

V-2924A

TALKBACK INTERCOM SYSTEM

EXPANDABLE 24/48/72/96 ZONE

CONTENTS

INTRODUCTION	1, 2
SPECIFICATIONS	2, 3
INSTALLATION	3, 4
Precautionary Information	3, 4
V-2924A Control/Connector Locations	5
Punchdown Block Connections	6
Attendant Port Connection	7
Background Music Connection	7
Door Speaker/Call Switch Connection	7
Inhibit Option	8
External Tone Source (ex. V-9927A)	8
SMDR Printer Port Cable	8
Override Page Port	9
Global All Call Page	9
Global Priority Page	9
Zone Page Option	10
Clock Sync	10
Dip Switch Options	11
OPERATION	12, 13, 14
Remote Station Access (Call Button)	13
Attendant Station Dialing Plan	13, 14
TROUBLESHOOTING CHART	14
LIMITED WARRANTY	14
TECHNICAL ASSISTANCE	15
GLOSSARY OF TERMS	16



V-2924A with V-2925A Expansion Unit

The V-2924A Talkback Intercom System provides 24 stations with one-way, two-way, group call and all call pages. Each station can be programmed for one-way or two-way communication. The stations may be grouped into one-way page groups. The system also provides the ability for a remote speaker location equipped with a call button to call the attendant location. The attendant receives calling speaker identification when using a Caller ID equipped telephone or a Caller ID display.

The V-2924A is compatible with standard 45 Ohm speakers and one-way amplified speakers and can be accessed via a single line phone, E-Key line port or PABX loop start trunk port. An RS-232 port on the control unit provides a connection for a serial printer for printout of system activity.

The V-2924A provides a background music input and is designed to automatically mute music during a page. The basic system also provides four (4) contact closures associated with the last 4 zones to allow for door strike plate activation. Multiple V-2924A control units can be interconnected to allow global all call and global priority pages for up to six (6) V-2924A control units.

The V-2924A Control Unit provides access to 24 stations. A **V-2925A Expansion Unit** is available for the V-2924A. Each V-2925A Expansion Unit will increase the capacity of the V-2924A by twenty-four (24) additional stations. Up to three (3) Expansion Units can be added to a system for a total of 48, 72 or 96 zones of paging.

A **V-2926 Plug-in Option Board** is also available to provide enhanced Caller ID, flexible architectural numbering, user defined page groups, a secondary serial port for easier programming and real-time clock. A Windows-based programming tool is used with the option board to simplify system programming. The tool can be used with PC compatible computers using the Microsoft Windows operating system.

“WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.”

“WARNING: Shock Hazard – Do Not Open.”

“AVIS: Risque de choc Electrique ne pas Ouvrir.”

“PELIGRO: Corriente Electrica – No Abres.”

FEATURES

- 24 zones of handsfree or one-way communication (expandable up to 96 zones)
- Built-in handsfree amplifier
- Background music input
- Built-in all call with "meet me" and "follow me" capability
- "Ring in" from speaker locations
- Calls placed in queue
- Dial tone programmable (On/Off)
- Alert tone
- Ringback tone
- Repeated alert/privacy tone programmable (On/Off)
- Auxiliary contact closures for zones 21, 22, 23, 24
- Programmable ring pattern
- Ring contact closure follows ring cycle
- Inhibit input
- Caller identification
- RS-232 serial printer port
- Control unit is internally powered (battery backup compatible; (1) VPB-260 per unit)
- Override port
- Emergency tone input
- Time tone input
- UNA contact closure input
- All call/priority page through up to six V-2924A systems of any size
- Group call
- Programmable class of service

CAPACITY

- The V-2924A is a single talkpath unit.

- The maximum number of speakers per zone: one 45 Ohm speaker and/or forty (40) one-way amplified speakers.

NOMINAL SPECIFICATIONS

These units **are not** intended for direct or indirect connection to the public telephone network. When used with a customer premise telephone system such as a key system or PABX system, these units are interfaced to the system via a fully protective paging port or a system central port, which are fully protected interface devices. Additionally, the host system must be configured to disallow a central exchange trunk conferencing in order to prevent indirect connection to the network.

Attendant Port

- Loop Start Access (E-Key C. O. Line Position, Single Line Phone, Trunk Port of PABX)
- DTMF Access
- Caller ID Compatible
- Tip and Ring Input Impedance: 600 Ohms
- Tip and Ring Input Level: -10dBm nominal

Ring Supply

90VAC, 30Hz - Ring Patterns:

2 sec ON, 4 sec OFF:	American
1 sec ON, 4 sec OFF:	Dutch
Double Ring:	British

Override Page Port

- Loop Start Access (E-Key C. O. Line Position, Single Line Phone, Trunk Port of PABX)
- Telephone System Page Port Access
- Tip and Ring Input Impedance: 600 Ohms
- Tip and Ring Input Level: -10dBm nominal

Background Music Amplifiers

Input Impedance: 10K Ohms
Frequency Response: 50Hz to 17kHz +/-3 dB
Distortion: < 1.0 %
Signal to Noise: -70dB
Output Impedance: 45 Ohms
Output Power: 1 Watt per zone

Page Amplifiers

Frequency Response: 150Hz to 7.5kHz +/-3dB
Distortion: < 1.0 %
Signal to Noise: -70dB
Output Impedance: 45 Ohms
Output Power: 1 Watt per zone

POWER REQUIREMENTS

Operating Voltage: 115, 230VAC
Current: 1.0 Amp @ 115VAC
0.5 Amp @ 230VAC
Frequency: 50, 60Hz

