



A Benny Lee Company

PRODUCT USER GUIDE

DTHP-2024

Desktop Power Supply

Owners Guide

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

- Compatible with all LPH Hoods for custom mobile radio mounting
- Includes inrush current limiting capability
- Fan cooling
- Short circuit / over load / over temperature protections
- Heavy duty post output connectors
- 3 year warranty



DESCRIPTION

The DTHP-2024 is an economical high power (600 Watts) in a 27.5 V desktop power supply. The output amperage of unit is up to 20 amps with fan cooling and multiple protections.

SPECIFICATIONS

Output Voltage.....	27.5 VDC
Output Adjustment Range	24-30 VDC
Output Voltage Tolerance.....	+/- 1 pct
Output Amperage, max (w/180 – 260 VAC input)	20 @ 27.5 VDC
Maximum Power, continuous	600 Watts
Maximum Ripple and Noise.....	200 mV p-p max
Input Voltage Range (Factory set 115 VAC)	90-130/ 180-260 VAC
Input Frequency Range	47-63 Hz
Maximum AC Current	7 Amps/120 VAC; 3.5 Amps/240 VAC
Typical Efficiency	80 pct
Max Inrush Current, single cycle	25 A
Short Circuit Protection.....	Foldback Limiting
Overload Protection (operates)	typical 110-120 pct
Line Regulation.....	50 mV
Load Regulation	100 mV (20-100 pct load)
Fan Control	Forced air
Over Temperature	>85C auto output shutdown
Rise Time following ON	50 mS
Hold Time following OFF	16 mS
Working Temperature range.....	-4 - 140 F (-20- +60 C)
Storage Temperature	-40 - 185 F (-40 - +85 C)
Withstand Voltage*	1.5 KV @ 10 ma(I/P-O/P, I/P-FG)/1 min
(Continued)	600 V @ 10 ma(O/P-FG)/1 min
Dimensions.....	3H x 7W x 15D inches, nominal
Weight	7 lbs, nominal

INSTRUCTIONS

WARNING: 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. DuraComm's precision regulated power supplies operate internally from voltages in excess of the DC output voltage. In rare cases, voltage spikes or transients on the AC power line, or over heating, 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.

CAUTION: **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: Most audio and radio equipment draws much less average current than the peak demand. If the unit stops working, check the DC output connections for tightness. **There are no user serviceable parts inside. Service must be referred to a qualified factory technician or factory trained technician.**

INSTALLER NOTES

The outputs are NOT referenced/connected to the chassis. The DTHP Series Power System can be used either positive or negative ground without any modification or changes. Simply observe correct polarity: Red to Red (positive) and Black to Black (negative).

DO NOT block any of the cooling vents on the sides and always allow adequate ventilation by not installing the unit inside tightly closed spaces. Physical mounting position is not critical but the cooling vents and the load controlled cooling fan must not be blocked.

CONDUCTOR ATTACHMENT

The DC output terminals are 6mm diameter and a ¼ inch ring terminal will fit exactly. The ¼ inch ring terminal may be crimped or soldered to the conductors before attaching to the DC output terminals. **DO NOT** solder the ring terminals while on the DC output studs. Use a 10 mm wrench to securely tighten the hex nut on the stud.

AC MAINS OPERATING INPUT VOLTAGE

The AC input is factory set for 90-130 VAC. Maximum efficiency is realized with input voltages above 180 VAC. Linear de-rating to ~85% @ 90 VAC is recommended for AC inputs less than 180 VAC.

DuraComm's LPHP Series Power System is pre-set to convert 110/120 volt 50/60 Hz AC power to low noise and ripple DC power. Be sure the unit is disconnected from the AC source before connecting/disconnecting any equipment to the DC outputs.

OPERATION

Connect your DC device (Two-way radio, FM/CB radios, CD player 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 110/120 volt AC outlet.

Press the ON/OFF switch on the front of the panel to the "on" position.

CUSTOM HOODS

The DTHP Series 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.duracom@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)

<u>Current Level in Amperes</u>	<u>Wire Size</u>
<i><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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