

4" AMPLIFIED RECESSED CEILING SPEAKERS

8" AMPLIFIED RECESSED CEILING SPEAKERS

INTRODUCTION

These instructions contain the specifications and guidelines necessary to install, operate and maintain the Amplified Recessed Ceiling Speakers. Specifications and installation information for the mounting rings and backboxes used with these speakers is also included in this document.

These speakers are for use with any Valcom page control and are for interior use only.

SPECIFICATIONS

Applications

These Amplified Recessed Ceiling Speakers are used to provide one-way paging when used with a low level audio input.

- Valcom Paging Adapters
- Electronic Key System Page Ports (interface adapter may be required)
- PABX Page Ports (interface adapter may be required)
- Stand Alone Systems
- Existing 70V Paging Systems
- Background Music Systems

Features

- Self-contained amplifier and volume control
- Operates on -24VDC
- Screw terminals for all connections
- Grille simulates recessed lighting fixture
- No visible mounting hardware due to concealed mounting studs for the speaker and torsion springs

Nominal Specifications

- Amplifier Input Impedance 100 Ohm nominal
- Amplifier Input Level -10dBm nominal
- Amplifier Output 1 watt into 45 Ohm
spkr load



Power Requirements

Voltage	-24VDC
Current	50mA

Environment

Temperature	0 to 50 degrees C
Humidity	0 to 85% non-precipitating

Dimensions/Weights

- V-1011BB - 4" Recessed Ceiling Speaker
w/Backbox
7.8" Dia x 5.0"D (19.81cm Dia. x 12.7cm D)
5.8 lbs. (2.63 kg)
- V-1011MR - 4" Recessed Ceiling Speaker
w/Mounting Ring
7.8" Dia x 5.0"D (19.81cm Dia. x 12.7cm D)
2.4 lbs. (1.09 kg)
- V-1012BB - 8" Recessed Ceiling Speaker
w/Backbox
11.75" Dia x 6.0"D
(29.85cm Dia. x 15.24cm D)
6.3 lbs. (2.86 kg)
- V-1012MR - 8" Recessed Ceiling Speaker
w/Mounting Ring
11.75" Dia x 6.0"D
(29.85cm Dia. x 15.24cm D)
3.3 lbs. (1.50 kg)

SYSTEM DESIGN

General

Valcom Amplified Recessed Ceiling Speakers may be used to provide one-way paging from any Valcom one-way or talkback page control. The speakers can also be used to expand existing 70V paging systems. When power and appropriate input signal are applied, a voice page can be made.

Page Control Access

(See Figure 1)

When using the Amplified Recessed Ceiling Speakers with a Valcom page control, the following equipment will be required:

- Appropriate one-way speaker assembly
- Valcom page control
- Valcom power supply sized to provide power to operate the amplified speaker assemblies and page control

NOTE: When using the Valcom one-way interior speakers with a Valcom handsfree page control, it is recommended that a V-1092 Volume Control be connected between the zone output and the speaker input.

25V or 70V Paging Systems

(See Figure 2)

When using the Amplified Recessed Ceiling Speakers with an existing 25 or 70V paging system, the following equipment will be required:

- Appropriate one-way speaker assembly
- Valcom power supply sized to provide power to operate the amplified speaker assemblies
- 25 or 70V line transformer tapped at 1/4 watt with an 8 ohm output
- Valcom V-1094A Page Port Preamp/Expander

Special Applications

The Tip and Ring input of the amplified speaker may be connected directly to the speaker in most electronic key telephones to amplify the level of the speaker. A power supply is also required.

Speaker Cabling

All Valcom amplified one-way interior speakers require 2 pairs to operate. Standard telephone station cable may be used. Existing telephone wire and feeder cables may also be used. Refer to the following tables when planning an installation.

- Audio Pair: The number of speakers looped on the audio pair is not critical unless you have a very large job. Table 1 gives guidelines for the

number of speakers per audio run.

Table 1 - Number of Speakers per Audio Run		
Wire Run (Ft)	22 AWG	24 AWG
100	150	120
200	150	120
400	100	60
800	50	30
1600	25	15

- Power Pair: The cable runs specified in Table 2 are very important and must be followed for proper operation of the one-way paging speakers.

Table 2 - Number of Speakers per Power Run (22 AWG)	
Wire Run (Ft)	1 Watt Inside Speakers
100	60
200	30
400	15
800	7
1600	3

Coverage

The area covered by Valcom Recessed Ceiling Speakers is determined by the height of the ceiling. If the ceiling height is 8', the speaker will cover 250 sq. ft. If the ceiling is 20 feet high, the speaker will cover 1000 sq. ft.

INSTALLATION

Typical connections to a Valcom Page Adapter (refer to Figure 1)

- Connect screw terminal marked Tip to the tip side of the desired speaker output of the page control.
- Connect screw terminal marked Ring to the ring side of the desired speaker output of the page control.
- Connect -24VDC "B" battery (may be referred to as "-" or "signal battery") from power supply to screw terminal marked -24VDC on the speaker.

