ADTT16E Advanced Dome Controller

Installation Guide

01ADTT16E

Contents

About this Guide

These installation instructions explain how to setup the ADTT16E advanced dome controller. Other related documents are:

- Operator's Manual, 8200-0306-02
- Quick Reference Guide, 8200-0306-03
- Programming Worksheets, 8200-0306-04

About the ADTT16E Advanced Dome Controller

The ADTT16E advanced dome controller is a programmable video controller (Touch Tracker®) that allows you to monitor sixteen video inputs, including SensorNet programmable domes, the Viewer™ video imaging system, and fixed cameras. The controller's tracker ball provides pan/tilt control of the currently selected dome. Buttons for lens zoom, focus and iris functions are located near the tracker ball.

Standard features include programming/control of up to 96 presets and three patterns per dome. The ADTT16E advanced dome controller can be used as a standalone unit for controlling a single video input or several inputs on dedicated monitors. In addition, with Multivision Quest Triplex multiplexers, the operator can remotely freeze an image, digital zoom, as well as run multiplexer sequences and select the cameras to display in each window of a multi-image display.

Controller Installation

0351-1694-03 KIT,TTENH,ADTT16,W/RJ45&INT BX

Part Number	Description	Qty
6003-0047-01	CBL/A,MDR,14',8C,CROSS-PINNED	1
5899-0004-102	SCR,TCUT,M2.9X9.5,PHP,ST,Z,T1	1
2880-0083-01	ANCH,PL,W/O SCR,3/4L,#4-#6-#8	2
2816-7634-44	SCR,TYP AB,PHP,ST,Z,"8X1"	2
2109-0254-04	CON,P,EUR,.2C,28-12G,1X5P	1
2141-0002	LUG,SPADE,INSUL,22-16G,#8 STUD	3
6002-0024-01	CBL,3C,18G,CM	16.5 ft
0300-1000-01	INTERCONNECT BOX,TOUCH TRACK	1
6003-0107-01	CBL/A,QUAD,SW,INTFCE	1
2125-0007-02	HOOD,D,9P,EMI/RFI,1/4 D CBL	1
2130-0021-01	CON,D,P,HSG,9P,NICKEL PLATE	1
2103-0092-01	CONT,P,D,26-22,AU	3
0650-1079-01	CABLE ASSY,VM8 TOUCHTRACKER/VI	1
8200-0306-02	OPS MANUAL,ADTT16E TTR	1
8200-0306-03	QUICK REF GUIDE,ADTT16E TTR	1
8000-1370-02	TTRACKER STRAIN RELIEF INSTR	1
6003-0108-01	CBL/A,VM16+/TNG,MUX/INTFCE	1
8200-0306-01	INSTALL GUIDE,ADTT16E TTR	1
RPNR00	CBL/A,RS232,10',DB9F-DB9M	1
0652-0151-01	CABLE ASSY, MUX/TOUCHTRACKER	1
8200-0306-04	PROG WORKSHEETS,ADTT16E TTR	1

For Quad Splitter (RVQX7X) with DB9 Connector
These additional parts are required.

PN	Description	Qty
2125-0007-02	DB9 Hood	2
2103-0092-02	DB9 Female contact pins	5
2103-0092-01	DB9 Male contact pins	5
2130-0021-01	DB9 Male Connector	1
2130-0022-01	DB9 Female Connector	1

WARNING: RISK OF ELECTRIC SHOCK! Disconnect AC Power to the switch.

CAUTION-Electrostatic Sensitive Device: Follow proper handling procedures to prevent component failure.

Note: Before installing the ADTT16E advanced dome controllers, identify the type of external unit that will be connected, if applicable. Build any cables that are required. Refer to the **Installation Diagrams** starting on page 3 for specific instructions.

1. Terminate the External Interconnect Module (EIM) at the end of the SensorNet network. If more than one advanced dome controller will be installed, one EIM will be terminated; the other EIM will be unterminated. Refer to the appropriate wiring diagram for your configuration.
2. Mount each EIM on a wall or other surface within 3m (10 feet) of the controller.
3. Connect the power transformer and SensorNet cable to J3 on each EIM. If two controllers will be installed, connect the SensorNet cable from the first EIM to the second EIM.
4. Depending on the external unit that will be attached to your system, connect the appropriate cable to the DB9 connector on the EIM. Refer to the appropriate wiring diagram for additional details.
5. Connect the data cable from J1 on the Primary controller's EIM to the remote port on the external unit. Refer to the appropriate wiring diagram for additional details.
6. Connect the modular cable from J2 on each EIM to the controller.
7. Connect the SensorNet cable from the dome to the first EIM. Refer to the appropriate wiring diagram for additional details.
8. Plug the power transformer into a grounded, 3-wire receptacle.

Note: If the keypad and backlighting do not illuminate when power is applied, unplug each power transformer and repeat steps 3 through 8.

Continue with **Configuring the External Device**.

Installation Diagrams

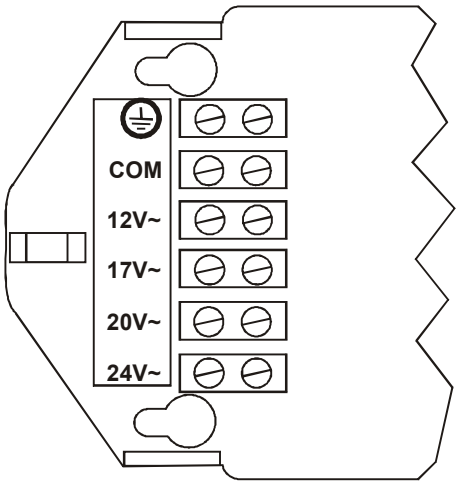
The following pages illustrate how to install the ADTT16E advanced dome controller with different devices:

Refer to the appropriate diagram when connecting the advanced dome controller.

