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Owner's Manual

Digital UPS Systems



TESTED TO
UL 1778
CSA 22C No. 117.3



Tested To Comply With FCC Standards
FOR HOME OR OFFICE USE



Not suitable for mobile applications

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Important Safety Instructions

SAVE THESE INSTRUCTIONS

This manual contains instructions and warnings that should be followed during the installation, operation and storage of all Tripp Lite UPS Systems. Failure to heed these warnings will void your warranty.

UPS Location Warnings

- The UPS is designed for indoor use only in a controlled environment, away from excess moisture, temperature extremes, conductive contaminants, dust or direct sunlight.
- Leave adequate space around all sides of the UPS for proper ventilation.
- **Do not mount unit with its front or rear panel facing down (at any angle). Mounting in this manner will seriously inhibit the unit's internal cooling, eventually causing product damage not covered under warranty.**

UPS Connection Warnings

- Connect your UPS directly to a properly grounded AC power outlet. Do not plug the UPS into itself; this will damage the UPS.
- Do not modify the UPS's plug, and do not use an adapter that would eliminate the UPS's ground connection.
- Do not use extension cords to connect the UPS to an AC outlet. Your warranty will be voided if anything other than Tripp Lite surge suppressors are used to connect your UPS to an outlet.
- If the UPS receives power from a motor-powered AC generator, the generator must provide clean, filtered, computer-grade output.

Equipment Connection Warnings

- Do not use Tripp Lite UPS Systems for life support applications in which a malfunction or failure of a Tripp Lite UPS System could cause failure or significantly alter the performance of a life support device.
- Do not connect surge suppressors or extension cords to the output of your UPS. This might damage the UPS and will void the surge suppressor and UPS warranties.

Battery Warnings

- Your UPS does not require routine maintenance. Do not open your UPS for any reason. There are no user-serviceable parts inside.
- Batteries can present a risk of electrical shock and burns from high short-circuit current. Observe proper precautions. Do not dispose of the batteries in a fire. Do not open the UPS or batteries. Do not short or bridge the battery terminals with any object. Unplug and turn off the UPS before performing battery replacement. Use tools with insulated handles. There are no user-serviceable parts inside the UPS. Battery replacement should be performed only by authorized service personnel using the same number and type of batteries (sealed Lead-Acid). The batteries are recyclable. Refer to your local codes for disposal requirements or in the USA only call 1-800-SAV-LEAD or 1-800-8-BATTERY (1-800-822-8837) or visit www.rbc.com for recycling information. Tripp Lite offers a complete line of replacement batteries at www.tripplite.com.
- Do not attempt to add external batteries to the UPS.

Quick Installation

STEP 1: Place the UPS in either a horizontal (“desktop”) or vertical (“tower”) position. The UPS's housing is designed with sides that slope slightly in order to tilt the LCD Display up for easy viewing in either position—horizontal or vertical. As another aid to easy viewing, the LCD Display can be rotated. To rotate the display: carefully insert a small tool in the slots on the sides of the display to pop it out of the UPS housing; rotate the display, and snap it back into the UPS housing.

CAUTION: To safely balance the UPS when it is placed in a vertical (“tower”) position, make sure the LCD Display is located at the top of the front panel.

STEP 2: Plug the UPS into an outlet that doesn't share a circuit with a heavy electrical load.*

** An air conditioner, refrigerator, etc.*

After plugging the UPS into a wall outlet, push the ON/OFF button for one second to turn the UPS on (see Basic Operation section). Please Note! The UPS will not turn on automatically in the presence of live utility power.

Quick Installation (Continued)

STEP 3: Plug your equipment into the UPS: Select outlets will provide battery backup and surge protection; plug your computer, monitor and other critical devices here.* Select outlets will provide surge protection only; plug your printer and other nonessential devices here. (See Basic Operation Section.)

* Your UPS is designed to support electronic equipment only. You will overload the UPS if the total VA ratings for all the equipment you connect to the Battery Backup Protected/Surge Protected outlets exceeds the UPS's Output Capacity. To find your equipment's VA ratings, look on their nameplates. If the equipment is listed in amps, multiply the number of amps by 120 to determine VA. (Example: 1 amp × 120 = 120 VA). If you are unsure if you have overloaded the Battery Backup Protected/Surge Protected outlets, run a self-test (see "MUTE/TEST" Button description).

