# CyberPower®

## Reliability. Quality. Value.

**User's Manual**

**Professional Rack Mount UPS**

**PR1500 / PR2200**

K01-1500S0A-04

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Thank you for purchasing a CyberPower Systems Product. To enjoy all the features and benefits of this Uninterruptible Power System (UPS), please read and follow all installation and operation instructions completely. This UPS is designed to provide guaranteed power protection for connected electronic equipment. The accompanying PowerPanel Business Edition software saves data, closes open applications and automatically shuts down your computer system in an intelligent and orderly manner.

# IMPORTANT SAFETY WARNINGS

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 an AC power outlet with fuse or circuit breaker protection. **DO NOT** plug the machine 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 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. 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 current contacts and cause the machine to short out.

**CAUTION!** DO NOT USE WITH LASER PRINTERS! The power demands of laser printers are too large for a UPS.

## *UNPACKING*

Inspect the UPS upon receipt. The box should contain the following:
UPS Unit; (1) User's Manual for UPS; (2) Rack mount Brackets; (2) Stands; (1) Telephone Cable (1) PowerPanel Business Edition Software CD; (1) User's Manual; (2) Serial Interface Cable (DB-9); (1) Serial-to-USB cable; (1) Warranty Registration Card.

## *HARDWARE INSTALLATION GUIDE*

1. Your new UPS may be used immediately upon receipt. However, **recharging the battery for at least four hours** is recommended to insure 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 as well as the off position.
2. If you wish to use the software, connect the enclosed serial interface cable to the serial port on the UPS and an open serial port on the computer. If you would like to use USB interface, please connect the USB adapter with the

Serial Cable then connect the USB to your computer.

3. With the UPS unit off and unplugged, connect your 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 UPS. The power demands of these devices will overload and possibly damage the unit.

4. To protect a fax, telephone, modem line or network cable, connect a telephone cable or network cable from the wall jack outlet to the IN jack of the UPS. Then connect a telephone cable or network cable from the OUT jack on the UPS to the modem, computer, telephone, fax machine, or network device.

5. Plug the UPS into a 2 pole, 3 wire grounding 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. refrigerator, copier, etc…). Avoid using extension cords. If used, the extension cord must be rated for 15 Amps.

6. Depress the power switch to turn the unit on. The power on indicator light will illuminate. 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. 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, unplug at least one piece of equipment, wait 10 seconds, check to make sure that the circuit breakers are depressed, and turn the unit on.

8. Your UPS is equipped with an auto-charge feature. When the UPS is plugged into an AC outlet, the battery will automatically recharge.

9. To maintain optimal battery charge, leave the UPS plugged into an AC outlet at all times.

10. To store your UPS for an extended period, cover it and store with the battery fully charged. Recharge the battery every three months to insure battery life.

## BASIC OPERATION

## *FRONT PANEL DESCRIPTION*
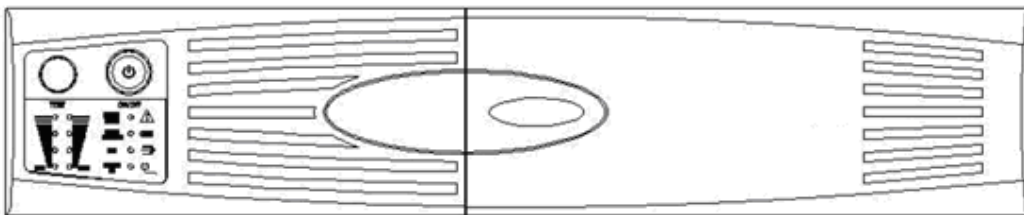


### Power Switch

  Press the power button to turn the UPS ON or OFF

### Test Switch

Professional Rack Mount UPS performs a self-test automatically. When powered on. When the UPS passes the test, it returns to on-line operation. If the UPS fails the self-test, please recharge the battery for hours and perform another self-test. If it fails after recharging the battery, please replace the battery.