Installation Notes

- Depending on configuration, two advanced dome controllers may be installed. Terminate E1 on the EIM that is on the end of the SensorNet network.
- The maximum combined SensorNet cable length is 1000 m (one km or 3000').
- J-Box and dome wiring information is included for information purposes only. Refer to the appropriate installation instructions for complete wiring information.
- The ADTT16E controller requires a separate, isolated transformer. Do not install in parallel with a dome. Refer to Figure 1 for universal transformer wiring information.

Figure 1: Universal Transformer wiring information



Universal Transformer	EIM J3	Function
⏚	Pin 3	Ground
COM	Pin 2	24Vac A
24V~	Pin 4	24Vac B

Installing with Quest Multiplexer

IMPORTANT! **ADTT16E requires firmware 0701-2833-0103 (EEPROM)/0701-2834-0201 (Flash PROM) or newer to work with Quest multiplexers.**

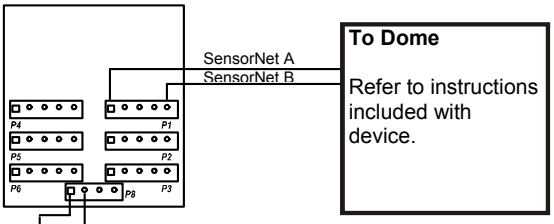
J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

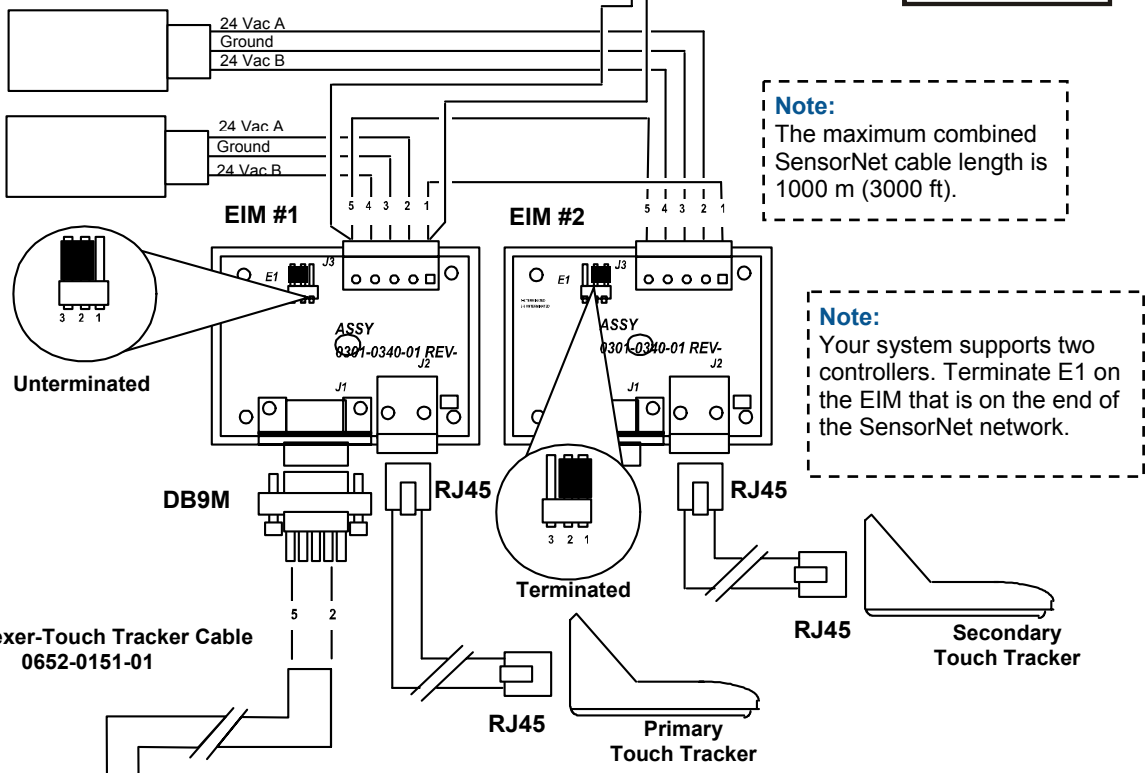
J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B

J-Box #1

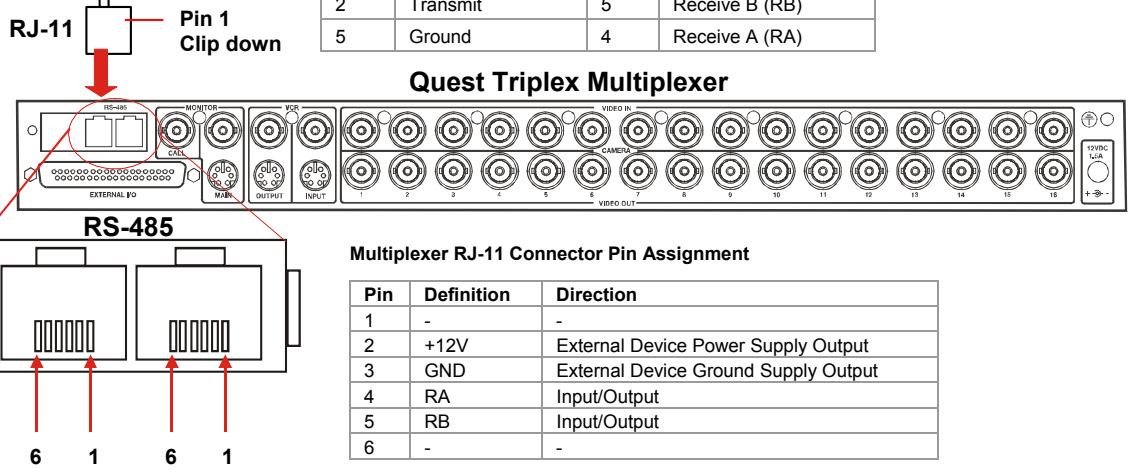


EIM Transformers



Touch Tracker - Multiplexer Cable Wiring

EIM DB9 (M)		Quest Mux RJ-11	
Pin	**Function**	**Pin**	**Function**
2	Transmit	5	Receive B (RB)
5	Ground	4	Receive A (RA)



