voltage Regulation (AVR)	Gives higher application availability by correcting low and high voltage conditions without using the battery.
Data line surge protection	Provides protection of connected equipment from power surges on the data lines.
Safety-agency approved	Ensures the product has been tested and approved to work safely with the connected service provider equipment and within the specified environment. UL, FCC, CE, C-Tick approvals.
Power conditioning	Protects connected loads from surges, spikes, lightning, and other power disturbances.



#### Convenience

Audible Alarms	Provides notification of changing utility power and UPS conditions.
Automatic restart of loads after UPS shutdown	Automatically starts up the connected equipment upon the return of utility power.
Automatic self-test	Periodic battery self-test ensures early detection of a battery that needs to be replaced.
Battery replacement without tools	Allows quick, easy battery replacement.
LED status indicators	Quickly understand unit and power status with visual indicators.
Cold-start capable	Provides temporary battery power when the utility power is out.
Hot-swappable batteries	Ensures clean, uninterrupted power to protected equipment while batteries are being replaced
Resettable circuit breakers	Enables a quick recovery from overload events.
Transformer-block spaced outlets	Protect equipment with input transformer blocks without blocking access to other receptacles.
User-replaceable batteries	Increases availability by allowing a trained user to perform upgrades and replacements of the batteries reducing Mean Time to Repair (MTTR)


#### Manageability

Adjustable voltage sensitivity	Provides the ability to adapt the UPS for optimal performance in specific power environments or generator applications.
Adjustable voltage-transfer points	Maximizes useful battery life by widening the input voltage window or tightening the output voltage regulation.
Serial Connectivity	Provides management of the UPS via a serial port.
USB Connectivity	Provides management of the UPS via a USB port (not available on all models).
Multiple mounting methods	Allows for standardization on one product for use in different environments.
Intelligent Battery Management	Micro-processor controlled battery charging and diagnostic testing ensures maximum battery life.

# Output

Output Power Capacity	865 Watts / 1500 VA	
Max Configurable Power	865 Watts / 1500 VA	
Nominal Output Voltage	120V	
Output Frequency (sync to mains)	60 Hz	
Crest Factor	3 : 1	
Waveform Type	Stepped approximation to a sinewave	
Output Connections	(2) NEMA 5-15R (Surge Protection)	
	(6) NEMA 5-15R (Battery Backup)	

# Input

Nominal Input Voltage	120V	
Input Frequency	60 Hz +/- 3 Hz	
Input Connections	NEMA 5-15P	
Cord Length	1.83 meters	
Input voltage range for main operations	88 - 139V	
Maximum Input Current	12A	
Input Breaker Capacity	15A	

# Batteries & Runtime

Battery Type	Maintenance-free sealed Lead-Acid battery with suspended electrolyte : leakproof
Typical recharge time	16 hour(s)
Replacement Battery	<a href="#">APCRBC109</a>
RBC™ Quantity	1
Typical Backup Time at Half Load	11.7 minutes (432.5 Watts)
Typical Backup Time at Full Load	3.1 minutes (865 Watts)
Runtime Chart	<a href="#">Back-UPS RS</a>

# Communications & Management

Control panel	Multi-function LCD status and control console
Audible Alarm	Alarm when on battery : distinctive low battery alarm : overload continuous tone alarm

# Surge Protection and Filtering

Surge energy rating	340 Joules
Filtering	Full time multi-pole noise filtering : 5% IEEE surge let-through : zero clamping response time : meets UL 1449
Data Line Protection	RJ-45 Modem/Fax/DSL/10-100 Base-T protection,Co-axial Video / Cable protection

# Physical

Maximum Height	222.00 mm
Maximum Width	133.00 mm
Maximum Depth	356.00 mm
Net Weight	13.95 KG
Shipping Weight	15.55 KG
Shipping Height	305.00 mm
Shipping Width	248.00 mm
Shipping Depth	457.00 mm
Master Carton Units	1.00
Master Carton Weight	15.55 KG
Color	Charcoal
SCC Codes	0073130424791 3

# Environmental

Operating Environment	0 - 40 °C
Operating Relative Humidity	0%
Operating Elevation	0-3000 meters
Storage Temperature	-5 - 45 °C
Storage Relative Humidity	0%
Storage Elevation	0-15000 meters
Audible noise at 1 meter from surface of unit	45.00 dBA

# Conformance

Regulatory Approvals	FCC Part 15 Class B,FCC Part 68,NOM,TUV
Standard Warranty	3 years repair or replace
ROHS/WEEE Compliance	RoHS

\*\*The time to recharge to 90% of full battery capacity following a discharge to shutdown using a load rated for 1/2 the full load rating of the UPS.