### Wiring Fault Indicator

This LED will illuminate to warn the user that a wiring problem exists within the AC receptacle, such as a bad ground, miss ground or reversed wiring. If illuminated, disconnect all equipment and contact an electrician to insure outlet is properly wired.

### Battery Indicator

This illuminates during utility failure, indicating that the battery is supplying power to the battery-power supplied outlets.

### AVR Indicator

This LED indicates that the UPS is operating in automatic voltage regulation mode. When the LED is illuminated continuously, it indicates input over-voltage and the UPS unit bucks the voltage. When the LED is flashed in rotation, it indicates that the UPS unit boosts input voltage.

### Power On Indicator

This LED is illuminated when the utility condition is normal and the UPS outlets are providing "clean power", free of surges and spikes.

### Battery Indicators

This indicator shows a visual indication of the battery charge. If battery capacity is under 20%, no indicator LED will illuminate and UPS starts beeping.
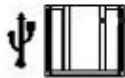
### Load Level Indicators

This indicator shows a visual induction of the UPS load. The load indicator LED will turn orange if the load is between 80 and 100%. If the load is under 20%, no indicator LED will illuminate.

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## *REAR PANEL DESCRIPTION*
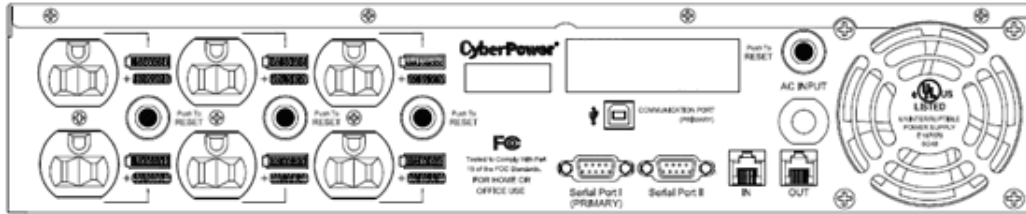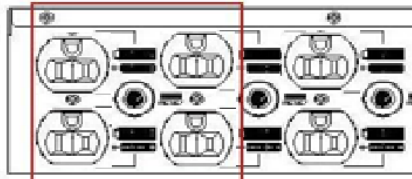


## USB Port

   Through USB communication port to manage software

## Circuit Breaker Reset for Overload Protection

   Resettable circuit breakers provide optimal overload protection.

## Battery Backup and surge Protection Outlets

   The UPS provides four battery powered, surge protected and AVR outlets for connected equipment and insures temporary uninterrupted operation of connected equipment during a power failure.

## Individual Backup Power for Critical Load
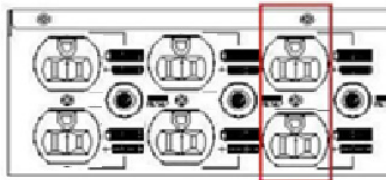
   The UPS provides two battery powered, surge protected and AVR outlets for the most critical connected equipment and insures temporary uninterrupted operation of connected equipment during a power failure.

**NOTE: When the UPS is overloaded, two circuit breakers will be tripped to interrupt power supply to the four battery outlets and leaves the two outlets for critical loads uninterrupted.**

## Communication Protection Ports (RJ11/RJ45)
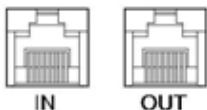
   Ports protect standard modem, fax, telephone line or network cable.

## Dual Serial Ports



Serial Port I (PRIMARY)    Serial Port II

Professional Rack Mount UPS provides two serial ports to allow connection and communication between the UPS and two computers. This allows the simultaneous shutdown of two computer systems. The Primary computer (with PowerPanel Business Edition installed) is the computer that you will use to control the UPS and make any changes to the operation of the UPS. The Secondary computer (with PowerPanel™ software installed) is unable to exhibit any control over the UPS. When there is a power failure, the Primary computer will start to shutdown after a user controlled delay. Once the Primary computer is shutdown, the UPS will signal the secondary computer and initiate a shutdown. The secondary computer will then shutdown. Once the secondary computer has completed its shutdown, the UPS will power off. Both PowerPanel Business Edition and PowerPanel™ will save and close any open files prior to shutting the system down.