ADDITIONAL INPUTS

Inhibit (Ground Activated)
Emergency Tone Input
 Input impedance: 10K Ohms
 Input Level: -10dBm
Time Tone Input
 Input impedance: 10K Ohms
 Input Level: -10dBm

PRINTER PORT

Type: Serial
Baud Rate: 9600
8 Data Bits, No Parity, 1 Stop Bit

ENVIRONMENT

Temperature: 0 to +40°C
Humidity: 0 to 85% (non-precipitating)

DIMENSIONS/WEIGHT

- 17.50"H x 10.31"W x 3.06"D
(44.45cm H x 26.19cm W x 7.77cm D)
- 15 lbs. (6.8 kg)

MAIN UNIT CONTROLS

- Tone level for internally generated tones (one control handles time, emergency and UNA tones)
- Tone level for externally generated tones (one control handles time and emergency tones)
- Phone to speaker level
- Speaker to phone level
- Background music system-wide level control
- All call level
- Priority page level

AUXILIARY CONTACTS

- Contact Closures are available on Zones 21, 22, 23 and 24 (strike plates) (Main Unit). Each contact operates when the respective zone number is dialed and the "*" key is pressed twice.
- Remote Signaling Closure (follows ring pattern) 250mA maximum at 24VDC.

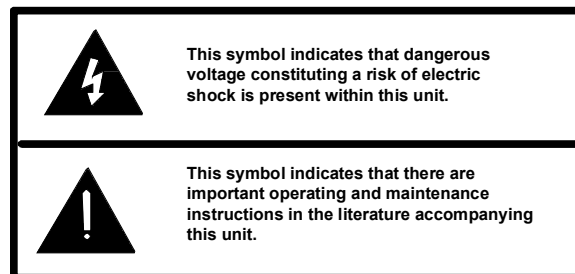
PAGE PRIORITY

It is possible for multiple inputs to request an audio connection to a speaker at the same time. When a conflict occurs, the highest priority audio will be connected. A lower priority input that is overridden will be re-connected if it is still active in the system when all higher priority inputs have ended. Priorities from highest to lowest:

Override Phone
Emergency Tone (continued...)
Time Tone
Inhibit
Handsfree Call
External All Call Page
All Call Page
Group Call Page
Night Ring
Background Music

INSTALLATION

Precautionary Information



FCC Notice

This equipment has been tested and found to comply with the limits for Class A digital devices, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency

energy and if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Mounting

The V-2924A was designed for wall mounting only. Using the enclosed paper template, mark the locations for the mounting screws on a plywood backboard (minimum 1/2 inch thick). Insert screws and tighten to within 1/8 inch of the surface. Hang the unit on the screws, slide the unit left to the narrow end of the slots and tighten screws firmly.

Connections

Mount (3) 66B type punchdown blocks on the backboard near the V-2924A control unit. Make connections to the punchdown blocks as specified in Figure 2 - Punchdown Block Connections. (System Inputs - Block P7, Speaker Outputs - Block P3, Switch Inputs - Block P6). Also refer to the following diagrams for connections of each application.

Setting Option Switches

After all connections have been made, set the option switches to fit the specific user requirements. Refer to Figure 1 for location and Table 1 for the default values of the various switches. Make changes as required.

NOTE: This unit provides an option for disabling Talkback Alert Tone and Repeating Privacy Tones. Check local privacy regulations prior to disabling these tones.

Power Connections

Use a cord set consisting of a minimum 18AWG cord and grounding type attachment plug rated a minimum of 15 Amps, 250 Volts. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed and marked HAR.

- NEMA 5-15: cord set for North American use
- CEE/7: cord set for Continental European use
- BS1363: cord set for United Kingdom use

Connect cord set to unit via IEC 320 female connector located on one end of cord set to IEC 320 male appliance coupler located on V-2924A.

- **For 115 VAC use**, verify fuse rating of 1 Amp and voltage selector switch displays 115 Volts.
- **For 230 VAC use**, verify fuse rating of 0.5 Amp and voltage selector switch display 230 Volts.
- After all required connections have been made, plug the cord set into appropriate AC wall outlet.