NOTE: "A" battery may be substituted for "B" battery connections.

Connecting arrangement to 25 or 70V paging systems (refer to Figure 2)

- Connect transformer primary side terminal marked COM to Black wire or 25 or 70V line.
- Connect transformer primary side terminal marked 1/4 watt to White wire of 25 or 70V line.
- Connect transformer secondary side terminal marked "C" to one screw terminal input of the

V-1094A.

- Connect transformer secondary side terminal marked "8" to the other screw terminal input of the V-1094A.
- Connect -24VDC "B" battery (may be referred to as "-" or "signal battery") from power supply to screw terminal marked -24VDC on the V-1094A.
- Connect -24VDC "Ground" ("B" ground, "+", or "signal" ground) to screw terminal marked GND on the V-1094A.
- Connect one output of the V-1094A to screw terminal marked Tip on the Valcom amplified speaker.
- Connect the other output of the V-1094A to screw terminal marked Ring on the Valcom amplified speaker.
- Connect -24VDC "B" battery (may be referred to as "-" or "signal battery") from power supply to screw terminal marked -24VDC on the speaker.
- Connect -24VDC Ground ("B" ground, "+", or "signal" ground) to screw terminal marked GND on the speaker.

NOTE: "A" battery may be substituted for "B" battery connections.

Mounting - General

Mounting of the Amplified Recessed Speakers is accomplished utilizing a mounting ring or backbox. The V-1011BB and the V-1012BB are equipped with backboxes and support rails, while the V-1011MR and the V-1012MR are supplied with mounting rings and support rails. See Figures 3 and 4.

Mounting Rings and Backboxes:

- Provide support to prevent ceiling tile from sagging from the weight of the speaker
- Provide receptacles for torsion spring installation
- Mounting rings are constructed of 20 gauge cold rolled steel with a rust preventative coating
- Backboxes are constructed of 22 gauge cold rolled steel, undercoated to prevent mechanical and acoustical resonance and finished in a rust preventative coating
- Backboxes meet most local fire codes for use in air plenum return ceilings
- Backboxes provide acoustic enclosure behind the speaker for improved sound quality
- Rails are used with both the mounting rings and the backboxes and are finished in a galvanized

coating

Mounting Procedure

- Determine desired speaker location. The speaker should be located in the center of the ceiling tile
- Use the mounting ring or backbox as a template, cut a hole in the tile -
- 6 1/2" diameter hole for the 4" speaker
- 10" diameter hole for the 8" speaker
- If the backbox is to be used, run the cable through one of the four knockouts on the backbox and connect the wires to the speaker as described in the *Installation and Connecting Arrangement to 25 or 70V Paging System*
- Place the backbox or mounting ring above the ceiling tile. Place speaker through the tile. Compress springs into the slots provided in the backbox or mounting rings. Press speaker to the tile. The torsion springs should pull the speaker to the tile.
- The backbox rails sit on top of the "T" bar of the ceiling bridge (see Figure 3). The mounting ring rails lay on the tile to give it support (see Figure 4). The height of these bars can be adjusted by loosening the wing nuts. Attach rails to the backbox by placing rails through the slot provided on the backbox and securing to the backbox with a wing nut.

TECHNICAL ASSISTANCE

When trouble is reported, verify there are no broken connections. Assistance in troubleshooting is available from the factory. 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