## TROUBLESHOOTING

Problem	Possible Cause	Corrective Action
Back-UPS will not switch on.	Back-UPS is not connected to the AC power source.	Ensure the Back-UPS is securely connected to an AC outlet.
	Back-UPS circuit breaker "tripped".	Disconnect non-essential equipment from the Back-UPS. Reset the circuit breaker. Switch on the Back-UPS, and plug in devices one at a time. If the circuit breaker trips again, disconnect the device that caused the breaker to trip.
	Internal battery is not connected.	Connect the battery cartridge (see <i>Connect Battery Cartridge</i> ).
	Utility input voltage quality is out of range.	Consider adjusting the transfer voltage and sensitivity. See <i>Transfer Voltage and Sensitivity Adjustment</i> .
Back-UPS does not power essential equipment during an outage.	Equipment is plugged into a <b>Surge Only</b> outlet.	Unplug the device from the 'Surge Only' outlet, and move to a 'Battery Backup' outlet.
Back-UPS operates on battery although utility power is provided.	The UPS's plug has partially pulled out of the wall outlet, the wall outlet was turned off, or its circuit breaker tripped.	Verify the Back-UPS's plug is fully inserted into the wall, and power is present at the wall outlet by plugging in a known good device.
	Unit is performing an automatic self test.	No action is necessary.
Back-UPS does not provide expected amount of backup time.	Utility input voltage is out of range, frequency is out of range, or the waveform is distorted.	Consider adjusting the transfer voltage and sensitivity. Reference <i>Transfer Voltage and Sensitivity Adjustment</i> .
	Back-UPS is overloaded.	Unplug non-essential equipment (printers, scanners, etc) from the Battery Backup outlets, and plug them into 'Surge Only' outlets.
	Back-UPS battery cartridge discharged due to a recent power outage, and has not had time to recharge.	Charge the battery cartridge for 16 hours. Back-UPS runtime is reduced until the battery cartridge is fully charged.
Replace Battery indicator is on.	Battery has reached end of life.	Refer to <i>Replace Battery Cartridge</i> , and replace the battery cartridge.
	Connected equipment is drawing more power than the Back-UPS can provide.	Move one or more equipment power plugs from Battery Backup outlets to Surge Only outlets.
System Fault indicator is on and all other front panel indicators are flashing.	Internal UPS fault.	One of nine Internal UPS Fault Messages is displayed: F02 - On-Battery Overload F06 - Relay Welding F02 - On-Battery Output Short F07 - Temperature F03 - On-Battery XCap Overload F08 - Fan Fault F04 - Clamp Short F09 - Internal Fault F05 - Charger Fault Contact APC Technical Support (see <i>Contact Information</i> ).

## TRANSFER VOLTAGE and SENSITIVITY ADJUSTMENT

In situations where the Back-UPS or connected equipment appears too sensitive to the input voltage, it may be necessary to adjust the transfer voltage. This is a simple task using the front panel power on/off pushbutton. To adjust the transfer voltage, proceed as follows:

- Plug the Back-UPS into the utility power source, but do not turn the unit on. The Back-UPS will be in *standby mode* (there are no indicators lit).
- Press and hold the front panel on/off switch in for 10 seconds, until all the indicators on the Back-UPS flash to acknowledge it has entered *sensitivity programming mode*. Release the on/off button, the blocks in the Back-UPS's LOAD bar shown on the LCD indicate its current sensitivity setting, as described in the table below.

**Note:** The Back-UPS automatically exits programming mode in five seconds if no buttons are pressed, and no operations are run.

Reference the table below to determine which sensitivity setting to select.

Indicators Flashing	Sensitivity Setting	Input Voltage Range (utility operation)	Use When
1 (one block of the Load Bar)	Low	78 to 142 Vac	Input voltage is extremely low or extremely high. Not recommended for computer loads.
2 (three blocks of the Load Bar)	Medium (factory default)	88 to 139 Vac	The Back-UPS frequently goes on battery (ON BATT).
3 (five blocks of the Load Bar)	High	88 to 136 Vac	The connected equipment is sensitive to voltage fluctuations.

## SPECIFICATIONS

Item	1300 VA / 1500 VA
On-line Input Voltage Range (default settings)	88 to 139 VAC
Automatic Voltage Regulation (AVR)	+12% (Boost mode only)
On-line Frequency Range	57 to 63 Hz (Autosensing)
On-battery Waveshape	Stepped Sine Wave
Maximum Load	1300 VA: 780 W 1500 VA: 865 W
Typical Recharge Time	1300 VA: 16 Hours and 1500 VA: 16 Hours
Operating Temperature	32° to 104°F 0° to 40°C
Storage Temperature	23° to 113°F -5° to 45°C
Operating / Storage Relative Humidity	0 to 95% non-condensing
Size (H x W x D)	8.7 inch x 5.1 inch x 13.8 inch 220 mm x 130 mm x 350 mm
Weight	1300 VA: 29.7 lbs (13.5 kg) 1500 VA: 30.7 lbs (14.0 kg)
Shipping Weight	1300 VA: 33.2 lbs (15.1 kg) 1500 VA: 34.2 lbs (15.6 kg)
EMI Classification	FCC / DOC Class B Certified
On Battery Run-Time	Go to: <a href="http://www.apc.com/product">http://www.apc.com/product</a>
Approvals	TUV C-US, NOM
<p><b>Notice:</b> This device complies with Parts 68 and 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation.</p> <p>There is a label on the bottom of this equipment that contains, among other information, the <i>FCC registration number</i> and <i>ringer equivalence number (REN)</i> for this equipment. If requested, this information must be provided to the telephone company.</p>	

## ORDER REPLACEMENT BATTERY

The battery cartridge typically lasts 3 to 6 years, a shorter period if subjected to frequent outages or elevated temperatures. For the BR1300LCD, BR1500LCD, BX1300LCD and BX1500LCD order part **APCRBC109**. Please recycle spent battery cartridges.



## WARRANTY

The standard warranty is three (3) years from the date of purchase. APC's 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 APC Technical Support representative. APC 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 APC. APC pays ground freight transportation costs to ship the replacement unit to the customer.

## SERVICE

**If the Back-UPS arrived damaged, notify the carrier.**

**If the Back-UPS requires service, do not return it to the dealer. The following steps should be taken:**

- Consult the Troubleshooting section to eliminate common problems.
- If the problem persists, go to <http://www.apc.com/support/>.
- If the problem still persists, contact APC Technical Support.
  - Have the Back-UPS model number, serial number and date of purchase available. Be prepared to troubleshoot the problem with an APC Technical Support representative. If this is not successful, APC will issue a Return Merchandise Authorization (RMA) number and a shipping address.