



LEGACY
POWER CONVERSION

**Lineage UPS
LI800 / LI1100 / LI1500
User Manual**

K01-1120001-00

SAFETY WARNINGS

(SAVE THESE INSTRUCTIONS)

This manual contains important safety instructions. 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 your UPS.
This equipment can be operated by any individuals with no previous training.
The socket-outlet shall be installed near the equipment and easily accessible.
During the installation of this equipment it should be assured that the sum of the leakage currents of the UPS and the connected loads does not exceed 3.5mA.
Attention, hazardous through electric shock. Also with disconnection of this unit from the mains, hazardous voltage still may be accessible through supply from battery. The battery supply should be therefore disconnected in the plus and minus pole at the quick connectors of the battery when maintenance or service work inside the UPS is necessary.
Do not dispose of batteries in a fire, the battery may explode.
Do not open or mutilate the battery or batteries, released electrolyte is harmful to the skin and eyes.

INSTALLING YOUR UPS SYSTEM

UNPACKING

Inspect the UPS upon receipt. The box should contain the following:
UPS Unit; SeeUPS2020 Software Disk; Serial Interface Cable (DB-9); USB Device Cable; Telephone Cable; User Manual; SeeUPS2020 Software User Manual.

HOW TO DETERMINE THE POWER REQUIREMENTS OF YOUR EQUIPMENT

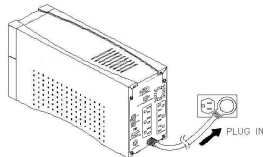
1. Insure that the equipment plugged into the battery power-supplied outlets does not exceed the UPS unit's rated capacity (800VA/550W for LI800, 1100VA/700W for LI1100, 1500VA/1000W for LI1500). If rated unit capacities are exceeded, an overload condition may occur and cause the UPS unit to shut down or the circuit breaker to trip.
2. If the power requirements of your equipment are listed in units other than Volt-Amps (VA), convert Watts (W) or Amps (A) into VA by doing the calculations below. Note: The below equation only calculates the maximum amount of VA that the equipment can use, not what is typically used by the equipment at any one time. Users should expect usage requirements to be approximately 60% of below value.

TO ESTIMATE POWER REQUIREMENTS

1. $\text{Watts (W)} \times 2.0 = \text{VA}$ or $\text{Amps (A)} \times 120 = \text{VA}$
2. Add the totals up for all pieces of equipment and multiply this total by 0.6 to calculate actual requirements. There are many factors that can affect the amount of power that your computer system will require. The total load that you will be placing on the battery-powered outlets should not exceed 80% of the unit's capacity.

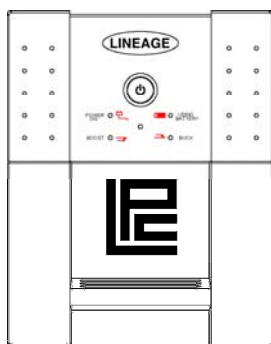
HARDWARE INSTALLATION GUIDE

1. Connect the equipment to your UPS outlets. Items such as copiers, laser printers, vacuums, space heaters, paper shredders, or other large electrical devices should not be connected to the UPS. Please assure that the total loads of your equipments must be less than the maximum total power load of your UPS.
2. Connect your UPS power cord into a two-pole, three-wire grounding receptacle only. Please avoid using extension cords and adapter plugs. (To maintain optimal battery charge, leave the UPS plugged in at all times.)
3. Press the UPS power button to turn it on. The "Power On" indicator will be illuminated in "Green".
4. Install your optional software and accessories. To use the software, simply connect the enclosed serial interface cable to the serial port on the UPS and an open serial port on the computer.



BASIC OPERATION

FRONT PANEL DESCRIPTION



Power Switch



Press the ON/OFF button to turn the UPS on or off.

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.

Using Battery Indicator



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

Boost Indicator



This LED indicates that the UPS is operating in automatic voltage regulation mode. When this indicator is flashing/illuminated continuously, it indicates that the UPS is compensating MAX.14%/ 30% for a low utility voltage.

Buck Indicator



This LED indicates that the UPS is operating in automatic voltage regulation mode. When this indicator is illuminated continuously, it indicates that the UPS is compensating MAX.12% for a high utility voltage.

