



Installation Instructions for Tek-VIEW®

Video Intercom System

IL498
Section A
Rev. 11 - 03/2005

APPLICATION

The Tek-VIEW® intercom system is a combination of an audio communication system and a video monitoring system. This provides both visual identification of the caller, and audio communication between the caller and the resident.

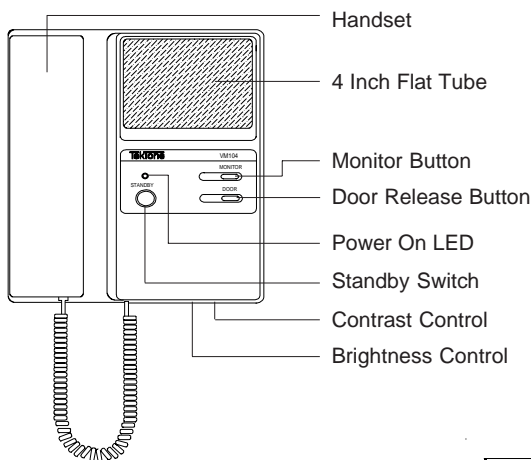
Audio communication uses an amplified handset intercom system at the apartment and a hands-free loudspeaker at the entrance panel. Entry is controlled via a push button actuated electric door release.

Available options include up to three entrances, P.O. key door release and multiple monitors in one suite. Contact your TekTone® dealer for details.

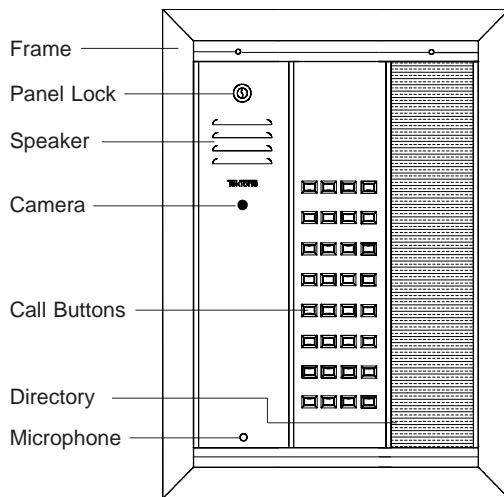
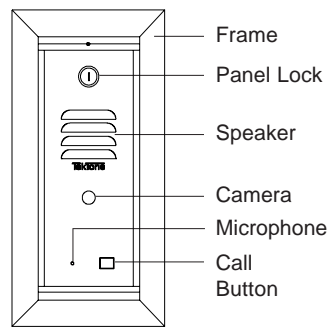
PROCEDURE

1. Read installation instructions before proceeding.
2. Install housings and wiring.
3. Connect wires and install equipment.
4. Apply power and check operation.

VM104 Black & White Video Monitor



VM600B Entrance Panel



VM320B Camera Panel, CM190/32 Button Panel, AM190D Directory and OF193 Frame

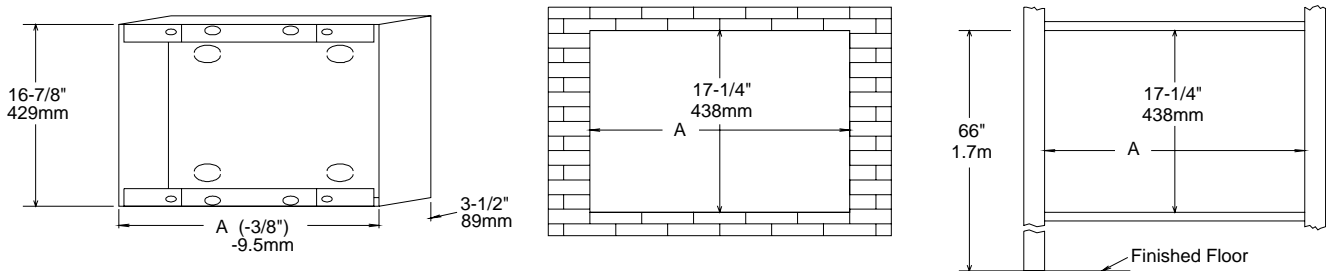
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Figure 1—VM320B Entrance Panel Housing Chart

NUMBER OF BUTTONS PER SYSTEM	NUMBER & TYPE OF PANELS			HOUSING	WALL OPENING WIDTH (*A)
	DIRECTORY	CAMERA	BUTTON		
1 - 60	1	1	1	OH193	12-1/2" (317 mm)
64 - 84	2	1	1	OH194	16-1/2" (419 mm)
88 - 120	2	1	2	OH195	20-1/2" (521 mm)
124 - 160	3	1	2	OH196	24-1/2" (622 mm)

