INSTALLING PTZ – RS422 CONTROL ON DS

May 23, 2011

Introduction

The procedure for installing PTZ cameras on an Integral DVMS varies depending on the camera manufacturer. This document covers the installation of three types of PTZ devices using internal RS-422 control: Pelco Spectra II and Spectra III domes, Spectra IV, Pelco CM9760-CXTA Coaxitron Translator, and Sensormatic SpeedDome Ultra/DeltaDome II. The following sections cover the specific installation instructions for each camera. Following is a brief summary of these instructions:

- **Pelco Spectra II/III Dome:** Installation involves connecting the camera to the RS-422 connector on the far-right side of the DVMS rear panel. Only one pair of pins must be connected on each end: TX+/ TX– on the DVMS and RX+/RX– on the camera. You must also select the D Protocol on the camera.

- **Pelco CM9760-CXTA Coaxitron Translator:** Installation involves connecting cameras to the translator and then connecting the translator to the RS-422 connector on the far-right side of the DVMS rear panel. Only one pair of pins must be connected on each end: TX+/ TX– on the DVMS and RX+/RX– on the translator. This scenario uses P Protocol on the translator.

- **Sensormatic SpeedDome Ultra/DeltaDome II:** Installation involves connecting the camera to the RS-422 connector on the far-right side of the DVMS rear panel. Two pairs of pins must be connected on each end: TX+/ TX– on the DVMS and RX+/RX– on the camera; and RX+/RX– on the DVMS system and TX+/TX– on the camera.

NOTE: Only one camera manufacturer and one COM port are supported at a time on each DVX series system. DS Xpress and DS Enterprise systems allow you to use multiple COM ports and PTZ camera types.

Connecting Multiple Cameras (Pelco Spectra II/III Dome and Sensormatic SpeedDome Ultra/DeltaDome II)

Additional cameras are connected to the DVMS in a daisy chain, star, or combination configuration; the final camera in each chain must be terminated. Each camera must have a unique address; on DVX series systems, the address must match the video input number the camera is connected to on the DVMS (see the recorder's user manual). The address is set on each camera using dip switches or dials (see "Selecting Addresses" in each installation procedure).
Sample configurations are shown in Figure 1.

See the camera manufacturer's installation manual for more information.

