

# V-2901 UNIVERSAL DOOR ANSWERING SYSTEM

## **INTRODUCTION**

The V-2901 is a Universal Door Answering System for use with any single line telephone, electronic or 1A2 key system, or PABX. These instructions contain the specifications and information necessary to install, operate, and maintain the Universal Door Answering System.

## **SPECIFICATIONS**

### **Purpose**

Provides remote door answering from a telephone or telephone system.

### **Applications**

- Electronic Key Systems
- PABXs
- 1A2 Key Systems
- Stand Alone Systems

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

### **Features**

- Line key access from Electronic or 1A2 key systems
- Loop trunk port access from PABX
- Dedicated single line telephone access
- Built in handsfree amplifier
- RJ11 modular connector for Tip and Ring connections
- Power on LED
- Provides contact for electric strike plate
- Programmable door unlock codes (use with tone dial telephones)
- Input for manual door unlock (push-button)
- Removable screw terminal blocks for all connections
- Built in (30 Hz) ringing generator (with on/off switch)



- Ringback tone for speaker
- Works with the Valcom V-1070A or V-1071 door plate speakers
- AC line powered
- Compatible with VPB-260 Battery Back-up

### **Capacity**

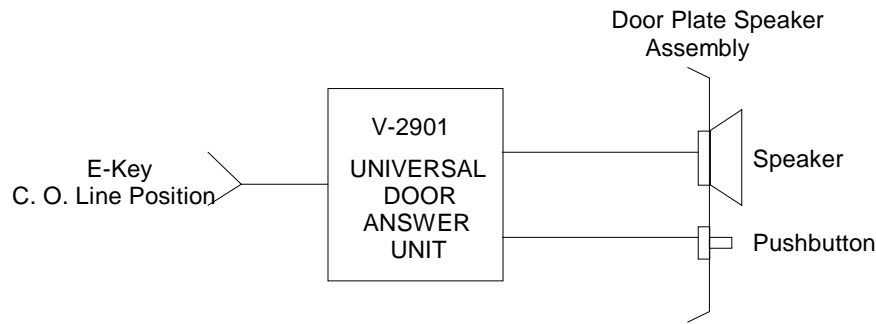
- The V-2901 is a single talkpath unit
- Each V-2901 will drive up to 2 Valcom 45 Ohm Talkback Speakers

### **Dimensions/Weight**

- 8.6" H x 11.0" W x 2.3" D  
(21.6cm H x 27.9cm W x 5.8cm D)
- 3 lbs. (1.36 kg)

### **Specifications**

- Input Impedance: 600 Ohms
- Input Level: -10 dBm Nominal
- Output Impedance: 45 Ohms
- Ring Supply: 90VAC, 30 Hz  
Interrupted 1 sec. on 4 sec. off



**FIGURE 1 - TYPICAL E-KEY INSTALLATION**

**Power Requirements**

- Voltage: 115VAC  
or 24VDC Battery Backup
- Power: 25 watts

**Environment**

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

**DESIGN**

**General**

The V-2901 Remote Door Answering System when used with the V-1070A Door Plate Speaker provides voice paging with handsfree reply to a door. When the push-button on the door plate speaker is pressed, the phone system will ring. By answering the call, the system user can converse with the person at the door. If the door is equipped with an electric strike plate, the system user may allow access by dialing a code or pressing a button.

**Electronic Key, 1A2 Key or PABX Access**

When using the V-2901 with an electronic key system or PABX, the following equipment will be required:

- 1) 1 V-2901 Universal Door Answering Unit
- 2) 1 C.O. Line Position (Electronic Key System  
or  
1 Loop Trunk Position (PABX)  
1 400 type line card (1A2 key)
- 3) 1 Valcom V-1070A or V-1071 Door Plate Speaker

**Dedicated Single Line Phone Access**

When using the V-2901 with a single line telephone, the following equipment will be required:

- 1) 1 V-2901 Universal Door Answering Unit
- 2) 1 Single Line Tone Dial Telephone dedicated for door answer
- 3) 1 Valcom Door Plate Speaker (V-1070A or V-1071))

NOTE: A single line telephone cannot be connected to both the V-2901 and an incoming central office line.

**INSTALLATION**

**Connecting Arrangement**

If a modular cord is used for Tip and Ring connections, start at step ONE. For screw terminal connections start at step TWO.