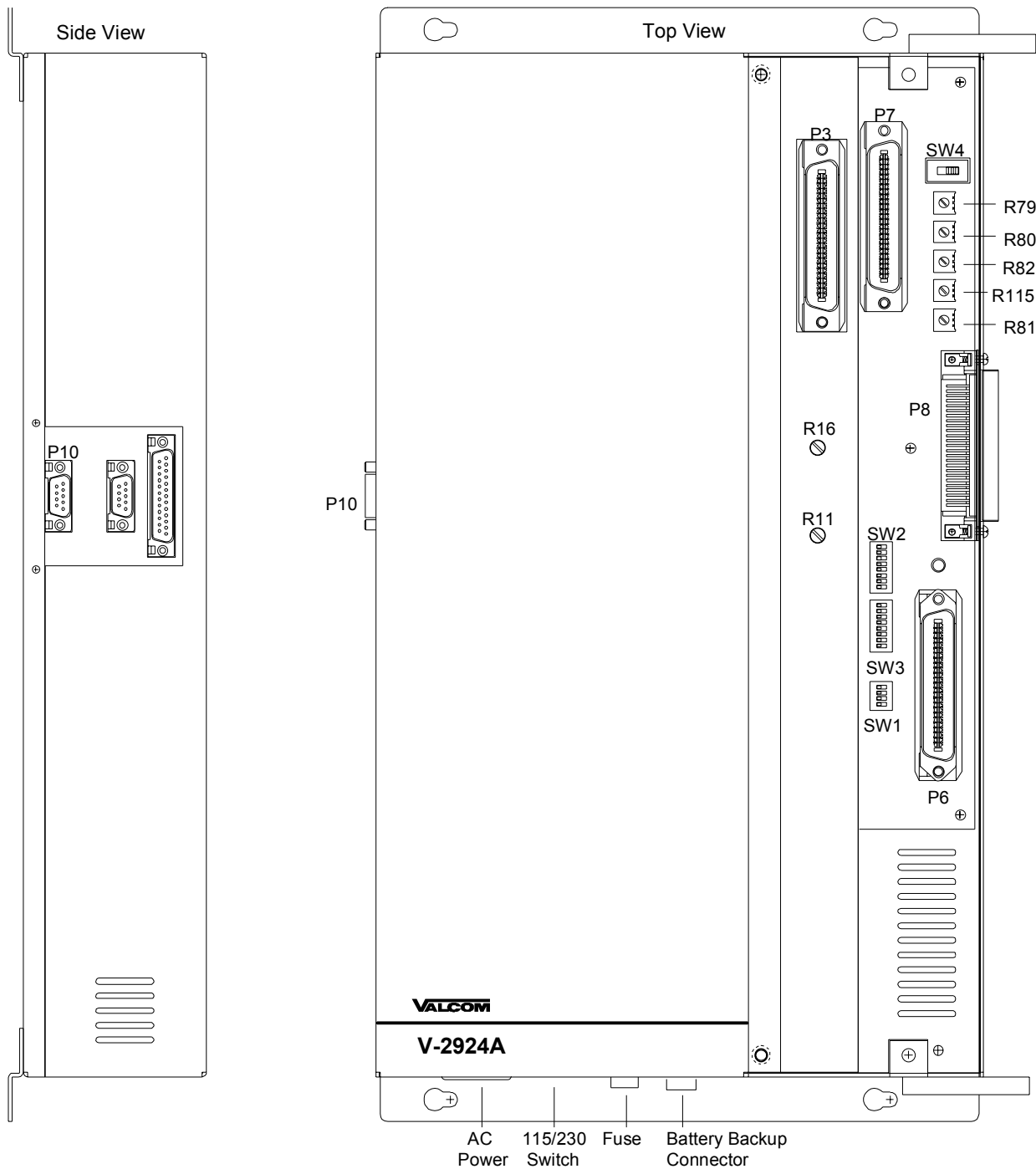
For United Kingdom use:

As the colors of the cores in the main lead may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

- The core which is colored green and yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol (inverted Christmas tree) or colored green and yellow.
- The core which is colored blue must be connected to the terminal which is marked with the letter N or colored black.
- The core which is colored brown must be connected to the terminal which is marked with the letter L or colored red.

The V-2924A may be provided with one of the following:

FIGURE 1 - 2924A CONTROL AND CONNECTOR LOCATIONS



Switches:

- SW1 - BGM Group Select Dip Switch (See Table 1)
- SW2, SW3 - Option Dip Switch (See Table 1)
- SW4 - Battery Feed Switch (Priority Port)

Connectors:

- P3 - 45 ohm Speakers (See Figure 2)
- P6 - Call-In Switch Inputs (See Figure 2)
- P7 - System Connections (See Figure 2)
- P8 - Expansion Unit Connector
- P10 - RS232 Serial Port for SMDR (DB9 Connector)

Volume Controls:

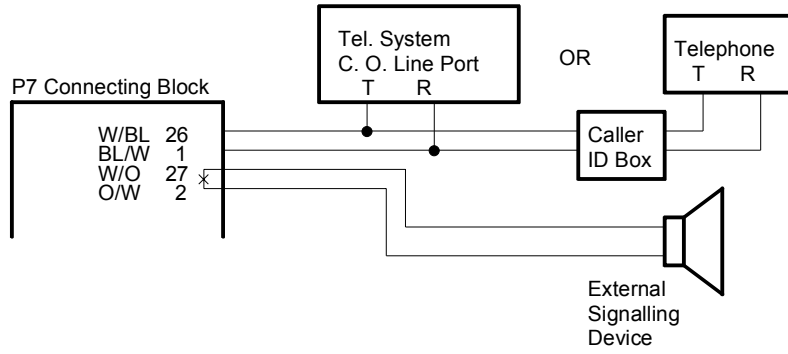
- R11 - Handsfree Speaker to Phone Level
- R16 - Handsfree Phone to Speaker Level
- R79 - Background Music Level
- R80 - External Tone Source Level
- R81 - All Call Adjust Volume/Attendant Level
- R82 - Override Port Page Level
- R115 - Internal Tone Source Level

