

# **5000 Series Video Matrix**

**FOR TECHNICAL SUPPORT CALL 513-795-5332**

***For more complete system information see the document  
“5000 Series Audio/Video System Installation & Service Manual”***

# Matrix Installation

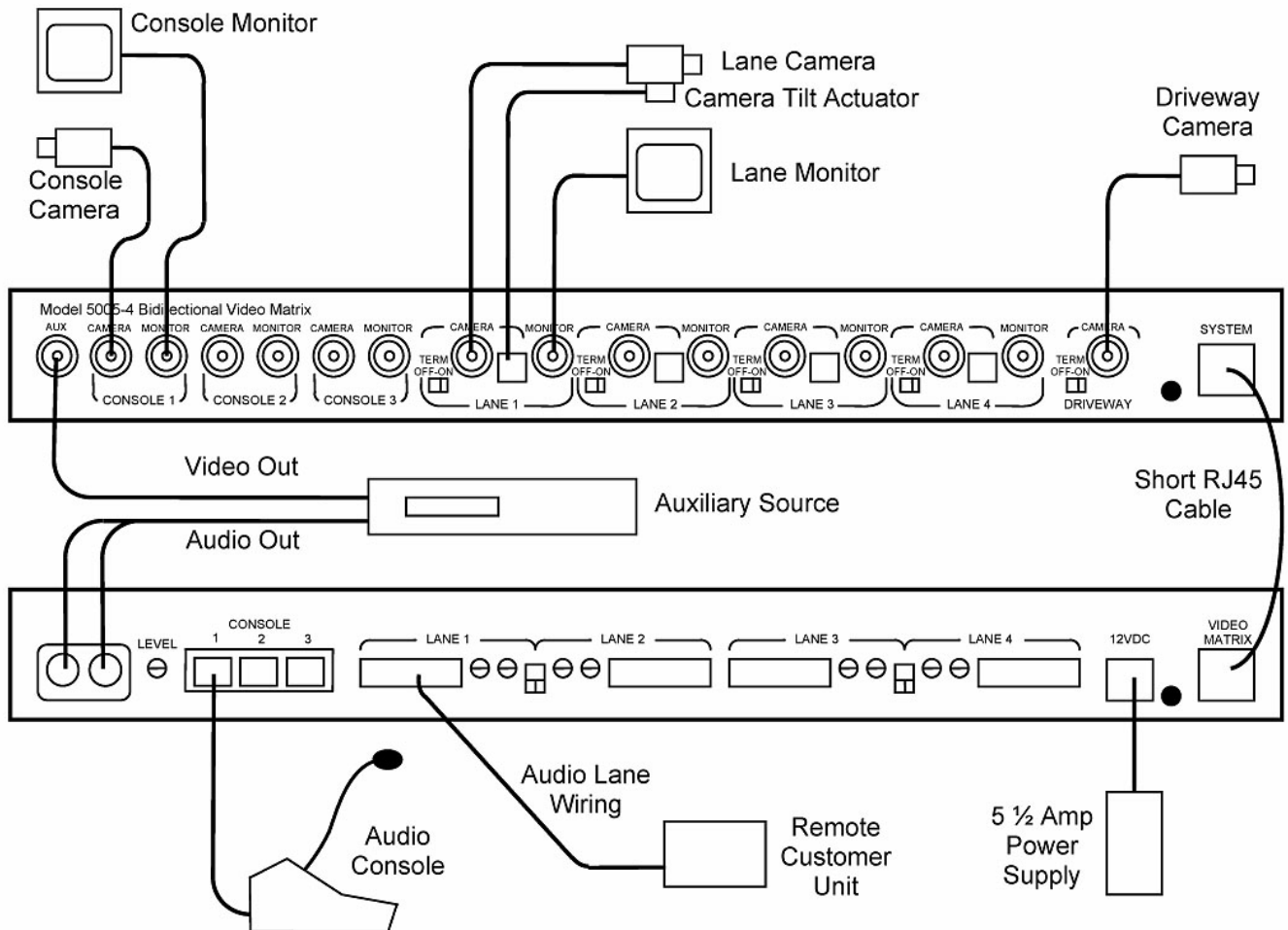
Complete the audio portion of the 5000 Series intercom installation as described in the “5000 Series Audio Matrix” document. Calibrate the audio levels for all lanes and test all functions before starting the video installation.

Mount the video matrix in an accessible but out of the way location near the audio matrix. The 5006 matrix incorporates both audio and video matrixes in a common enclosure.

## Cable Considerations

75 ohm coax cable intended for CCTV (composite video) applications should be used for cameras and monitors. Belden 1426A is a very good cable and can be used for cross reference. This cable has a solid copper center conductor (not copper coated) and has a bare copper braided shield providing 95% coverage. **Do not** use 50 ohm cable or cable intended for broadcast applications. Broadcast type cable is intended for higher frequency modulated signals. Also be sure to use 75 ohm BNC connectors. Crimp type connectors are more reliable than twist on connectors, especially in environments where vibration may be present such as pneumatic units.

