VALCOM
(540) 427-3900

V-9962
DIGITAL FEEDBACK ELIMINATOR

GENERAL

The V-9962 is a Digital Feedback Eliminator designed to eliminate paging system acoustic feedback with an option to prevent DTMF tones from being broadcast through the paging system.

SPECIFICATIONS

Features

! Two audio outputs
  Line level 600 ohm
  Low impedance 8 ohm
  (transformer isolated and separately adjustable)
! Audio input, 600 ohm, transformer isolated
! Three output relays - Play, Record, Busy
! LED Indicators
! Easy access volume controls
! Dip switch programmable
! Solid state, no moving parts
! Audio, DTMF, or contact closure activated
! DTMF message cancel
! Easy to install in new and existing systems

Access

! DTMF (Dual Tone Multi-Frequency)
! VOX (Voice Operated Switch)
! Contact Closure

Dimensions & Weight

Dimensions:
! 19.05cm H x 20.32cm W x 3.18cm D
  (7.5"H x 8.0"W x 1.25"D)
! Weight: 1.36 Kg (3.0 lbs.)

Nominal Specifications

Input Impedance:	600 ohms
Input Level:	-10 dBm
Line Level Output Impedance:	600 ohms
Output Level:	-10 dBm (adjustable)
Speaker Level Output Impedance:	8 ohms
Output Level:	-10 dBm (adjustable)
VOX Sensitivity:	-21 dBm (adjustable)
Release time after last sensed audio:	3 seconds

Nominal Power Requirements

! -24 VDC, 500 mA regulated "A" battery

Environment

Temperature:	0 to 40 Degrees C
Humidity:	0 to 85% non-precipitating

DESIGN

The V-9962 is designed to eliminate paging system acoustic feedback with an option to prevent DTMF tones from being broadcast through the paging system. When a page is made, the message is digitized and saved. Upon completion of the live page, the message is released to play over the system speakers. This eliminates the offensive squeal of feedback commonly produced by telephones or microphones when making a page.

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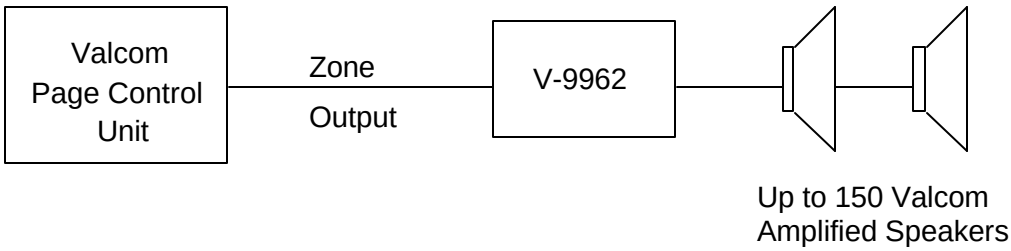


FIGURE 1 - SIMPLIFIED BLOCK DIAGRAM OF A TYPICAL INSTALLATION

INSTALLATION

Cabling

A 25 pair cable with a female amphenol connector should be run from the feedback eliminator to a 66B type punchdown block. The cable should be terminated on the block in standard color code order. (See Figure 2).

Mounting

NOTE: DO NOT install the V-9962 or its wiring closer than 18" to a power supply or any equipment that generates electrical noise.

___ 1. Using four #6 - 1/2" wood screws, mount the feedback eliminator in a vacant space on the backboard.
___ 2. Mount a 66B type punchdown block near the unit and label the block per Figure 2.
___ 3. Connect the 25 pair cable to the punchdown block per standard color code order.
___ 4. Connect the female amphenol connector to the V-9962.