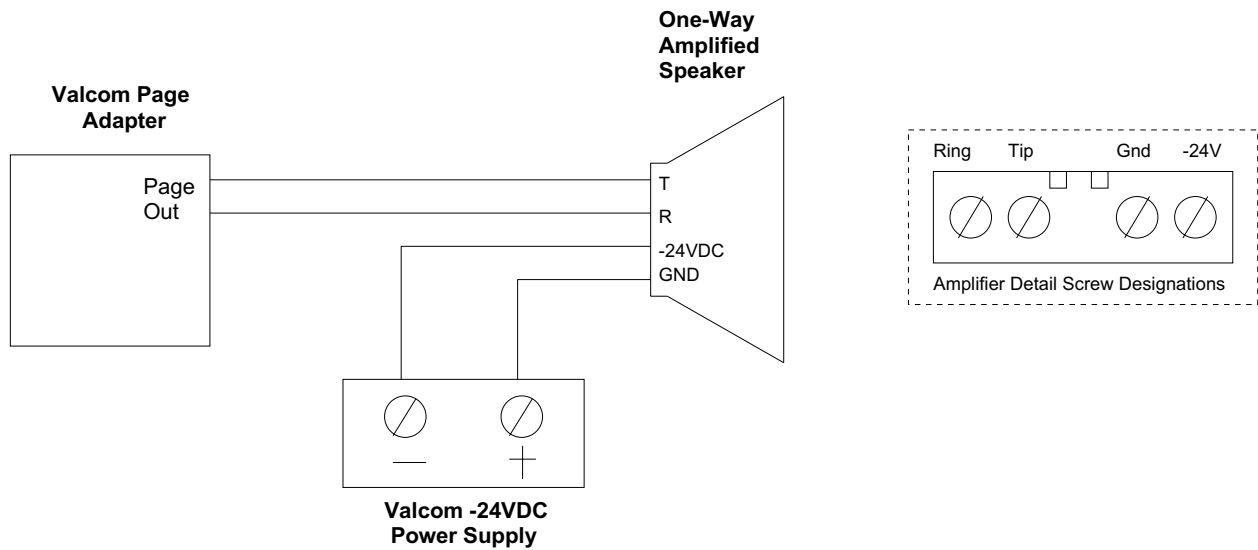


FIGURE 1 - TYPICAL CONNECTIONS TO VALCOM PAGE ADAPTER

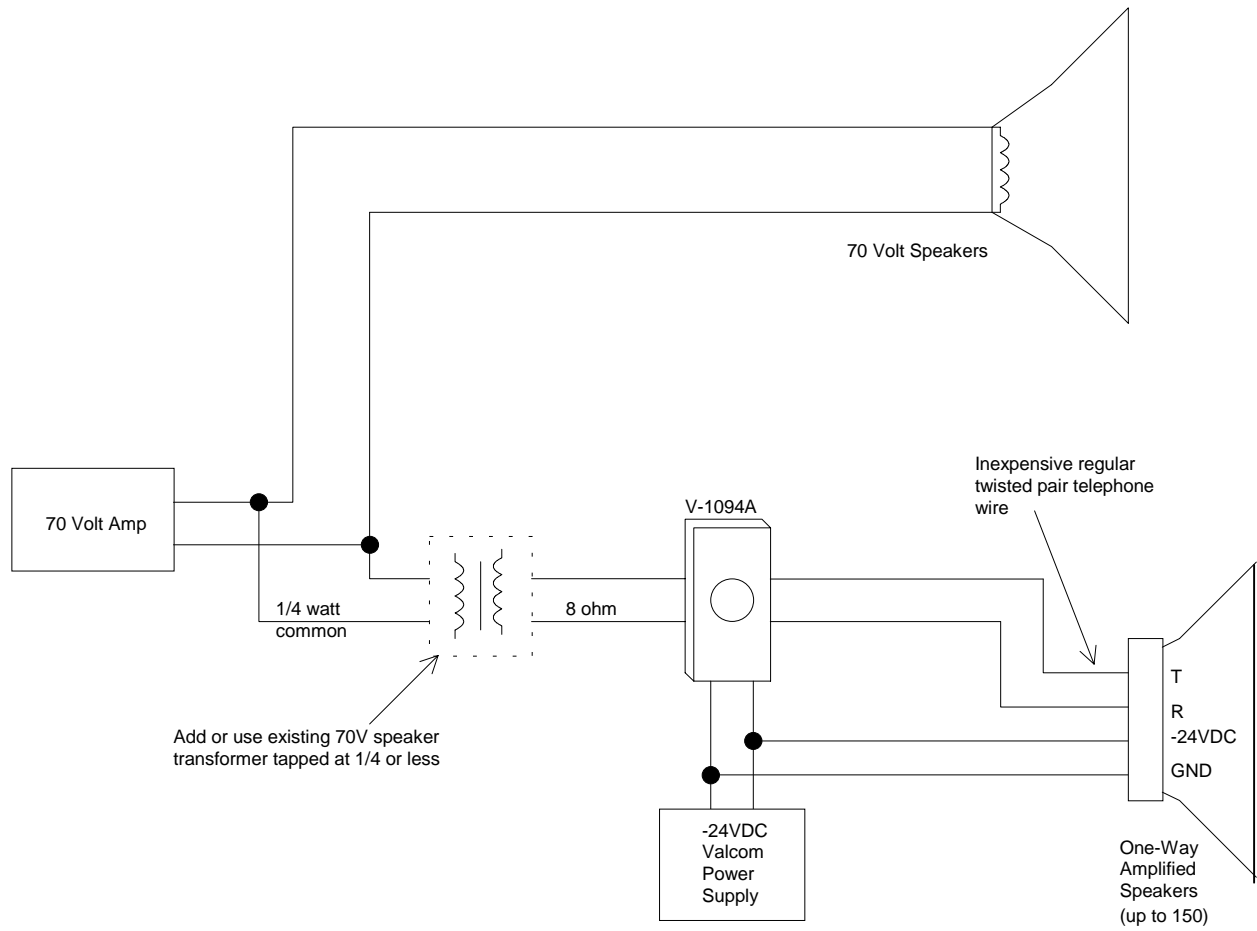


FIGURE 2 - CONNECTIONS TO 25 OR 70 VOLT PAGING SYSTEM

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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