Multiplexer RJ-11 Connector Pin Assignment

Pin	Definition	Direction
1	-	-
2	+12V	External Device Power Supply Output
3	GND	External Device Ground Supply Output
4	RA	Input/Output
5	RB	Input/Output
6	-	-

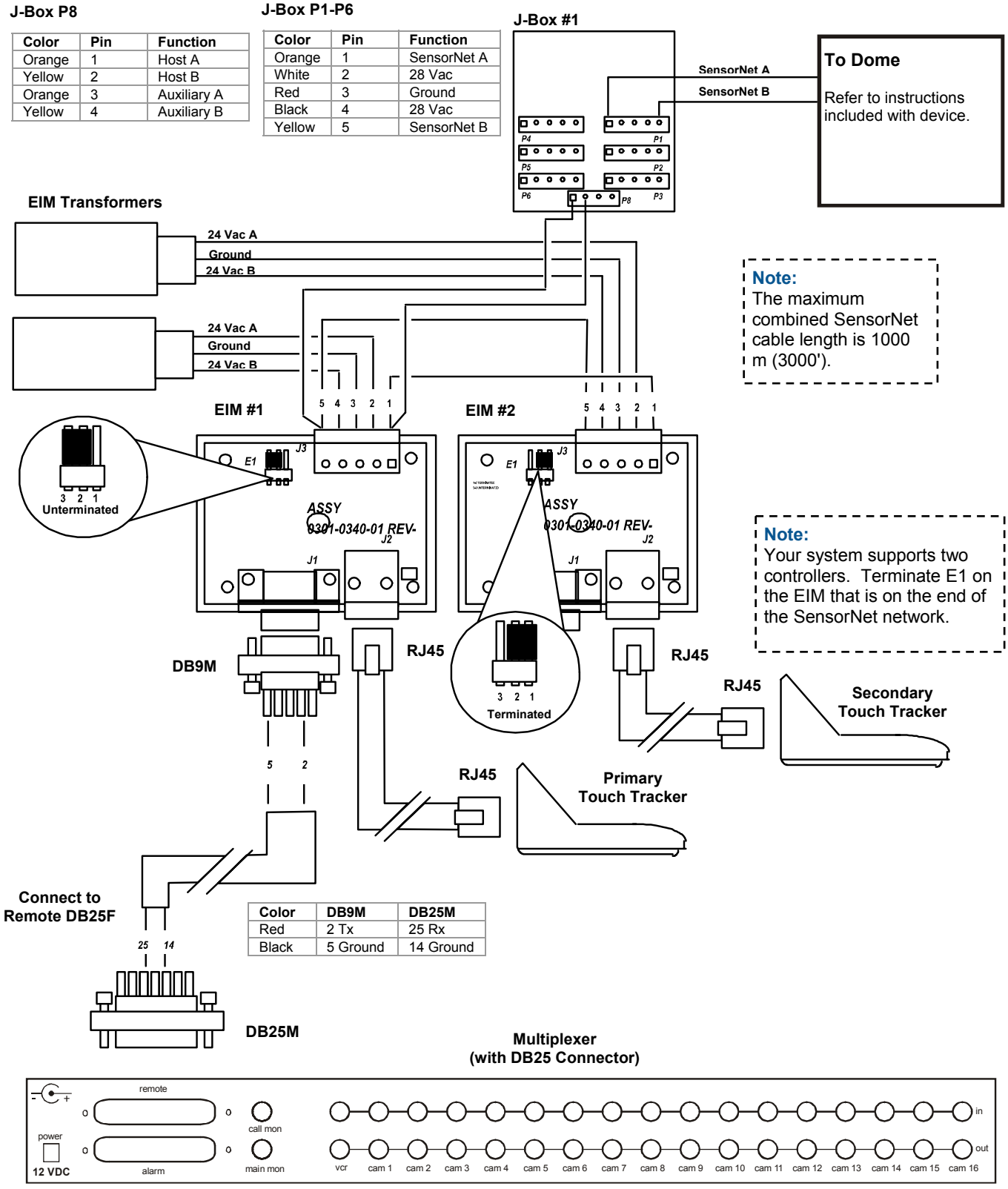
Installing with DB25 Connection Multiplexer

