



A Benny Lee Company

# PRODUCT USER GUIDE

## LPB-15

### Desktop Power Supply

### Owners Guide

*(These instructions are intended for use by a technician familiar with electronic products)*

- Universal input 88~264 VAC
- Short circuit / over load / over temperature protections
- Built-in EMI filter
- Front panel DC output indicator
- Internal battery automatically recharges when AC power is restored
- Compatible with all LPH Hoods for custom mobile radio mounting
- 3 year warranty



### DESCRIPTION

DuraComm's LPB-15 power supply is pre-set to convert 90 to 264 volt 50/60 Hz AC power to low noise and ripple 13.8 volt DC power. The AC input is auto-ranging and can be used without any changes. The power supply also contains a built-in, replaceable sealed lead acid battery that automatically takes over should AC power be disrupted. The DC output operating voltage from the internal battery and AC charger circuitry is delivered to the red and black jacks located on the rear panel. The power supply DC output is protected against inadvertent shorts and overloads by a thermal circuit breaker.

### SPECIFICATIONS

Operational DC Voltage .....	13.8 VDC, nominal
Maximum Current, continuous .....	14 Amps Max / 12 Amps Cont.
AC Input voltage range .....	90-264 VAC
AC current .....	2.2 Amps @ 115V / 1.2 Amps @ 230V
Max inrush current, single cycle .....	Cold start, 40 Amps / 115 Volts; 70 Amps/ 230 Volts
Overload Protection (operates).....	DC circuit Breaker
Ripple and noise .....	100 mV P-P, or less, built-in EMI Filtering
Internal Battery .....	rechargeable, sealed lead acid
.....	12 VDC / 7 Hrs, Powersonic PS-R1270F1 or equivalent
Working Temperature range .....	-4 - 140 F (-20 - +60 C)
Storage Temperature .....	-40 - 185 F (-40 - +85 C)
Size .....	3.75H x 7W x 10D inches, nominal
Weight.....	7.75 lb, nominal

## **GENERAL APPLICATION NOTES AND WARNINGS**

**WARNING:** There are no user serviceable parts inside. Service must be referred to a qualified factory technician or factory trained technician. **DO NOT** OPERATE THE UNIT IN A HOT, ENCLOSED ENVIRONMENT OR COMPARTMENT. BE SURE ADEQUATE VENTILATION FOR COOLING IS PROVIDED SINCE HEAT BUILD UP WILL SHORTEN COMPONENT LIFE.

**NOTE:** The individual user should take care to determine prior to use or installation whether this device is suitable, adequate, and safe for the use intended. Since individual applications are subject to numerous variations, DuraComm makes no representation or warranty as to the merchantability, suitability, or fitness of these units for any specific application.

**NOTE:** DuraComm's precision regulated power supplies operate internally from voltages in excess of 300 volts. In rare cases, voltage spikes or transients on the AC power line, or overheating, may cause a component failure in the power supply. Over load of the output will cause the circuit breaker of the power supply circuitry to operate. In either case, the cause must be determined and corrected. Failures require investigation as to the cause and/or repair of the unit.

**NOTE:** Most audio and radio equipment draws much less average current than the peak demand. If the unit stops working, check the 12 volt connections for tightness.

## **CHARGING**

A special charging circuit is used in the power supply which keeps the battery at peak charge levels without danger of overcharging. If the AC power is interrupted, the internal battery automatically takes over and provides seamless transfer of DC power to the load.

If the battery becomes depleted, the charging circuit will recharge the battery once AC power is restored.

**Let battery charge for 24 hours prior to installing to ensure the battery is fully charged.(Power switch needs to be ON)**

## **BATTERY LIFE**

**The length of time the battery will provide power depends on the current draw (demand) of the load.** Typically, based on a 90/5/5 duty cycle (90% standby /5% RX/ 5% TX), a radio drawing 0.25 amps on standby; .75 amps on RX; and 10 amps on TX will demand an average of .7625 amp/hours. Assuming the battery is fully charged and allowing for a de-rating factor of 20%, the approximate time can be calculated as follows.[7 amp/hours (battery) divided .7625 amp/hrs (demand) = 9.18 hours.] Applying the de-rate factor (9.18 hours x .80) results in **an approximate** "real world" operating life of about 7.3 hours.