Please go to www.cyberpowersystems.com for free download PowerPanel®
Software
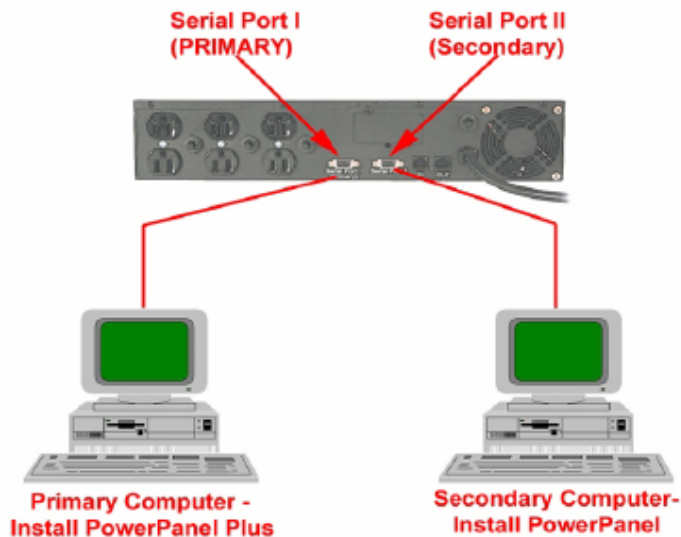
# BATTERY REPLACEMENT

Contact your dealer or call the number in this manual for information on battery replacement. The order numbers for the battery are **BA-PR1500** for PR1500; **BA-PR2200** for PR2200 Read and follow the IMPORTANT SAFETY INSTRUCTIONS before servicing the battery. Service the battery under the supervision of personnel knowledgeable of batteries and their precautions. **Servicing the battery can only be performed by trained personnel.**

**CAUTION!** Use only the specified type of battery. See your dealer for replacement batteries.
**CAUTION!** The battery may present the risk of electrical shock. Do not dispose of batteries in a fire, as they may explode. Follow all local ordinances regarding proper disposal of batteries.
**CAUTION!** Do not open or mutilate the batteries. Release electrolyte is harmful to the skin and eyes and may be toxic.
**CAUTION!** A battery can present a high risk of short circuit current and electrical shock.

**Take the following precautions before replacing the battery:**
1. Remove all watches, rings or other metal objects.
2. Only use tools with insulated handles.
3. Do not lay tools or metal parts on top of battery or any terminals.
4. Wear rubber gloves and boots.
5. Determine if the battery is inadvertently grounded.
If inadvertently grounded, remove source of ground. **CONTACT WITH GROUNDED BATTERY CAN RESULT IN ELECTRICAL SHOCK!** The likelihood of such shock will be reduced if such grounds are removed during installation and maintenance (applicable to a UPS and a remote battery supply not having a grounded circuit).