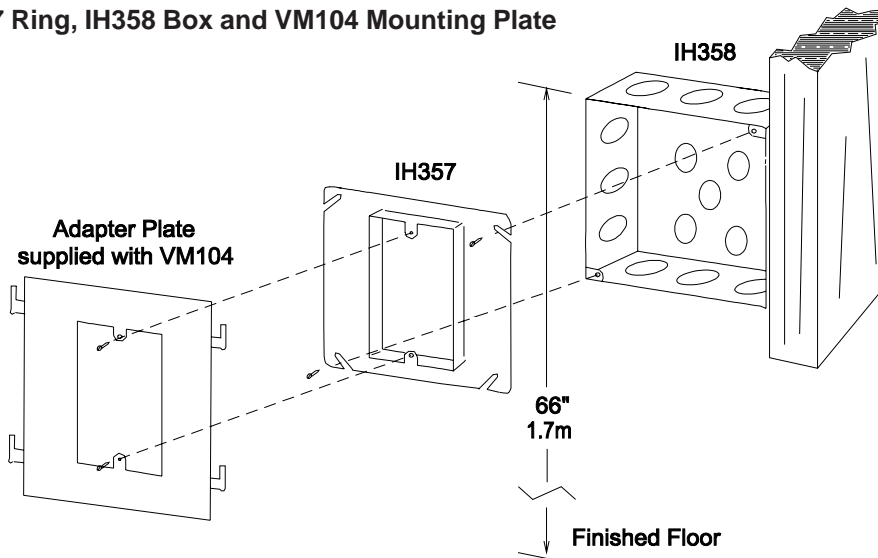
1. Additional panel required for PO202I Postal Option.
2. Wall opening height is 17-1/4" (438 mm) for OH190 series housings.
3. For systems larger than 160 buttons, contact factory.
4. See Figure 2 for wall opening width (*A).
5. Use TekTone®'s "AM" series combination button/directory panels for the smallest applications.

Figure 2—OH-Series Entrance Panel Housing



IL498 OH-series Housing Rev0 061103 1

Figure 3—IH357 Ring, IH358 Box and VM104 Mounting Plate



IL498 VM104 Mounting Plate Rev0 061003 1

SYSTEM COMPONENTS

<i>Model</i>	<i>Description</i>
IH357	Single gang ring for VM104 (mounts to drywall) or IH358 (Steel City #52171).
IH358	Double gang box for IH357 Ring (Steel City #52C14).
SS250	250 VA 16 VAC Transformer. One required per control unit and power supply.
PK314A	Control unit (amplifier and power supply). One required per system.
PK311	Power supply. See system layout section for number of units required.
PK417	Dual entrance transfer relay. One required for each additional entrance panel, maximum three panels per system. See Figures 6 & 7 for wiring.
VM104	Video monitor—black & white.
VM320B	Camera panel—black & white.
PK320	Video distribution amplifier (4 outputs). See system layout section for units required.
VM600B	Entrance panel—black & white camera.
CM Series	Button panels.
AM Series	Button panels.

EQUIPMENT LOCATION AND HOUSING INSTALLATION

Entrance Panel (VM320B) Enclosure:

- Do not locate the entrance panel in areas of extreme heat or cold (where the operating temperature range of 0°C-40°C might be exceeded), or where panel will be exposed to moisture or adverse weather conditions.
- Locate the entrance panel away from direct sunlight. Provide sufficient light to illuminate the caller at night, by installing a minimum of one 40 watt fluorescent bulb above the entrance panel. For best picture quality, the light source should be directed to illuminate the caller's face.
- The top of the housing should be located approximately 66" (1.7 m) above the finished floor surface, to place the camera opening approximately 61" (1.5 m) above the finished floor.
- If a PO202I Post Office key door release panel is used, the minimum panel size is 3 gang. For additional buttons, consult the *Entrance Panel Housing Chart* (Figure 1).

Control Unit:

The Control Unit (PK314A Amplifier and Power Supply) should be installed inside the entrance panel. If for some reason the control unit must be installed away from the entrance panel, observe notes regarding wiring, and locate where the operating temperature of 0°C-40°C will not be exceeded.

Transformer:

The transformer must be located in an accessible area near a source of 117 VAC and away from extreme heat. The transformer should be kept at least 3' (but preferably not more than 50') away from the PK314A. Observe all local electrical codes.

Video Monitor:

Locate the video monitor in an area where the operating temperature does not exceed 0°C-40°C and the humidity is not high. The top of the VM104 housing (IH357, IH358) should be located approximately 66" (1.7 m) above the finished floor. Refer to Figure 3 and to *Wire Connections and Equipment Installation, Video Monitor* section, for installation of IH357 ring or IH358 back box.

SYSTEM LAYOUT

- Maximum number of VM104 monitors per PK314A is 50 units. Only one PK314A control unit is used per system.
- Each additional 20 VM104 monitors require a PK320 amplifier. (See Figure 8 for PK320 wiring and installation instructions.)
- Each additional 80 VM104 monitors require a PK311 power supply and an SS250 transformer. (See Figure 8 for PK311 wiring and installation instructions.)
- Up to three separate VM320B entrance panels may be used per system, following the above guidelines for each entrance panel used. (See Figures 6 and 7 for wiring instructions.)

WIRING INSTRUCTIONS

Run wires according to Figure 4, in conjunction with the following notes.

- Each VM104 is supplied with an RG59U connector board for RG59U cable.
- The maximum number of VM104 monitors per riser is 20. The maximum length of each riser is 200'.

A PK320 video distribution amplifier must be added for every additional 20 monitors (20 per riser) or 200' of cable (see item E below).

- Wire gauge sizes for common wires only are as follows:

+, - Minimum 18 gauge for up to 50 monitors.
Minimum 16 gauge for up to 100 monitors.

1,2,3,4 Two twisted pair 22 gauge. Must be shielded pairs if not in metal conduit.

CT #18

Intercom communication common wires must be routed away from fluorescent lights and AC lines. For

distances greater than 500', use 20 gauge wire. Maximum distance from amplifier for communication wires is 1000'.