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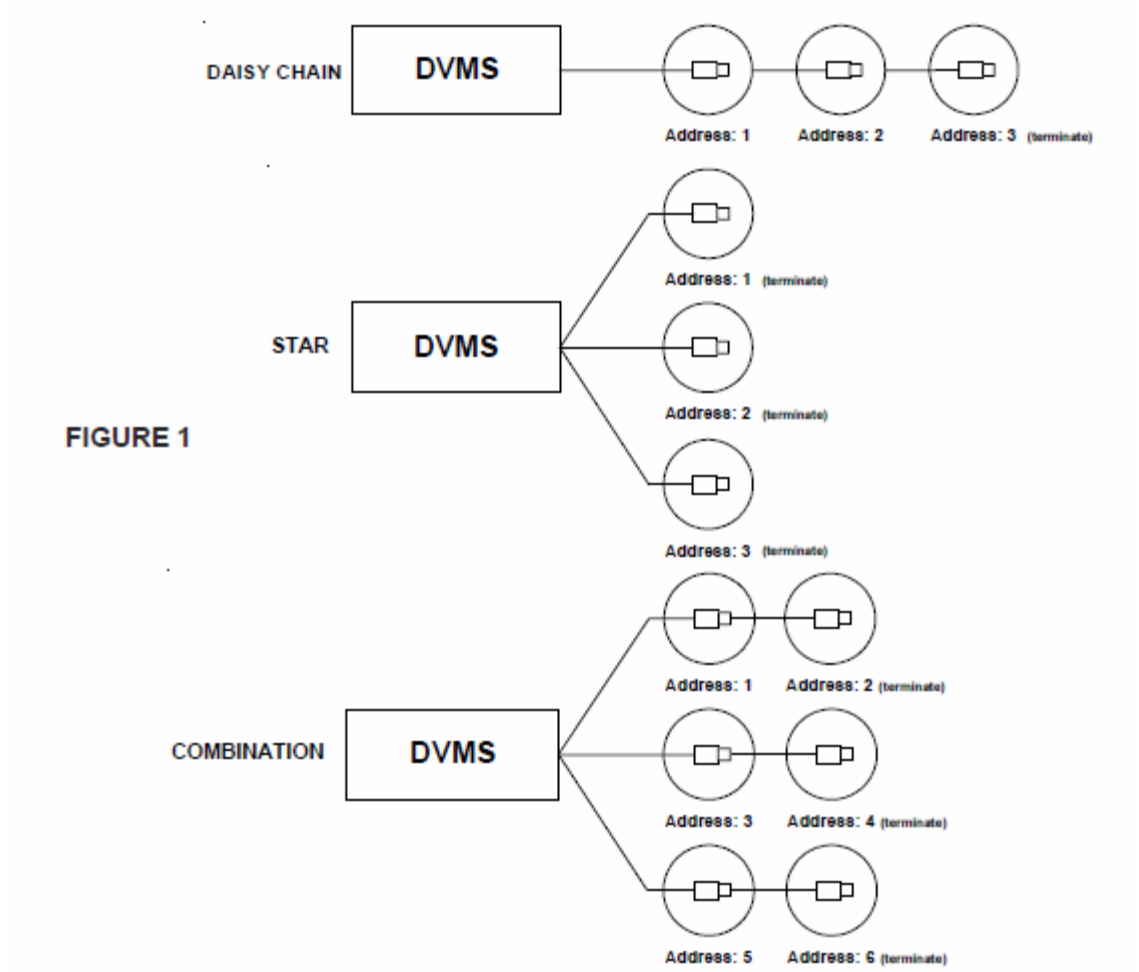


FIGURE 1

Installing Pelco Spectra II or Spectra III Dome on an Integral DVMS

To connect a Pelco Spectra II/III Dome to an Integral DVMS, you must wire the camera to the 6-pin RS-422 connector on the DVMS. The TX– and TX+ pins on the RS-422 connector must be wired to the RX– and RX+ pins on the camera, respectively (see Table 1).

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TABLE 1

RS-422 connector pin	Camera terminal pin
TX–	RX–
TX+	RX+

Figure 2 illustrates the connection points between the DVMS and the camera. (Drawing not to scale; DVMS drawing may not match your particular DVMS model.)