FIGURE 2 - PUNCHDOWN BLOCK CONNECTIONS

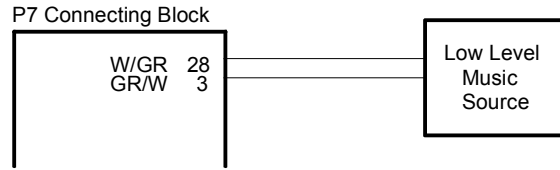
Block P3 - Speaker Outputs			Block P6 - Switch Inputs			Block P7 - System Inputs			
26	W/BL	T STA 1	26	W/BL	INA1	26	W/BL	Tip - Attendant Tel	Group 1
1	BL/W	R STA 1	1	BL/W	INB1	1	BL/W	Ring - Attendant Tel	
27	W/O	T STA 2	27	W/O	INA2	27	W/O	Common Audible C.C.	
2	O/W	R STA 2	2	O/W	INB2	2	O/W	Common Audible C.C.	
28	W/GR	T STA 3	28	W/GR	INA3	28	W/GR	BGM Input	
3	GR/W	R STA 3	3	GR/W	INB3	3	GR/W	BGM Input	
29	W/BR	T STA 4	29	W/BR	INA4	29	W/BR	Riot Mode	Group 2
4	BR/W	R STA 4	4	BR/W	INB4	4	BR/W	Riot Mode	
30	W/S	T STA 5	30	W/S	INA5	30	W/S	External Tone - Tip	
5	S/W	R STA 5	5	S/W	INB5	5	S/W	External Tone - Ring	
31	R/BL	T STA 6	31	R/BL	INA6	31	R/BL	Clock Activate	
6	BL/R	R STA 6	6	BL/R	INB6	6	BL/R	Clock Activate	
32	R/O	T STA 7	32	R/O	INA7	32	R/O	Clock Enable C. C.	Group 3
7	O/R	R STA 7	7	O/R	INB7	7	O/R	Clock Enable C. C.	
33	R/G	T STA 8	33	R/G	INA8	33	R/G	Emergency Activate	
8	G/R	R STA 8	8	G/R	INB8	8	G/R	Emergency Activate	
34	R/BR	T STA 9	34	R/BR	INA9	34	R/BR	Emergency Enable C. C.	
9	BR/R	R STA 9	9	BR/R	INB9	9	BR/R	Emergency Enable C. C.	
35	R/S	T STA 10	35	R/S	INA10	35	R/S	Override Page Port - Tip	
10	S/R	R STA 10	10	S/R	INB10	10	S/R	Override Page Port - Ring	
36	BK/BL	T STA 11	36	BK/BL	INA11	36	BK/BL	Dry Priority Activate	
11	BL/BK	R STA 11	11	BL/BK	INB11	11	BL/BK	Dry Priority Activate	
37	BK/O	T STA 12	37	BK/O	INA12	37	BK/O	Inhibit	
12	O/BK	R STA 12	12	O/BK	INB12	12	O/BK	Inhibit GND	
38	BK/G	T STA 13	38	BK/G	INA13	38	BK/G	N. C.	Group 4
13	G/BK	R STA 13	13	G/BK	INB13	13	G/BK	N. C.	
39	BK/BR	T STA 14	39	BK/BR	INA14	39	BK/BR	N. C.	
14	BR/BK	R STA 14	14	BR/BK	INB14	14	BR/BK	N. C.	
40	BK/S	T STA 15	40	BK/S	INA15	40	BK/S	N. C.	
15	S/BK	R STA 15	15	S/BK	INB15	15	S/BK	N. C.	
41	Y/BL	T STA 16	41	Y/BL	INA16	41	Y/BL	N. C.	
16	BL/Y	R STA 16	16	BL/Y	INB16	16	BL/Y	N. C.	
42	Y/O	T STA 17	42	Y/O	INA17	42	Y/O	Global Priority Activate	
17	O/Y	R STA 17	17	O/Y	INB17	17	O/Y	Global Priority Activate	
43	Y/G	T STA 18	43	Y/G	INA18	43	Y/G	Global All Call Activate	
18	G/Y	R STA 18	18	G/Y	INB18	18	G/Y	Global All Call Activate	
44	Y/BR	T STA 19	44	Y/BR	INA19	44	Y/BR	Global Page Tip	Group 4
19	BR/Y	R STA 19	19	BR/Y	INB19	19	BR/Y	Global Page Ring	
45	Y/S	T STA 20	45	Y/S	INA20	45	Y/S	Clock Sync	
20	S/Y	R STA 20	20	S/Y	INB20	20	S/Y	Clock Sync	
46	V/BL	T STA 21	46	V/BL	INA21	46	V/BL	Night Ring Activate	
21	BL/V	R STA 21	21	BL/V	INB21	21	BL/V	Night Ring Activate	
47	V/O	T STA 22	47	V/O	INA22	47	V/O	Sta. 21 C. C.	
22	O/V	R STA 22	22	O/V	INB22	22	O/V	Sta. 21 C. C.	
48	V/G	T STA 23	48	V/G	INA23	48	V/G	Sta. 22 C. C.	
23	G/V	R STA 23	23	G/V	INB23	23	G/V	Sta. 22 C. C.	
49	V/BR	T STA 24	49	V/BR	INA24	49	V/BR	Sta. 23 C. C.	
24	BR/V	R STA 24	24	BR/V	INB24	24	BR/V	Sta. 23 C. C.	
50	V/S	N. C.	50	V/S	N. C.	50	V/S	Sta. 24 C. C.	
25	S/V	N. C.	25	S/V	N. C.	25	S/V	Sta. 24 C. C.	

