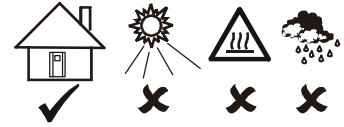# Installation and Operation Manual
Back-UPS® BR1200G-RS/BR1500G-RS
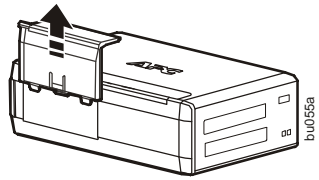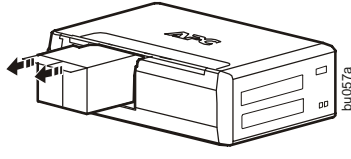
Inventory
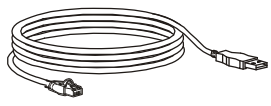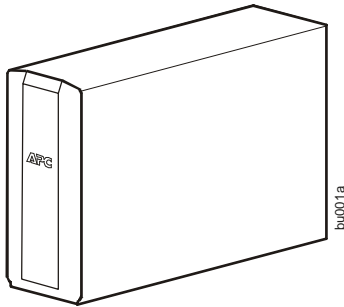
Safety

This unit is intended for indoor use only. Do not operate this unit in direct sunlight, in contact with fluids, or where there is excessive dust or humidity.
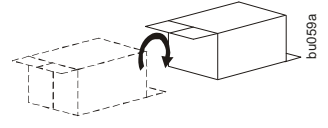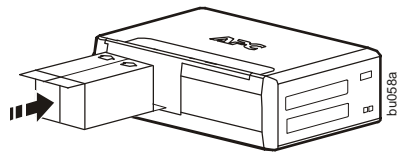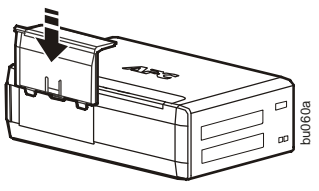
Connect the Battery

❶

❷

❸

❹

❺

Charge the battery for at least 16 hours before use.

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.

Installation

Connect the Back-UPS to a computer using a USB cable. Plug one end into the POWERCHUTE PORT on the rear panel of the Back-UPS and the other into a USB port on your computer.

Insert the PowerChute CD into your computer and follow the on-screen instructions. If your Back-UPS did not come with a PowerChute CD, download the software from www.apc.com, select Software & Firmware.

Connect the Equipment
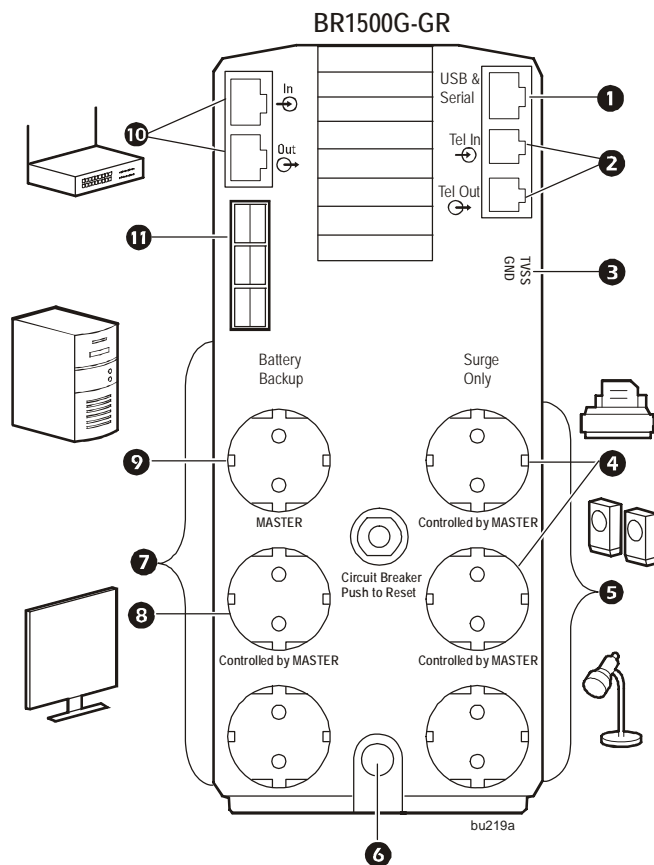
Battery Backup and Surge Protected outlets

When the Back-UPS is receiving input power, the Surge Protection only outlets and the Battery Backup with Surge Protection outlets will supply power to connected equipment. During a power outage or other AC problems, only the Battery Backup outlets receive power for a limited time from the Back-UPS.

