

V-9939B MICROPHONE ADAPTER

INTRODUCTION

These instructions provide identification, installation, connection, operation and maintenance information for the V-9939B Microphone Adapter.

The V-9939B is a Microphone Adapter designed to be used with Valcom paging equipment.

SPECIFICATIONS

Purpose

- Provides microphone access to Valcom one-way amplified speaker assemblies.

Applications

- Allows local paging access to a zone of one-way paging speakers
- Allows paging access to stand alone systems

Refer to Figure 1 for a block diagram of a typical installation.

Features

- 600 Ohms balanced and 50,000 Ohms inputs
- Works with most microphones with push to talk switches
- Built in microphone preamplifier
- Mounts at microphone location
- Provides a set of form "C" contacts
- May be connected to a selected zone of a multi- zone paging system
- Connector terminals for all connections



Capacity

Each V-9939B may be connected to one zone of a paging system.

Dimensions/Weight

- 8.25" H x 4.50" W x 2.35" D
(20.95cm H x 11.43cm W x 5.97cm D)
0.7lbs. (0.32kg)

Power Requirements

-21.5 to -26VDC filtered "A" Battery, 40mA max.

Environment

Temperature: 0 to 50°C
Humidity: 0 to 85% non-precipitating

Nominal Specifications

Input impedance: 600 Ohms balanced
50,000 Ohms unbalanced
Output impedance: 600 Ohms
Output level: -10dBm nominal

SYSTEM DESIGN

Configuration

There are two basic ways the V-9939B Microphone Adapter may be used:

1. It may be used with a V-1094A and Valcom one-way amplified speaker assemblies as a stand alone paging system.

When using the V-9939B for access to a stand alone paging system, the following will be required:

- 1 V-9939B Microphone Adapter
- 1-Microphone (push to talk)
- 1 V-1094A Booster Control
- Valcom one-way amplified speaker assemblies (type determined by job requirements)
- Power Supply (type determined by style and quantity of speakers - Consult the Valcom One-Way Paging VSP for more information)

2. By using the V-9939B with a V-2001A One Zone Page Control you may automatically disconnect the speakers of one zone from a multi-zone page adapter and allow microphone access to that zone. These configurations will allow the microphone to override the telephone access.

NOTE: These will work only on a zone of ONE-WAY paging.

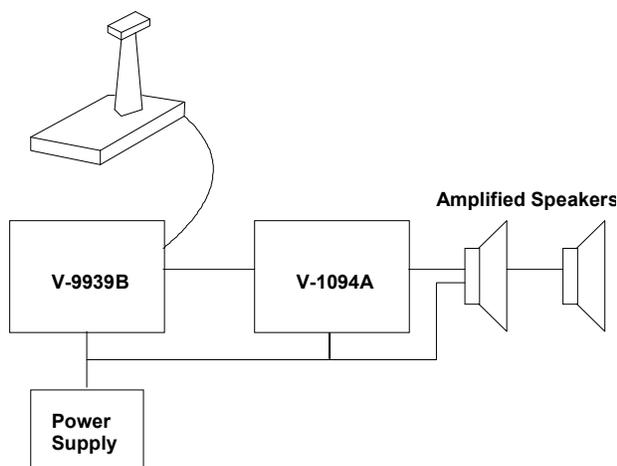


FIGURE 1 – BLOCK DIAGRAM OF A TYPICAL INSTALLATION

When using the V-9939B to override an existing zone of telephone accessed one-way paging, the following will be required:

- 1 V-9939B Microphone Adapter
- 1-Microphone (push to talk)
- 1 V-2001A One Zone Page Control
OR
- An existing Valcom one-way page system

Other configurations are possible. Contact Technical Support (540) 563-2000 with questions on specific applications.

Microphone Requirements

A standard high impedance (50,000 Ohms) or low impedance balanced (600 Ohms) microphone may be used. The microphone will be required to provide a dry contact closure (push to talk) for page access.

See Figure 3 for connections to Valcom V-400/450 or V-420 Microphones.

INSTALLATION

These instructions cover the installation procedures for the Valcom V-9939B and any associated Valcom equipment. Please consult practices for other manufacturer's equipment if any other equipment is being used. Refer to Figure 2 for location of connector connections and designations.