- D. Wire gauge size for selective wire (X) is 22 gauge. Wire gauge size for camera wires (CP, CN) is 18 gauge. Unless specified, all other wires are 22 gauge.
- E. Use 16 gauge wire to connect control unit to the transformer. If wire length is greater than 50', use 14 gauge wire.
- F. Run all power supply wires (+ and -) directly to the control unit location (usually the entrance panel location). For wire length greater than 200', use 16 gauge wire.
- G Use 2 cond., #18 cable for door release wiring. If release is located more than 50' from the control unit, use #16 wire.
- H. The control unit (PK314A) is rated for 3 amps at 17 VDC and may be used to supply power for up to 50 VM104 monitors. See *System Layout* section for additional information. Microphone wiring must be be shielded cable, and the shield must be connected to terminal G.

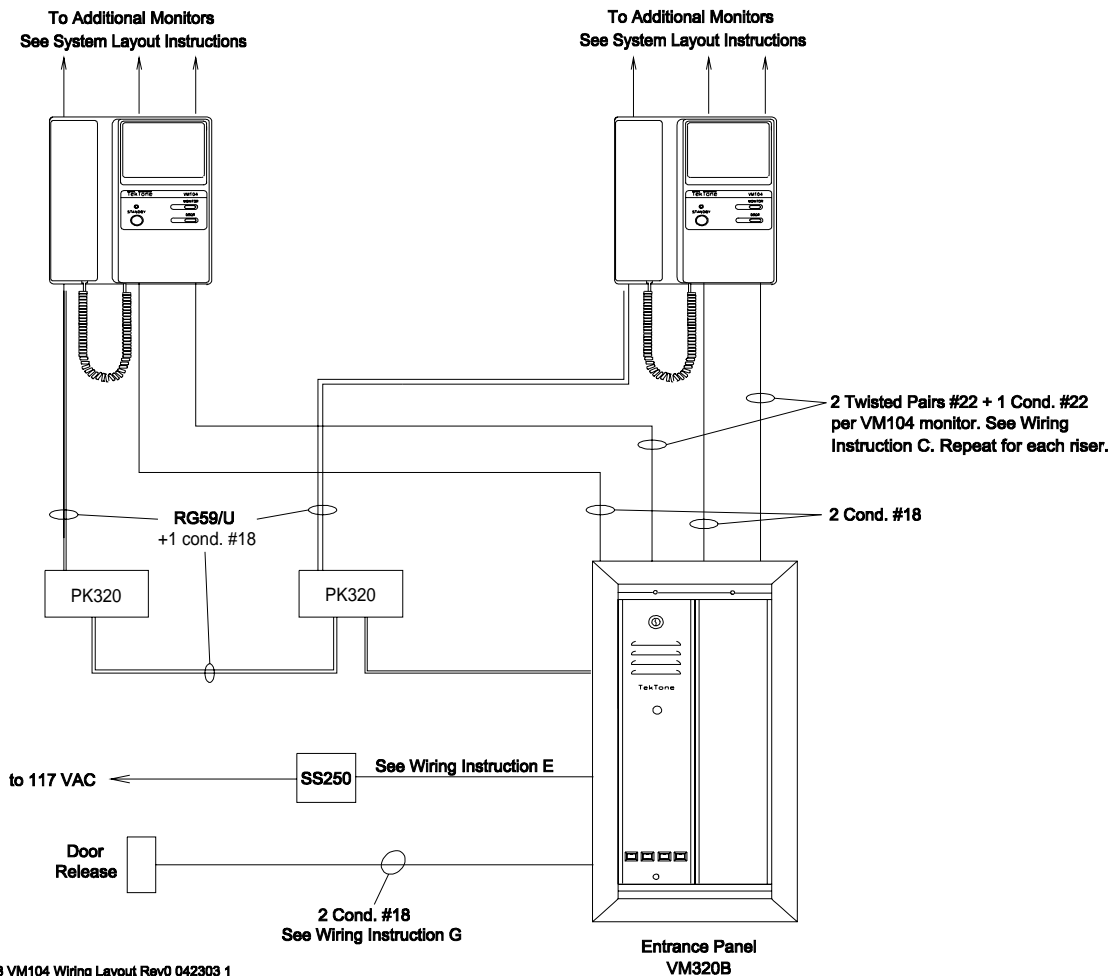
WIRE CONNECTIONS AND EQUIPMENT INSTALLATION

Check all wires for shorts to each other and for grounds. Connect all wires (*except 117 VAC connections to transformers*) as shown in the connecting diagram (Figure 5), and in accordance with the wiring instructions. Refer to Figure 6 for dual entrance wiring.

Entrance Panel (VM320B):

- A. Install frame (OF190 series) into housing (OH190 series).
- B. Connect all wires necessary as shown in connecting diagram (Figure 5). Refer to Figure 6 for dual entrance wiring.
- C. Connect coaxial video cable (RG59U) to the camera cable connector on the back of the camera. Connect the remaining wires from the cable connector CN and CP to supply power.
- D. Install the front panels into the frame, following the directions included with the directory panel.

Figure 4—Wiring Layout Diagram



Video Monitor (VM104):

- A. Connect all necessary wires as shown in the connecting diagram (Figure 5). Refer to Figure 6 for dual entrance wiring. IH357 and IH358 housings include four knock-out holes for cable inlet.
- B. Mount the VM104 to the IH357 and IH358 ring housing using the adapter plate.