Connect equipment such as printers, FAX machines, scanners, or other peripherals that do not need battery backup power to the Surge Protection Only outlets. These outlets provide full time protection from surges even if the Back-UPS is switched off.

Master and Controlled outlets

To conserve electricity, when the device connected to Master Outlet goes into Sleep or Standby mode, or turns off, the Controlled by Master device(s) will shut down as well, saving electricity.

Connect a master device, such as a desktop computer or audio/visual receiver to the Master outlet. Connect peripheral devices such as a printer, speakers, or a scanner to the Controlled by Master outlets.

BR1200G-GR   BR1500G-GR

bu218a   bu219a

❶	**USB and Serial Data port**	To use PowerChute software, connect a USB cable, to the USB or serial port.
❷	**Telephone Cable Surge-protected ports**	Connect one end of a DSL/Modem/FAX/Phone cable to a telephone wall outlet and the other end to the IN port on the Back-UPS. Connect one end of a DSL/Modem/FAX/Phone cable to a modem, FAX machine or telephone and the other end to the OUT port on the Back-UPS.
❸	**Ground screw**	Connect the ground lead from additional surge suppression devices such as a stand-alone data line surge protector.
❹	**Surge Protection outlets, Controlled by Master outlet**	These outlets provide surge protection during a power outage. These outlets will disconnect from AC power during a power outage, or in the event that the Master outlet goes into Sleep mode.
❺	**Surge Protection outlets**	These outlets provide full-time surge protection, when the unit 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 backupprotection.
❻	**AC Power Cable**	Use this cable to connect the Back-UPS to AC power.
❼	**Battery Backup outlets with Surge Protection**	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.
❽	**Battery Backup, Controlled by Master outlet with Surge Protection**	This outlet provides surge protection for the connected device. 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.
❾	**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.
❿	**Gigabit Ethernet surge-protected ports**	Use an Ethernet cable to connect a modem, router or network connection to the IN port, and a computer to the OUT port.
⓫	**External Battery Pack connector BR1500G-RS model only**	Connect an external battery pack to provide additional battery backup runtime.

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.

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

Notes: Devices that provide network services (such as routers, modems, or wireless printers) should not be plugged into the Controlled outlets. The Back-UPS ships with this Power-Saving feature DISABLED. If you wish to use this feature, follow the instructions below:

Enable the Power Saving Controlled outlets. Press and hold MUTE and DISPLAY buttons simultaneously for two seconds. The Back-UPS will beep to indicate the feature is enabled. The leaf icon on the display will illuminate.

Disable the Power Saving Controlled outlets. Press and hold MUTE and DISPLAY buttons simultaneously for two seconds. The Back-UPS will beep to indicate the feature is disabled. The leaf icon on the display 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 MUTE and DISPLAY buttons simultaneously and hold for six seconds, until the leaf icon flashes three times and the Back-UPS beeps three times.

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

Power-Saving LCD Screen

The display interface can be configured to remain continuously illuminated or to extinguish after a period of inactivity to save electricity.

1. **Continuous Illumination mode**: Press and hold DISPLAY button for two seconds. The display will illuminate and the Back-UPS will beep to confirm **Continuous Illumination** mode is activated.

2. **Power Saving mode**: Press and hold DISPLAY button for two seconds. The display will extinguish and the Back-UPS will beep to confirm **Power Saving** mode is activated. While in **Power Saving** mode, the display will illuminate if a button is pressed, it will extinguish after 60 seconds of inactivity.

Back-UPS Sensitivity Settings

The Back-UPS detects and reacts to line voltage distortions by transferring to battery backup power to protect connected equipment. In situations where either the Back-UPS or the connected equipment is too sensitive for the input voltage level it is necessary to adjust the transfer voltage.

1. Connect the Back-UPS to a utility power source. Be sure the Back-UPS is turned off.

2. Press and hold the POWER button for six seconds. The **load capacity** bar will flash on and off, to indicate the Back-UPS is in **Program** mode.