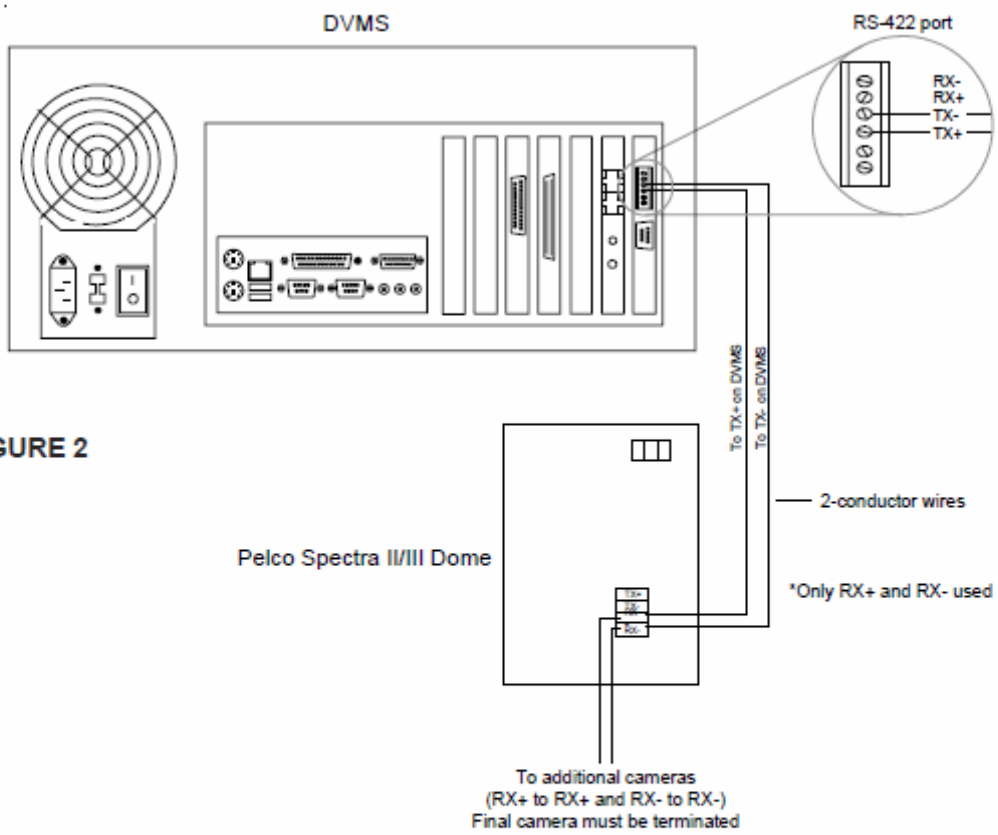


FIGURE 2

Pelco Spectra II and Spectra III cameras must be configured as follows:

- **Baud rate:** 2400
- **Protocol:** D Protocol
- **Address:** must match input number (on DVX series systems only)

See the following pages for more information.

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Pelco Spectra II/III Dome: Overview

Figure 3 shows the location of the switches used to select the protocol, camera address, and termination. Note that Spectra III Dome auto detects the protocol. Use this diagram as a guide in the following sections.

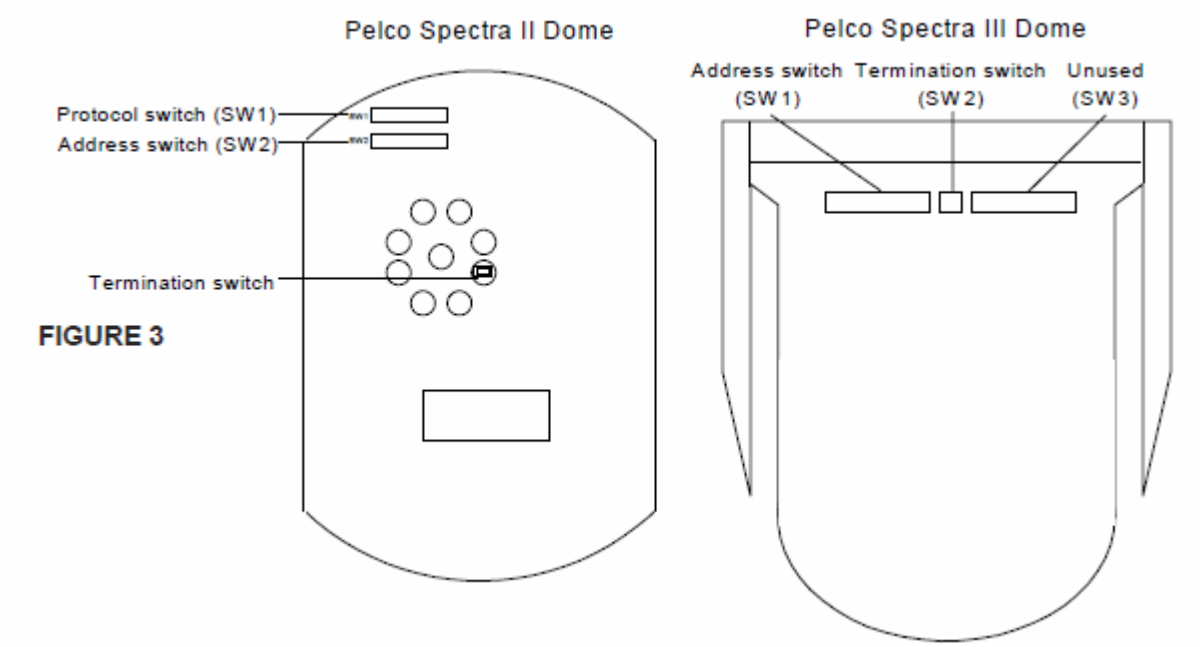


FIGURE 3

Pelco Spectra II Dome: Selecting a Protocol

On the back of the Spectra II Dome, you must set SW1 to use the D Type Control. To do this, set the SW1 switches on the bottom of the dome drive or camera to the settings shown in Figure 4 (ON=switch up; OFF=switch down). Note that Spectra III Dome auto detects the protocol.