CAUTION: The UPS must be plugged into a live AC outlet and turned on for 24 hours after initial installation to fully charge the UPS's internal battery. Your connected equipment will receive utility-supplied AC power (if present) immediately after the UPS is plugged in and turned on; however, your connected equipment may not receive full battery backup in the event of a blackout or severe brownout until the UPS's internal battery is fully charged.

Basic Operation (Front Panel)

1 "ON/OFF" Button

- **To turn the UPS on:** Press and hold the ON/OFF Button for one second.* If utility power is absent, pressing the Button will "cold-start" the UPS, i.e. turn it on and supply power from its battery.**
- **To turn the UPS off:** Press and hold the ON/OFF Button for one second.* The UPS will be turned completely off (deactivated).

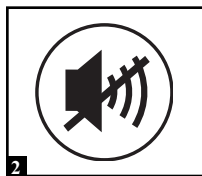
* The alarm will beep once briefly after one second has passed. ** Runtime will be proportionate to the UPS battery's level of charge.



ON/OFF Button

2 "MUTE/TEST" Button

- **To Silence (or "Mute") UPS Alarms:** briefly press and release the MUTE/TEST button. **Note:** continuous alarms (warning you to shut down connected equipment immediately) cannot be silenced.
- **To Run a Self-Test:** with your UPS plugged in and turned on, press and hold the MUTE/TEST button for two seconds. Continue holding the button until the alarm beeps several times and the UPS performs a self-test. See "Results of a Self-Test" below. **Note:** you can leave connected equipment on during a self-test.



MUTE/TEST Button

CAUTION! Do not unplug your UPS to test its battery. This will remove safe electrical grounding and may introduce a damaging surge into your network connections.

Results of a Self-Test: The test will last approximately 10 seconds as the UPS switches to battery to test its load capacity and charge. All LCD Display icons will be illuminated and the UPS alarm will sound.

- If the "FAULT" icon remains lit and the alarm continues to sound after the test, the battery-supported outlets are overloaded. To clear the overload, unplug some of your equipment from the battery-supported outlets and repeat the self-test until the "FAULT" icon is no longer lit and the alarm is no longer sounding. **Note:** The alarm beeps once per minute.

CAUTION! Any overload that is not corrected by the user immediately following a self-test may cause the UPS to shut down and cease supplying output power in the event of a blackout or brownout.

- If the "REPLACE" icon remains lit and the alarm continues to sound after the test, the UPS batteries need to be recharged or replaced. Allow the UPS to recharge continuously for 24 hours, and repeat the self-test. If the icon continues to illuminate after repeated self tests, contact Tripp Lite for service. Battery replacement should only be performed by qualified service personnel. If the UPS requires battery replacement, Tripp Lite offers a complete line of replacement batteries at www.tripplite.com. **Note:** The alarm beeps once per minute.

3 LCD Status Screen

The LCD Status Screen indicates a variety of UPS operational conditions. All descriptions apply when the UPS is plugged into an AC outlet and turned on. **Note:** The LCD will illuminate for 1 second when the UPS is plugged in, before it is turned on. The LCD Status Screen can be rotated for easy viewing, regardless of whether the UPS is in a horizontal or vertical position. To rotate the LCD Status Screen: insert a small tool in the slots on the sides of the screen to pop it out of the UPS housing; rotate the screen, and snap it back into the UPS housing.

3a) “Input Voltage” Meter: This meter measures, in real time, the AC voltage that the UPS system is receiving from the utility wall outlet. Although the Meter may occasionally display input voltages which stray outside the range of standard computer tolerance

(due to poor quality utility service), rest assured that the UPS is designed (through the use of automatic voltage regulation) to continuously supply connected equipment with stable, computer-grade output voltage. In the event of a blackout (power loss), severe brownout (low power) or overvoltage (high power), the UPS will rely on its internal battery to supply computer-grade output voltage.

3b) “BATTERY CAPACITY” Meter: This meter displays the approximate charge level (in 20% increments) of the UPS’s internal battery. During a blackout or severe brownout, the UPS will switch to battery power, the “ON BAT” icon will be illuminated and the charge level will deplete.

3c) “AVR” (Automatic Voltage Regulation) Icon: This icon will illuminate whenever your UPS is automatically correcting AC line voltage without depleting battery power. This is a normal, automatic operation of your UPS, and no action is required on your part.