## **OPERATION**

Connect your 12 volt DC device (Two-way radio, repeater etc.) to the red (positive) and black (negative) binding posts on the rear of the power supply. **BE SURE** you connect positive (red) to positive and negative (black) to negative of the DC equipment being powered. Insert the AC plug into 90-264 VAC with Euro type "C" plug outlet. Press the ON/OFF switch on the front of the panel to the "on" position. L.E.D. indicates – DC Output Power

## **CUSTOM HOODS**

The LPB-15 Model will accommodate DuraComm's line of customized "LP series" hoods that fit most popular makes of two way commercial radios. These hoods provide a neat, clean installation for desk top applications. Please go to DuraComm's web site [www.duracomm.com](http://www.duracomm.com) to view the full line of available hoods.

## **CONDUCTOR PRETREATMENT**

All kinds of copper conductors can be clamped without treatment. DO NOT solder tin stranded conductors. The solder yields and fractures under high pressure. The result is increased contact resistance and excessive temperature rise. Additionally, corrosion has been observed due to the fluxes. Notch fractures at the transition from the rigid tinned part to the flexible conductors are also possible. Ferrules can be used as a protection when wiring stranded conductors. Copper ferrules prevent the current transfer from being influenced by dissimilar metals and remove the risk of corrosion. Always use the correct tool to crimp the ferrule.

## **RECOMMENDED COPPER WIRE SIZE FOR CURRENT CAPACITY**

*(Insulated Wire, Single Conductor in free air)*

<b><u>Current Level in Amperes</u></b>	<b><u>Wire Size</u></b>
<i>&lt;7 AMPERES</i>	<i>20 AWG Up to 5 feet 18 AWG Up to 10 feet</i>
<i>14 AMPERES</i>	<i>18 AWG Up to 5 feet 16 AWG Up to 10 feet</i>
<i>20 AMPERES</i>	<i>16 AWG Up to 5 feet 14 AWG Up to 10 feet</i>
<i>30 AMPERES</i>	<i>14 AWG Up to 5 feet 12 AWG Up to 10 feet</i>
<i>40 AMPERES</i>	<i>12 AWG Up to 5 feet 10 AWG Up to 10 feet</i>
<i>50 AMPERES</i>	<i>10 AWG Up to 5 feet 8 AWG Up to 10 feet</i>
<i>70 AMPERES</i>	<i>8 AWG Up to 5 feet 6 AWG Up to 10 feet</i>
<i>100 AMPERES</i>	<i>6 AWG Up to 5 feet 4 AWG Up to 10 feet</i>

## **LIMITED WARRANTY**

*DuraComm warrants to the initial end user, each power supply manufactured by DuraComm to be free from defects in material and workmanship, when in normal use and service for a period of three year from the date of purchase, from an authorized DuraComm dealer.*

*Should a product manufactured by DuraComm fail or malfunction due to manufacturing defect, or faulty component, DuraComm, at its option, will repair or replace the faulty product or parts thereof, which, after examination by DuraComm, prove to be defective or not operational according to specifications in effect at the time of sale to the initial end user. The product that is replaced or repaired under the provisions of this warranty, will be warranted for the remainder of the original warranty period, only, and will not extend into a new three year warranty period.*

*The limited warranty does not extend to any DuraComm product which has been subject to misuse, accidental damage, neglect, incorrect wiring not associated with manufacture, improper charging voltages, or any product which has had the serial number removed, altered, defaced, or changed in any way.*

*DuraComm reserves the right to change, alter, or improve the specifications of its products at any time, and by so doing, incurs no obligation to install or retrofit any such changes or improvements in or on products manufactured prior to inclusion of such changes.*

*DuraComm requires any product needing in or out of warranty service to be returned to DuraComm. All requests for warranty service must be accompanied by proof of purchase, such as bill of sale with purchase date identified. DuraComm is not responsible for any expenses or payments incurred for the removal of the product from its place of use, transportation or shipping expenses to the place of repair, or return expenses of a repaired or replacement product to its place of use.*

*The implied warranties which the law imposes on the sale of this product are expressly LIMITED, in duration, to the three (3) year time period specified herein. DuraComm will not be liable for damages, consequential or otherwise, resulting from the use and operation of this product, or from the breach of this LIMITED WARRANTY.*

*Some states do not allow limitations on the duration of the implied warranty or exclusions or limitations of incidental or consequential damages, so said limitations or exclusions may not apply to you. This warranty gives you specific legal rights which vary from state to state.*

*This warranty is given in lieu of all other warranties, whether expressed, implied, or by law. All other warranties, including WITHOUT LIMITATION, warranties of merchantability and fitness or suitability for a particular purpose, are specifically excluded. DuraComm reserves the right to change or modify its warranty and service programs without prior notice.*

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