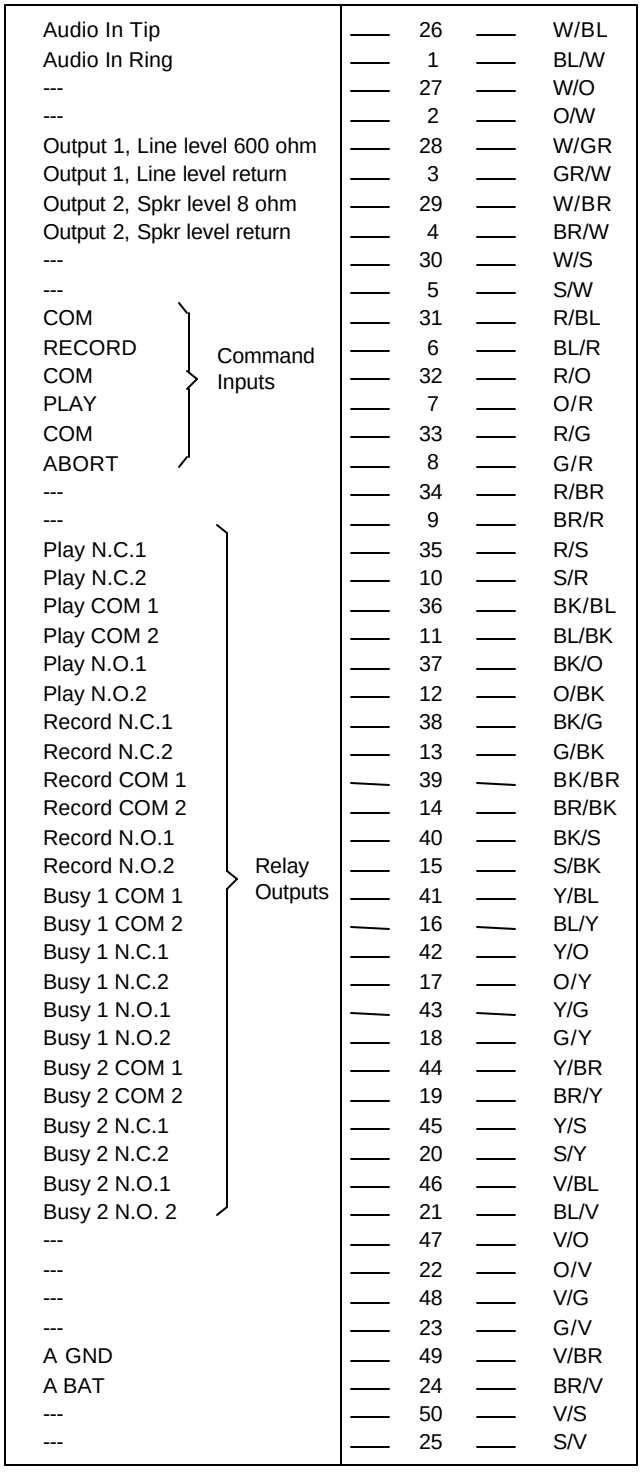
Connections

___ 1. Connect zone output from a 600 ohm page port or Valcom page control to Audio In Tip (W/BL) and Audio In Ring (BL/W) on the punchdown block. (See Note at end of this section).
___ 2. Connect page enable contact closure (if available - this is an optional connection) to COM (R/BL) and RECORD (BL/R) on the punchdown block.
___ 3. Connect Tip lead or terminal of amplified speaker(s) to output 2; speaker level 8Ω (W/BR) on the punchdown block.
___ 4. Connect Ring lead or terminal of amplified speaker(s) to output 2; speaker level return (BR/W) on the punchdown block.
___ 5. Connect -24Vdc from a filtered -24Vdc power supply to pin 24 (BR/V) on the punchdown block.
___ 6. Connect GND of the power supply to pin 49 (V/BR) on the punchdown block.
___ 7. Plug in power supply.
___ 8. The POWER ON LED on the V-9962 should illuminate. (IF POWER ON LED does not light, then using a voltmeter, measure voltage between power terminals with negative probe at pin #24 and positive at pin #49. If reading is reversed, unplug power supply, verify V/BR and BR/V pairs are properly connected at the punchdown block and connector).

See Figure 3 for simplified block diagrams of typical configurations.

NOTE: The input level must be attenuated using a V-1092 to prevent distortion if exceeding nominal input levels for the V-9962; i.e., when used on a zone of Valcom talkback page control (for one-way paging).