* If Installed

ATTENDANT PORT CONNECTION

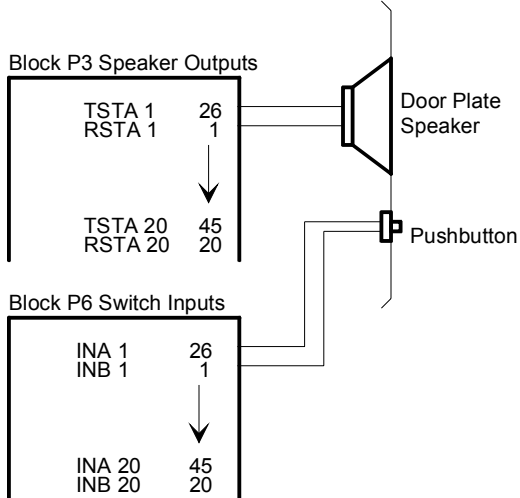


BACKGROUND MUSIC CONNECTION

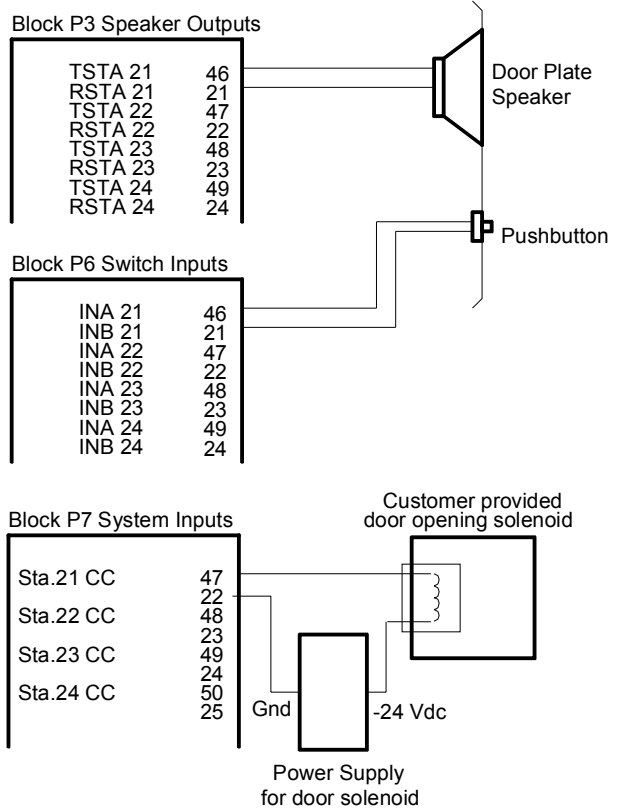


DOOR SPEAKER AND CALL SWITCH CONNECTION

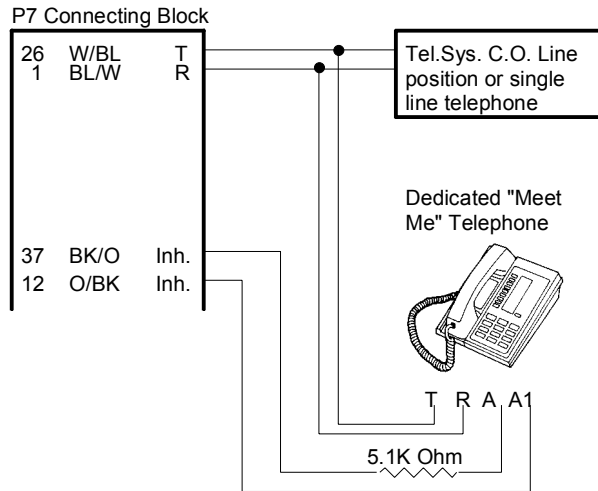
(STATIONS 1-20)



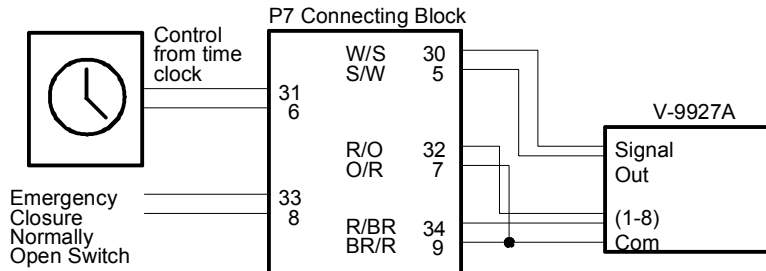
(STATIONS 21-24)



INHIBIT OPTION

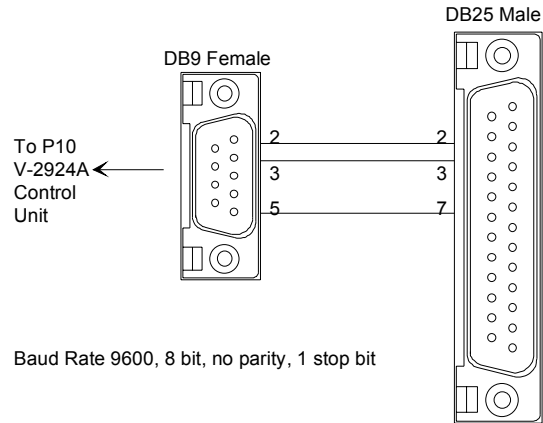


EXTERNAL TONE SOURCE USING A V-9927A

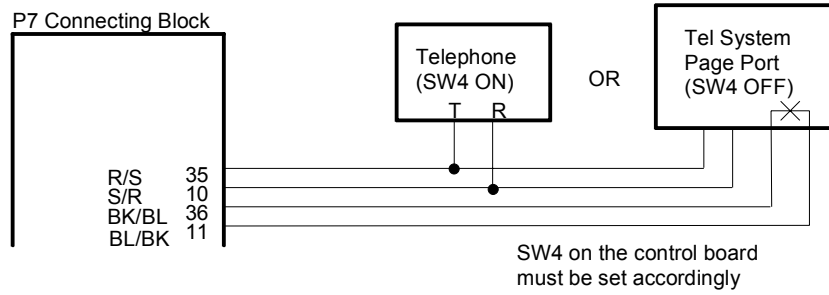


*NOTE: External tone source requires dip switch settings to enable feature. See Table 1(SW3-8)