## BATTERY REPLACEMENT PROCEDURE:
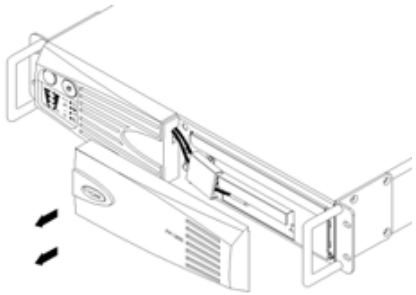
Remove the right side
front panel.
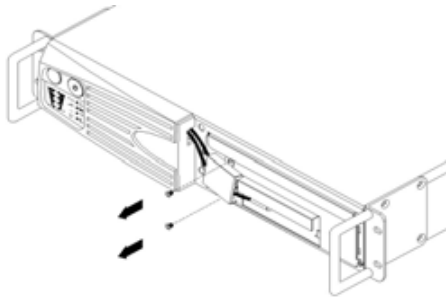
Remove the two retaining screws of
the cable protection cover then
remove the cover.
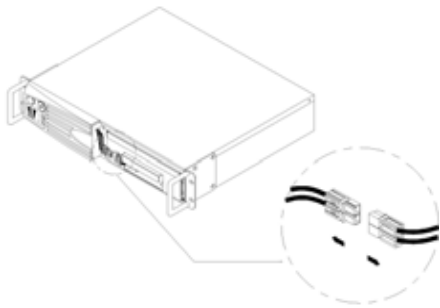
Disconnect the black and
red cable.
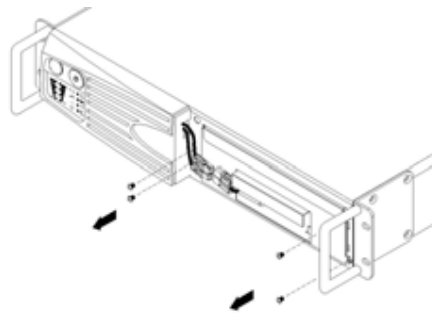
Remove the four retaining screws.

*Pull the battery pack out from the unit.

*Slide a new battery pack into the unit.
Assemble the screws, cover, cable and front
panel in the reverse sequence of above steps.

*Recharge the unit for 4-8 hours to ensure the
UPS performs expected runtime.

## DEFINITIONS FOR LED INDICATORS

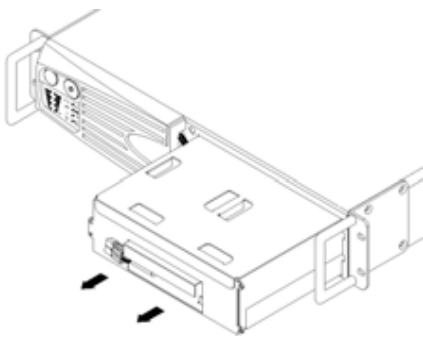| Power On | Wiring Fault | AVR | Using Battery | Circuit Breaker | Alarm | Condition |
|---|---|---|---|---|---|---|
| On | Off | Off | Off | Set | Off | Normal |
| On | Off | Flash | Off | Set | Off | **AVR-** Max. boost 15% of input voltage for output regulation while input voltage is from 8% to 30% under nominal. |
| On | Off | On | Off | Set | Off | **AVR-** Max. buck 15% of input voltage for output regulation while input voltage is from 8% to 26% over nominal. |
| Off | On/Off | Off | On | Set | Two beeps | **Utility Failure-** The UPS is providing battery power to the Battery-Power Supplied outlets. |
| Off | Off | On | On | Set | Rapid beeps | **Utility Failure-** The UPS is providing battery power.Rapid beeps indicate the battery will run out of charge within a few minutes. |
| On/off | On/off/ | On/off flash | On/off | Set | Long beeps | **Overload-** Turn the UPS off and unplug at least one piece of equipment from the UPS. Wait 5 seconds, reset the circuit breaker and restart the UPS. |
| Off | Off | Off | On | Up | Long beep | **Overload-** Turn the UPS off and unplug at least one piece of equipment from the UPS. Wait 5 seconds, reset the circuit breaker and restart the UPS. |
| On | On/Of | On/Off Flash | Off | Set | On | **Weak Battery-** Recharge the battery for at least 8 hours. If **Check Battery** is illuminated, contact CyberPower Systems for battery replacement information. |
| On | On/Of | On/Off Flash | Off | Set | On | **Weak Battery-** Recharge the battery for at least 8 hours. If **Check Battery** is illuminated, contact CyberPower Systems for battery replacement information. |
| On | On/Of | On/Off Flash | Off | Set | On | **Weak Battery-** Recharge the battery for at least 8 hours. If **Check Battery** is illuminated, contact CyberPower Systems for battery replacement information. |

