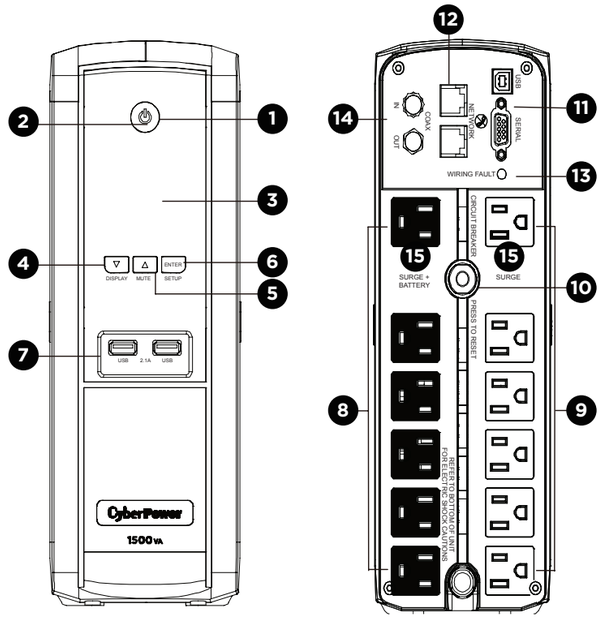
CyberPower®

YOUR ULTIMATE ALLY IN POWER

AVR UPS SERIES

BRG1350AVRLCD / BRG1500AVRLCD

USER MANUAL



FEATURES

1. Power Switch
2. Power On Indicator
3. LCD Module Display
4. Down/Display Button
5. Up/Mute Button
6. Enter/Setup Button
7. USB Charging Ports
8. Battery and Surge Protected Outlets
9. Full-Time Surge Protection Outlets
10. Circuit Breaker
11. Serial/USB Ports to PC
12. Communication Protection Ports
13. Wiring Fault Indicator (red)
14. Coax/Cable/DSS Surge Protection
15. Widely-Spaced Outlets Designed for AC Adapters

PRODUCT REGISTRATION

Thank you for purchasing a CyberPower product. Please take a few minutes to register your product at: **www.cyberpower.com/registration**.
Registration certifies your product's warranty, confirms your ownership in the event of a product loss or theft and entitles you to free technical support.
Register your product now to receive the benefits of CyberPower ownership.

IMPORTANT SAFETY WARNINGS (SAVE THESE INSTRUCTIONS)

This Manual Contains Important Instructions that should be followed during Installation and Maintenance of the UPS and batteries.

CAUTION! To prevent the risk of fire or electric shock, install in a temperature and humidity controlled indoor area free of conductive contaminants. (Please see specifications for acceptable temperature and humidity range).

CAUTION! To reduce the risk of electric shock, do not remove the cover except to service the battery. Turn off and unplug the unit before servicing the batteries. There are no user serviceable parts inside except for the battery.

CAUTION! Hazardous live parts inside can be energized by the battery even when the AC input power is disconnected.

CAUTION! Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.

CAUTION! The UPS must be connected to an AC power outlet with fuse or circuit breaker protection. Do not plug into an outlet that is not grounded. If you need to de-energize this equipment, turn off and unplug the unit.

CAUTION! To avoid electric shock, turn off the unit and unplug it from the AC power source before servicing the battery.

CAUTION! To reduce the risk of fire, connect only to a circuit provided with 20 amperes maximum branch circuit over current protection in accordance with the National Electric Code, ANSI/NFPA 70.

DO NOT USE FOR MEDICAL OR LIFE SUPPORT EQUIPMENT! CyberPower Systems does not sell products for life support or medical applications. DO NOT use in any circumstance that would affect the operation and safety of life support equipment, medical applications, or patient care.

DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire or electric shock, do not use with or near an aquarium. Condensation from the aquarium can cause the unit to short out.