- \_\_1. Connect one end of a modular cord to the V-2901 RJ11 and the other end to the appropriate line position of the phone system. Go to step 4.
- \_\_2. Connect Tip of the key system line position (loop trunk) to Tip terminal of the V-2901.
- \_\_3. Connect Ring of the key system (loop trunk) to the Ring terminal of the V-2901.
- \_\_4. Connect Tip and Ring of the V-1070A Door Plate Speaker to V-2901 screw terminals marked SPKR.
- \_\_5. Connect Door Button terminals of V-1070A to V-2901 screw terminals marked DPB.
- \_\_6. Turn slide switch SW1 ON if the telephone system is to ring when the door plate button is pressed.

- \_\_7. Plug the V-2901 AC Line Cord into appropriate 115VAC receptacle.
- \_\_8. Adjust volume (See "Volume Adjustments").

### **Remote Door Unlock with Tone Dial Telephone**

- \_\_1. Refer to Table 1 for dip switch settings to program single digit door unlock code.
- \_\_2. Figure 3 shows the V-2901 contact arrangement available for electric strike plate operation.

Before connecting an electric lock to the V-2901, consult the manufacturers instructions for the proper connecting arrangement.

### **Remote Door Unlock with Push-button**

- \_\_1. Connect single pole push-button to V-2901 screw terminals marked Remote Control Unlock.

### **Remote Signaling**

- \_\_1. The V-2901 contains an auxiliary set of make/break contacts. These contacts follow the ringing cycle after the door plate push-button has been pressed. They can be used to operate a remote signaling device; i.e., bell, buzzer, or light. Figure 4 shows a typical connection using these contacts.

### **Volume Adjustments**

There are three volume controls on the V-2901. Two are used to adjust the page level to the door and the handsfree reply. The third control adjusts the ringback tone to the door plate speaker. See Figure 5 for location.

- \_\_1. Phone to Speaker: Adjust this control to give the desired listening level at the speakers.
- \_\_2. Speaker to Phone: Adjust this control so the reply from the speaker is clear. **IMPORTANT:** This is the most critical adjustment. Set the volume at the lowest practical level. Setting this control too high will increase background noise without giving greater talkback volume.
- \_\_3. Ringback Tone: Adjust this control to produce the desired level of ringback tone at the door plate speaker when the door plate push-button is pressed.

### **Battery Back-Up**

A Valcom VPB-260 Battery Back-up may be added to the system to provide power in case of power failure. Figure 6 shows the appropriate connections. The VPB-260 should be allowed to charge for approximately 9 hours before operating the V-2901.

## **OPERATION**

### **General**

When the door plate button is pressed, interrupted ring voltage from the V-2901 is applied to a C.O. line position of the telephone system and a ringback tone is sent to the door plate speaker for the duration that the call button is pressed. When the line is answered the ringing is removed and the handsfree amplifier is connected.

If the door is equipped with an electric strike plate, a preset number can be dialed from the tone dial telephone, operating a relay for 2.2 seconds. The relay provides make/break contacts that may be used to operate the strike plate. A single pole push-button switch connected to the V-2901 can also be used to manually operate the door unlock relay.

The V-2901 provides make/break contacts that follow the ringing cycle. These contacts can be used to operate external signaling devices.

NOTE: Operation is the same when used with all telephone systems.

## **TECHNICAL ASSISTANCE**

Table 2 identifies symptoms of some possible problems with solutions.

Assistance in troubleshooting is available from the factory. When calling, you should have a VOM and a test set available and be calling from the job site. Call (540) 427-3900 and ask for Technical Support, or call (540) 427-6000 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 your company name, address, phone number, contact person, and the nature of the problem. Send the unit to:

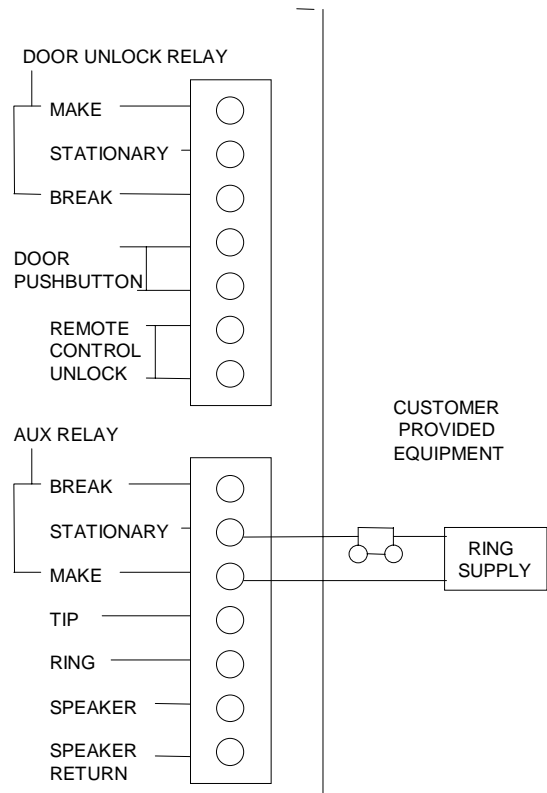
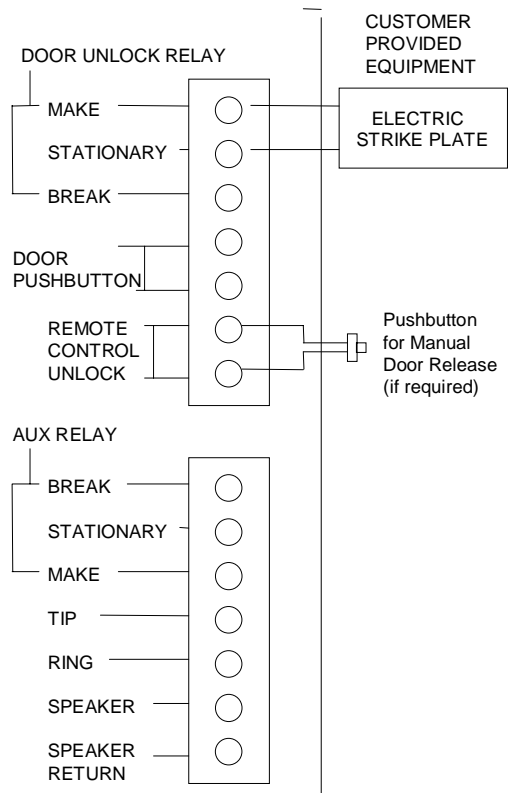
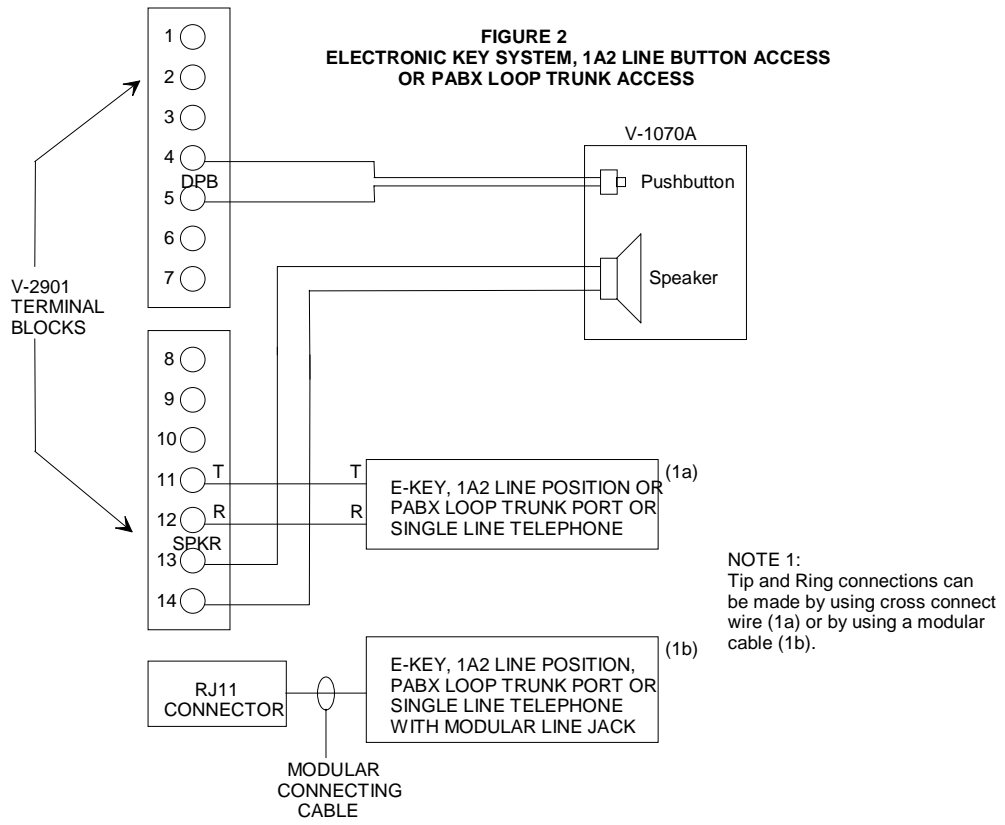
**Valcom, Inc.**  
**Repair and Return Dept.**  
**5614 Hollins Road**  
**Roanoke, VA 24019-5056**