## Matrix Wiring Diagram



1. Remove power from the 5002 audio matrix. Connect the short RJ-45 cable supplied with the video matrix between the video and audio matrixes (n/a for model 5006).
2. In the steps that follow, one-way video systems do not have teller cameras or lane monitors.
3. Connect the camera and monitor for each teller position to the proper port number on the video matrix. For example if the audio console is connected to CONSOLE 1 on the audio matrix, then the camera and monitor for the same teller must connect to the CONSOLE 1 ports on the video matrix.
4. Connect lane cameras and monitors to the respective lane connectors on the video matrix.
5. Connect a wide-angle driveway camera to the video matrix if you desire a wide shot of the drive-in area to be displayed on idle teller console monitors. There is a choice of viewing options determined by Feature Switch #1 on the matrix. See the chart on the next page for an explanation of this switch.
6. Set the camera termination switch (labeled TERM) on the video matrix for each lane camera and the driveway camera to the ON position if the video stops there. If the cable is t-tapped at the matrix to send the video on to some other device, such as a DVR, set the termination switch OFF for that camera. In this case the termination must occur at the DVR. (Consult the DVR literature for instructions). Failure to set the termination switches properly will affect both video quality and the ability of the video matrix to reliably lock in on a camera when that particular lane is selected by the teller. If the video cable is t-tapped away from the matrix it will most likely be necessary to replace the t-taps with video distribution amps to provide consistent proper operation. *An alternate wiring method may be to run the lane camera cables directly to the DVR if that device has true looping outputs (meaning the signal is re-generated). In that case the DVR would generate a fresh, full signal which could be "terminated" at the video matrix.*
7. If you want to display auxiliary video on unselected lanes, connect a DVR or any other video source providing composite video to the Auxiliary Video input on the Video Matrix. Set Video Feature Switch #2 ON if auxiliary video is *static*, that is, if it does not move or change at least once every 5 seconds. Connect the audio output of the Auxiliary source, if so equipped, to the Auxiliary Audio port on the 5002 Audio Matrix. Two jacks are provided for stereo sources; use either one for monaural sources. Set Audio Feature Switch #5 (on the audio matrix) ON (Noise Abate Mode) if you only want auxiliary audio to be played after the call button is pressed or when the customer is on hold.
8. If the lane cameras are provided with the tilt feature, connect the Tilt port of each Video Matrix camera position to its respective Tilt Actuator. See the camera tilt instructions for more information.
9. Reapply power to the audio matrix. Start the Auxiliary source and adjust all cameras. Test the video at each console by selecting lanes in turn. Test the video at each lane by having an assistant view the lane monitor. See the Video Operation section on the next page.
10. To minimize console monitor picture roll when switching between AC powered cameras, synchronize the lane cameras with each other as instructed by the camera manufacturer. Generally you must use the Line Lock Camera Mode and wire all camera 24-volt AC inputs in-phase. Power all the cameras from the same 120-volt circuit if possible, and wire the 24-volts the same on every lane camera. Test synchronization by switching from lane to lane at one of the console monitors; the picture should not roll if the 24-volt wiring is correct. Slight vertical jumping can usually be adjusted out using the Line Phase control on the cameras. Note: DC powered cameras lack the line-lock feature, as do some 24 VAC cameras.

## Video Matrix Switch Settings

Refer to the chart below for the dip switch pack located on the end of the video matrix. Factory settings are shown in bold.

Feature	Switch #	Up (Off)	Down (On)
Idle Console View <sup>1</sup>	1	Driveway Only	<b>All Cameras</b>
Aux. Video <sup>2</sup>	2	Normal	<b>Static</b>
Not Used	3	<b>X</b>	
Lane Shift <sup>3</sup>	4	<b>Normal</b>	Shifted
Not Used	5	<b>X</b>	

- <sup>1</sup> Determines what the teller sees while no lane is selected. If a driveway camera is not connected, the teller will see a rotation of all lane cameras regardless of this switch position.
- <sup>2</sup> If the auxiliary video input works properly leave this switch in the factory setting; otherwise try the opposite setting.
- <sup>3</sup> This switch causes the lane numbers on the video matrix to be associated with the next higher lane number on the audio matrix. For example, assume a facility has 5 lanes of audio with lane 1 being a deal drawer and lanes 2 through 5 being pneumatic units. If video was only being used on the pneumatic units you could get by with a 4-lane video matrix by shifting the lanes on the video matrix so they would be associated with audio lanes 2 through 5.

## Video Operation

When a teller audio console is idle (no lane selected) the teller monitor will either display a rotation of all lane cameras along with the driveway camera or will just display the driveway camera alone depending on the setting of Feature Switch #1.

When a lane is idle (not selected by a teller) the lane monitor will display the auxiliary video if present. If an auxiliary video source is not connected, the lane monitor will display the image from the lane camera.

When a lane is selected (steady green lamp on the audio console) the teller monitor will display the image from the lane camera and the lane monitor will display the image from the teller camera.

When a lane is on hold (blinking green lamp on the audio console) the lane monitor will again display the auxiliary video (if present) or the image from the lane camera. The teller monitor will return to it's idle state at this time and display a rotation of cameras or the driveway camera.

In systems equipped with camera tilt, while a lane is selected hold the console CAMERA key down and press the ▲ or ▼ keys to adjust the angle of the lane camera for the best view. *With 5501 Series consoles, the WIRELESS key doubles as the CAMERA key.*

To momentarily view the auxiliary video at the teller monitor, press the HOLD and ▼ keys on the audio console at the same time while no lane is selected.

To view the teller camera at the teller monitor, press the HOLD key on the audio console while no lane is selected. Press HOLD again to return to normal view.