Transformer (SS250):

- A. Connect transformer 16 volt terminals to PK314A, terminals T1 and T2. Connect transformer primary to 117 VAC observing all applicable electrical codes.

SYSTEM CHECK-OUT

Check entire system according to the operating instructions, turning each monitor on individually so that if a problem exists it may be easily identified. If the system does not operate as indicated, refer to *Troubleshooting* section.

OPERATING INSTRUCTIONS

Entrance Panel (VM320B, VM600B):

1. Momentarily press button corresponding to desired suite.
2. Reply in a normal voice when spoken to. Reply is hands-free.
3. When door release buzzes, enter through door.

Suite Station (VM104):

1. When call tone is heard, pick up intercom handset.
2. Adjust picture brightness and contrast as necessary using the slide control switches located just below the lower right corner of the video screen.
3. Identify caller on the video screen and converse with them.
4. The door may be opened by pressing the door release button marked **DOOR**.

A monitor will stay on for approximately 1 minute when called. Picture is delayed by approximately 3 to 5 seconds. When the door release is activated, or when a second caller rings another suite, the monitor will shut off.

Calls may also be initiated from the VM104 by pressing the video monitor button marked **MONITOR**. This activates the camera and may be used to re-initiate a call that has been canceled, or to monitor the entrance panel. The monitor will stay on for approximately 1 minute. Only 1 monitor at a time should be on using video monitor button.

If standby control is switched **ON**, the red LED will light and the monitor will remain on standby, ready to operate when another call is placed from the entrance panel. **NOTE:** Performance may vary with large or small installations. If no video contact with the entrance is desired, or if a tenant is leaving the suite, the standby switch may be turned **OFF**. Audio communication will still operate normally.

SYSTEM MAINTENANCE

Entrance Panel (VM320B):

Directory panels are accessible by removing the self-tapping metal screw(s) located in the top L-channel just above each panel. After removing screws, lift L-channel away from frame. Panel can then be removed. Apply directory listings as desired, and replace panels by reversing the above procedure.

Control Unit (PK314A):

Each PK314A has a 5 amp, 3AG fuse for overload protection. Replace this fuse only with the same type and rating. If this fuse continually opens, check for incorrect wiring or equipment failure.

TROUBLESHOOTING

System:

Check for 15–18 VDC on PK314A terminals P and N. This voltage should also appear between the + and - terminals of all video monitors. **NOTE:** The PK314A has an electronic current limiter that will shut the unit off in the presence of a short circuit on the output terminals. When the short is removed, the output should appear again. The current limiter will also act in case of an overload (too many monitors), which will cause the output to switch on and off rapidly. This may be noticed only if all monitors are turned on.

If power supply function is satisfactory and monitors turn on (screen lights up) but no picture is displayed, check the camera by connecting a monitor directly. If the camera does not turn on, check for 12 VDC on camera terminals CP and CN, then check for 10 VDC on PK314A terminal CT (terminal N is negative). Terminal CT voltage comes from the video distribution system (PK320).

Problems with the video distribution system are usually due to incorrect wiring. Check that CT terminal on each video monitor connects directly to the distribution amplifier (PK320) that is feeding the video signal to it. This is necessary because the PK320 is turned on by the connection from the CT terminal on the active monitor to PK320 terminal A. Terminal B on the PK320 connects to PK314A terminal CT to turn on the camera.

Intercom:

Incorrect wiring is the cause of most intercom problems. Check the PK314A by disconnecting the common wires, connecting a monitor directly, and then checking communication. The telephone operation is independent of the video section and should operate even if the video does not. The use of twisted pair wiring as shown on the connecting diagram (Figure 5) is essential for operation.

