

# VP-4124/VP-4124-E

## 24/48 VOLT DC SWITCHING POWER SUPPLY

### INTRODUCTION

These instructions provide the specifications, installation and maintenance information for the VP-4124 and VP-4124-E, 24/48 Volt Power Supplies.

### FCC INFORMATION

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

**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 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:**

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### SPECIFICATIONS

The VP-4124 and VP-4124-E are fully regulated 24VDC, 4 Amp Power Supplies. The primary is protected by a 3

Amp slo-blo fuse and the 2 Amp outputs by auto-resetting fuses. The outputs are floating



with respect to ground. The regulator will maintain 24 Volts +/- 2% over the rated range of input voltages and output loads. A greater than 4 Amp load on power up will cause the power supply to current limit. Short circuit protection is provided. Overvoltage is provided to limit the output voltage to approximately 28 Volts should a failure occur within the power supply. Outputs may be used in a series for 48V @ 2A.

### Applications

The VP-4124/VP-4124-E are designed to be used with

- All Valcom page control units
- Valcom one-way amplified speaker assemblies
- Any application where 24VDC filtered talk battery is required

### Design Features

- VP-4124: 115VAC, 60Hz input
- VP-4124-E: 230VAC, 50Hz input (preset at the factory for the specific unit)
- Hold Up Time: 350ms Power Line Ride Through
- (2) LPS outputs (24VDC @ 2A each)
- Can be used as a 24 Volt or 48 Volt power source

- Short circuit protection
- UL Listed for US and Canada
- FCC Class B
- CE Mark
- LED operational indicator
- EMI filtering
- 94.3% efficiency green technology
- Auto recovery overload protection
- 3 second power-up delay to drive large capacitive loads up to 40K  $\mu$ F

## Nominal Specifications

### General

Efficiency:	94.3% Min @ 1A load 90% @ 4A full load
Dimensions:	8.45"H x 4.70"W x 2.35"D (21.46cm H x 11.94cm W x 5.97cm D)
Weight:	3.5 lbs. (1.59 kg)

### Input - VP-4124

Voltage:	115VAC
Frequency:	60 Hertz
Rated Power:	110 Watts
Full Load Line Current:	1.0A

### Input - VP-4124-E

Voltage:	230VAC
Frequency:	50 Hertz
Rated Power:	110 Watts
Full Load Line Current:	0.5A

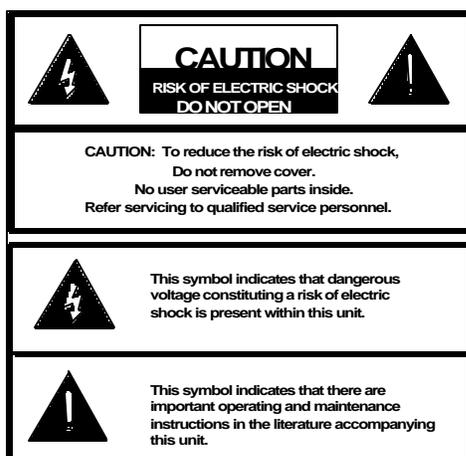
### Output

Rated Power:	100 Watts
Voltage:	24 Volts
Current:	4 Amps, 2 - 2A outputs
Fusing:	Two - 2A Auto-reset polyswitch fuses
Ripple & Noise:	Less than 0.2% RMS

### Environmental

Operating Temperature:	0 to +40°C
Storage Temperature:	-40°C to +85°C
Cooling:	Free Air Convection
Humidity:	10 to 90% (non-condensing)
Shock:	10 G

## Precautionary Notes:



## INSTALLATION

### Mounting

The VP-4124 and VP-4124-E are designed for wall mounting only. The unit should be mounted within 7 feet of an AC receptacle.

Screw mounting plate to wall and position power supply on mounting plate via the mounting slots.

See pages 5 and 6 for mounting instructions.

### Connections

- Connections to Valcom page control units are shown in Figure 1.
- When using the VP-4124 or VP-4124-E as a -24VDC power supply with Valcom page equipment, a strap may be added from the local ground terminal to both of the "+" outputs to provide an AC ground reference.
- When installing Valcom one-way amplified horns, connect the white and black wires of the horn to the power supply "-" and "+" terminals respectively.
- When installing Valcom one-way speakers, connect the "-24VDC" and "GND" terminals of the speaker to the "-" and "+" terminals respectively.
- Plug power supply into wall outlet.
- Power supply activates after 3 seconds delay.