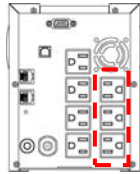
REAR PANEL DESCRIPTION

Battery Backup and Surge Protection Outlets



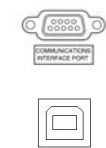
The UPS provides 4 battery powered and surge protected outlets for connected equipment to insure temporary uninterrupted operation during a power failure and against surges and spikes.

Surge Protection Outlets



The UPS provides 3 surge protected only outlets for connected equipments against surges and spikes.

Serial/USB Port to PC



This port allows connection and communication from the DB-9 serial or USB port on the computer to the UPS unit. The UPS communicates its status to the SeeUPS2020 software. This interface is also compatible with the UPS service provided by **Windows 98, Windows ME, Windows NT, Windows 2000, Windows XP, Windows Server 2003 and Mac OS 10X.**

NOTE: Only one of these two ports can be used as communication and control of the UPS unit at one time.

Ethernet (RJ-45) Network Protection Ports



These ports are the protection for your computer network device.

BATTERY REPLACEMENT AND STORAGE

Contact your dealer or call the number in this manual for information on battery replacement.

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. Keep unauthorized personnel away from batteries.

- 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 it 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 electric 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 other metal parts on top of battery or any battery terminals.
 4. Wear rubber gloves and boots.
 5. Determine if the battery is inadvertently grounded. If inadvertently grounded, remove source of ground. **CONTACT WITH A 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).







STORAGE:

First turn off your UPS and disconnect its power cord from the wall outlet. Disconnect all cables connected to the UPS to avoid battery drain. 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. If the battery remains uncharged for an extended period of time, it may suffer permanent loss of capacity.

TROUBLE SHOOTING

Problem	Possible Cause	Solution
The UPS does not perform expected runtime.	Batteries are not fully charged.	Recharge the battery by leaving the UPS plugged in.
	Battery is slightly worn out.	Contact Legacy Power Conversion at service@lpc-ups.com or 800-859-5711.
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 60Hz outlet.
	The battery has failed.	Contact Legacy Power Conversion at service@lpc-ups.com or 800-859-5711.
Outlets do not provide power to equipment	Mechanical problem.	Contact Legacy Power Conversion at service@lpc-ups.com or 800-859-5711.
	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	Allow the unit to recharge for at least 4 hours.
SeeUPS2020 is inactive (all icons are gray).	Unit has been damaged by a surge or spike.	Contact Legacy Power Conversion at service@lpc-ups.com or 800-859-5711.
	The serial cable is not connected.	Connect the serial 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 serial cable is connected to the wrong port.	Check the back of the computer for an additional 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 serial cable is not the cable that was provided with the unit.	You must use the cable that was included with the unit for the software and the unit to be able to communicate.

DEFINITIONS FOR ILLUMINATED LED INDICATORS

 Power On	 Using Battery	 BOOST	 BUCK	 Circuit Breaker	 Alarm	Condition
On	Off	Off	Off	Set	Off	Normal
On	Off	Flash	Off	Set	Off	Max. boost 14% of input voltage for output regulation while input voltage is from 6% to 17% under nominal.
On	Off	On	Off	Set	Off	Max. boost 30% of input voltage for output regulation while input voltage is from 18% to 29% under nominal.
On	Off	Off	On	Set	Off	Max. buck 12% of input voltage for output regulation while input voltage is from 8% to 25% over nominal.
Off	On	Off	Off	Set	Two Beeps	Utility Failure - The UPS is providing battery power to the Battery-Power Supplied outlets.
Off	On	Off	Off	Set	Rapid Beeps	Utility Failure - The UPS is providing battery power. The rapid beeps indicate the battery will run out of charge within a few minutes.
Off	On/Off	On/Off	On/Off	Set	Two beeps or rapid 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	On/Off	On/Off	On/Off	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.