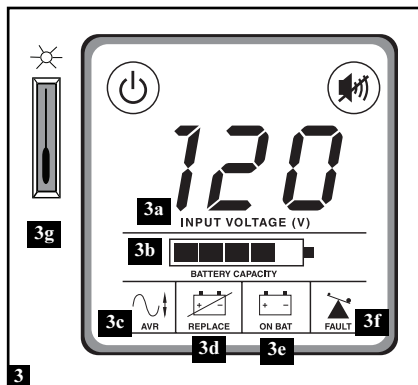
3d) “REPLACE” (Battery Recharge/Replace) Icon: This icon will illuminate and an alarm will sound after a self-test to indicate the UPS battery needs to be recharged or replaced. Allow the UPS to recharge continuously for 24 hours, and repeat the self-test. If the icon continues to illuminate, contact Tripp Lite for service. Battery replacement should only be performed by qualified service personnel.

3e) “ON BAT” (On Battery) Icon: During a severe brownout or blackout, this icon illuminates and an alarm sounds (4 short beeps followed by a pause) to indicate the UPS is operating from its internal batteries. Monitor the “Battery Capacity” Meter to determine the approximate battery charge level available to support equipment. During a prolonged brownout or blackout, the alarm will sound continuously (and the “BATTERY CAPACITY” Meter will show one 20% capacity segment shaded) to indicate the UPS’s batteries are nearly out of power; you should save files and shut down your equipment immediately.

3f) “FAULT” Icon: This icon will illuminate and an alarm will sound after a self-test to indicate the battery-supported outlets are overloaded. To clear the overload, unplug some of your equipment from the battery-supported outlets and run the self-test until the icon is no longer illuminated and the alarm is no longer sounding.

CAUTION! Any overload that is not corrected by the user immediately following a self-test may cause the UPS to shut down and cease supplying output power in the event of a blackout or brownout.

3g) LCD Dimmer: Adjusts the brightness of the LCD Status Screen



LCD Status Screen

Basic Operation (Rear Panel)

4 Surge-Only Protected Outlets: Provide surge and line noise protection, not battery backup. Plug equipment that does not require battery backup during a utility power failure (such as a printer, scanner or fax machine) into these outlets.

5 Battery Backup Protected/Surge Protected Outlets: Provide both battery backup and surge protection. Plug your computer, monitor and other critical equipment into these outlets. **NOTE: DO NOT PLUG LASER PRINTERS INTO THESE OUTLETS.**

6 USB Communication Port: This port can connect your UPS to a computer in order to automatically save open files and shut down the computer if it is left unattended during an extended power failure. Use with Tripp Lite's PowerAlert Software and appropriate USB cable. A PowerAlert CD and/or USB cable are included with select models. If PowerAlert is included with your model, insert the CD into the CD tray of your computer and follow the installation instructions. If PowerAlert Software and/or the appropriate cable did not come with your UPS, you can obtain the software FREE via the Web at www.tripplite.com. Any user-supplied USB cable may be used to connect your UPS to your computer. Note: This connection is optional. The UPS will work properly without this connection. Also Note: This UPS System automatically provides basic communication compatibility with many integrated Windows®, Macintosh® and Linux® power management applications.

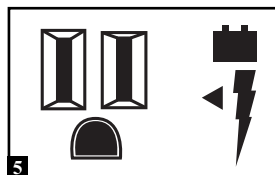
7 Tel/DSL Protection Jacks (select models only): RJ-style jacks protect connected equipment by stopping surges on a single phone, fax or modem line. Connect a phone cord from the wall jack directly to the Tel/DSL jack labeled "IN." Connect a phone cord from the Tel/DSL jack labeled "OUT" directly to the device to be protected. The UPS system must always be the first item connected in line from the wall jack. The UPS system must be plugged into a 3-wire grounded AC outlet for Tel/DSL line surge protection to work. Connecting your equipment to these jacks is optional. Your UPS will work properly without this connection.

8 Coaxial Protection Jacks (select models only): Gold-plated coaxial "F" connectors protect connected equipment by stopping surges on a single DSS satellite, cable or antenna line. Connect a coaxial cable from the wall jack directly to the coaxial jack labeled "IN." Connect a coaxial cable from the coaxial jack labeled "OUT" directly to the device to be protected. The UPS system must always be the first item connected in line from the coaxial wall jack. The UPS system must be plugged into a 3-wire grounded AC outlet for coaxial line surge protection to work. Make sure cables connected to satellite dishes, antennas, etc. are also grounded. Connecting your equipment to these jacks is optional. Your UPS will work properly without this connection.