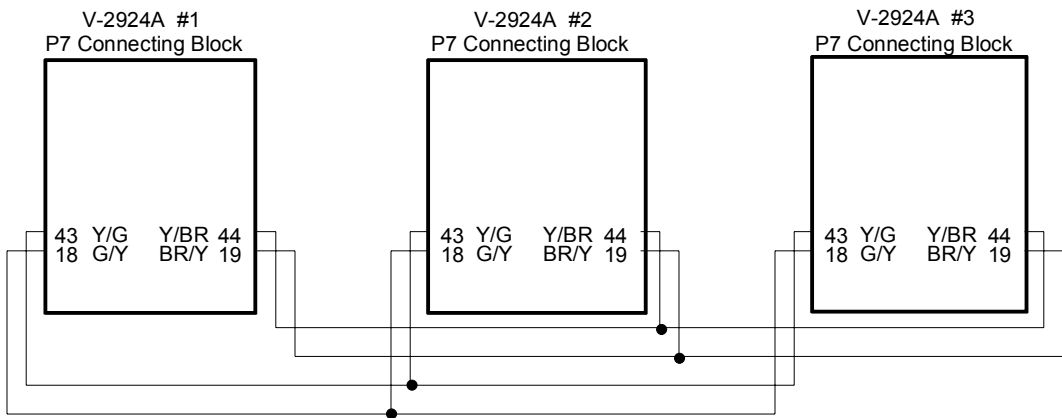
SMDR PRINTER PORT CABLE



OVERRIDE PAGE PORT

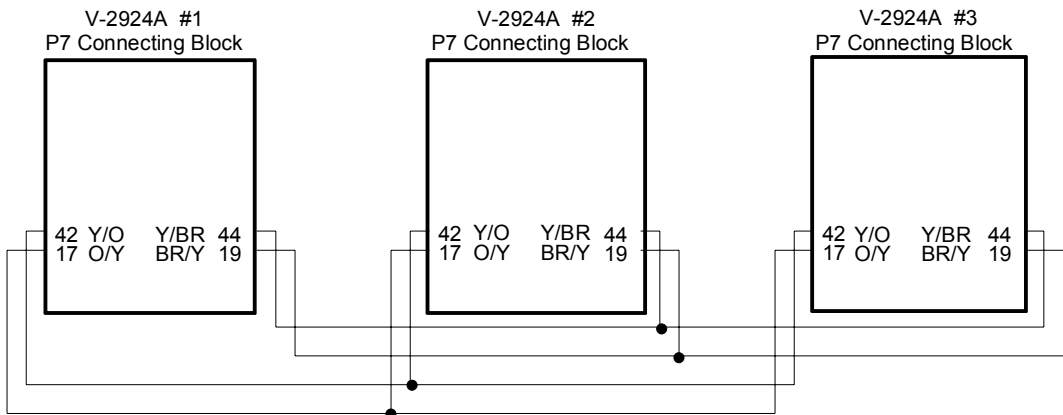


GLOBAL ALL CALL PAGE (FROM ATTENDANT DIAL UP)



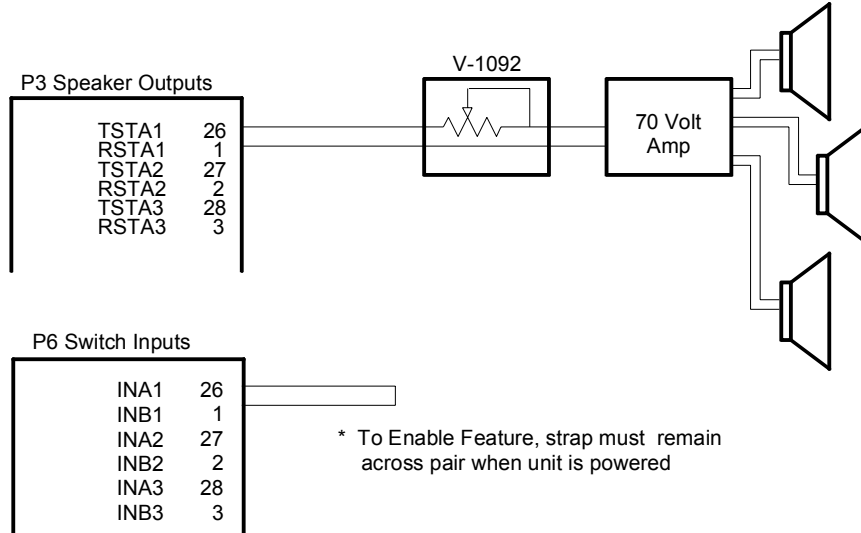
NOTE: Global all call page requires dip switches (SW3-4, SW3-5) to be set on each V-2924A control unit to enable feature.

GLOBAL PRIORITY PAGE (FROM OVERRIDE PAGE PORT)

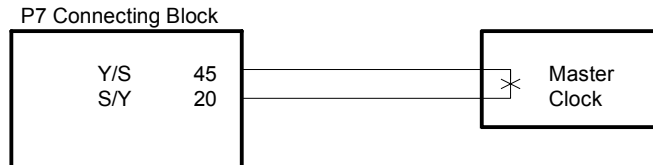


NOTE: Global all call page requires dip switches (SW3-4, SW3-5) to be set on each V-2924A control unit to enable feature.

ZONE PAGE OPTION ONE WAY ONLY



CLOCK SYNC INPUT



Master Clock must make contact closure at 0200 Hours.