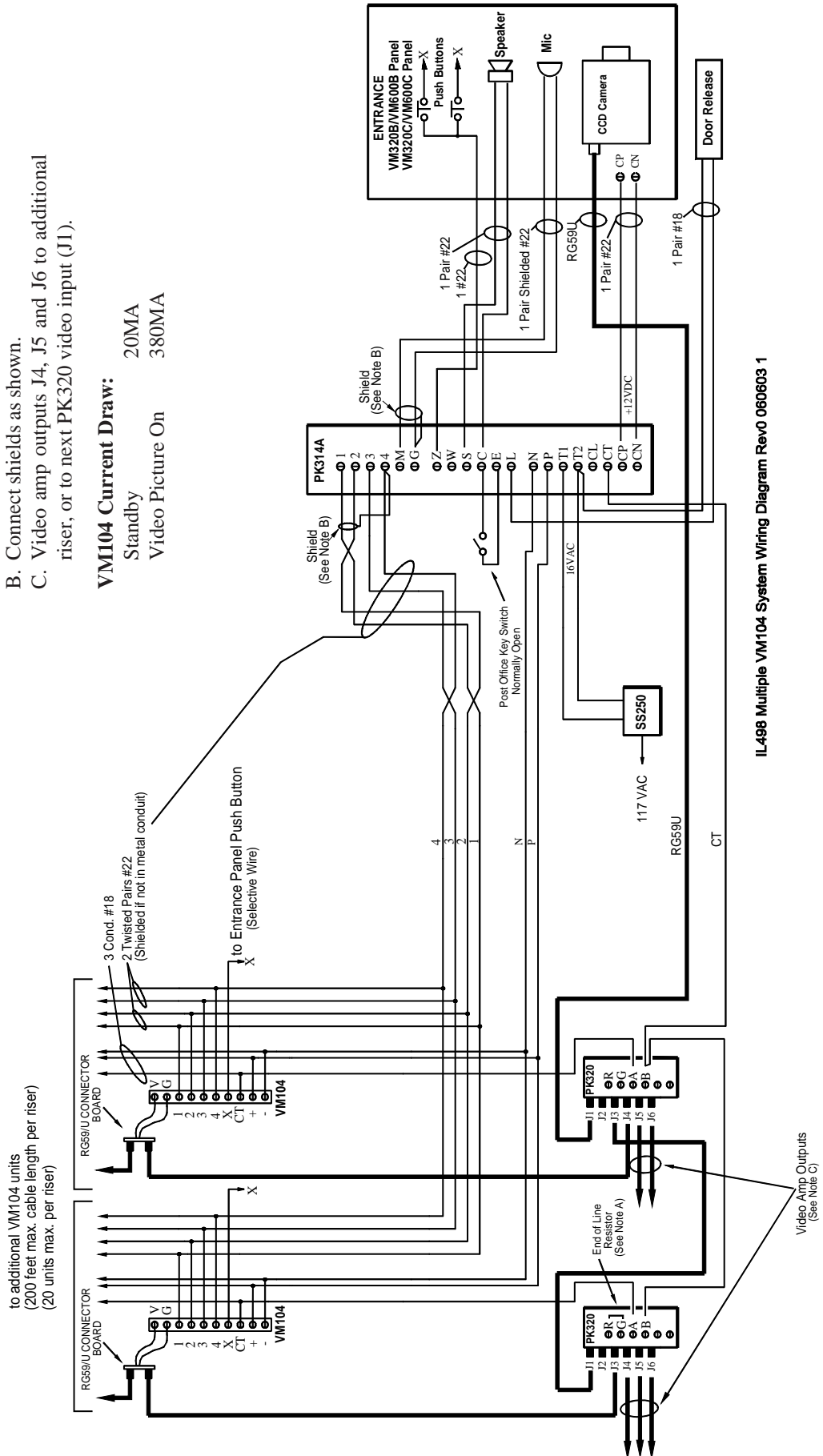
Video Monitors:

Video monitors are best checked by substitution. If the red standby LED is not illuminated when the unit is turned on, verify that +17 VDC is present. If present, replace the monitor; if not, troubleshoot wiring for +17 VDC.

Figure 5—Multiple VM104 System Wiring Diagram

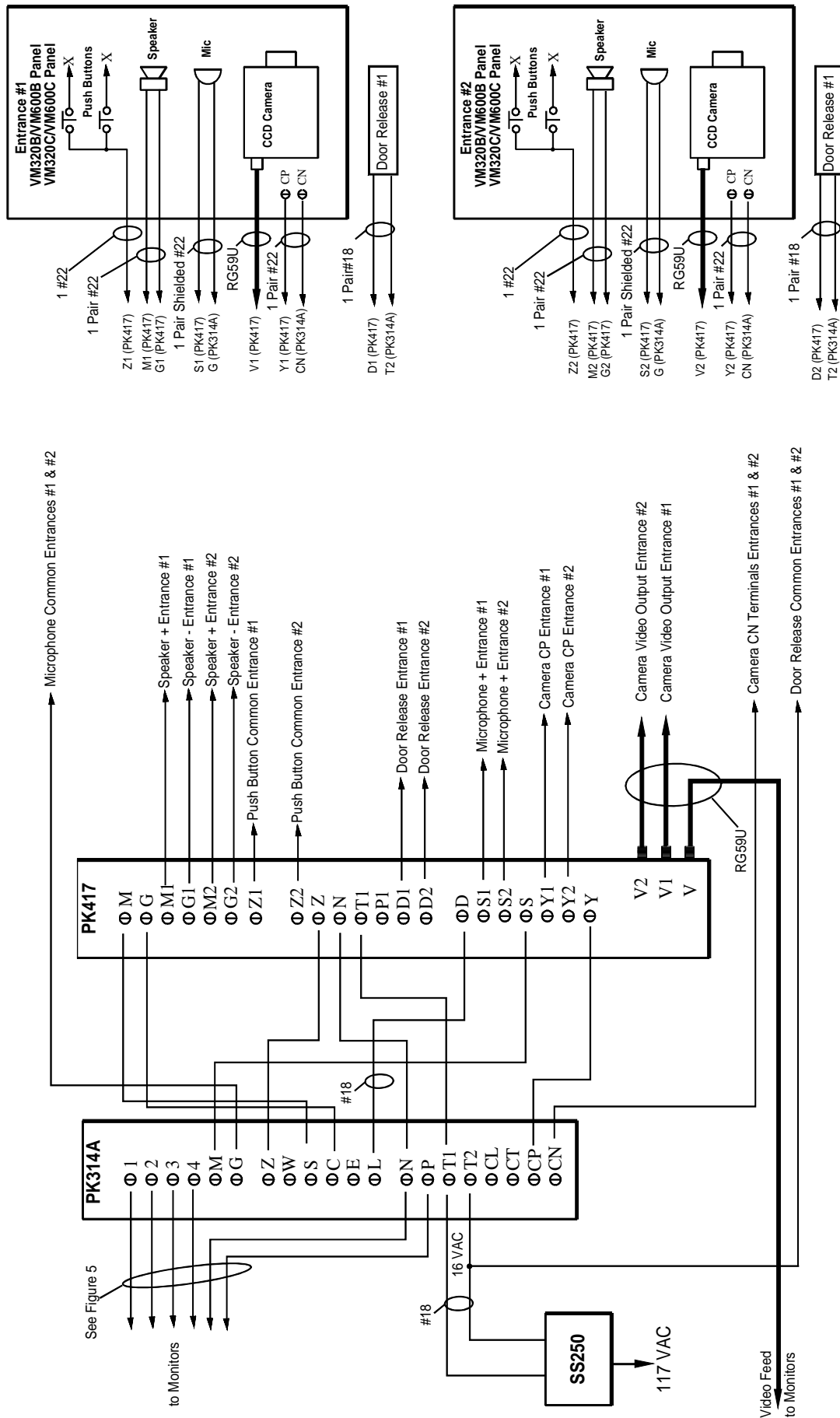
- NOTES:**
- A. Install resistor (75 ohm 1/2 watt) across terminals R and G on the PK320 if the unit is end of line.
 - B. Connect shields as shown.
 - C. Video amp outputs J4, J5 and J6 to additional riser, or to next PK320 video input (J1).