**NOTE:** Each -24VDC screw terminal is fused by a 2 Amp polyswitch automatic. Therefore, when connecting equipment to this power supply, the load should be distributed between the (2) 2 Amp output terminals (within 1.5 Amps) and each load should not exceed 2 Amps.

## TECHNICAL ASSISTANCE

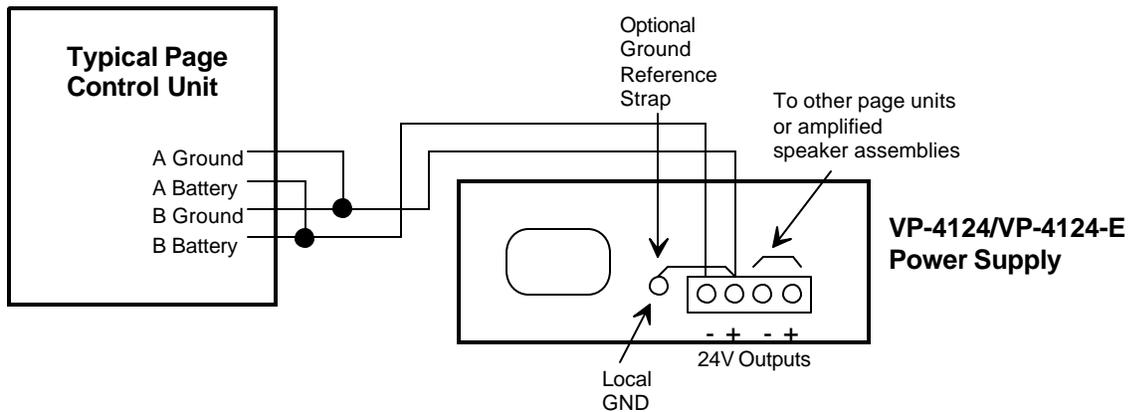
When trouble is reported, verify the unit is properly connected and there are no broken connections leading to this unit. Assistance in troubleshooting is available from the factory. When calling, you should have a VOM and a test set and call from the job site. Call (540) 563-2000 for Technical Support or call (540) 767-1555 for Valcom 24-hour Faxback System or visit our website at <http://www.valcom.com>.

Valcom equipment is not field repairable. Valcom, Inc. maintains service facilities in Roanoke, VA. Should repairs be necessary, attach a tag to the unit clearly stating company name, address, phone number, contact person and the nature of the problem. Send the unit to:

**Valcom, Inc.**

**TROUBLESHOOTING CHART**

PROBLEMS	SOLUTIONS
1. No output  2. LED pulses in reset mode	a. Verify AC present at receptacle. b. Remove DC load and check for 24VDC using a VOM.  a. Locate and correct short circuit in output wiring. b. Verify total equipment power consumption does not exceed 4 Amps.



**FIGURE 1**

**VALCOM LIMITED WARRANTY**

Valcom, Inc. warrants its products to be free from defects in materials and workmanship under conditions of normal use and service for a period of one year from the date of shipment. The obligation under this warranty shall be limited to the replacement, repair or refund of any such defective device within the warranty period, provided that:

1. inspection by Valcom, Inc. indicates the validity of the claim;
2. the defect is not the result of damage, misuse or negligence after the original shipment;
3. the product has not been altered in any way or repaired by others and that factory sealed units are unopened (a service charge plus parts and labor will be applied to units defaced or physically damaged);
4. freight charges for the return of products to Valcom are prepaid;
5. all units 'out of warranty' are subject to a service charge. The service charge will cover minor repairs (major repairs will be subject to additional charges for parts and labor).

**This warranty is in lieu of and excludes all other warranties, expressed or implied, and in no event shall Valcom, Inc. be liable for any anticipated profits, consequential damages, loss of time or other losses incurred by the buyer in connection with the purchase, operation or use of the product.**

This warranty specifically excludes damage incurred in shipment. In the event a product is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved in accordance with the F.O.B. point.