FIGURE 2 - CONNECTION BLOCK



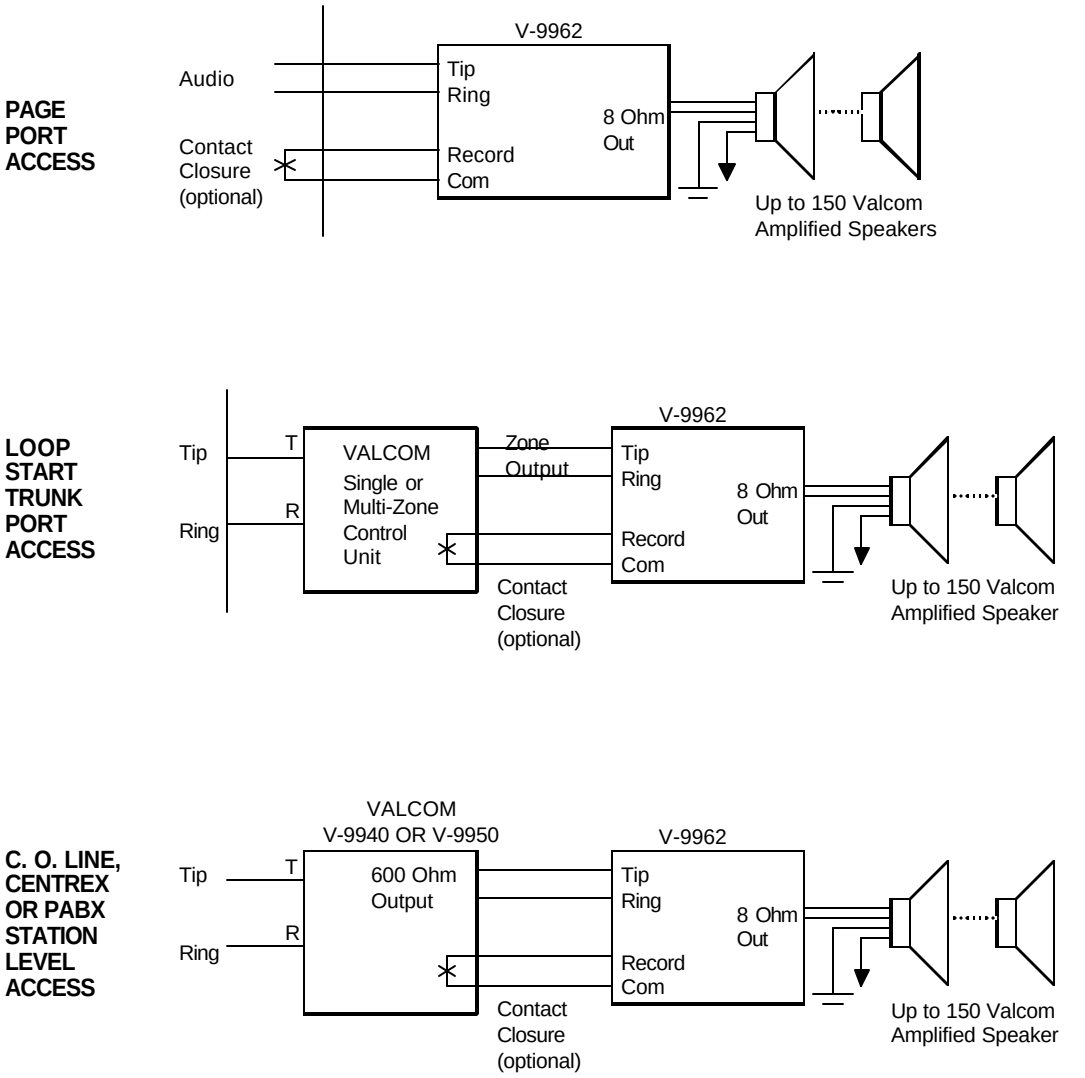


FIGURE 3 - SIMPLIFIED BLOCK DIAGRAM OF TYPICAL CONFIGURATIONS

(Power connections not shown)

Setting Program Dip Switches

There are two sets of dip switches on the V-9962 (See Figure 4) which provide user selectable Options.

