

## VP-4024B

### -24 VOLT DC POWER SUPPLY

#### INTRODUCTION

These instructions provide the specifications, installation and maintenance information for the VP-4024B, -24 Volt Power Supply.

#### SPECIFICATIONS

The VP-4024B is a fully regulated -24 Vdc 4 amp power supply. The primary is protected by a circuit breaker and the two amp outputs by fuses. The output is floating with respect to ground, and the two outputs may be connected together for one 4 amp output. The regulator will maintain -24 volts  $\pm 2V$  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 and the overload LED will light. Short circuit protection is provided. Over voltage is provided to limit the output voltage to approximately -28 volts should a failure occur within the power supply.

#### Applications

The VP-4024B is designed to be used with -

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

#### Design Features

- Regulated -24 volts DC "A" battery
- Two 2 amp fused outputs
- Outputs may be connected for one output total 4 amps at 25 degrees C
- Input circuit breaker protected
- LED indication of output overload
- Full current limiting
- Over voltage protection
- Floating output
- Full electronic supply



#### Nominal Specifications

Power Requirements

Input Voltage: 105-120 Vac, 60 Hz, 150 watts max  
1.75 amps

Dimensions: 7.0"H x 9.5"W x 5.5"D  
(17.78cm H x 24.13cm W x 13.97cm D)

Weight: 12 lbs. (5.45 kg)

Output Characteristics: -24 Vdc regulated  $\pm 2V$   
"A" battery

Ripple 10 millivolts RMS max.

Two 2 amp outputs

#### INSTALLATION

The VP-4024B is designed to be wall mounted within 7 feet of an AC receptacle. A cold water pipe or earth ground should be connected to the local ground screw terminal using 12 AWG or larger ground wire.

#### Connections

- Connections to Valcom page control units are shown in Figure 1.
- When using the VP-4024B with Valcom page equipment, a strap may be added from the local ground terminal to either of the ground outputs.
- When installing Valcom one-way amplified horns, connect the white and black wires of the horn to the power supply -24V and ground terminals respectively.
- When installing Valcom one-way speakers connect the -24V and ground terminals of the speaker to the corresponding power terminals.

**NOTE: Each -24 Vdc screw terminal is fused by a 2 amp WER 2 type fuse. Therefore, when connecting equipment to this power supply, the load should be distributed between the (2) 2 amp output terminals and each load should not exceed 2 amps.**

**Permanent Installation Instructions**  
*(For use when local codes require conduit to power supply)*

**Before beginning this procedure, disconnect power supply from AC service and customer connections.**

1. Open cover of supply. Remove the six (6) screws holding the faceplate to the cabinet.
2. Using pliers, squeeze the strain relief bushing associated with the AC input cord. This enables the removal of the power cord and strain relief bushing from the unit.
3. Separate faceplate from cabinet. Disconnect the power cord leads from the supply - black wire from the circuit breaker; white wire from the transformer; green wire from the chassis connection.
4. Using a knockout punch (Greenlee #3807 or equivalent), enlarge the power cord access hole to 0.875" diameter to accommodate a 1/2" trade side conduit fitting.
5. Install conduit fitting and run the AC input leads through the fitting. Connect as follows:

**NOTE: The minimum recommended wire size for AC input leads is 18 AWG; use wire rated for at least 105 degrees C.**

- A. Connect the AC input green/grounding conductor and the green ground wire from the faceplate to the chassis connection for the ground wiring.
  - B. Connect the black wire to the circuit breaker terminal using a .250" tab receptacle.\*
  - C. Connect the white wire to the transformer terminal using a .250" tab receptacle.\*
6. Join faceplate to cabinet; replace the six (6) screws and lockwashers.
  7. Reconnect supply to customer connections, and return power supply to service.

\* AMP #42660-2 or an equivalent.

**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 be calling from the job site. Call (540) 427-3900 and ask for Technical Support, or (540) 427-6000 for Valcom 24-hour Automated Support 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.**  
**Repair and Return Dept.**  
**5614 Hollins Road**  
**Roanoke, VA 24019-5056**

**TROUBLESHOOTING CHART**

Problem	Solution
1. No output.	<ol style="list-style-type: none"> <li>a. Verify AC present at receptacle.</li> <li>b. Check for blown fuse.</li> <li>c. Press circuit breaker to reset.</li> </ol>
2. Overload LED lights.	<ol style="list-style-type: none"> <li>a. Locate and correct short circuit in output wiring.</li> <li>b. Verify total equipment power consumption does not exceed 4 amps.</li> </ol>
3. Blows fuses.	<ol style="list-style-type: none"> <li>a. Verify total equipment power consumption does not exceed 2 amps per output.</li> <li>b. Disconnect AC while making power connections.</li> </ol>

## 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:

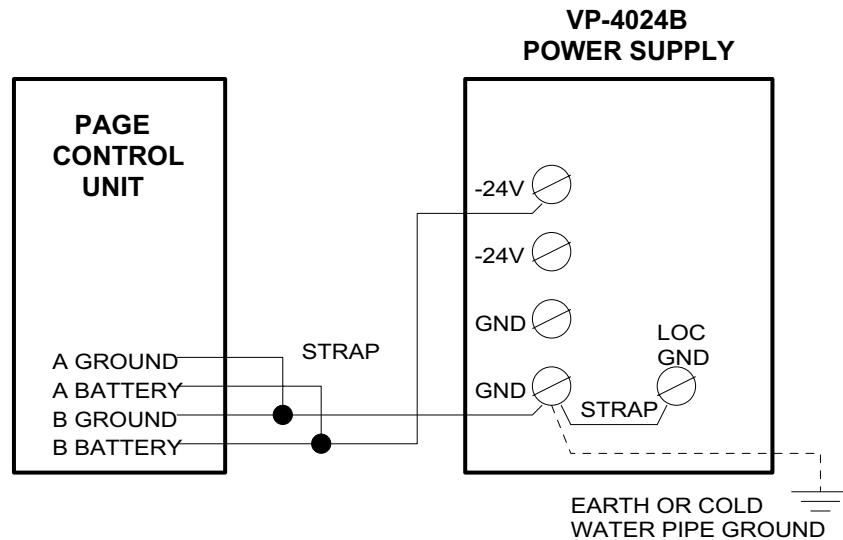
1. inspection by Valcom, Inc. indicates the validity of the claim,
2. the defect is not the result of damage, misuse, or negligence after the original shipment.
3. the product has not been altered in any way or repaired by others and that factory sealed units are unopened (A service charge plus parts 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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Brampton, Ontario L7A1A5  
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**Alternate Ground Method: If using earth or cold water pipe ground, do not connect to LOC GND.**

**FIGURE 1 - CONNECTIONS TO VALCOM PAGE CONTROL UNITS**

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