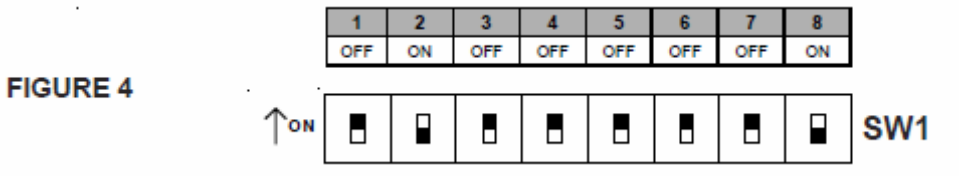


FIGURE 4

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Pelco Spectra II/III Dome: Selecting Addresses

Each Pelco camera connected to a DVMS must have a unique physical address from 1 to 32; on DVX series systems, the address must match the video input number the camera is connected to. To select an address on Spectra II, set the SW2 switches on the bottom of the dome drive or camera; to select an address on Spectra III, set the SW1 switch on the side of the camera (see Figure 3). Use the settings shown in Table 2. Remember to terminate the final camera in each chain using the termination switch.

TABLE 2

Address	SW2-1	SW2-2	SW2-3	SW2-4	SW2-5	SW2-6	SW2-7	SW2-8
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF

Examples



See the Pelco Spectra II/III Dome installation manual for more information.

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Installing Pelco CM9760-CXTA on an Integral DVMS

To connect a Pelco CM9760-CXTA Coaxitron Translator to an Integral DVMS, you must wire it to the 6-pin RS-422 connector on the DVMS. The TX– and TX+ pins on the RS-422 connector must be wired to the RX– and RX+ pins on the translator, respectively, using the provided crossover cable (see Table 3).

TABLE 3

RS-422 connector pin	RJ-45 connector pin
TX–	RX– (pin 7)
TX+	RX+ (pin 8)

The PTZ cameras connect directly to the top row of BNCs on the back of the translator and then loop out to the DVMS through the bottom row of BNCs on the translator. All camera addresses must be set to 0, and on DVX series systems the translator input number must match the input number.
Figure 5 illustrates the connection points between the DVMS and the translator. (Drawing not to scale; DVMS drawing may not match your particular DVMS model.)