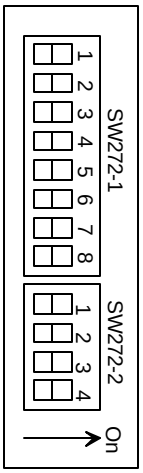


FIGURE 4

The 8-position dip switch (SW-272-1) offers the following choices:

Maximum Recording Length:

#1 Off	60 sec. at 3.4 Khz Bandwidth
#1 On	30 sec. at 6.8 Khz Bandwidth

DTMF Options:

#2 Off, #3 Off	DTMF, No restrictions
#2 On, #3 Off	DTMF, Allow two bursts
#2 Off, #3 On	DTMF, Allow one burst
#2 On, #3 On	DTMF, Choke (Abort)

Record Setup:

#4 On, #5 Off	Activate RECORD by DTMF (One Pulse).
#4 Off, #5 On	Activate RECORD by Audio Sensor.

NOTE: Activate RECORD by external dry contact is always functional regardless of switch settings.

Play Setup:

#6 Off, #7 Off	Play while active by external contact.
#6 On, #7 Off	Play once active by external contact.
#6 Off, #7 On	Auto-repeat once. No external contact needed.
#6 On, #7 On	Auto-repeat twice.
#8 On	Play Pre-page tone.

The 4-position dip switch (SW-272-2) offers the following selections:

Page Delay:

(Delay time after recording ends before page play).

#1 Off, #2 Off	1 second delay.
#1 On, #2 Off	3 second delay.
#1 Off, #2 On	5 second delay.
#1 On, #2 On	10 second delay.

#3 and #4 - Spare switches.

Typical dipswitch setting is:

SW272-1	SW272-2
#1 ON	#1 OFF
#2 ON	#2 OFF
#3 ON	#3 N/A
#4 OFF	#4 N/A
#5 ON	
#6 OFF	
#7 ON	
#8 OFF	

Volume Control Setup

There are three volume controls on the V-9962.

VOX - Adjusts the voice sensitivity of the record by VOX or DTMF activation. (Typical adjustment of this control is completely clockwise).

LINE - Adjusts level of page from Output 1 line level 600Ω output.

SPKR - Adjusts level of page from Output 2 speaker level 8Ω output.

OPERATION

For proper operation, the V-9962 must receive a RECORD command. This command will be from an external source in the form of:

1. **External dry contact closure**: Between terminals #6 (BL/R)(Record), and #31 (R/BL)(Com). The unit will record as long as the contact closure is supplied to the unit or until the maximum record time is reached. When the Closure signal is removed, the V-9962 automatically switches modes to re-play the "just recorded" page. The re-play will be played according to options selected during set-up.

2. **DTMF Digit** sent on audio lines: If the paging system allows DTMF tones to be generated by paging stations, the V-9962 can be activated by enabling its internal detector to start Recording. Recording will end approximately 3 seconds after audio detection ends. (If switches 2 and 3 of SW272-1 are in the "on" position, this enables DTMF abort. This allows the paging party to cancel their message by pressing any button on their telephone tone pad during recording).

3. **Voice Operation (VOX):** Recording will begin at the start of actual paging; recording will end approximately 3 seconds after the completion of the page.

4. **Play External Contact:** By applying a dry contact closure between COM (R/O) and Play (O/R), the V-9962 will play the last recorded message.

5. **Auto Repeat Setup:** The unit is normally set to automatically playback the "just finished" page as soon as the RECORD contact goes away. This feature allows the user to set the number of automatic repeats, one or two.

6. **Pre-page Tone:** This option inserts an alert tone (the DTMF number 0) prior to the auto-repage function.

7. **Page Delay:** This option inserts the selected time delay between the end of record and the time PLAY relay is activated and plays back the recorded page.

TECHNICAL ASSISTANCE

When trouble is reported, verify the unit is turned on and there are no broken connections leading to the unit.

Assistance in troubleshooting is available from the factory. When calling, you should have a VOM and a telephone test set available and be calling from the job site. Call (540) 427-3900 and ask for an Applications Engineer.

VALCOM equipment is not field repairable. VALCOM maintains service facilities in Roanoke, VA. Should repairs be necessary, attach a tag to the unit clearly stating your company name, address, phone number, contact person, and the nature of the problem. Send the unit to the **Repair and Return Dept.** at the address shown below.

VALCOM LIMITED WARRANTY

Valcom, Inc. warrants its products to be free from the 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 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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