TECHNICAL SPECIFICATIONS

Model	L1800	L1100	L1500T
Capacity (VA)	800VA	1100VA	1500VA
Capacity (Watts)	550W	700W	1000W
Input			
Input Voltage Range	85Vac-150Vac		
Frequency Range	50/60 Hz +/- 3Hz		
Output			
On Battery Output Voltage	Pure Sine Wave at 120Vac +/- 7%		
On Battery Output Frequency	47-53Hz for 50Hz nominal, 57-63Hz for 60Hz nominal		
Overload Protection	On Utility: Circuit Breaker, On Battery: Internal Current Limiting		
Surge Protection and Filtering			
Lightning / Surge Protection	Yes		
Network Protection	RJ45 (One In/One Out)		
Physical			
Total # of UPS Receptacles	(7) NEMA 5-15R		
Maximum Dimensions	30.9cm*14.1cm*18.4cm		
Weight (Kg)	12.8	14.6	15.5
Battery			
Sealed Maintenance Free Lead Acid Battery	12V / 8AHx2	12V / 10AHx2	12V / 10AHx2
Hot Swappable Battery	Yes		
Typical Recharge Time	8 Hours		
Warning Diagnostics			
Indicators	Power On, Using Battery, Boost, Buck		
Audible Alarms	On Battery, Low Battery, Overload		
Environmental			
Operating Temperature	+32°F to 95°F (0°C to 35°C)		
Operating Relative Humidity	0 to 95% NON-CONDENSING		
Communication			
SeeUPS2020 Software	Windows 98/ME/2000/NT/XP, Server 2003, Mac OSX, Linux		
Management			
Auto-Charger/ Auto-Restart/ USB	Yes		
SNMP/HTTP Network	Optional		

LIMITED WARRANTY

In purchasing L1800 / L1100 / L1500 in the United States or Canada, the original end user receives a Limited Warranty from Legacy Power Conversion, Inc. (for ease of reading, referred to as "Legacy"). The Limited Warranty is intended to be the original end-user's exclusive rights and remedies.

Limited Warranty. The original end user (referred to as the "Initial Customer") receives an express limited warranty (referred to as the "Limited Warranty") for the L1800 / L1100 L1500 purchased from Legacy (referred to as the "Product"). The Limited Warranty is for the Product itself. The Limited Warranty is subject to the terms set forth below. Additionally, State or Provincial law may adjust the terms of the Limited Warranty or the State or Province may impose additional obligations, or additional "implied warranties." To the extent necessary to comply with those laws, the terms of the Limited Warranty should be read to adjust to those requirements only to the extent necessary to comply with such local law.

If you are an Initial Customer, you are asked to read the following terms and conditions carefully before using the Product. By using the Product you consent to be bound by and become a party to the Limited Warranty. If you do not agree to the terms and conditions of the Limited Warranty, you should return the Product for a full refund prior to using it.

REGISTRATION

Legacy requests that you complete and return the Warranty Registration Card enclosed with the Product or register the Product at its website (www.lpc-ups.com) to establish that you are the Initial Customer of the Product, and therefore entitled coverage under the Limited Warranty. (Registration is not required for Limited Warranty coverage, but note if you do not complete a registration card you will be required to provide proof of purchase, as described below, to have the benefits of this Limited Warranty.)

LIMITED WARRANTY

Legacy warrants to you, the Initial Purchaser, that the Product will be free from defects in material and workmanship for three years from the date of original purchase, subject to the terms of this Limited Warranty. This Limited Warranty gives you specific rights, and you may have other rights, which vary from State to State or Province to Province.

Any Implied Warranty of Merchantability or for Fitness for a Particular Purpose, if applicable to the Product, is limited in duration to the period of ownership by the Initial Customer. This provision shall NOT create any Implied Warranty or Merchantability or of Fitness for a Particular Purpose that would not otherwise apply to the Product. NOTE: **Some States and Provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.**

To be covered you must still be the owner of the Product at the time of the failure that results in the claim made under this Limited Warranty.

Exclusive Remedies Under Limited Warranty.

Your exclusive remedy and Legacy's sole obligations are as follows for the Product:

If (a) the Legacy Product you purchased and still own is defective in material or workmanship under this Limited Warranty or any applicable warranty imposed by law, and (b) all Limited Warranty requirements have been met, Legacy will repair or replace the Product if it proves to be defective in material or workmanship during the Warranty Period.

Making a Limited Warranty Claim.