3. Press the POWER button again to scroll through the menu options. The Back-UPS will beep to confirm the selection. Refer to the table for an explanation of the transfer voltage sensitivity levels.

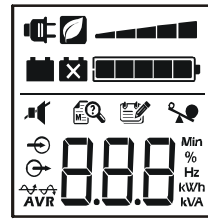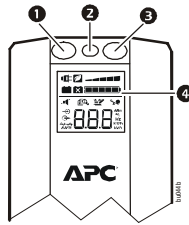| Generator Sensitivity	Default	Sensitive Loads
Low sensitivity 156-300 Vac	Medium sensitivity (Default) 176-294 Vac	High sensitivity 176-288 Vac
Use this setting with equipment that is less sensitive to fluctuations in voltage or waveform distortions.	Use this setting under normal operating conditions.	Use this setting when connected equipment is sensitive to any minor fluctuations in voltage or waveform distortions.

Front Panel Buttons and Display Interface

Use the three buttons on the front panel of the Back-UPS and the display to configure the Back-UPS.

Front panel
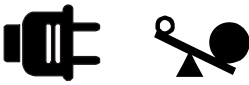
❶ MUTE button
❷ POWER button
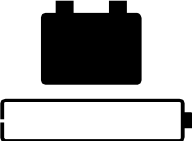❸ DISPLAY button
❹ Display

|	
	On Line: The Back-UPS is supplying conditioned AC power to connected equipment.
	Power Saving Function: The MASTER and CONTROLLED outlets are enabled. The power saving feature is active when the master device goes into Standby or Hibernation mode.
	Load Capacity: The load capacity percentage is indicated by the number of load bar sections illuminated. Each bar represents 20% of the load capacity.
	Battery Charge: The battery charge level is indicated by the number of load bar sections illuminated. When all five blocks are illuminated, the Back-UPS battery is fully charged. Each bar represents 20% of the battery charge capacity.
	Overload: The equipment connected to the Back-UPS is drawing more power than the voltage rating allows.
	Event: The event counter indicates the number of events that occurred to cause the Back-UPS to switch to battery operation.
	In: Input voltage. **Out:** Output voltage.
	Automatic Voltage Regulation (AVR): The Back-UPS has AVR boost and trim that automatically regulates high or low levels of input voltage without using battery power. The Back-UPS also features AVR Bypass which temporarily deactivates the AVR circuitry when the input voltage is within normal range. This conserves battery power and helps to maximize battery life. When illuminated, the Back-UPS is compensating for low input voltage. When illuminated, the Back-UPS is compensating for high input voltage.
	System Faults: An internal system fault has occurred. The fault number will illuminate on the display. See "System Faults" on page 6.
	Mute: An illuminated line through the icon indicates that the audible alarm is disabled.
	Replace Battery: The battery is nearing the end of its service life. Replace the battery.
	On Battery: The Back-UPS is supplying battery backup power to the connected equipment, it will beep four times every 30 seconds.

Warnings and System Faults

Audible Warnings

Four Beeps Every 30 Seconds	Back-UPS is running on battery. You should consider saving any work in progress.
Continuous Beeping	Low battery condition and battery run-time is very low. Promptly save any work in progress, exit all open applications, and shut down the operating system.
Continuous tone	Battery Backup outputs are overloaded.
Chirps for 1 Minute every 5 hours	Battery fails the automatic diagnostic test and should be replaced.

Warning Icons

If these icons are illuminated...	This may be the problem.
	The Back-UPS is operating on AC power, but is overloaded. Disconnect one of the devices connected to the Back-UPS. If the Overload icon stops flashing, the Back-UPS is no longer overloaded and will continue to operate normally.
	The Back-UPS is operating on battery power, but is overloaded. Disconnect one of the devices connected to the Back-UPS. If the Overload icon stops flashing, the Back-UPS is no longer overloaded and will continue to operate normally.
	The Back-UPS is operating on AC power, but the battery is not functioning properly. Contact APC Customer Service to order a replacement battery.
	The Back-UPS is operating on battery power and the battery power is getting low. Shut down all connected equipment to avoid losing unsaved data. When possible, connect the Back-UPS to AC power to recharge the battery.