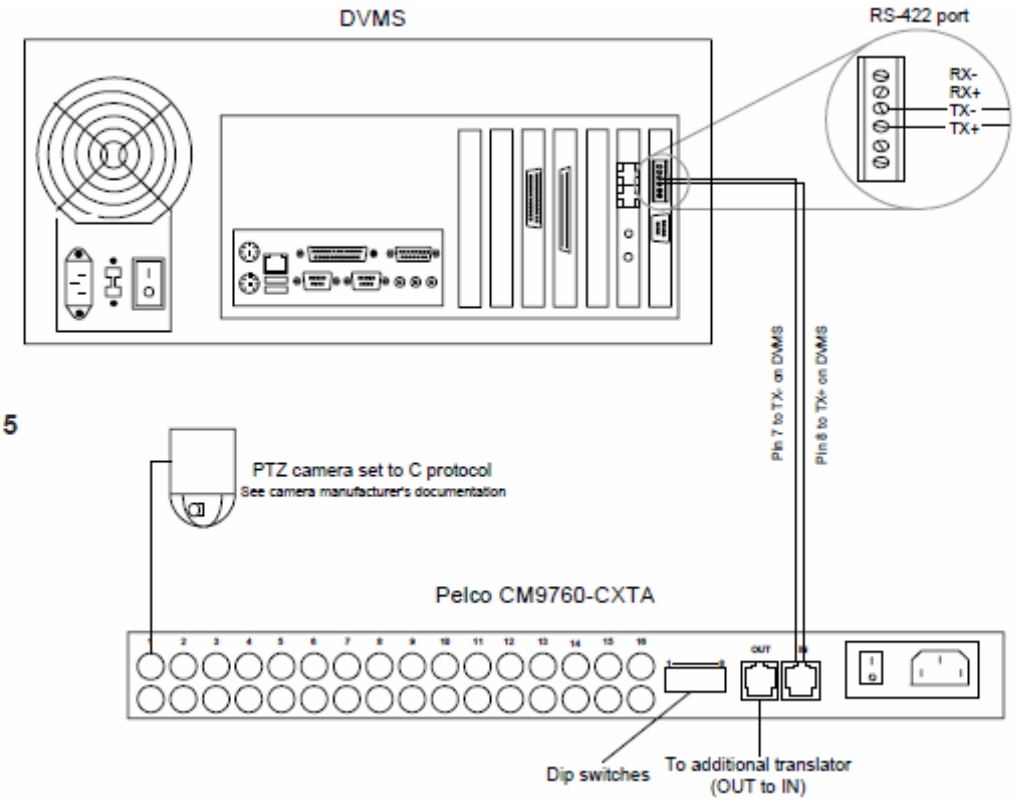


FIGURE 5

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Pelco CM9760-CXTA: Setting the Dip Switches

Figure 6 shows the correct setting of the dip switches on the back of the translator. Integral DVMS systems use the Protocol with the translator.

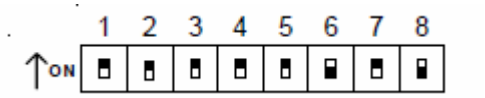


FIGURE 6

Switch	Setting	Note
1	OFF	1–8 32-bit
2	OFF	9–16 32-bit
3	OFF	Protocol
4	OFF	Unused
5	OFF	4800 baud
6	ON	
7	*	Camera inputs: OFF=1–16; ON=17-32
8	**	Camera type: ON=Spectra; OFF=Intercept

Pelco CM9760-CXTA: Multiple Translators

To cascade a second translator off of the first translator, connect the OUT port of the first translator to the IN port of the second translator using the provided crossover cable (see Figure 7). Make sure that dip switch 7 is different for the two translators.

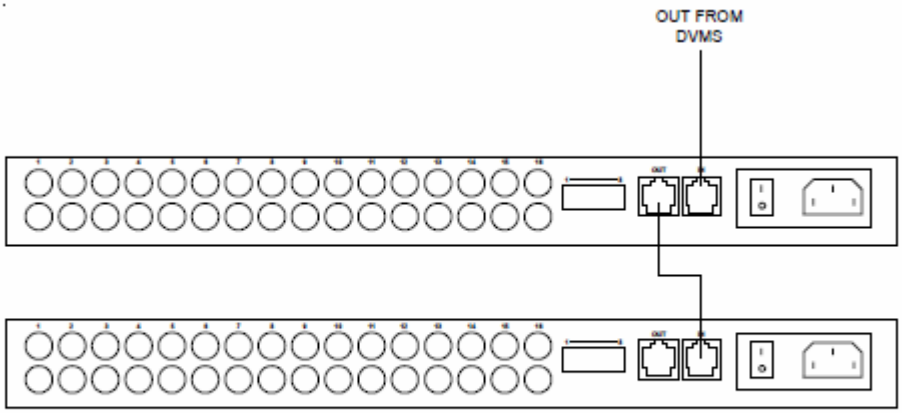


FIGURE 7

See the Pelco CM9760-CXTA installation manual for more information.

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Installing Sensormatic SpeedDome Ultra/DeltaDome II on an Integral DVMS

To connect a Sensormatic SpeedDome Ultra/DeltaDome II to an Integral DVMS, you must wire the camera to the 6-pin RS-422 connector on the DVMS. The TX– and TX+ pins on the RS-422 connector must be wired to the RX– and RX+ pins on the camera, respectively; and the RX– and RX+ pins on the RS-422 connector must be wired to the TX– and TX+ pins on the camera, respectively (see Table 4).