# TROUBLESHOOTING

| Problem | Possible Cause | Solution |
|---|---|---|
| Outlets do not provide power to equipment | Circuit breaker is tripped due to overload. | Turn the UPS off and unplug at least one piece of equipment. Wait 10 seconds, reset the circuit breaker and then turn the UPS on. |
| | Batteries are discharged. | Recharge the unit for at least 4 hours. |
| | Unit has been damage by a surge or spike. | Recharge the battery by leaving the UPS plugged in at least 4 hours. |
| The UPS does not perform expected runtime. | Battery is not fully charged. | Recharge the battery by leaving the UPS plugged in at least 4 hours. |
| | Battery is slightly worn out. | Contact CyberPower about replacement batteries at tech@cyberpowersystems.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 unit is not connected to an AC outlet. | The unit must be connected to a 110/120V 50/60Hz outlet. |
| | The battery is worn out | Contact CyberPower about replacement batteries at tech@cyberpowersystems.com |
| | Only the individual Backup power outlet provides power to equipment. | Press the Self-Test button to recover the other six outlets. |
| PowerPanel or PowerPanel Business Edition is inactive(all icons are gray) | The serial cable is not connected. | Connect the serial cable to the UPS unit and an open serial port of your computer. You must use the cable that came with the unit. |
| | The serial cable is connected to the wrong port. | Try another serial port of your computer. |
| | The unit is not providing battery power. | Shutdown your computer and turn the UPS off. Wait 10 seconds and turn the UPS on. This should reset the unit. |
| | The serial cable is not the cable that was provided with the unit. | You must use the cable included with the unit for the software. |

# TECHNICAL SPECIFICATIONS

| Model | PR1500 | PR2200 |
|---|---|---|
| Capacity(VA)/(Watt) | 1500VA/1000W | 2200VA/1500W |
| Input | | |
| Voltage Range | 85-150Vac | |
| Frequency Range | 47-63Hz | |
| Output | | |
| On battery Output Voltage | Pure sine wave at 120Vac+/-7% | |
| Transfer time(Typical) | 60Hz | |
| Overload protection | 4ms | |
| Internet Ready | On Utility: Circuit Breaker; On Battery: Internal Current Limiting | |
| Surge Protection and Filtering | | |
| Lightning/Surge Protection | Yes | |
| Internet Ready(DSL / Phone / FAX / Modem Protection) | RJ11/RJ45(One In/One Out) | |
| Physical | | |
| Toatal # of UPS Receptacles | 7 | |
| Maximum Dimensions (in) | 2U Rack *2   17.1" x 15.3" x 3.5" | |
| Weight (lbs) | 58 | 58 |
| Battery | | |
| Sealed Maintenance Free Lead Acid Battery | 12Vdc 7AHx4 | 12Vdc 9AHx4 |
| Typical Recharge Time | 8 Hours | |
| Warning Diagnostics | | |
| Indicators | Power on, using battery, AVR, wiring fault, load level, battery level | |
| Audible Alarms | On Battery, Low Battery, Overload | |
| Environmental | | |
| Operating Temperature | 32 °F to 104°F / 0°C to 40 °C | |
| Operating Relative Humidity | 0 to 95% NON-CONDENSING | |
| Communication | | |
| Power Panel (Plus) Software | Windows 98/ME/NT/2000/XP, MAC OS 10.0 or later. | |
| Management | | |
| Self-Test | Manual Self-Test | |
| Auto-Charger /Auto-Restart | Yes | |
| USB | Yes | |

## PRODUCT REGISTRATION

CyberPower requests that you complete and return the Warranty Registration Card enclosed with the Product or register the Product at its website (www.CPSww.com) to establish that you are the Initial Customer of the Product, and therefore entitled coverage under the Limited Warranty and the Connected Equipment Guarantee. (Registration is not required for coverage, but note: if you do not register your purchase, you will be required to provide proof of purchase.)