System Faults
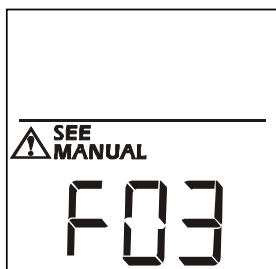
F01	On-Battery Overload	Turn the Back-UPS off. Disconnect non-essential equipment from the **Battery Backup** outlets and then turn Back-UPS on.
F02	On-Battery Output Short	Turn the Back-UPS off. Disconnect non-essential equipment from the **Battery Backup** outlets and then turn Back-UPS on.
F03	On-Battery Xcap Overload	
F04	Clamp Short	
F05	Charge Fault	
F06	Relay Welding	Faults F03-F09 are not user serviceable. Contact APC Technical Support for assistance.
F07	Temperature	
F08	Fan Fault	
F09	Internal Fault	

Function Button Quick-Reference

Function	Button	Timing (seconds)	UPS Status	Description
Power				
POWER ON	⏻	0.2	Off	Press the POWER ON/OFF button to turn on the Back-UPS and operate on AC power. If AC input power is not available the Back-UPS will operate on battery power.
POWER OFF	⏻	2	On	Press the POWER ON/OFF button to turn off the Back-UPS. The Back-UPS will continue to provide surge protection to the **Surge Protection** outlets.
Display				
Status Inquiry	📄	0.2	On	Verify the status or condition of the Back-UPS. The LCD will illuminate for 60 seconds.
Power-Saving mode: **Continuous Illumination**	📄	2	On	The LCD will illuminate and the Back-UPS will beep to confirm **Continuous Illumination** mode is activated. The LCD will extinguish and the Back-UPS will beep to confirm that **Power-Saving** mode is activated. While in **Power-Saving** mode, the LCD will illuminate if a button is pressed, then extinguish after 60 seconds of no activity.
Mute				
Event Specific	🔇	0.2	On	Disable any audible alarms caused by an event.
General Status Enable/Disable	🔇	2	On	Enable or disable the audible alarms. The **Mute** icon will illuminate and the Back-UPS will beep one time. The **Mute** feature will not activate unless the Back-UPS is operating on battery power.
Sensitivity	⏻	6	Off	The **Load Capacity** icon will flash to indicate the Back-UPS is in **Program** mode. Use the POWER ON/OFF button to scroll through and select Low, Medium, and High sensitivity levels. The Back-UPS will beep to confirm the selection. Refer to "Power Saving Feature" on page 4 for details.
MASTER/ CONTROLLED outlet Enable/Disable	🔇 📄	2	On	The leaf icon will extinguish to indicate the MASTER outlet feature is disabled or illuminate to indicate the MASTER outlet feature is enabled. The Back-UPS will beep once.
Master/Enable threshold calibration	🔇 📄	6	On	While calibrating the threshold setting, the device connected to the MASTER outlet should be turned off or placed in Standby or Sleep mode. Once the threshold setting has been selected the **Power-Saving** icon will flash 3 times and beep 3 times.
Self-Test (manual)	⏻	6	On	The Back-UPS will run a test of the internal battery. Note: This will happen automatically when the Back-UPS is turned on.
Event Reset	⏻ 📄	0.2	On	When the **Event** screen is visible, press and hold DISPLAY, then press the POWER button to clear the AC failure event counter.
Fault Reset	⏻	2	Fault	After a fault has been identified, press the POWER ON/OFF button to remove the visual indication and return to standby status.