TABLE 4

RS-422 connector pin	Camera terminal pin
TX–	RX–
TX+	RX+
RX–	TX–
RX+	TX+

Figure 8 illustrates the connection points between the DVMS and the camera. (Drawing not to scale; DVMS drawing may not match your particular DVMS model.)

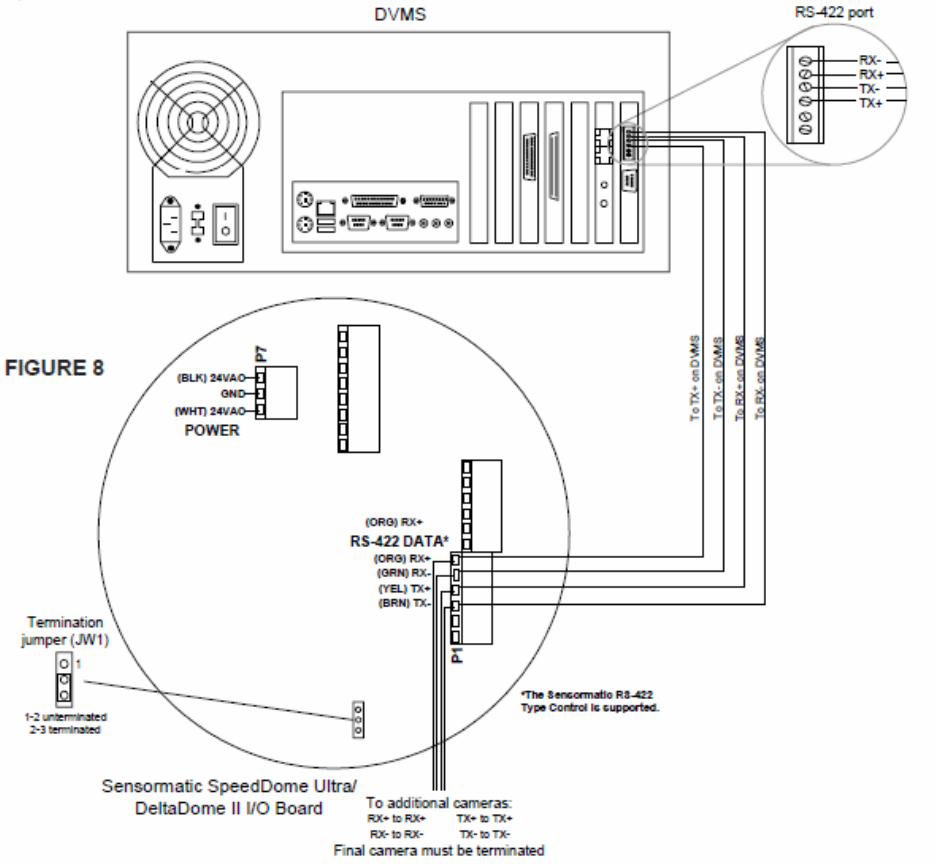


FIGURE 8

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Sensormatic SpeedDome Ultra/Delta Dome II: Selecting Addresses

Each Sensormatic camera connected to an Integral DVMS must have a unique physical address from 1 to 32; on DVX series systems, the address must match the video input number the camera is connected to. To select an address, set the dials on the bottom of the dome drive or camera (see Figure 9). Available addresses are shown in Table 5. Remember to terminate the final camera in each chain using the termination jumper on both the I/O board (see Figure 8) and the camera (see Figure 9).

