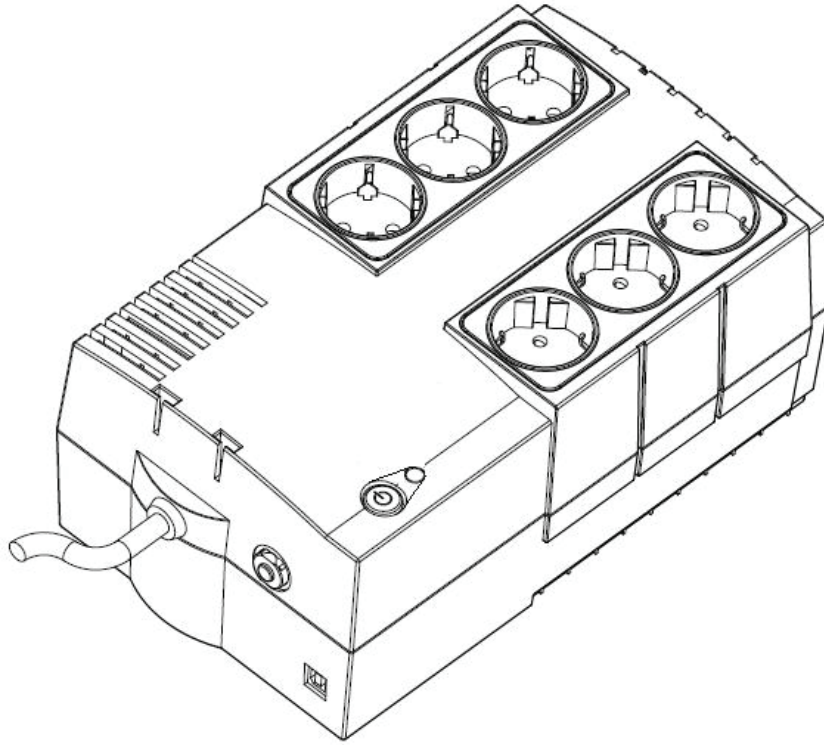# CyberPower®

Reliability. Quality. Value.

BR450E / BR650E / BR850E

User's Manual

IMPORTANT SAFETY INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance of the UPS and batteries. Please read and follow all instructions carefully during installation and operation of the unit. Read this manual thoroughly before attempting to unpack, install, or operate.

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

CAUTION! 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 or safety of any life support equipment, with any medical applications, or patient care.

CAUTION! The battery can energize hazardous live parts inside even when the AC input power is disconnected.

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. There are no user serviceable parts inside, except for the battery.

CAUTION! To avoid electrical shock, turn off the unit and unplug it from the AC power source before servicing the battery or installing a computer component.

CAUTION! DO NOT USE WITH OR NEAR AQUARIUMS! To reduce the risk of fire, do not use with or near aquariums. Condensation from the aquarium can come in contact with metal electrical contacts and cause the machine to short out.

INSTALLING YOUR UPS SYSTEM

UNPACKING
The box should contain the following:
(1) UPS Unit x 1; (2) USB Cable x 1; (3) User Manual x 1; (4) Management software Disk x 1; (5) Cable Collector x 1
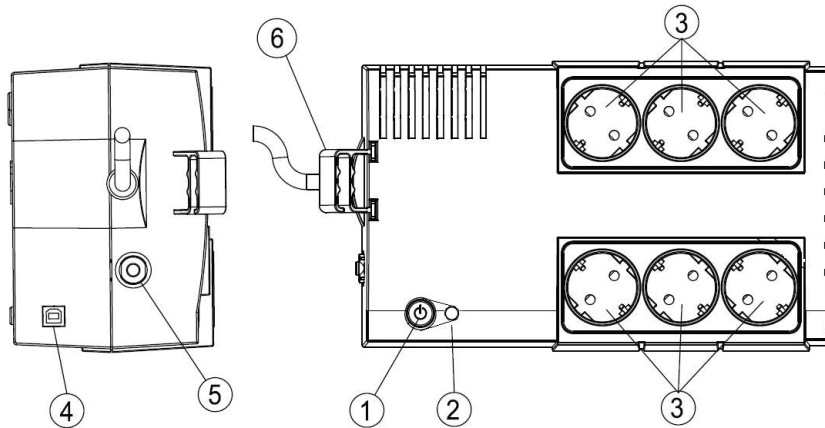
OVERVIEW
The BR450E/BR650E/BR850E provides automatic voltage regulation for inconsistent utility power. The BR450E/BR650E/BR850E features 405 Joules of surge protection, and provides battery backup during power outages. The BR450E/BR650E/BR850E ensures consistent power to your computer system and its included software will automatically save your open files and shut down your computer system during a utility power loss.

HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT
1. Make sure that the total Volt-Amp (VA) requirements of your computer, monitor, and peripheral equipment does not exceed 450VA/ 650VA/850VA.
2. Ensure that the equipment plugged into the battery power-supplied/surge outlets does not exceed the UPS unit's rated capacity (450VA/270W for BR450E, 650VA/390W for BR650E, 850VA/510W for BR850E). If the rated unit capacities are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.

BASIC OPERATION

DESCRIPTION

① **Power On/Off Switch**

 Press the power switch to turn the UPS ON or OFF.

② **Power on LED**

The power on LED lights up when the UPS is ON.

③ **AC outlet**

The UPS provides 3 outlets for connected equipment to insure temporary uninterrupted operation during a power failure and against surges and spikes and another 3 outlets against surges and spikes only.
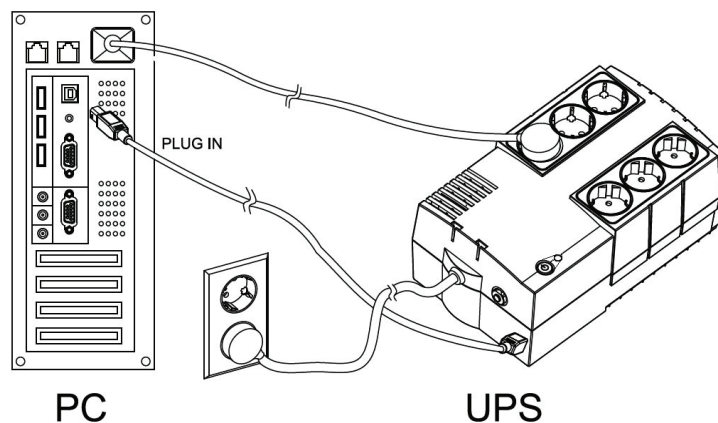
④ **USB Port to PC**

This port allows connection and communication from the USB port on the computer to the UPS unit. The UPS communicates its status to the **PowerPanel® Personal Edition** software.

⑤ **Input Circuit Breaker**

The Circuit Breaker provides overload protection.

⑥ **Cable Collector**

 Collect the cables connected from the AC outlets in the cable collector.

PLUG IN

PC   UPS

Hardware Installation Guide

1. Your new UPS may be used immediately upon receipt. However, recharging the battery for at least 8 hours is recommended to ensure that the battery's maximum charge capacity is achieved. Charge loss may occur during shipping and storage. To recharge the battery, simply leave the unit plugged into an AC outlet. The unit will charge in both the on and off position.
2. If you will use the software, connect the USB cable to the USB port on the UPS.
3. With the UPS unit off and unplugged, connect the computer, monitor, and any externally powered data storage device (Zip drive, Jazz drive, Tape drive, etc. into the battery power supplied outlets. DO NOT plug a laser printer, copier, space heater, vacuum, paper shredder or other large electrical device into the battery power supplied outlets. The power demands of these devices will overload and possibly damage the unit.
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, refrigerator, copier, etc. Avoid using extension cords. If used, the extension cord must be grounded and rated for 15 amps.
5. Depress the power switch to turn the unit on. The power on indicator light will illuminate and the unit will "beep".
6. 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. Wait 10 seconds. Make sure the circuit breaker is depressed and then turn the UPS on.
7. Your UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically recharge.
8. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.
9. To store your UPS for an extended period, cover it and store with the battery fully charged. Recharge the battery every three months to ensure battery life.