Troubleshooting

Problem	Possible Cause	Corrective Action
Back-UPS will not turn on.	The Back-UPS is not connected to AC power.	Be sure the Back-UPS is securely connected to a AC outlet.
	The circuit breaker has been tripped.	Disconnect non-essential equipment from the Back-UPS. Reset the circuit breaker. Re-connect equipment one item at a time. If the circuit breaker trips again, disconnect the device that caused the event.
	The internal battery is not connected.	Connect the battery.
	The AC input voltage is out of range.	Adjust the transfer voltage and sensitivity range.
The Back-UPS does not provide power during a AC power outage.	Ensure that essential equipment is **not** plugged into a SURGE ONLY outlet.	Disconnect equipment from the SURGE ONLY outlet and connect to a BATTERY BACKUP outlet.
The Back-UPS is operating on battery power, while connected to AC power.	• The Back-UPS power cable is not securely connected to the wall outlet. • The wall outlet is no longer receiving AC power. • The circuit breaker has been tripped.	Be sure the plug is fully inserted into the wall outlet. Be sure the wall outlet is receiving AC power by checking it with another device.
	The Back-UPS is running an automatic self test.	No action is necessary.
	• The AC input voltage is out of range. • The frequency is out of range. • The waveform is distorted.	Adjust the transfer voltage and sensitivity range.
The Back-UPS does not provide the expected amount of backup time.	**Battery Backup** outlets may be experiencing an overload condition.	Disconnect non-essential equipment from the Battery Backup outlets and connect the equipment to SURGE ONLY outlets.
	The battery was recently discharged due to a power outage and has not fully recharged.	Charge the battery cartridge for 16 hours.
	The battery has reached the end of its service life.	Replace the battery.
The REPLACE BATTERY indicator is illuminated.	The battery has reached the end of its useful life.	Replace the battery.
The OVERLOAD indicator is illuminated.	The equipment connected to the Back-UPS is drawing more power than the Back-UPS can provide.	Disconnect non-essential equipment from the Battery Backup outlets and connect the equipment to SURGE ONLY outlets.
The SYSTEM FAULT indicator is illuminated, all the front panel indicators are flashing.	There is an internal fault.	Determine which internal fault message is displayed by matching the number displayed on the LCD with the corresponding Fault Message (see System Faults) and contact APC Technical Support.
The Back-UPS is not supplying power to all of the outlets.	Power to the CONTROLLED outlets has intentionally been turned off.	Confirm that the correct peripherals are connected to CONTROLLED outlets. If this feature is not desired, disable the Power-Saving MASTER and CONTROLLED outlets.
The CONTROLLED outlets are not supplying power, even though the ASTER device is not in sleep mode.	The MASTER outlet threshold may be incorrectly set.	Adjust the threshold when the MASTER outlet signals the CONTROLLED outlets to shut down.

Specifications

Model	BR1200G-RS	BR1500G-RS
VA	1200 VA	1500 VA
Maximum Load	720 W	865 W
Nominal Input Voltage	230 V	
Online Input Voltage Range	176 V- 294 V	
Automatic Voltage Regulation	188 V- 216 V +11.2% 252 V- 282 V -11.2%	
Frequency Range	50/60 Hz ± 1 Hz	
On-battery wave shape	Step-approximated sine-wave	
Typical Recharge Time	8 hours	
Transfer Time	10 ms, maximum	
Operating Temperature	0° to 40° C (32° to 104° F)	
Storage Temperature	-15° to 45° C (5° to 113° F)	
Unit Dimensions	$30.1 \times 11.2 \times 39$ cm ($11.9 \times 4.4 \times 15.3$ in)	
Unit Weight	12.8 kg (28.2 lbs)	13.4 kg (29.5 lbs)
Interface	Serial, USB	
On-Battery Runtime	Go to: www.apc.com	
Replacement Battery	The battery cartridge typically lasts 3 to 6 years. Environmental factors impact battery life. High temperatures, poor quality AC power, and frequent, short deration discharges will shorten battery life. To order replacement battery cartridge APCRBC124, refer to the APC Web site, www.apc.com. Recycle used battery cartridges.	

APC Customer Support

Internet	http://www.apc.com/support
Telephone	Russia: 8 800 200-64-46 Ukraine: 0 800 502-72-20 Check Web site listings for other countries.

Warranty

The standard warranty is two (2) years from the date of purchase. APC 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 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 APC Customer Support through the APC 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 APC 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 Web site for country specific instructions.

3. Pack the unit properly to avoid damage in transit. Never use foam beads for packaging. Damage sustained in transit is not covered under warranty. **For the UPS, always DISCONNECT THE BATTERY before shipping in compliance with U.S. Department of Transportation (DOT) and IATA regulations.** The battery may remain in the unit.

4. Write the RMA# provided by Customer Support on the outside of the package.

5. Return the unit by insured, pre-paid carrier to the address provided by Customer Support.