DO NOT USE THE UPS ON ANY TRANSPORTATION! To reduce the risk of fire or electric shock, do not use the unit on any transportation such as airplanes or ships. The effect of shock or vibration caused during transit and the damp environment can cause the unit to short out.

INSTALLING YOUR UPS SYSTEM

INTRODUCTION

Thank you for selecting a CyberPower Systems UPS product. This UPS is designed to provide unsurpassed power protection, operation and performance during the lifetime of the product.

UNPACKING

Inspect the UPS upon receipt.
The box should contain the following:

(a) UPS
(b) User's manual
(c) USB A+B type cable
(d) Function Setup Guide

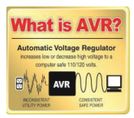
*PowerPanel® Personal software is available on our website. Please visit www.cyberpower.com and go to the Software Section for free download.

OVERVIEW

The BRG1350AVRLCD/BRG1500AVRLCD provides complete power protection from utility power that is not always consistent. The BRG1350AVRLCD/BRG1500AVRLCD features 1500 Joules of surge protection. Both units provide long lasting battery backup during power outages with maintenance free batteries. The BRG1350AVRLCD/BRG1500AVRLCD ensures consistent power to your computer system and includes software that will automatically save your open files and shutdown your computer system during a utility power loss.

AUTOMATIC VOLTAGE REGULATOR

The BRG1350AVRLCD/BRG1500AVRLCD stabilizes inconsistent utility power voltage to nominal levels that are safe for equipment. Inconsistent incoming utility power may be damaging to important data files and hardware, but with Automatic Voltage Regulation (AVR), damaging voltage levels are corrected to safe levels. AVR automatically increases low utility power or decreases high utility power to a consistent and safe 110/120 volts.



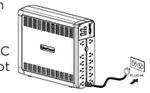
DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

1. Ensure that the equipment plugged into the outlet does not exceed the UPS's rated capacity (1350VA/810W for BRG1350AVRLCD, 1500VA/900W for BRG1500AVRLCD). If the rated capacities of the units are exceeded, an overload condition may occur and cause the UPS to shut down or the circuit breaker to trip.
2. There are many factors that can affect the amount of power that your computer system will require. It is suggested that the load placed on the battery outlets not exceed 80% of the unit's capacity.

INSTALLING YOUR UPS SYSTEM - Continued

HARDWARE INSTALLATION GUIDE

1. Your new UPS may be used immediately upon receipt. However, after receiving a new UPS, to ensure the battery's maximum charge capacity, it is recommended that you charge the battery for at least 8 hours. Your UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically charge whether the UPS is turned on or off.
2. Note: This UPS is designed with a safety feature to keep the system from being turned on during shipment. The first time you turn the UPS on, you will need to have it connected to AC power or it will not power up.



3. With the UPS unit turned off and unplugged, connect your computer, monitor, and any other peripherals requiring battery backup into the battery power supplied outlets. **DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum, sump pump or other large electrical devices into the "Battery and Surge Protected Outlets". The power demands of these devices may overload and damage the UPS.**
4. Plug the UPS into a 2 pole, 3 wire grounded receptacle (wall outlet). Make sure the wall branch outlet is protected by a fuse or circuit breaker and does not service equipment with large electrical demands (e.g. air conditioner, copier, etc...). The warranty prohibits the use of extension cords, outlet strips, and surge strips.

5. Press the power switch to turn the unit on. The Power On indicator light will illuminate and the unit will "beep". If an overload is detected, an audible alarm will sound and the unit will emit one long beep. To correct this, turn the UPS off and unplug at least one piece of equipment from the battery power supplied outlets. Make sure the circuit breaker is depressed and then turn the UPS on.
6. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.
7. To store the UPS for an extended period, cover it and store with the battery fully charged. While in storage, recharge the battery every three months to ensure battery life.
8. Ensure the wall outlet and UPS are located near the equipment being attached for proper accessibility.