CYBERPOWER GREENPOWER UPS TECHNOLOGY

Our new UPS circuit is designed to save energy operating in GreenPower Bypass Mode.
A traditional UPS circuit with AVR provides normal output voltage through the Relay and AVR transformer. The current travels first through the transformer conducting energy and generating heat. This heat creates energy dissipation resulting in a "Power Loss" or consumption of utility power and money.
CyberPower's GreenPower Circuit Design is a solution to this "Power Loss.
" When the Utility Power is operating normally, our Green Power UPS works in Bypass Mode. Our GreenPower design conducts power only through the Relay and still provides normal output voltage. Bypassing the transformer reduces power consumption thereby conserving energy and saving money. When the utility power is abnormal the UPS will operate under Battery or AVR Mode. Under this condition Green Power UPS and a traditional UPS would operate about the same.
On average utility power operates 88% of the time and the CyberPower GreenPower Technology will work in its money/energy saving Bypass Mode.

TECHNICAL SPECIFICATIONS

Model	BR450E	BR650E	BR850E
Capacity (VA)	450VA	650VA	850VA
Capacity (Watts)	270W	390W	510W
Input			
Input Voltage Range	160-265Vac		
Frequency Range	47~63Hz (Auto Sensing)		
AVR Function	Boost @ 200V		
Output			
On Battery Output Voltage	Simulated Sine Wave at 230Vac +/-10%		
On Battery Output Frequency	50/60Hz +/-1%		
Transfer Time	4ms Typical		
Overload Protection	On Utility: Circuit Breaker and Internal Current Limiting On Battery: Internal Current Limiting		
Surge Protection			
Lightning / Surge Protection	Yes		
Operating Temperature	0°C to 40°C		
Physical			
Total # of UPS outlets	6 (3 for battery backup and surge, 3 for surge)		
Maximum Dimensions(LxWxH)	271 x 160.7 x 113.6mm		
Weight (kg)	4.4	5.5	6.4
Battery			
Sealed Maintenance Free Lead Acid Battery	12V / 4.5Ah x1	12V / 7Ah x1	12V / 8.5Ah x1
Typical Recharge Time	8 hours		
User Replaceable	Yes		
Status Indicators			
Indicators	Power On		
Audible Alarms	On Battery, Low Battery, Overload		
Communication			
PowerPanel® Personal Edition Software	Windows Vista/XP/2000/Server 2003, Linux		
Management			
Auto-Charger	Yes		
Auto-Restart	Yes		
USB interface	Yes		

TROUBLESHOOTING

Problem	Possible Cause	Solution
Full-time surge protection outlets stop providing power to equipment. Circuit breaker button is projecting from the side of the unit.	Circuit breaker has 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 depressing 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 slightly worn out.	Contact CyberPower Systems about replacement batteries at service@cyberpower-eu.com
The UPS will not turn on.	The on/off switch is designed to prevent damage by rapidly turning it off and on.	Turn the UPS off. Wait 10 seconds and then turn the UPS on.
	The battery is worn out.	Contact CyberPower Systems about replacement batteries at service@cyberpower-eu.com
	Mechanical problem.	Contact CyberPower Systems at service@cyberpower-eu.com
PowerPanel® Personal Edition is inactive.	The USB cable is not connected.	Connect the USB cable to the UPS unit and an open serial port on the back of the computer. You must use the cable that came with the unit.
	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.

Additional troubleshooting information can be found at eu.cyberpowersystems.com

For more information, visit eu.cyberpowersystems.com or contact

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