## LIMITED WARRANTY AND CONNECTED EQUIPMENT GUARNTEE

Read the following terms and conditions carefully before using the CyberPower PR1500/PR2200 (the "Product"). By using the Product you consent to be bound by and become a party to the terms and conditions of this Limited Warranty and Connected Equipment Guarantee (together referred to as this "Warranty"). If you do not agree to the terms and conditions of this Warranty, you should return the Product for a full refund prior to using it.

**Who Is Providing This Warranty?**
CyberPower Systems (USA), Inc. ("CyberPower") provides this Limited Warranty.

**What Does This Warranty Cover?**
This warranty covers defects in materials and workmanship in the Product under normal use and conditions.   It also covers equipment that was connected to the Product and damaged because of the failure of the Product.

**What Is the Period of Coverage?**
This warranty covers the Product for three years and connected equipment for as long as you own the Product.

**Who Is Covered?**
This warranty only covers the original purchaser.   Coverage ends if you sell or otherwise transfer the Product.

**How Do You Get Service?**
1. Call us at (877) 297-6937 or write to us at Cyber Power Systems (USA), Inc., 4241 12th Ave. E., STE 400, Shakopee, MN 55379 or send us an e-mail message at claims@cpsww.com for instructions.
2. When you contact CyberPower, identify the Product, the Purchase Date, and the item(s) of Connected Equipment. Have information on all applicable insurance or other resources of recovery/payment that are available to the Initial Customer and Request a Claim Number.
3. You must provide a dated Proof-of-Purchase receipt (or other proof of the original purchase) and provide a description of the defect.
4. Pack and ship the product with a dated Proof- of-Purchase receipt to CyberPower and, if requested, the item(s) of Connected Equipment, a repair cost estimate for the damage to the Connected Equipment, and all claim forms that CyberPower provides to you. Show the Claim Number on the shipping label or include it with the product. You must prepay all shipping costs, you are

responsible for packaging and shipment, and you must pay the cost of the repair estimate.

**How Long Do I Have To Make A Claim?**
All claims must be made within ten days of the occurrence.

**What Will We Do To Correct Problems?**
CyberPower will inspect and examine the Product.
If the Product is defective in material or workmanship, CyberPower will repair or replace it at CyberPower's expense, or, if CyberPower is unable to or decides not to repair or replace the Product (if defective) within a reasonable time, CyberPower will refund to you the full purchase price you paid for the Product (purchase receipt showing price paid is required).
If it appears that our Product failed to protect any equipment plugged into it, we will also send you forms for making your claim for the connected equipment.   We will repair or replace the equipment that was damaged because of the failure of our Product or pay you the fair market value (NOT REPLACEMENT COST) of the equipment at of the time of the damage.   We will use Orion Blue Book, or another a third-party valuation guide, or eBay, craigslist, or other source to establish that amount.   Our maximum liability is limited to $400,000 for PR1500/PR2200.

**Who Pays For Shipping?**
We pay when we send items to you; you pay when you send items to us.

**What Are Some Things This Warranty Does Not Cover?**
1. This Warranty does not cover any software that was damaged or needs to be replaced due to the failure of the Product or any data that is lost as a result of the failure or the restoration of data or records, or the reinstallation of software.
2. This Warranty does not cover or apply to: misuse, modification, operation or storage outside environmental limits of the Product or the equipment connected to it, nor for damage while in transit or in storage, nor if there has been improper operation or maintenance, or use with items not designed or intended for use with the Product, such as laser printers, appliances, aquariums, medical or life support devices, etc.