The following sections contain step-by-step instructions for wiring the V-9939B and associated Valcom equipment. Place a check on the appropriate line as the instruction is completed. The instructions also include tests along the way to verify connections have been made correctly. If these steps are followed exactly, installation of your Valcom system will go smoothly and quickly. If the results of a test do not correspond with what is shown, DO NOT PROCEED UNTIL THE PROBLEM HAS BEEN CORRECTED.

NOTE: During initial system setup it is recommended that all volume controls be set 1/2 turn clockwise.

Mounting

- Using two #6 $\frac{3}{4}$ inch wood screws, mount the unit in a convenient location near the microphone location

NOTE: DO NOT locate the V-9939B closer than 18 inches to a power supply or any equipment that generates electrical noise.

Power Connections

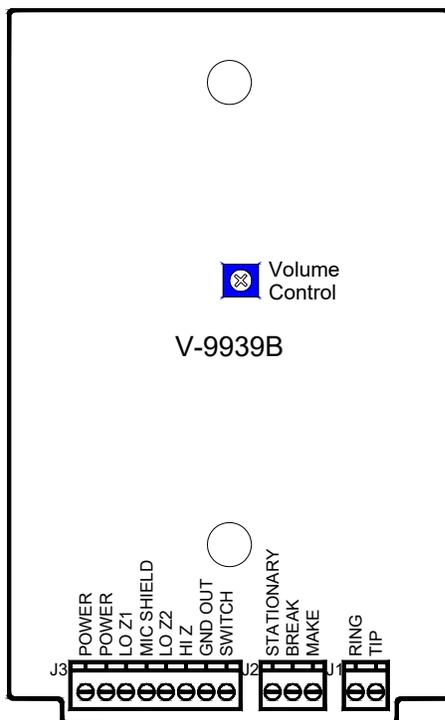
- ___ 1. Unplug power supply.
- ___ 2. Connect -24VDC "A" battery (may be referred to as "-" or "talk battery") from power supply to one of the PWR terminals on the V-9939B.
- ___ 3. Connect -24VDC Ground ("A" ground, "+" or "talk" ground) from power supply to the other power terminal. This GND should be properly grounded to an earth ground to alleviate hum on the system.

Connecting Arrangements

NOTE: Place a check by the Arrangement being used and proceed to the Figure indicated for step-by-step instructions.

- ___ 1. Stand alone page system: Proceed to Figure 3.
- ___ 2. Override an individual zone using a V-2001A: Proceed to Figure 4.