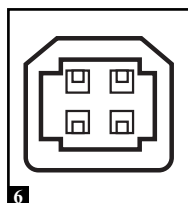
Battery Replacement (not shown): Under normal conditions, the original battery in your UPS will last several years. Battery replacement should be performed only by qualified service personnel. During battery replacement, qualified service personnel should refer to "Battery Warnings" in the Safety section and should observe the following procedure: turn the UPS off, unplug the power cord and remove the two screws on the UPS back panel to access the internal battery. Tripp Lite offers a complete line of replacement batteries at www.tripplite.com.



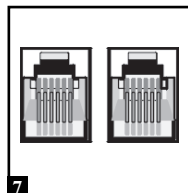
Surge-Only Protected Outlets



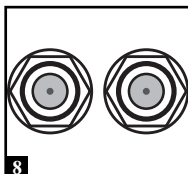
Battery Backup/Surge Protected Outlets



USB Port



Tel/DSL Jacks



Coaxial Jacks

Storage & Service

Storage

To avoid battery drain, all connected equipment should be turned off and disconnected from the UPS. Press and hold the ON/OFF button for one second. Your UPS will be completely turned off (deactivated), and will be ready for storage. If you plan on storing your UPS for an extended period, fully recharge the UPS batteries every three months. Plug the UPS into a live AC outlet, turn it on by pressing and holding the ON/OFF button for one second, and allow the batteries to recharge for 24 hours. If you leave your UPS batteries discharged for a long period of time, they will suffer a permanent loss of capacity.

Service

Before returning your UPS for service, follow these steps: 1. Review the installation and operation instructions in this manual to ensure that the service problem does not originate from a misreading of the instructions. 2. If the problem continues, do not contact or return the UPS to the dealer. Instead, call Tripp Lite at (773) 869-1233. A service technician will ask for the UPS's model number, serial number and purchase date and will attempt to correct the problem over the phone. 3. If the problem requires service, the technician will issue you a Returned Material Authorization (RMA) number, which is required for service. If you require packaging, the technician can arrange to send you proper packaging. Securely pack the UPS to avoid damage during shipping. Do not use Styrofoam beads for packaging. Any damages (direct, indirect, special, incidental or consequential) to the UPS incurred during shipment to Tripp Lite or an authorized Tripp Lite service center is not covered under warranty. UPS Systems shipped to Tripp Lite or an authorized Tripp Lite service center must have transportation charges prepaid. Mark the RMA number on the outside of the package. If the UPS System is within the 2-year warranty period, enclose a copy of your sales receipt. Return the UPS for service using an insured carrier to the address given to you by the Tripp Lite service technician.

Warranty Registration

Visit www.tripplite.com/warranty today to register the warranty for your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product! *

* No purchase necessary. Void where prohibited. Some restrictions apply. See website for details.

FCC Part 68 Notice (United States Only)

If your Modem/Fax Protection causes harm to the telephone network, the telephone company may temporarily discontinue your service. If possible, they will notify you in advance. If advance notice isn't practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC. Your telephone company may make changes in its facilities, equipment, operations or procedures that could affect the proper operation of your equipment. If it does, you will be given advance notice to give you an opportunity to maintain uninterrupted service. If you experience trouble with this equipment's Modem/Fax Protection, please call Tripp Lite Technical Support at (773) 869-1234 for repair/warranty information. The telephone company may ask you to disconnect this equipment from the network until the problem has been corrected or you are sure the equipment is not malfunctioning. There are no repairs that can be made by the customer to the Modem/Fax Protection. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs. (Contact your state public utility commission or corporation commission for information.)

FCC Radio/TV Interference Notice (U.S. only)

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 instruction manual, may cause 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 using one or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and the receiver; connect the equipment into an outlet on a circuit different from that which the receiver is connected; consult the dealer or an experienced radio/television technician for help. The user must use shielded cables and connectors with this product. Any changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This device complies with part 15 of the FCC rules. Operation is subject to the following 2 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.

Equipment Attachment Limitations (models with the Industry Canada label in Canada only)

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets the telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements Document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that the compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Note on Labeling

Two symbols are used on the label.

V~ : AC Voltage

V : DC Voltage

Regulatory Compliance Identification Numbers

For the purpose of regulatory compliance certifications and identification, your Tripp Lite product has been assigned a unique series number. The series number can be found on the product nameplate label, along with all required approval markings and information. When requesting compliance information for this product, always refer to the series number. The series number should not be confused with the marking name or model number of the product.

Tripp Lite follows a policy of continuous improvement. Product specifications are subject to change without notice.



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