VM104 Current Draw:
 Standby 20MA
 Video Picture On 380MA



IL498 Multiple VM104 System Wiring Diagram Rev0 060603 1

Figure 6—Two Entrance Wiring Diagram

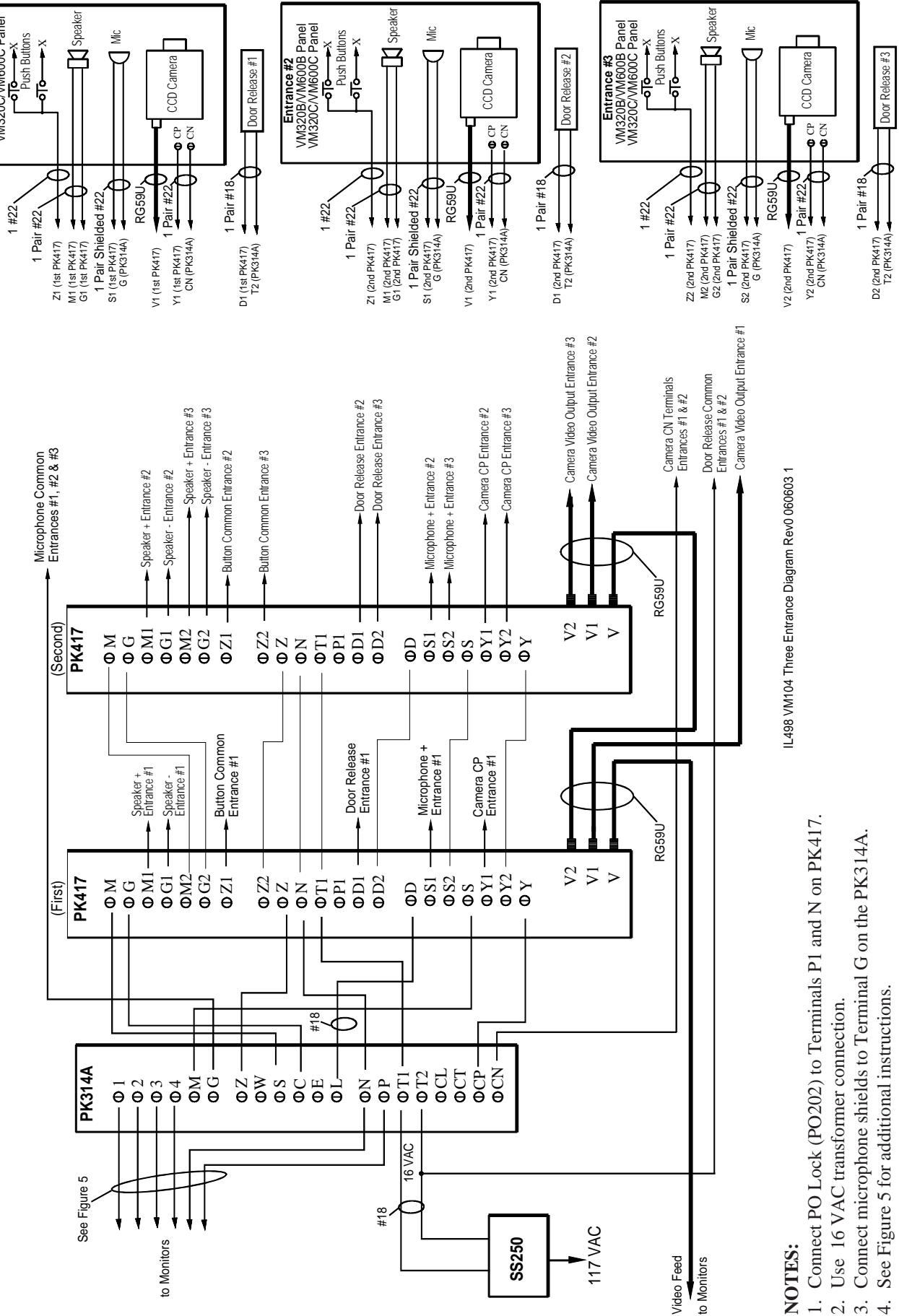


IL498 VM104 Two Entrance Diagram Rev0 060603 1

NOTES:

1. Connect PO Lock (PO202) to Terminals P1 and N on PK417.
2. Use 16 VAC transformer connection.
3. Connect microphone shields to Terminal G on the PK314A.
4. See Figure 5 for additional instructions.