**TABLE 1 - DIPSWITCH SETTINGS FOR DOOR UNLOCK CODES**

DIGIT	SW1	SW2	SW3	SW4
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
0	OFF	ON	OFF	ON
*	ON	ON	OFF	ON
#	OFF	OFF	ON	ON
A	ON	OFF	ON	ON
B	OFF	ON	ON	ON
C	ON	ON	ON	ON
D	OFF	OFF	OFF	OFF

**TABLE 2: TROUBLESHOOTING CHART**

<b>PROBLEM</b>	<b>ACTION</b>
1. No system operation - Power LED not lit.	1a. Verify AC voltage is present at the receptacle. 1b. Check the fuse located on the bottom of the unit. If blown, replace with a 1 amp 250 VAC fuse.
2. No system operation - Power LED is lit.	2a. Verify that screw terminal connectors are completely plugged into circuit board headers. 2b. Refer to Figure 2 and verify all connections.
3. No paging at speaker.	3a. Check door plate speaker connections. 3b. Refer to Figure 5 and adjust Phone to Speaker volume.
4. Paging at speaker but no reply from speaker.	4a. Refer to Figure 5 and adjust Speaker to Phone volume.
5. No system ringing when the doorplate button is pressed.	5a. Refer to Figure 5 and check Ring ON/OFF switch.
6. Door unlock relay does not operate.	6a. Refer to Table 1 and verify dip switch settings.
7. No ringback tone to speaker when door button is pressed.	7a. Refer to Figure 5 and adjust ringback tone volume control.



## 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:

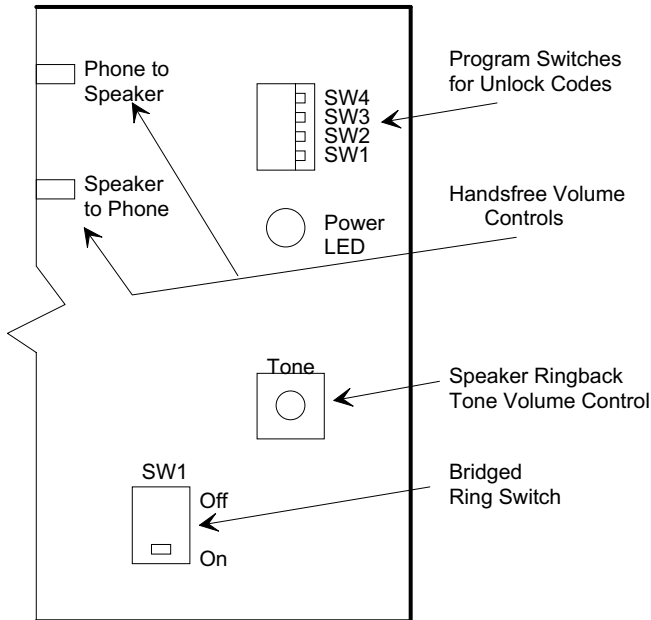
1. inspection by Valcom, Inc. indicates the validity of the claim,
2. the defect is not the result of damage, misuse, or negligence after the original shipment.
3. the product has not been altered in any way or repaired by others and that factory sealed units are unopened (A service charge plus parts 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.**

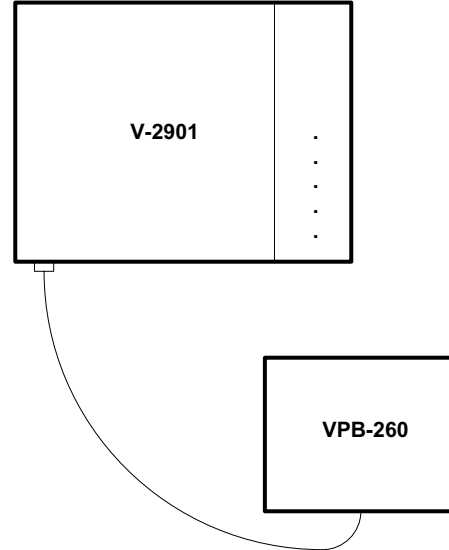
This warranty specifically excludes damage incurred in shipment. In the event a product is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved in accordance with the F.O.B. point.

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**FIGURE 5  
VOLUME CONTROL AND SWITCH LOCATIONS**



**FIGURE 6  
BATTERY BACK-UP**