FIGURE 9

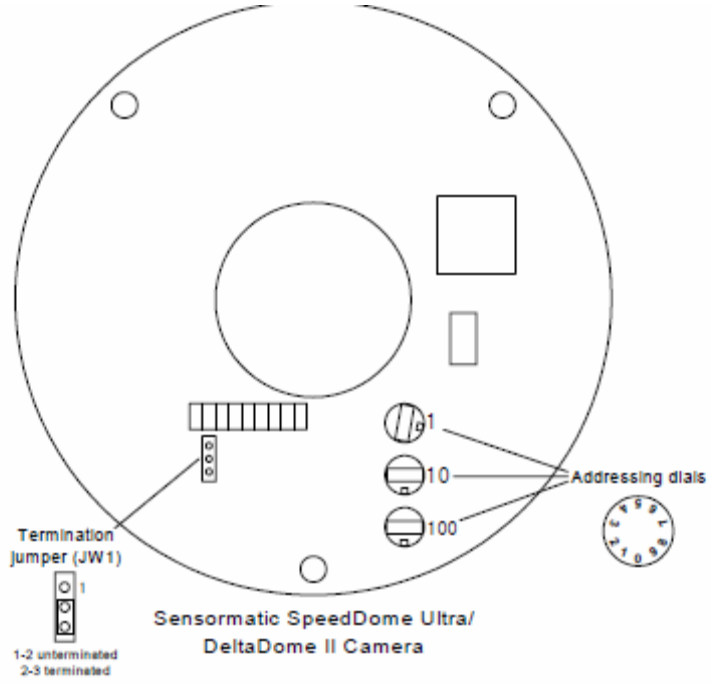


TABLE 5

Address	Dial 1	Dial 10	Dial 100
1	1	0	0
2	2	0	0
3	3	0	0
4	4	0	0
5	5	0	0
6	6	0	0
7	7	0	0
8	8	0	0
9	9	0	0
10	0	1	0
11	1	1	0
12	2	1	0
13	3	1	0
14	4	1	0
15	5	1	0
16	6	1	0

Address	Dial 1	Dial 10	Dial 100
17	7	1	0
18	8	1	0
19	9	1	0
20	0	2	0
21	1	2	0
22	2	2	0
23	3	2	0
24	4	2	0
25	5	2	0
26	6	2	0
27	7	2	0
28	8	2	0
29	9	2	0
30	0	3	0
31	1	3	0
32	2	3	0

See the Sensormatic SpeedDome Ultra/DeltaDome II installation manual for more information.

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Installing Vicon Surveyor 2000 on an Integral DVMS

To connect Vicon Surveyor 2000 to an Integral DVMS, you must wire the camera to the 6-pin RS-422 connector on the DVMS. The TX– and TX+ pins on the RS-422 connector must be wired to the RX– and RX+ pins on the camera, respectively (see Table 6).

TABLE 6

RS-422 connector pin	Camera terminal pin
TX–	RX–
TX+	RX+

Make sure you select COM2 on the PTZ tab for this camera using the Setup page on DVX series systems or DSAdmin on DS XPress or DS Enterprise systems.

Figure 10 illustrates the connection points between the DVMS and the camera. (Drawing not to scale; DVMS drawing may not match your particular DVMS model.)