   The warranty prohibits the use of extension cords, outlet strips, and surge strips in conjunction with the UPS unit.

BASIC OPERATION

1. **Power Switch** Used as the master on/off switch for equipment connected to the battery power supplied outlets.
2. **Power On Indicator** This LED is illuminated when the utility power is normal and the UPS outlets are providing power, free of surges and spikes.
3. **LCD Module Display** The LCD display shows all the UPS information using icons and messages. For ore information please review the "Definitions for Illuminated LCD Indicators" section below.
4. **Down/Display Button** The button can be used to select the LCD display contents including Input Voltage, Output Voltage, and Estimated Run Time. Short press the button to scroll down the function menu. Pressing the button for two seconds will keep the LCD display always on or turn the LCD display off while in AC/Utility power mode. For more information about the Down/Display Button, please refer to the Function Setup Guide.
5. **Up/Mute Button** Short press the button to scroll up the function menu. Holding the button for more than two seconds will silence the alarm. For more information about the Up/Mute Button, please refer to the Function Setup Guide.
6. **Enter/Setup Button** Press the button for two seconds to enter the setup menu and then select the functions for configuration. For more information about the Enter/Setup Button, please refer to the Function Setup Guide.
7. **USB Charging Ports** The USB charging ports provide 5V 2.1A power output.
8. **Battery and Surge Protected Outlets** The UPS has six battery powered/surge suppression outlets for connected equipment to ensure temporary uninterrupted operation of your equipment during a power failure. **(DO NOT plug a laser printer, paper shredder, copier, space heater, vacuum, sump pump or other large electrical devices into the "Battery and Surge Protected Outlets". The power demands of these devices may overload and damage the unit.)**
9. **Full-Time Surge Protection Outlets** The UPS has 6 surge suppression outlets.
10. **Circuit Breaker** Located on the back of the UPS, the circuit breaker serves to provide overload and fault protection.
11. **Serial/USB Ports to PC** The USB port allows connection and communication between the USB port on the computer and the UPS unit.
12. **Communication Protection Ports** Communication protection ports, bi-directional, will protect a 10/100/1000 Ethernet connection (RJ45).
13. **Wiring Fault Indicator (red)** This LED indicator will illuminate to warn the user that a wiring problem exists, such as bad ground, missing ground or reversed wiring. If this is illuminated, disconnect all electrical equipment from the outlet and have an electrician verify the outlet is properly wired. The UPS will not provide surge protection without being plugged into a grounded and properly wired wall outlet.
14. **Coax/Cable/DSS Surge Protection** The Coax/Cable/DSS protection ports will protect any cable modem, CATV converter, or DSS receiver.
15. **Outlets Designed for AC Adapters** The unit has two outlets spaced to allow AC power adapter blocks to be plugged into the UPS without blocking adjacent outlets.

REPLACING THE BATTERY

Replacement of batteries located in an **OPERATOR ACCESS AREA**

1. When replacing batteries, replace with the same number of the following battery: CyberPower / RB1290X2 for the BRG1350AVRLCD and BRG1500AVRLCD.
2. **CAUTION!** Risk of Energy Hazard, 24V, maximum 9 Ampere-hour battery. Before replacing batteries, remove conductive jewelry such as chains, wrist watches, and rings. High energy conducted through these materials could cause severe burns.
3. **CAUTION!** Do not dispose of batteries in a fire. The batteries may explode.
4. **CAUTION!** Do not open or mutilate batteries. Released material is harmful to the skin and eyes. It may be toxic.
5. **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:

   1) Remove watches rings, or other metal objects.