J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B



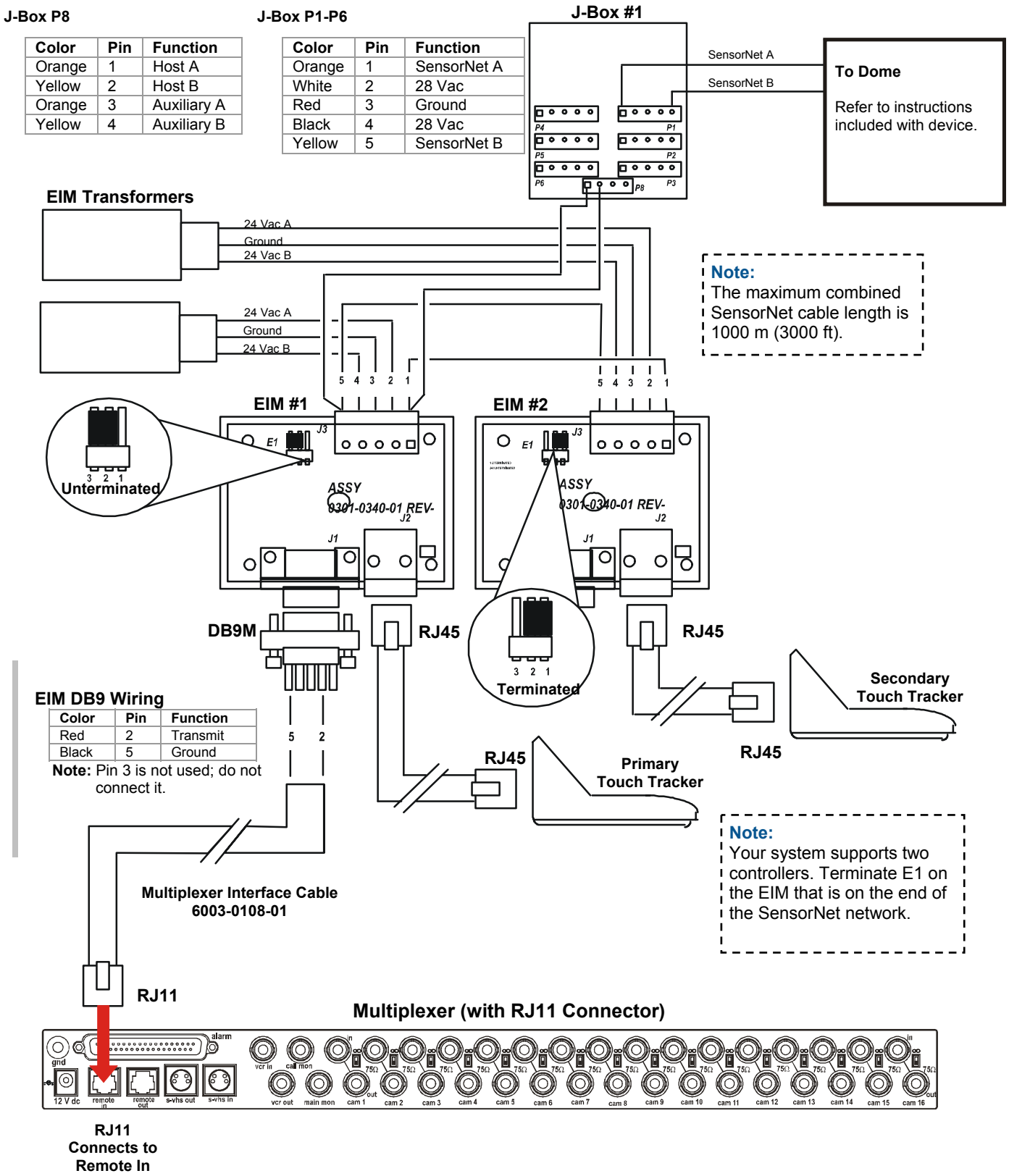
Installing with RJ11 Connection Multiplexer

J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B



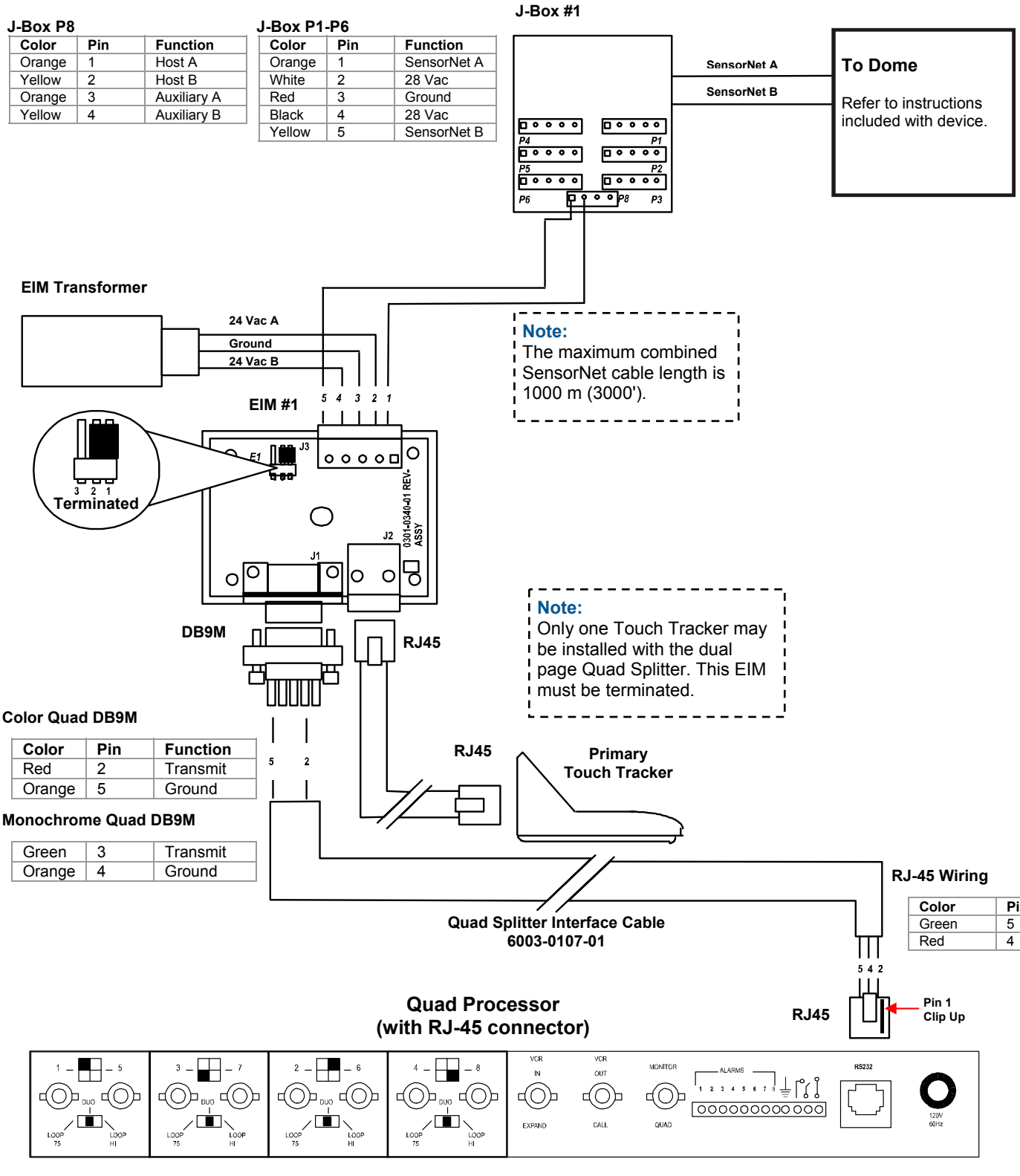
Installing with RJ45 Connection Quad Splitter