To make a Limited Warranty claim on a Product, you must do the following:

- Complete and return the Legacy Warranty Registration Card, or provide reasonable proof of purchase (for example, a sales receipt) that establishes you as the Initial Customer (the original end-user consumer purchaser) of the Product and prove that the Product was purchased within three (3) years of the event for which you want to make a claim for warranty service.
- Call Legacy at (608) 565-5878 or (800) 859-5711 (toll free), write to Legacy Power Conversion at N9246 Hwy 80 South, Suite 7, Necedah, WI 54646, or e-mail Legacy at service@lpc-ups.com, within ten (10) days of the event for which you want to make a claim.
- When you contact Legacy, identify the Product, the Purchase Date, and request Return Materials Authorization (RMA) information from Legacy.
- Pack and ship the Product to Legacy as instructed in your RMA. Show the RMA code on the shipping label or include it with the Product.

You MUST prepay all shipping costs and you are responsible for packaging and shipment.

Legacy will inspect and examine the Product within ten (10) days of receipt. If the Product is not as warranted, Legacy will repair or replace the Product and return it to you at Legacy's expense, or, if Legacy is unable to or decides not to repair or replace the Product (if defective) within a reasonable time, Legacy will refund to you the full purchase price you paid for the Product (purchase receipt showing price paid is required).

CONDITIONS TO THE LIMITED WARRANTY

The Limited Warranty is the only and the exclusive express warranty of Legacy with respect to the Product. This exclusion of other express warranties applies to written and oral express warranties.

LIMITATION: THE LIMITED WARRANTY DOES NOT COVER

The Limited Warranty is intended to exclusive rights and remedies and replace any other rights, to the extent allowed by law.

- As to the Legacy Product, the limited warranty **does not** cover or apply to: misuse, modification, operation or storage outside environmental limits for the Products, in transit, in shipment, or in storage, damage or deterioration, improper operation or maintenance, or use with items or equipment not designed or intended for use with the product.

The Limited Warranty Does Not Apply Unless The Initial Customer:

- Has properly connected the Product and the Connected Equipment to properly wired and grounded outlets (including compliance with electrical and safety codes of the most current electrical code (ANS/NFPA 70), without the use of any adapters, extension cords or other connectors.
- Has provided a suitable and proper environment for use and installation of the Product and Connected Equipment.
- Has properly installed and operated the Legacy Product and Connected equipment.
- Has operated the Product at all times within the limitations on the Product's VA capacity as stated in this User Manual.

Legacy Does Not Cover or Undertake Any Liability in Any Event for Any of the Following:

- Loss of or damage to data, records, or software or the restoration of data or records, or the reinstallation of software.
- 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 Ethernet lines, when properly installed and connected.
- Damage from any circumstance described as excluded above with respect to the product.
- 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.

Exclusion of Consequential and Other Damages.

The sole and exclusive remedies of the Initial Customer are those provided by the Limited Warranty. Legacy excludes any liability for personal injury under the Limited Warranty. Legacy excludes any liability for direct, indirect, special, incidental or consequential damages, whether for damage to or loss of property, loss of profits, business interruption, loss of information or data. This exclusion applies even though damage or loss is caused by negligence or other fault. 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.

DO NOT USE FOR HIGH RISK ACTIVITIES.

Legacy does not sell the Products for use in high-risk activities. The Product is not designed or intended for use in hazardous environments requiring fail-safe performance, including the operation of nuclear facilities, aircraft navigation or communication systems, air traffic control, weapons systems, life support 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 life support device (collectively, "High Risk Activities"). Legacy expressly disclaims any express or implied warranty of fitness for High Risk Activities. Legacy does not authorize use of any of its products use in any High Risk Activities. **ANY SUCH USE IS IMPROPER AND IS A MISUSE OF LEGACY PRODUCTS.**

The Limited Warranty is governed by the laws of the United States and the State of Wisconsin, without reference to conflict of law principles.

The application of the United Nations Convention of Contracts for the International Sale of Goods is expressly excluded.

Contact Information: Legacy's address is N9246 Hwy 80 South, Necedah, WI 54646 and its phone number is (608) 565-5878 or (800) 859-5711 (toll free). Legacy is the warrantor under this Limited Warranty. You may also contact Legacy on the Internet at www.lpc-ups.com.