User Programming - Basic System

Table 1 – Dip Switch Options for Switches SW1 - SW4:

(Shaded areas indicate default values - Unit power source must be removed before altering dip switch settings)

	Switch OFF	Switch ON
Main Board SW2		
SW2-1	Station 21 call button NORMAL priority	Station 21 call button LOW priority
SW2-2	Station 22 call button NORMAL priority	Station 22 call button LOW priority
SW2-3	Station 23 call button NORMAL priority	Station 23 call button LOW priority
SW2-4	Station 24 call button NORMAL priority	Station 24 call button LOW priority
SW2-5	2 digit dialing plan	3 digit dialing plan
SW2-6	No queue tone to speaker/attendant	Queue tone to speaker/attendant
SW2-7	No dial tone to attendant	Dial tone to attendant
SW2-8	No handsfree alert tone to speaker	Handsfree alert tone to speaker
Main Board SW3		
SW3-1	No 1-way page alert tone to speaker	1-way page alert tone to speaker
SW3-2	No ringback tone to Attendant ¹ (HF or group page)	Ringback tone to attendant (HF and group page)
SW3-3	No 15 second privacy tone to HF speaker	15 second privacy tone to HF speaker
SW3-4	Priority phone controls local V-2924A only	Priority phone controls all connected V-2924As
SW3-5	External priority blocks local priority	Local priority overrides external priority
SW3-6	(see "Ringing Pattern Options" table below)	
SW3-7	(see "Ringing Pattern Options" table below)	
SW3-8	Use internal time and emergency tones	Use V-9927A for time and emergency tones

¹ Tone will be heard regardless of SW3-2 setting if SW2-8 or SW3-1 is turned on

Ringing Pattern Options			
	SW3-6	SW3-7	
American	OFF	OFF	2 seconds ON, 4 seconds OFF
Dutch	OFF	ON	1 second ON, 4 seconds OFF
British	ON	OFF	Double ring burst, x seconds OFF

Background Music Options

	Switch OFF	Switch ON	
Main Board SW1			
SW1-1	No BGM to group 1	BGM to group 1	Stations 1 - 6
SW1-2	No BGM to group 2	BGM to group 2	Stations 7-12
SW1-3	No BGM to group 3	BGM to group 3	Stations 13-18
SW1-4	No BGM to group 4	BGM to group 4	Stations 19-24

Override Port Options

	Switch OFF	Switch ON
Main Board SW4	Tel. System Page Port Access	Loop Start Trunk Port

OPERATION

Originate a Handsfree Page

- Lift handset, receive dial tone (default)
- Dial access code
- Hear alert tone (default) in handset and at speaker
- Issue page
- Anyone hearing page can reply handsfree by speaker
- Hang up to terminate call

Originate a Group Page

- Lift handset, receive dial tone (default)
- Dial group page access code
- Hear alert tone (default) in handset and at speaker
- Issue page
- Hang up to terminate page

Originate a "Serial" Group Page

- Lift handset, receive dial tone (default)
- Press #60 and codes for groups to receive page (attendant receives a single beep tone after each group code; if an invalid group is dialed attendant receives an error tone and is allowed to re-enter the group)
- Press "*" to connect the page after last group is dialed
- Hear alert tone (default) in handset
- Issue page
- Hang up to terminate page

Originate an All Call Page

- Lift handset, receive dial tone (default)
- Dial the all call page code (#11 system all call; #10 for external all call-multiple V-2924As)
- Hear alert tone (default) in handset
- Issue page (if multiple V-2924As are wired together and the external all call page is dialed, the page will be heard through all interconnected V-2924As)

One-Way Page with Meet Me/Follow Me

Attendant makes an all call or group page to locate a specific individual:

- Called person presses call button two times at any talkback speaker (this cancels the page to all other speakers and connects the attendant to the answering speaker).
- Called person presses the call button of another speaker included in the original page two times, the call is disconnected from the active speaker and reconnected at the new speaker.

- Handsfree alert tone notifies the attendant and speaker location the "Meet Me" or "Follow Me" was successful.

Inhibit

Allows the use of a single line phone ("A" lead modified). When the phone goes off hook, all handsfree, group and/or all call pages are cancelled and the phone is connected to the attendant.

Override Page Port

When a phone connected to the override page port goes off hook, it is immediately connected to all speakers for a one-way page. Any existing handsfree or one-way pages will be placed at the top of the queue for reconnection when the priority phone releases. The attendant phone receives a repeat beep tone alerting of an override.

Queue Operation

Attendant phone is in use and another call is placed from a speaker location, the phone and connected speakers receive a queued call tone (single or triple beep tone) and the call is placed in the queue. Pressing the "#" key twice while on a call with one or more queued calls, will disconnect the current call and connect the attendant to the next call in the queue. If the attendant hangs up while calls are in the queue, the phone will ring and the next call in the queue will be connected when the phone is answered. Queued calls will be accessed in the order received with a maximum of 20 calls being in the queue at one time. If the queue is full, additional calls are ignored unless the last queued call has a lower priority than the incoming call in which case the lower priority call will be replaced in the last position by the new call.

Placing a Call from a Speaker

- Press call button, attendant phone rings
- Attendant answers, phone and speaker are connected through handsfree circuit
- Hear alert tone in handset and at speaker
- Person at speaker converses handsfree to attendant
- Attendant must hang up to terminate call

Placing a Call from a Door Box

- Press door button, attendant phone rings
- Attendant answers, phone and speaker are connected through handsfree circuit
- Hear alert tone in handset and at speaker
- Person at speaker converses handsfree to attendant

- Attendant unlocks door by pressing "*" key twice while connected to door speaker (door speaker must be connected to one of the last four zones of the main board making the door unlock feature available)
- Attendant must hang up to terminate call

Remote Station Access - Call Button

Button Presses	Functions
1 press	Originate call to attendant
2 presses	Meet-Me / Follow-Me if appropriate (see definitions)
3 presses	Ignored
4 or more presses	Originate emergency call to attendant

Attendant Station Dialing Plan

2 Digit Zone Access to Individual Stations:

Dial Codes	Functions
10..33	Handsfree speakers - Main board
"*" during HF to zone 30,31,32, or 33	Operate relay for longer of 2.5 seconds or duration of second press; operation may be repeated as long as connected.