J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B



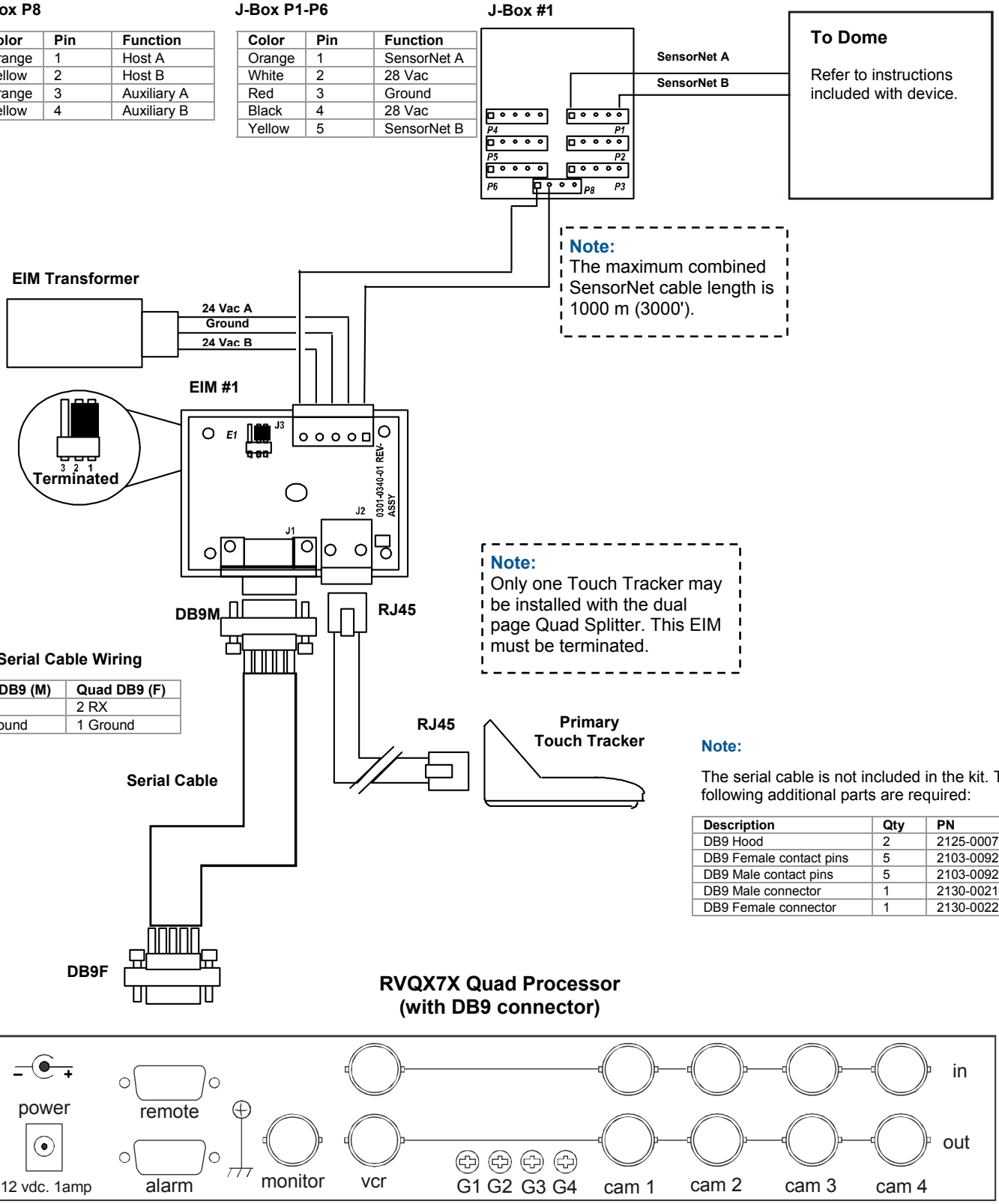
Installing with RVQX7X Quad Splitter

J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B



Serial Cable Wiring

EIM DB9 (M)	Quad DB9 (F)
2 TX	2 RX
5 Ground	1 Ground

Note:

The serial cable is not included in the kit. The following additional parts are required:

Description	Qty	PN
DB9 Hood	2	2125-0007-02
DB9 Female contact pins	5	2103-0092-02
DB9 Male contact pins	5	2103-0092-01
DB9 Male connector	1	2130-0021-01
DB9 Female connector	1	2130-0022-01