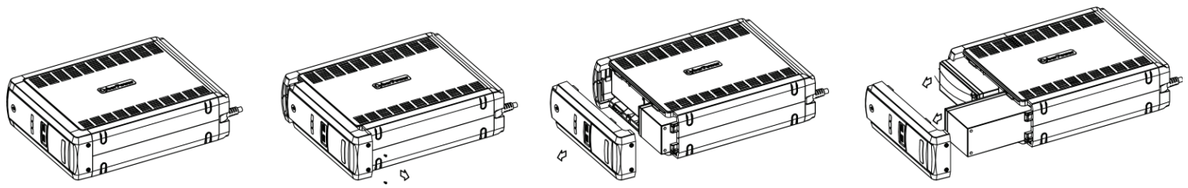
   2) Use tools with insulated handles.

CAUTION - RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO LOCAL REGULATIONS

REMINDER: Batteries are considered HAZARDOUS WASTE and must be disposed of properly. Most retailers that sell lead acid batteries collect used batteries for recycling, as required by local regulations.

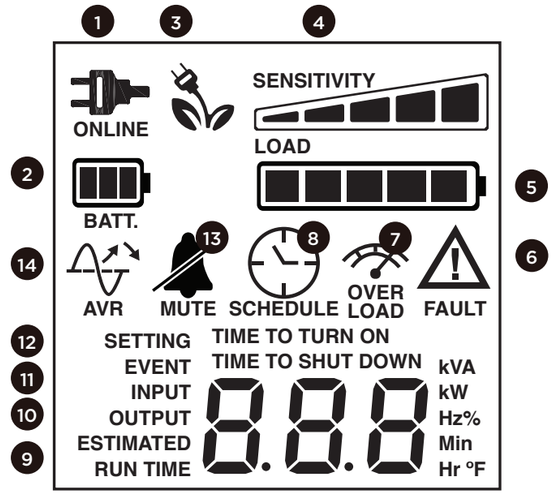
BATTERY REPLACEMENT PROCEDURE

1. Turn off and unplug all connected equipment.
2. Turn the UPS off and unplug it from the AC power source.
3. Turn the UPS on its side.
4. Remove the front panel retaining screws located on the bottom of the UPS.
5. Slide the battery compartment cover (front panel) completely off of the unit.
6. Remove the batteries from the compartment.
7. Disconnect the battery wires from the batteries.
8. Install the replacement batteries by connecting the red wire (+) and black wire (-) to the same color connectors from both the upper and lower battery pack. Note: Only use new batteries for replacement and both batteries should be replaced at the same time to insure maximum life span.
9. Put the batteries back into the compartment.
10. Slide back the battery compartment cover and tighten the retaining screws.
11. Recharge the UPS for 8-16 hours to fully charge the battery.



DEFINITIONS FOR ILLUMINATED LED INDICATORS

1. **ONLINE:**
   The UPS is supplying utility power to connected equipment.
2. **BATTERY:**
   During a severe planned power suppression or power outage, this icon appears and an alarm sounds (two short beeps followed by a pause) to indicate the UPS is operating from its internal batteries. During a prolonged planned power suppression or power outage, the alarm will beep rapidly every 1/2 second to indicate the UPS's batteries are nearly out of power. You should save files and turn off your equipment immediately or allow the software to shut the system down.
3. **Energy-Saving:**
   The UPS in energy-saving bypass mode. See "CyberPower GreenPower UPSTM Technology" section for more information.
4. **LOAD capacity / Sensitivity setup:**
   LOAD capacity: This meter displays the approximate output load level (in 20% increments) of the UPS battery outlets.
   Sensitivity setup: This meter is also used to setup the UPS sensitivity when you are in the programming mode. If the connected equipment can tolerate more power events (example: unstable power often associated with stormy weather), select Low Sensitivity and the UPS will go to Battery Mode less often. If the connected equipment is more sensitive to power events, select High Sensitivity and the UPS will go to Battery Mode more often.
5. **BATTERY capacity:**
   This meter displays the approximate charge level (in 20% increments) of the UPS's internal battery. During a power outage or severe planned power suppression, the UPS switches to battery power, the BATTERY icon appears, and the charge level decreases.
6. **FAULT:**
   This icon appears if there is a problem with the UPS. Press the POWER button to turn the UPS off.
   F01: Battery Mode or AC/Utility Power Mode Overload fault (Unplug at least one piece of equipment from battery outlets and turn the UPS on again.)
   F02: Battery Output Short fault (Unplug at least one piece of equipment from battery outlets and turn the UPS on again.)
   F03: Charger Fault (Contact CyberPower Systems for support.)
   F04: Internal Fault (Contact CyberPower Systems for support.)
7. **OVERLOAD:**
   This icon appears and an alarm sounds to indicate the battery-supplied outlets are overloaded. To clear the overload, unplug one piece of equipment from the battery-supplied outlets at a time until the icon turns off and the alarm stops.
8. **SCHEDULE:**
   Users can setup the schedule to turn on and shut down the computer and UPS through PowerPanel® Personal Edition software. The LCD display will show how much time is left before the UPS will turn back on or shut down.
9. **ESTIMATED RUNTIME:**
   This displays the run time estimate of the UPS with current battery capacity and load.
10. **OUTPUT Meter:**
    This meter measure, in real time, the AC voltage that the UPS system is providing to the computer, such as normal AC line mode, AVR mode, and battery backup mode. (Note: The OUTPUT meter shows the status of the battery backup outlets in terms of load, frequency, and voltage.)