(Station 1 = code 10, station 2 = code 11,station 24 = code 33)

3 Digit Zone Access to Individual Stations:

Dial Codes	Functions
101..124	Handsfree speakers - Main board
"*" during HF to zone 121, 122, 123, or 124	Operate relay for longer of 2.5 seconds or duration of second press; operation may be repeated as long as connected.

(Station 1 = code 101, station 2 = 102, station 24 = code 124)

Page Codes

Dial Codes	Groups			
	1	2	3	4
#10 external all call (multiple V-2924As)				
#11 system all call				
#12				
#14				
#60	(Example: #60 + 71 + 73 + *)			
#61				
#62				
#70				
#71				
#72				
#73				
#92	Set Time hh:mm:ss			
#93	Cancel Emergency Tone			
"*" during 1-way page	Mute page while waiting for "Meet Me"			
"##" during any connected call	Disconnect current call connect to next queued call or receive dial tone if none queued.			

#60 - Serial Group Call - User may select any combination of page codes during dialing. Group 10 (External All Call) is not a valid code selection when using these dial codes.

The attendant may dial a new zone or group during a conversation. The current conversation will be disconnected and the new request connected without the attendant needing to return to dial tone.

NOTE:

For Group page selection and Background Music Programming:

Group 1	Stations 1 – 6
Group 2	Stations 7 – 12
Group 3	Stations 13 – 18
Group 4	Stations 19 - 24

BGM Dial Codes:

#960	Background Music OFF
#961	Background Music ON

TROUBLESHOOTING CHART

Problems	Corrective Actions
No system operation	<ul style="list-style-type: none"> • Verify AC voltage is present at the receptacle. • Check the fuse located on the bottom of the unit. If blown, replace with a 1 Amp, 250VAC fuse. • Verify that 25 pair cable connectors are completely plugged into circuit board connectors. • Refer to Figure 1 and verify all connections.
No paging at speaker	<ul style="list-style-type: none"> • Refer to Figure 1 and adjust volume.
Paging at speaker but no reply from speaker	<ul style="list-style-type: none"> • Refer to Figure 1 and adjust volume.
No system ringing when call button is pressed	<ul style="list-style-type: none"> • Verify all associated connections.
Background music not heard at speakers	<ul style="list-style-type: none"> • Verify connection of speakers and background music input.
No dial tone	<ul style="list-style-type: none"> • Refer to dip switch settings.

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.

Headquarters:
Valcom, Inc.
5614 Hollins Road
Roanoke, VA 24019-5056
Phone: (540) 563-2000
FAX: (540) 362-9800

In Canada:
CMX Corporation
35 Van Kirk Drive #11 and 12
Brampton, Ontario L7A 1A5
Phone: (905) 456-1072
FAX: (905) 456-2269

TECHNICAL ASSISTANCE

When trouble is reported, verify there are no broken connections. Assistance in troubleshooting is available from the factory. Call (540) 563-2000 and press 1 for Technical 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 nature of the problem. Send the unit to:

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

Glossary of Terms

(Numbers in parenthesis are the pin outs on P7 connection block required for this feature)

Attendant Port (26/1) - Primary system access is achieved on this pair. A dedicated single line telephone, electronic key system C. O. line position, or PABX loop start trunk port is required for access.

Background Music Input (28/3) - Input for low level music source (i.e., V-2952).

Clock Activate (31/6) - Input to enable tone source for system broadcast.

Clock C. C. (32/7) - Contact closure output follows clock activate to enable external tone source.

Clock Sync (45/20) - Input to reset system time to 0200 hours.

Common Audible C. C. (27/2) - Provides contact closure when attendant station is signaled - follows ring pattern.

Dry Priority Activate (36/11) - Input to enable priority page port when used with telephone system page port.

Emergency Activate (33/8) - Input to enable external tone source for system broadcast.

Emergency C. C. (34/9) - Contact closure follows emergency activate to enable external tone source.

External Tone Input (30/5) - Input for low level tone source (i.e., V-9927A).

Global All Call Activate (43/18) - Control pair for use with multiple V-2924A systems that require all call pages to be broadcast to all interconnected systems.

Global Page Link (44/19) - Audio pair for use with multiple V-2924A systems that require all call and/or priority pages to be broadcast to all interconnected systems.

Global Priority Activate (42/17) - Control pair for use with multiple V-2924A systems that require priority pages to be broadcast to all interconnected systems.

Inhibit (37/12) - If a single line telephone is desired for "Meet Me Answer", a single line "A" lead control telephone and a 5.1K Ohm resistor is required. The Tip and Ring of the telephone connects to the W/BL (26/1) pair, the "A1" lead connects to GND (O/BK, pin 12), the "A" lead has the 5.1K Ohm resistor placed in series and the resistor terminates on Inhibit (BK/O, pin 37).

Night Ring Activate (46/21) - Input to enable night ringing to be broadcast throughout system when contact closure is detected on this pair.

Override Page Port (35/10) - Secondary system access is provided on this pair. A dedicated single line telephone, PABX loop start trunk port, electronic key system C. O. line position or page port with contact closure is required for access. All other system activities are suspended while the override page port is active.

Riot Mode (29/4) - Input to allow attendant port to receive only emergency calls (open - normal mode; closed - riot mode enabled).

Station 21 C. C. (47/22), Station 22 C. C. (48/23), Station 23 C. C. (49/24), Station 24 C. C. (50/25) - Contact closure to activate door strike plate from attendant port. Enabled when "*" is pressed twice after communication has been established between attendant port and station.