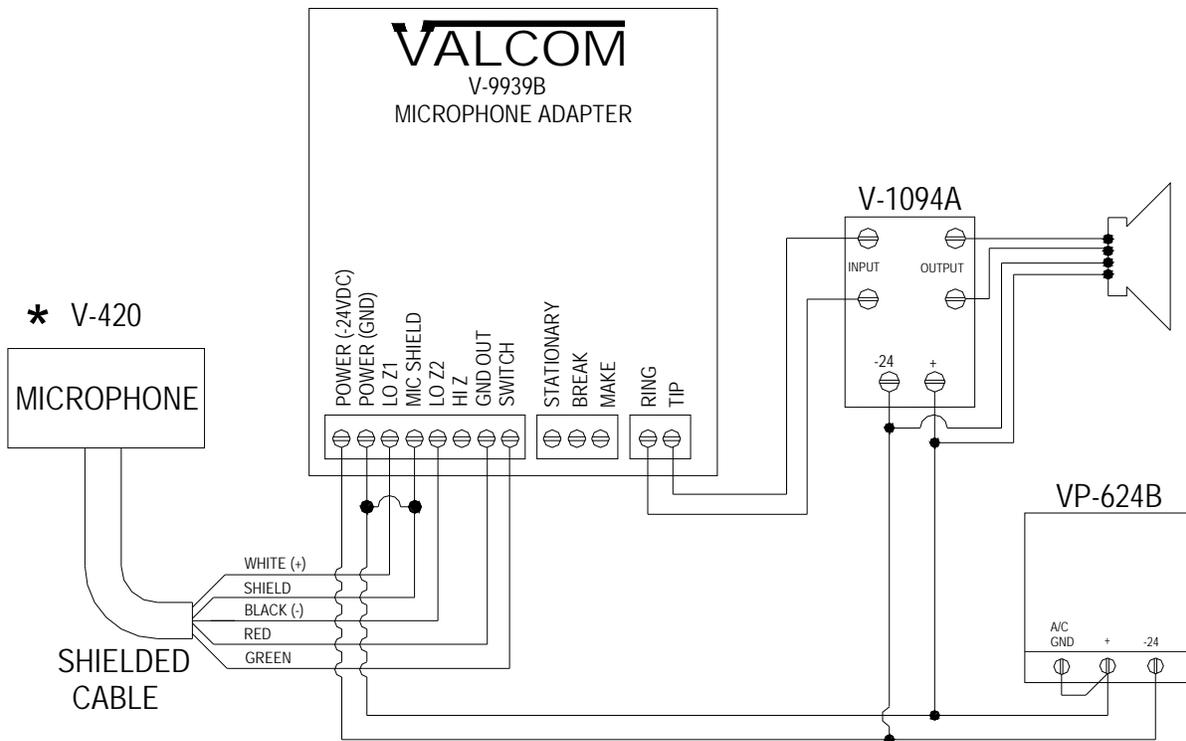
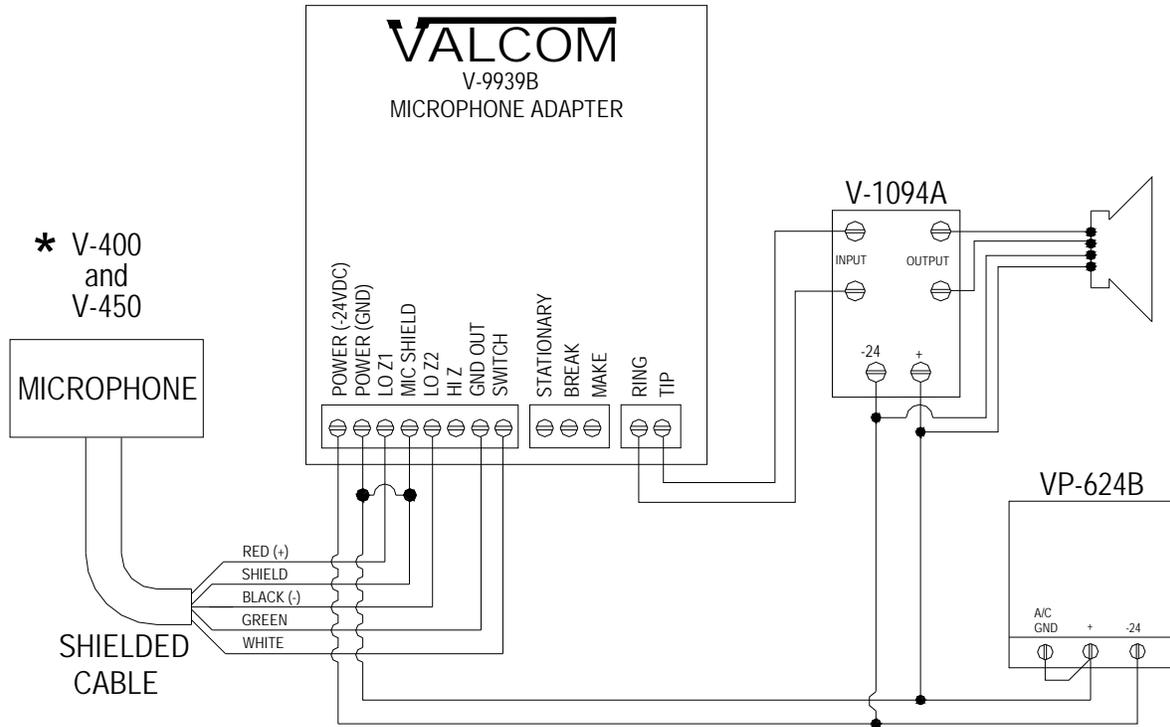
Figure 2 - Location and Connection Designations



WIRING INSTRUCTIONS (For Figure 3)

Place a check by each step as it is completed:

- ___ 1. Mount the V-1094A near the V-9939B or at the main frame.
- ___ 2. Connect Tip of the V-9939B to Tip of the V-1094A input.
- ___ 3. Connect Ring of the V-9939B to Ring of the V-1094A input.
- ___ 4. Connect Tip of the V-1094A output to the Tip side of all the one-way amplified speaker assemblies.
- ___ 5. Connect Ring of the V-1094A output to the Ring side of all the speakers.
- ___ 6. Connect the microphone:
 - ___ a. Connect the audio common lead shield from the microphone to the MC terminal of the V-9939B. (This shield should be strapped to power supply GND).
 - ___ b. Connect the other microphone audio lead to HZ if using a high impedance microphone; if using a low impedance balanced microphone, connect (+) lead to LZ1 and the (-) lead to LZ2.
 - ___ c. Connect one side of the microphone push to talk switch to the V-9939B SW terminal.
 - ___ d. Connect the other side of the push to talk switch to the GND OUT terminal.
- ___ 7. Connect -24VDC from the power supply to the -24VDC terminal of the V-1094A.
- ___ 8. Connect Ground (+) of the power supply to the Ground terminal of the V-1094A.
- ___ 9. Connect -24VDC from the power supply to the -24VDC terminal (or the white lead) of each speaker assembly.
- ___ 10. Connect Ground of the power supply to the Ground terminal (or the black lead) of each speaker assembly.
- ___ 11. Plug in the power supply.
- ___ 12. Volume adjustment:
 - ___ a. Set the V-1094A volume control to 5.
 - ___ b. Turn the screwdriver adjustable volume control on the V-9939B about 1/2 of the way clockwise.
 - ___ c. Verify all speaker controls are set at 1/2.
 - ___ d. Speak through the microphone and adjust the V-1094A for the proper system level.
 - ___ e. Speak through the microphone and adjust the individual speakers to the required levels.



*NOTE: V-400/450 and V-420 Microphones are wired differently. See correct diagram above.

FIGURE 3 – STAND ALONE PAGE SYSTEM

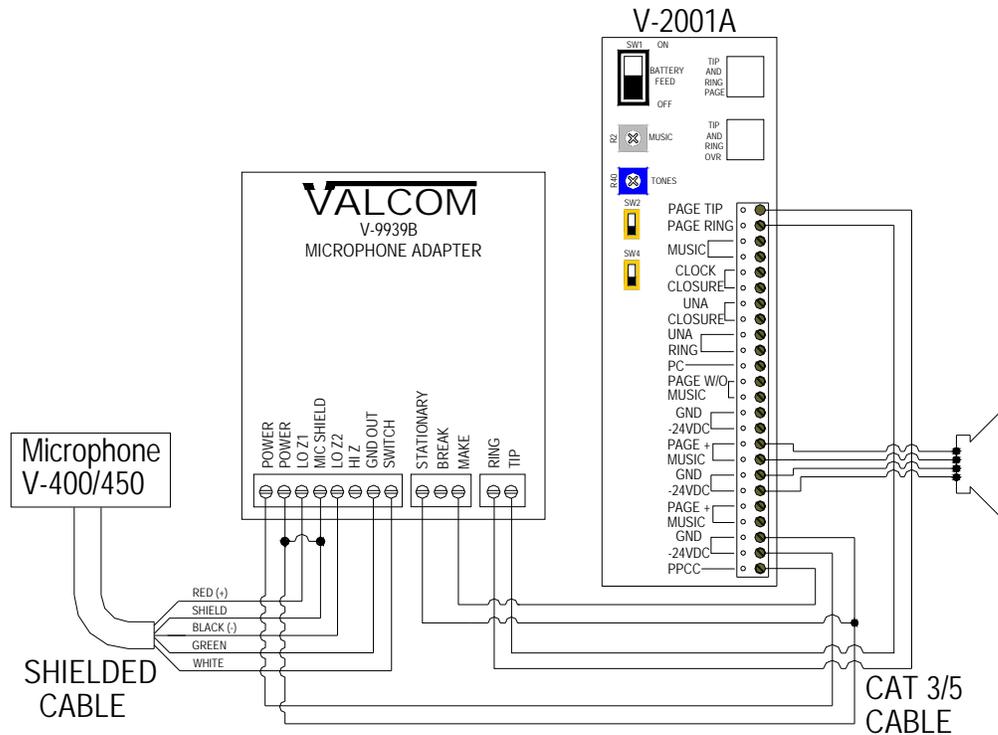


FIGURE 4 – OVERRIDE A SINGLE ZONE WITH A V-2001A

WIRING INSTRUCTIONS (For Figure 4)

Place a check by each step as it is completed:

- ___ 1. **IMPORTANT:** Complete installation and testing of your page control unit and speakers before adding the microphone adapter.
- ___ 2. Mount the V-2001A near the microphone adapter.
- ___ 3. Connect Tip of the V-9939B to PAGE TIP.
- ___ 4. Connect Ring of the V-9939B to PAGE RING.
- ___ 5. Connect the GND of the V-2001A to terminal STATIONARY on the microphone.
- ___ 6. Connect the PPCC of the V-2001A to terminal MAKE of the microphone adapter.
- ___ 7. Disconnect Tip of the audio pair to the speakers on the zone being overridden from the Page Control unit and connect it to the PAGE + MUSIC of the V-2001A.
- ___ 8. Disconnect Ring of the audio pair to the speakers from the Page Control unit and connect it to the PAGE + MUSIC of the V-2001A.
- ___ 9. Connect the MUSIC INPUT of the V-2001A to one side of the output pair from the page control unit for the zone to be overridden.
- ___ 10. Connect the MUSIC INPUT of the V-2001A to the other side of the output pair from the page unit for the zone being used.
- ___ 11. Connect the microphone:
 - ___ a. Connect the audio common lead shield of the microphone to the MC terminal of the V-9939B. This shield should be strapped to power supply GND.
 - ___ b. Connect the other microphone audio lead to HZ if using high impedance microphone; if using a low impedance balanced microphone, connect (+) lead to LZ1 and the (-) lead to LZ2.
 - ___ c. Connect one side of the microphone push to talk switch to the V-9939B SW terminal.
 - ___ d. Connect the other side of the push to talk switch to the GND OUT terminal.
- ___ 12. Connect -24VDC filtered talk battery from the V-2001A to the power of the V-9939B.
- ___ 13. Connect Ground (+) of the V-2001A to the power of the V-9939B.
- ___ 14. Volume adjustment:
 - ___ a. Turn the screwdriver adjustable volume control on the V-9939B about 1/2 of the way clockwise.
 - ___ b. Speak through the microphone and adjust the V-9939B screwdriver adjustment for the proper page level.

OPERATION

Circuit Description

The V-9939B Microphone Adapter has inputs for both high impedance and balanced low impedance microphones. It also has input for a push to talk contact closure. When the closure is applied, a high gain pre-amplifier is turned on and the output relay is activated. The unit will stay active until the contact closure is removed. The preamplifier circuit also contains a voice limiting circuit to limit extremely loud inputs.

TECHNICAL ASSISTANCE

When trouble is reported, verify that power is being supplied to the unit and there are no broken connections. Check voltages for proper polarity on the cross connect block.

Table 1 identifies symptoms of some possible problems with solutions. If a spare unit is available, continue to troubleshoot by substituting the spare unit for the suspected defective unit.

Assistance in troubleshooting is available from the factory. When calling, you should have a VOM, a test set available and call from the job site. Call (540) 563-2000 and press 1 for Technical Support or visit our website at <http://www.valcom.com>.

The V-9939B is not field repairable. **Valcom equipment contains no user serviceable parts inside.** Valcom, Inc. maintains service facilities in Roanoke, VA. Should repairs be necessary, attach a tag to the unit clearly stating your company name, address, phone number and 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**

WARRANTY

Warranty information may be found on our website at www.valcom.com/warranty.

TABLE 1 - TROUBLESHOOTING CHART	
SYMPTOM	SOLUTION
1. No relay operation in V-9939B when microphone talk button is pressed.	Check for -24VDC at V-9939B across the PWR terminals. Verify connection from microphone to terminals SW and GND OUT (refer to the Installation section).
2. Relay operation but no output.	Verify connections from microphone to MC and HZ or LZ terminals. Turn volume control up (clockwise).
3. Audio from V-9939B but not from V-1094A.	Verify Tip and Ring connections from V-9939B to V-1094A. Verify proper voltage and polarity at -24VDC and GND terminals of V-1094A. Turn up volume at V-1094A.
4. No output from V-2001A.	Recheck all connections per Figure 4. Make sure the V-2001A passes the power test in Figure 4, step 16.
5. Output from V-9939B and V-1094A or V-2001A but not from speakers.	Verify proper voltage and polarity to speakers. Verify audio connections to speakers. Verify speakers are Valcom one-way amplified speaker assemblies.