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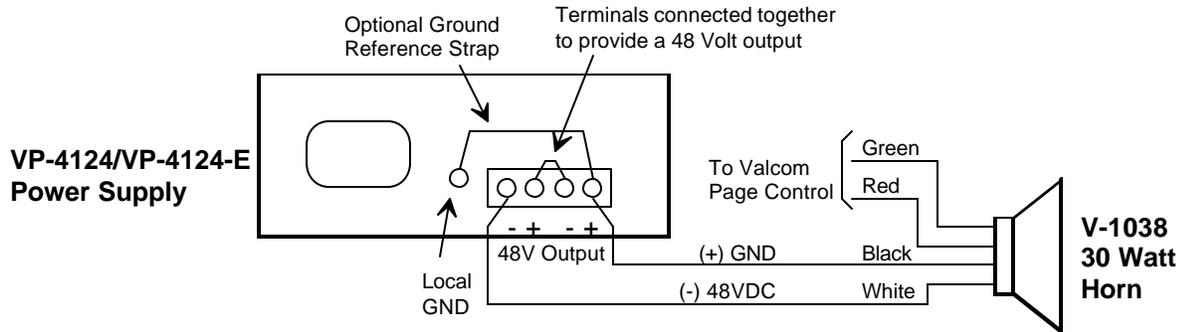
## CONNECTIONS FOR USE AS A 48 VOLT DC POWER SOURCE

### Output at 48 Volts

Rated Power: 100 Watts  
 Voltage: 48 Volts  
 Current: 2 Amps, 1 - 2A output  
 Fusing: Two - 2A Auto-reset polyswitch fuses  
 Ripple & Noise: Less than 0.2% RMS

### Connections (48 Volts)

To use the unit as a 48 Volt power source, strap the center "+" and "-" terminals together (see Figure 2).



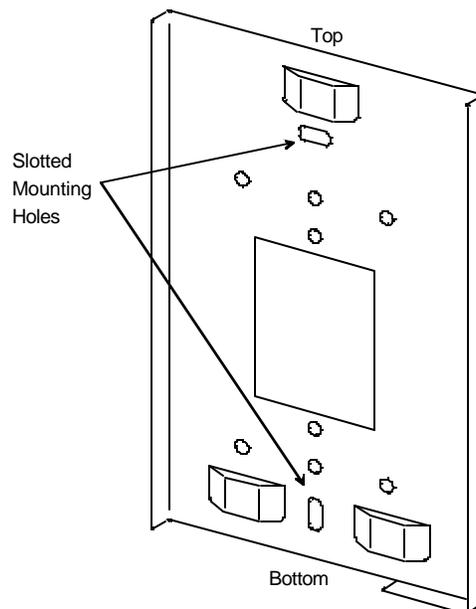
**FIGURE 2**

### **Mounting**

Use Steps 1 through 3 and Figures 3 and 4 to mount the power supply on a wall or other surface capable of supporting the weight of the supply (approximately 5 pounds). Carefully unpack the power supply and inspect for shipping damage.

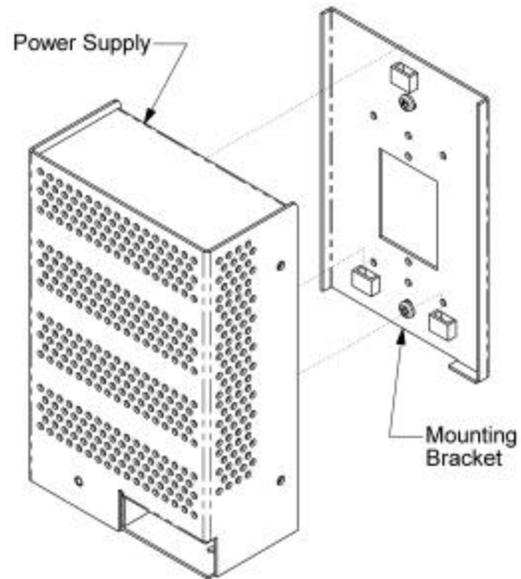
Select a location for installation of the power supply in a clean, dry, vibration-free area with moderate temperature within six feet of an approved AC outlet.

1. Using the mounting bracket (see Figure 3) as a template, mark the two slotted holes on the surface of the wall.
2. Using mounting hardware capable of supporting approximately 5 pounds, mount the bracket to the wall ensuring that the mounting holes are oriented as shown in Figure 3.



**Figure 3. Mounting Bracket**

3. Using Figure 4 as a guide, mount the power supply onto the mounting bracket.



**Figure 4. Mounting the Power Supply**