Figure 7—Three Entrance Wiring Diagram

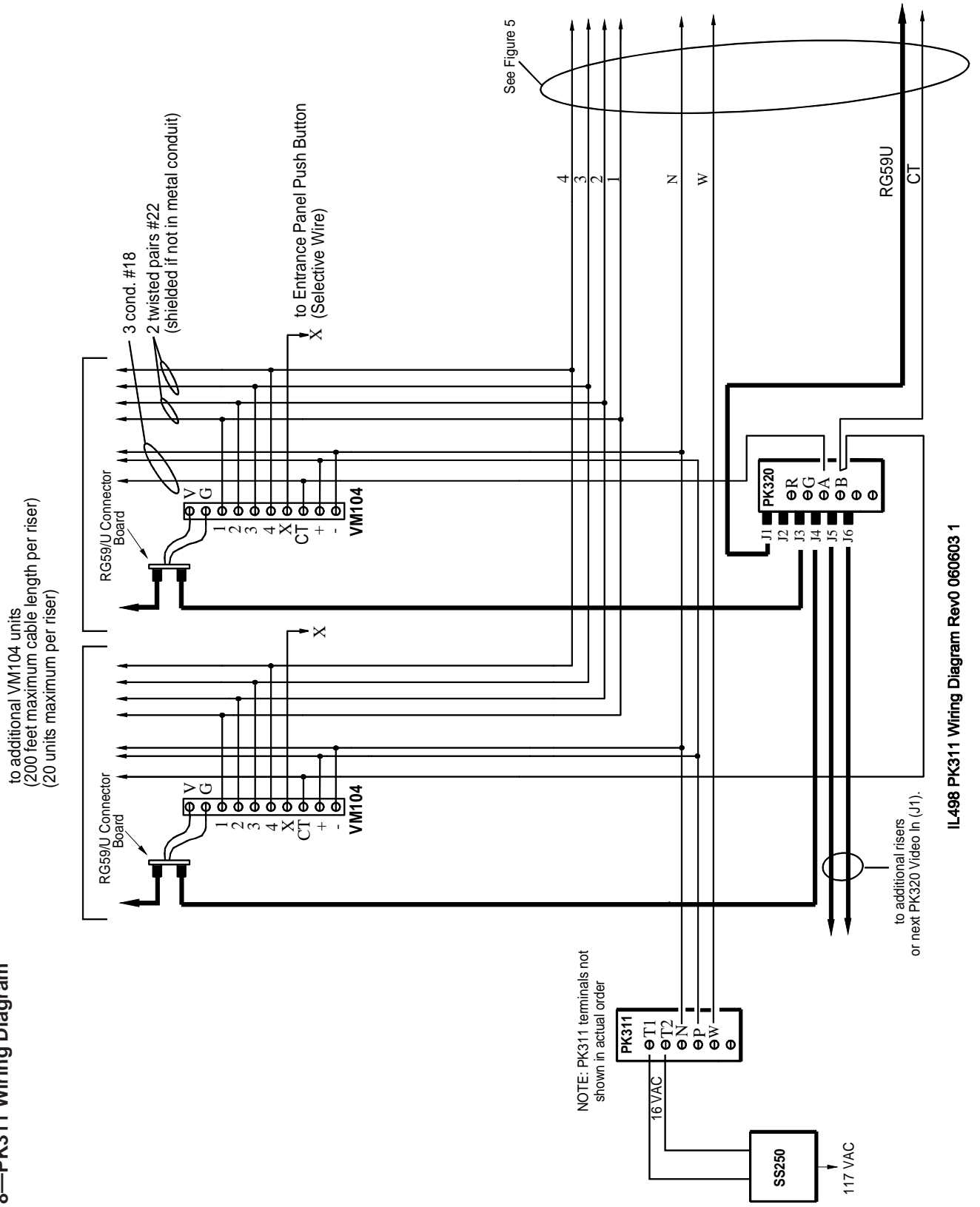


IL498-VM104 Three Entrance Diagram Rev0 060603 1

NOTES:

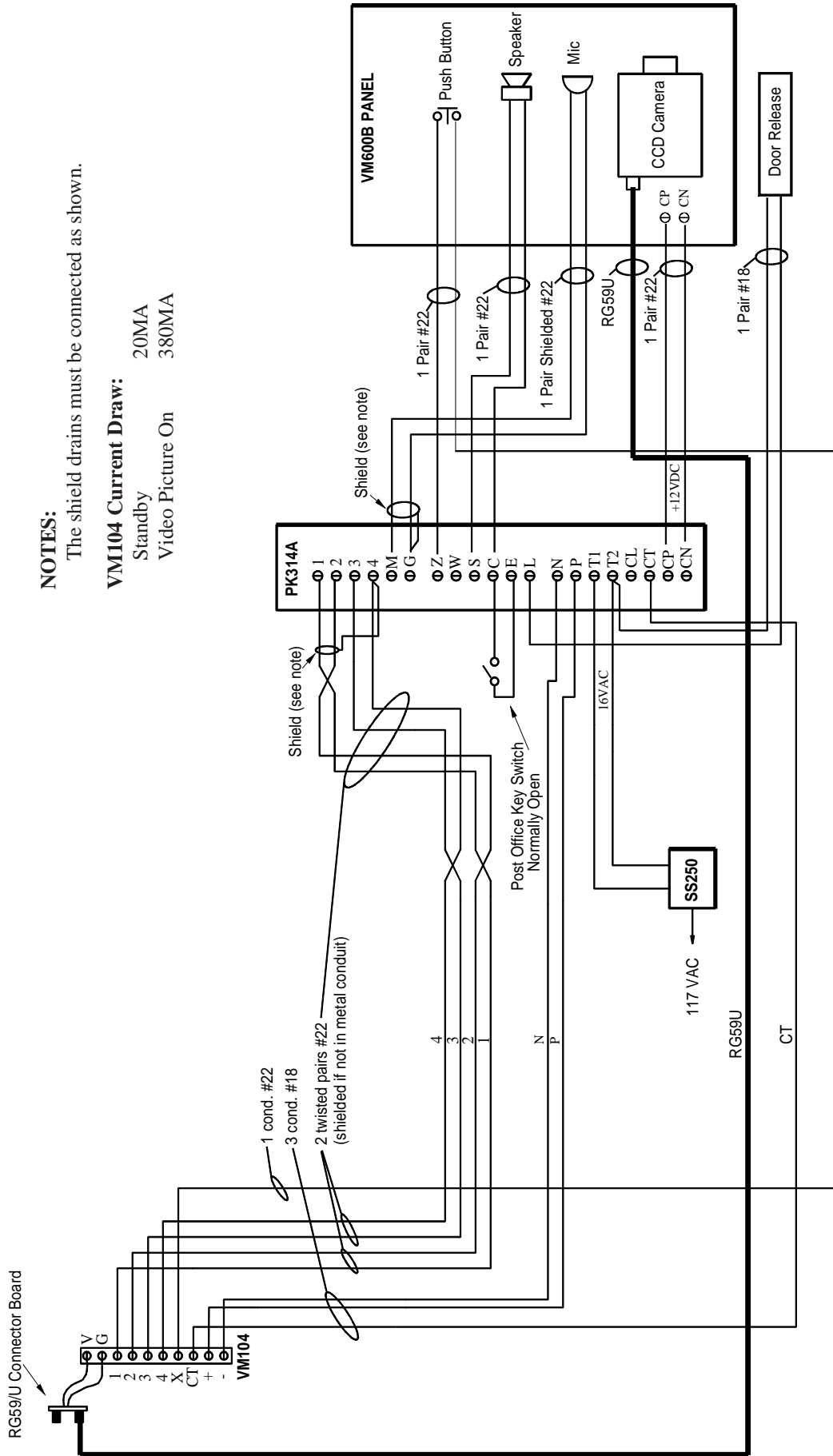
1. Connect PO Lock (PO202) to Terminals P1 and N on PK417.
2. Use 16 VAC transformer connection.
3. Connect microphone shields to Terminal G on the PK314A.
4. See Figure 5 for additional instructions.

Figure 8—PK311 Wiring Diagram



IL498 PK311 Wiring Diagram Rev0 060603 1

Figure 9—Single VM104 System Wiring Diagram



NOTES:
The shield drains must be connected as shown.

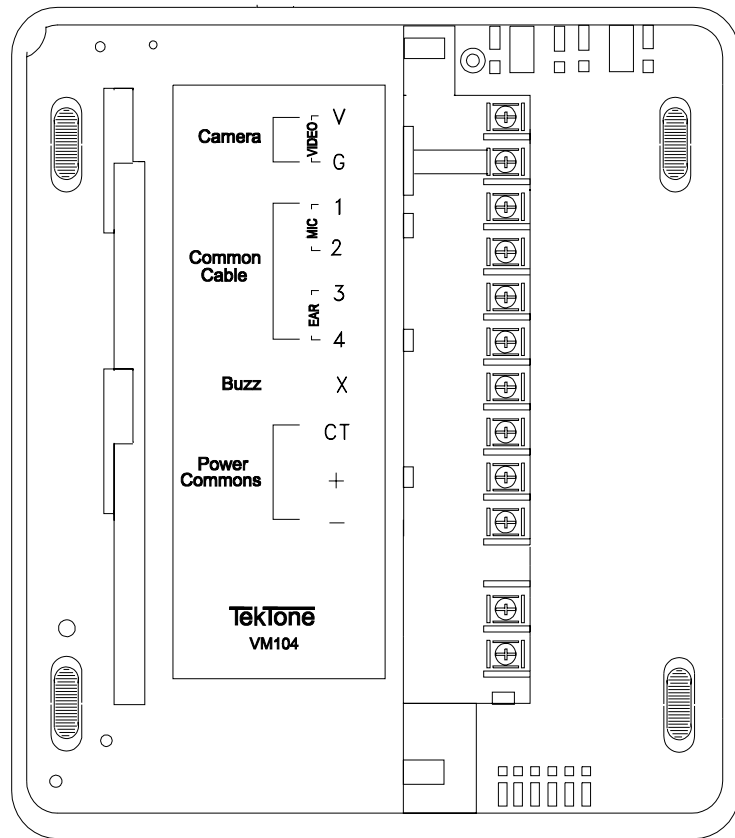
VM104 Current Draw:
Standby 20MA
Video Picture On 380MA

IL498 Single VM104 System Wiring Diagram Rev0 060603 1

**Figure 10—Rear View of VM104
Black & White Video Monitor**

Overall Dimensions:

H: 8.25" (209 mm)
 W: 7.38" (187 mm)
 D: 2.25" (57 mm)



IL498 VM104 Rear View Rev0 060603 1