**What Other Limitations Apply?**
1. This Warranty does not apply unless the Product and the equipment that was connected to it were connected to properly wired and grounded outlets (including compliance with electrical and safety codes of the most current electrical code), without the use of any adapters or other connectors.
2. The Product must have been plugged directly into the power source and the equipment connected to the Product must be directly connected to the Product and not "daisy-chained" together in serial fashion with any extension cords, another Product or device similar to the Product, surge suppressor, or power tap. Any such installation voids the Limited Warranty.
3. The Product and equipment connected to it must have been used properly in a suitable and proper environment and in conformance with any license, instruction manual, or warnings provided with the Product and the equipment connected to it.
4. The Product must have been used at all times within the limitations on the Product's VA capacity.

**What are the Limitations?**

The sole and exclusive remedies of the Initial Customer are those provided by this Warranty.

The Product was designed to eliminate disrupting and damaging effects of momentary (less than 1ms) voltage spikes or impulses from lightning or other power transients.   If it can be shown that a voltage spike lasting longer than 1ms has occurred, the occurrence will be deemed outside the rated capabilities of the Product and the Limited Warranty is void. CyberPower Does Not Cover or Undertake Any Liability in Any Event for Any of the Following:

1. Loss of or damage to data, records, or software or the restoration of data or records, or the reinstallation of software.

2. Damage from causes other than AC Power Line Transients, spikes, or surges on properly installed, grounded and code-compliant 120 volt power lines in the United States and Canada; transients, surges or spikes on standard telephone land lines, PBX telephone equipment lines or Base 10T Ethernet lines, when properly installed and connected. (This exclusion applies, for example, to fluctuations in data transmission or reception, by CATV or RF transmission or fluctuations, or by transients in such transmission.)

3. Damage from any circumstance described as excluded above with respect to the Product.

4. Damages from fire, flood, wind, rain, rising water, leakage or breakage of plumbing, abuse, misuse or alteration of either the product or the Connected Equipment.

5. CyberPower excludes any liability for personal injury under the Limited Warranty and Connected Equipment Guarantee. CyberPower excludes any liability for direct, indirect, special, incidental or consequential damages, whether for damage to or loss of property [EXCEPT FOR (AND ONLY FOR) the specific limited agreement of CyberPower to provide certain warranty benefits regarding "Connected Equipment" under this Warranty], loss of profits, business interruption, or loss of information or data. NOTE: Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

6. The Product is not for use in high-risk activities or with aquariums. The Product is not designed or intended for use in hazardous environments requiring fail-safe performance, or for use in any circumstance in which the failure of the Product could lead directly to death, personal injury, or severe physical or property damage, or that would affect operation or safety of any medical or life support device (collectively, "High Risk Activities"). CyberPower expressly disclaims any express or implied warranty of fitness for High Risk Activities or with aquariums. CyberPower does not authorize use of any Product in any High Risk Activities or with Aquariums. ANY SUCH USE IS IMPROPER AND IS A MISUSE OF THE PRODUCT.

**What Is the Fine Print?**

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) 297-6937; or send us an e-mail message at claims@cpsww.com.

## CONORMANCE APPROVALS

**FCC Notice**

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 that may cause undesired operation.

WARNING!! 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 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:   (1) Reorient or relocate the receiving antenna.   (2) Increase the separation between the equipment and receiver.   (3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.     (4) Consult the dealer or an experienced radio/TV technician for help.   Any special accessories needed for compliance must be specified in the instruction.

# CyberPower®

## Reliability. Quality. Value.

For more information, contact us at:
**CyberPower North America**
CyberPower Systems (USA), Inc.
4241 12th Avenue East Suite 400 Shakopee, MN 55379
Tel: 877-297-6937
Fax: 952-403-0009
Website: http://www.cyberpowersystems.com
E-mail: sales@cyberpowersystems.com

**CyberPower Europe**
CyberPower Systems B.V.
Flight Forum 3545,5657DW Eindhoven,The Netherlands
Tel: +31 (0)40 2348170
Fax: +31 (0)40 2340314
Website: http://eu.cyberpowersystems.com/
E-mail: sales@cyberpower-eu.com