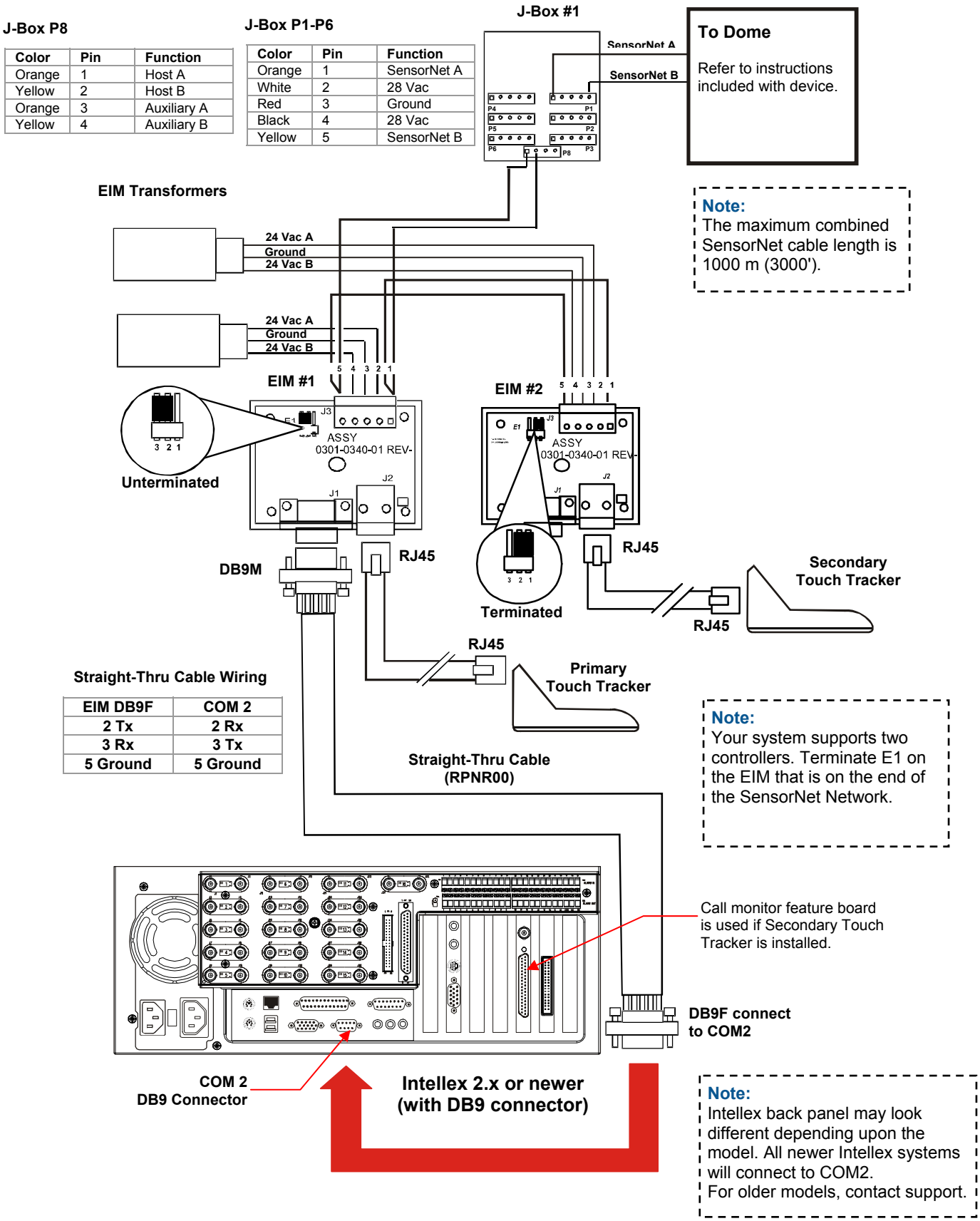
Installing with Intellex 2.x DVMS and Newer

J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B



Straight-Thru Cable Wiring

EIM DB9F	COM 2
2 Tx	2 Rx
3 Rx	3 Tx
5 Ground	5 Ground

Note:
The maximum combined SensorNet cable length is 1000 m (3000').

Note:
Your system supports two controllers. Terminate E1 on the EIM that is on the end of the SensorNet Network.

Note:
Intellex back panel may look different depending upon the model. All newer Intellex systems will connect to COM2.
For older models, contact support.