11. **INPUT Meter:**
    This meter measures the AC voltage that the UPS system is receiving from the utility wall outlet. The UPS is designed, through the use of automatic voltage regulation, to continuously correct output voltage to connected equipment to a safe 110/120 voltage output range. In the event of a complete power loss, severe planned power suppression, or over-voltage, the UPS relies on its internal battery to supply consistent 110/120 output voltage. The INPUT voltage meter can be used as a diagnostic tool to identify poor-quality input power.
12. **EVENT:**
    This meter records the number of power outages.
13. **MUTE:**
    This icon appears whenever the UPS is in silent mode. However, when there is a problem with the UPS, the alarm will still beep even in silent mode.
14. **AVR (Automatic Voltage Regulation):**
    This icon appears whenever your UPS is automatically correcting low or high AC line voltage without using battery power. This is a normal, automatic operation of your UPS, and no action is required on your part.

For more information about functions setup, please refer to the Function Setup Guide.

TROUBLESHOOTING

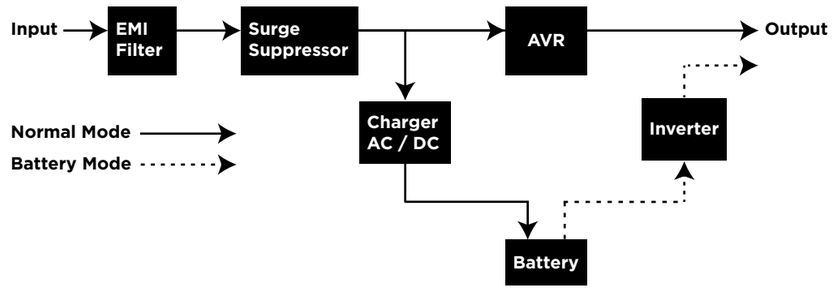
Problem	Possible Cause	Solution
Circuit breaker button is projecting from the back of the unit.	Circuit breaker has been tripped due to an overload.	Turn the UPS off and unplug at least one piece of equipment. Wait 10 seconds, reset the circuit breaker by pressing the button, and then turn the UPS on.
The UPS does not perform expected runtime.	Battery not fully charged.	Recharge the battery by leaving the UPS plugged in.
	Battery is worn out.	Contact CyberPower Systems about replacement batteries at: cyberpowersystems.com/support.
The UPS will not turn on.	The on/off switch is designed to prevent damage from rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The unit is not connected to an AC outlet.	The unit must be connected to a 120V 60Hz outlet.
	The battery is worn out.	Contact CyberPower Systems about replacement batteries at: cyberpowersystems.com/support.
	Mechanical problem.	Contact CyberPower Systems at: cyberpowersystems.com/support.
PowerPanel® Personal is inactive (all icons are gray).	The USB / serial cable is not connected.	Connect the USB / serial cable to the UPS unit and an open USB / serial port on the back of the computer. You must use the cable that came with the unit.
	The USB / serial cable is connected to the wrong port.	Check the back of the computer for an additional USB / serial port. Move the cable to this port.
	The unit is not providing battery power.	Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS back on. This should reset the unit.
The USB power ports are not providing power to the connected devices.	The USB power port has Over Current Protection design. When the total current of connected devices is over 2.1A, the USB power ports will stop providing power to the connected devices.	Turn the UPS off and unplug at least one piece of device connected to the USB power port and then turn the UPS on.