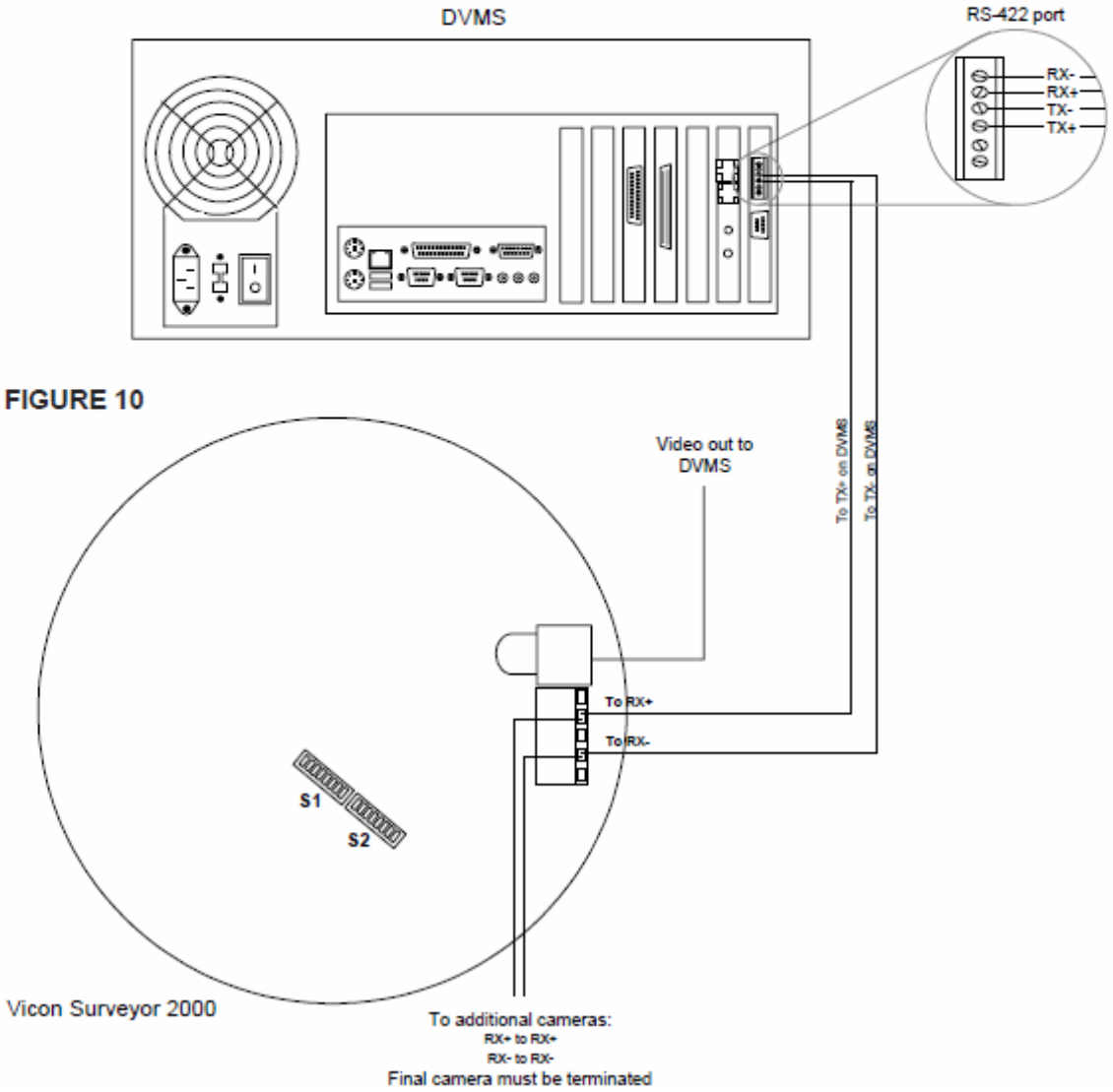


FIGURE 10

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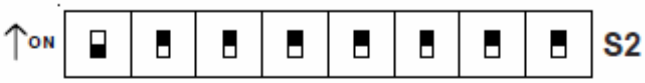
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Vicon Surveyor 2000: Setting the Switches

Figure 10 shows the location of the switches used to select the camera address and communication type (RS-422). Set the S2 switch as shown in Figure 11.

FIGURE 11

1	2	3	4	5	6	7	8
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF

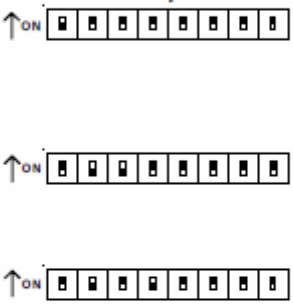


Each Vicon Surveyor 2000 camera connected to an Integral DVMS must have a unique physical address from 1 to 32 that matches the video input number the camera is connected to. To select an address on Vicon Surveyor 2000, set the S1 switch on the bottom of the camera. Use the settings shown in Table 7. Remember to terminate the final camera in each chain using the termination switch.

TABLE 7

Address	S1-1	S1-2	S1-3	S1-4	S1-5	S1-6	S1-7	S1-8
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF
28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF

Examples



See the Vicon Surveyor 2000 installation manual for more information.

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