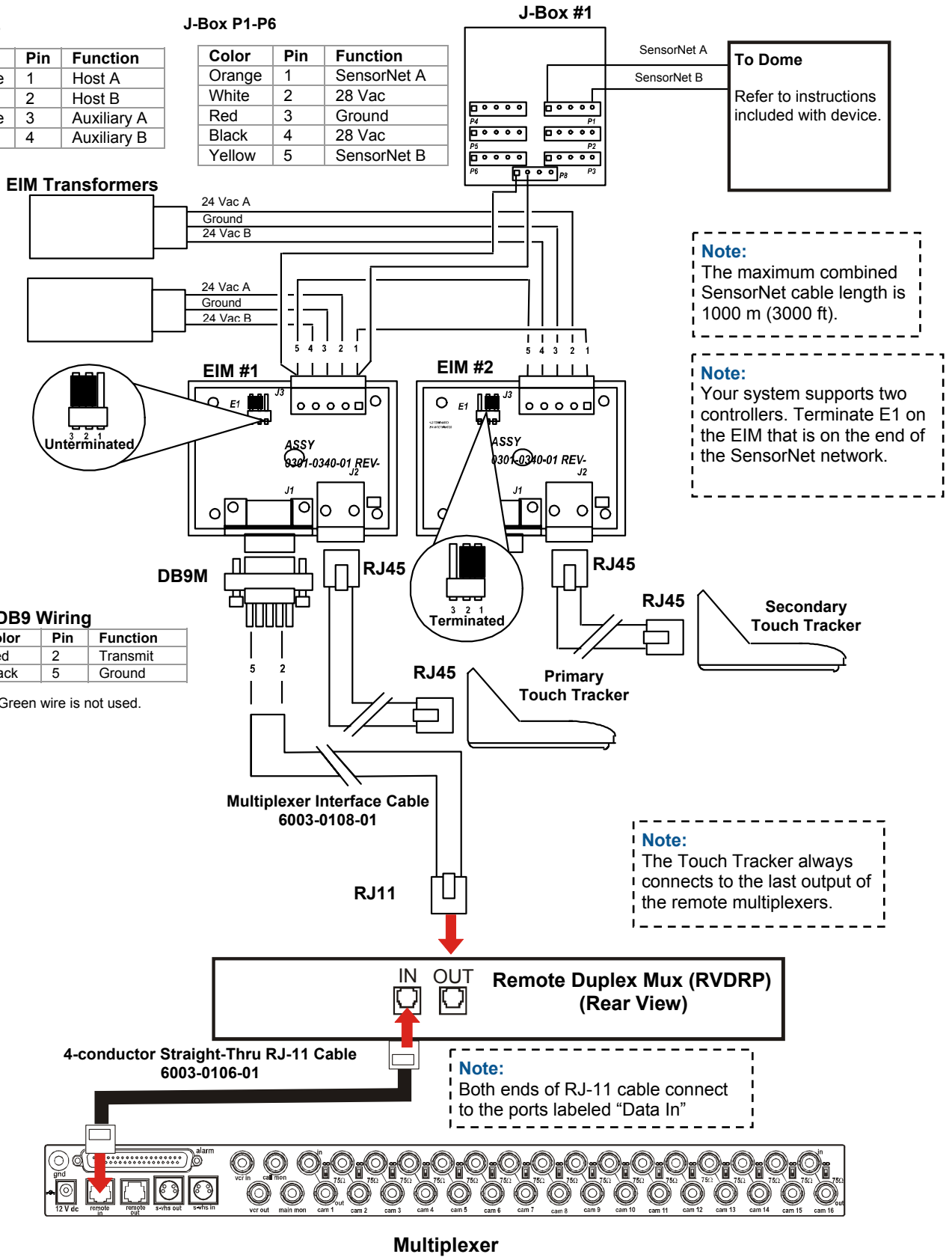
Installing with RVDRP Duplex Remote Panel

J-Box P8

Color	Pin	Function
Orange	1	Host A
Yellow	2	Host B
Orange	3	Auxiliary A
Yellow	4	Auxiliary B

J-Box P1-P6

Color	Pin	Function
Orange	1	SensorNet A
White	2	28 Vac
Red	3	Ground
Black	4	28 Vac
Yellow	5	SensorNet B



Multiplexer

Installing with Domes Only (No External Unit)

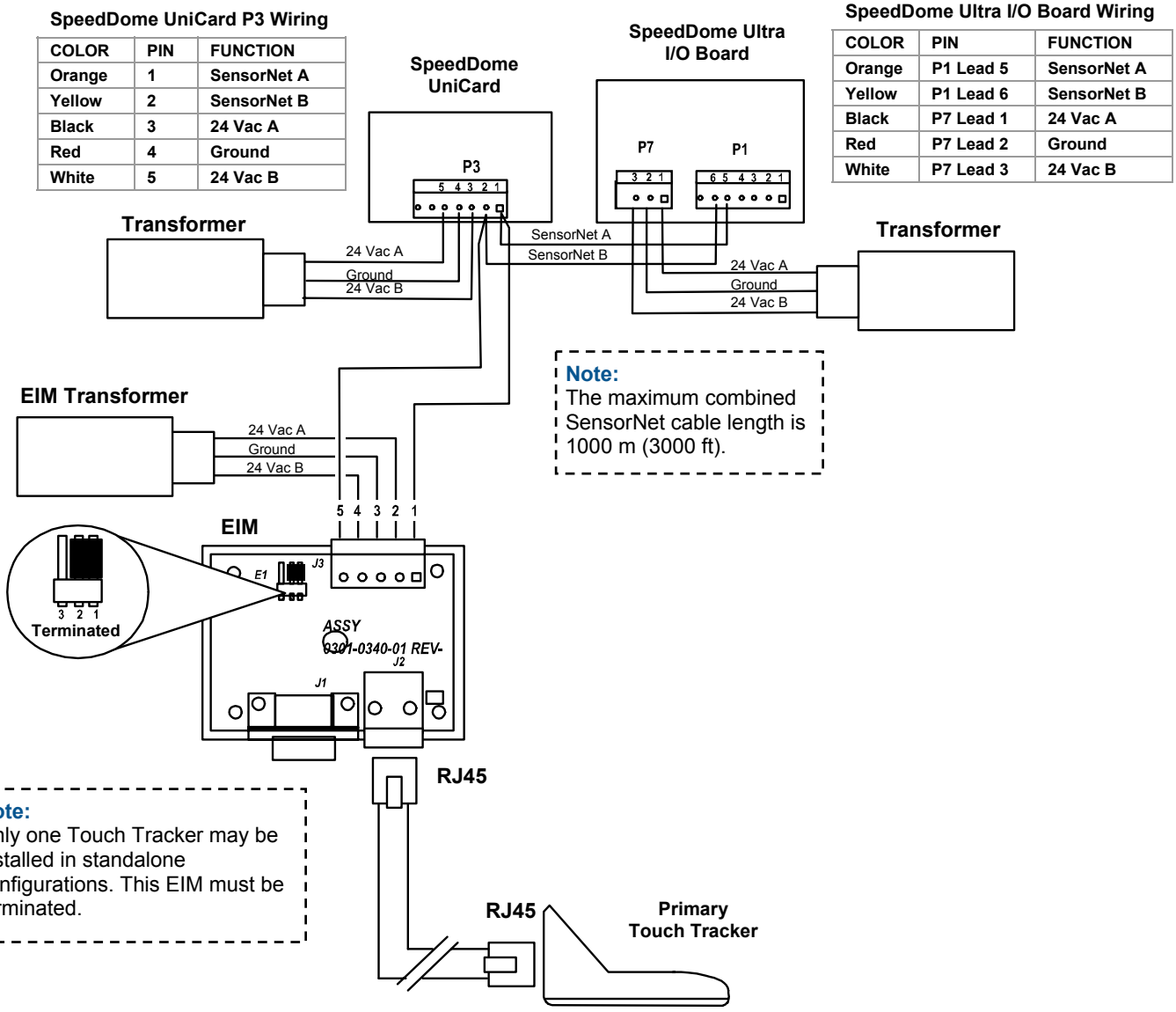
Use this wiring diagram when domes will be connected to dedicated monitors.