Additional troubleshooting information can be found at "Support" at www.CyberPowerSystems.com

TECHNICAL SPECIFICATIONS

Model	BRG1350AVRLCD	BRG1500AVRLCD
Capacity	1350 VA / 810 W	1,500VA / 900W
Nominal Input Voltage	120V	
Input Frequency	60 Hz +/- 3 Hz	
On-Battery Output Voltage	120Vac +/- 5%	
Max. Load for UPS Outlets (6 Outlets)	1350VA / 810W	1,500VA / 900W
Max. Load for Full-Time Surge Protection outlets (12 Outlets)	12 A	
On-Battery Output Wave Form	Simulated Sine Wave	
Operating Temperature	+ 32°F to 104° F / 0° C to 40° C	
Operating Relative Humidity	0 to 90% non-condensing	
Size (W x H x D)	3.9 x 11 x 14 in. / 100 x 280 x 355 mm)	
Net Weight	24.5 lbs / 11.1 kg	25.0 lbs / 11.3 kg
Battery Type	CyberPower / RB1290X2	
Typical Battery Recharge Time	8 hours from total discharge	
Typical Battery Life	3 to 6 years, depending on number of discharge/recharge cycles	
Recommended Battery	Sealed Maintenance Free Lead Acid Battery	
Safety Approvals	UL1778(UPS), cUL107., FCC/DoC Class B	

SYSTEM FUNCTION BLOCK DIAGRAM



CYBERPOWER GREENPOWER UPS™ TECHNOLOGY

Advanced Energy-Saving Design

The GreenPower UPS™ has a high-efficiency charger, which makes it the most energy-efficient UPS in its class. The advanced high-frequency charging system significantly improves charging efficiency and conserves energy. As a result of this advanced design, the GreenPower UPS™ uses less energy compared to competitive models. The GreenPower UPS™ is manufactured in accordance with the Restriction on Hazardous Substances (RoHS) directive making it one of the most environmentally-friendly UPS systems on the market today.

GREENPOWER UPS™
Energy-Saving Technology

FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canadian Compliance Statement
CAN ICES-3 (B)/NMB-3(B)

LIMITED WARRANTY AND CONNECTED EQUIPMENT GUARANTEE

Please visit www.CyberPowerSystems.com for a copy of the Limited Warranty and Connected Equipment Guarantee.

Where Can I Get More Information?

The application of the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded. CyberPower is the warrantor under this Limited Warranty. For further information please feel free to contact CyberPower at:

Cyber Power Systems (USA), Inc.
4241 12th Ave E., STE 400
Shakopee, MN 55379

call us at **(877) 297-6933**; or submit a web ticket online at:
cyberpowersystems.com/support.

Cyber Power Systems (USA), Inc. encourages environmentally sound methods for disposal and recycling of its UPS products. Please dispose and/or recycle your UPS and batteries in accordance to the local regulations of your state.

WARNING: This product can expose you to chemicals including bisphenol A (BPA) and styrene, which is known to the State of California to cause reproductive harm and cancer. For more information, go to www.P65Warnings.ca.gov.