SpeedDome UniCard P3 Wiring

COLOR	PIN	FUNCTION
Orange	1	SensorNet A
Yellow	2	SensorNet B
Black	3	24 Vac A
Red	4	Ground
White	5	24 Vac B

SpeedDome Ultra I/O Board Wiring

COLOR	PIN	FUNCTION
Orange	P1 Lead 5	SensorNet A
Yellow	P1 Lead 6	SensorNet B
Black	P7 Lead 1	24 Vac A
Red	P7 Lead 2	Ground
White	P7 Lead 3	24 Vac B



Configuring the External Device

Use this procedure to select the external device that connects to the advanced dome controller.

1. From the primary controller, press **Menu** to configure the software for the external system. The menu appears on the LCD.
2. Scroll through the menu items until `Config Devices` appears on the LCD screen. Press **Zoom** or **Focus** to select.
3. Press **Next** to scroll through the available devices. Refer to the following chart to determine which device to select.

Device Setting	Use with...
`Device=Quad =POSEM`	Quad Splitter with DB9F-RJ45 connection
`Device=Mux 4 =POSEM`	Standard 4-camera Multiplexer, dual page Quad Splitter, and Quad Splitter (RVQX7X)
`Device=Mux 9 =POSEM`	Standard 9-channel multiplexer
`Device=Mux 16 =POSEM`	Standard 16-channel multiplexer and Intellex
`Device=Mux 4 =Duplex`	4-channel Quest Duplex multiplexer
`Device=Mux 9 =Duplex`	9-channel Quest Duplex multiplexer
`Device=Mux 16 =Duplex`	16-channel Quest Duplex multiplexer.
`Device=Mux 10 =Triplex`	10-channel Quest Triplex multiplexer
`Device=Mux 16 =Triplex`	16-channel Quest Triplex multiplexer.
`PC`	Reserved for service use.
`Remote`	Use this option if the Touch Tracker is installed at a remote location and communicates at 1200 baud.
`None`	No external device is connected.

4. When the correct configuration appears on the LCD, press **Menu**.

Continue with **Setting Primary and Secondary Unit**.

Setting Primary and Secondary Unit

NOTE: Quad Splitter, Intellex 1.x and 2.0, and stand-alone installations support only one controller.

If you have two advanced dome controllers installed, one must be designated as Primary; the other must be designated as Secondary. If you have only one controller installed, it must be designated as Primary.

1. Press **Menu**.
2. Scroll through the menu items until `Tog Primary/2nd` appears on the LCD. Press **Zoom** or **Focus** to select.
3. Press **Next** to toggle between setting the controller as primary or secondary. When the appropriate choice appears on the LCD, press **Menu**. The controller will reset.

Repeat this procedure for each advanced dome controller.

Additional Tasks

The following maintenance functions can be performed using the advanced dome controller. When using the menus, pressing **Zoom** selects the first line of the LCD; pressing **Focus** selects the second line of the LCD.

Displaying System Information

This procedure allows you to display system information about the advanced dome controller you are using.

1. Press **Menu**.
2. Scroll through the menu items until `Show System Info` appears on the LCD. Press **Zoom** or **Focus**.

   The following system information is available:

   - Unit Type: Primary or Secondary
   - ROM Checksum Values
   - Calibration information (display should read all 0)
   - Product Code Flash Version
   - Product Code EEPROM Version
3. Press **Next** or **Previous** to scroll through the information.
4. Press **Menu** when finished reviewing the system information.

Performing the SensorNet Ping Test

This procedure tests communications between the advanced dome controller and other SensorNet devices (domes or other controller).

1. Press **Menu**.
2. Scroll through the menu items until `Ping Dome/TTR` appears on the LCD. Press **Zoom** or **Focus** to select.
3. The LCD displays the dome communication (ping) test information.
4. Press **Next** to display the controller ping test information.
5. Make note if any of the tests fail. Press **Menu** to exit.

Note: Off-line domes or fixed cameras will generate a warning beep and not permit the use of the Ping test.

Resetting a Dome

This feature allows you to reinitialize a SpeedDome series camera dome.

1. Use the number buttons to the select the dome to reset then press  (**Camera** button).
2. Press **Menu**.
3. Scroll through the menu items until `Reset Dome` appears on the LCD. Press **Zoom** or **Focus** to select.

The advanced dome controller sends a request to the selected dome to reboot. After a brief delay, the controller resumes camera control mode.

Adjusting V-Phase

Use this procedure to adjust the vertical phase for cameras installed with your system.

1. Press **Menu**.
2. Scroll through the menu items until `Adjust V-phase` appears on the LCD. Press **Zoom** or **Focus** to select.
3. Press **Next** or **Previous** to observe V-phase through the oscilloscope or Fluke scope.
4. When you are satisfied with the setting, press **Menu** to exit.

Note: Off-line domes or fixed cameras will generate a warning beep and not permit the use of the V-phase utility.

Specifications

SensorNet

Bit Rate 230.4Kbps

Physical Layer ..... Non-shielded twisted pair

Link Layer Protocol ..... SDLC

Application Protocol ..... Proprietary

Network Nodes ..... Controller, SensorNet domes

Advanced Dome Controller

Operator Inputs ..... 31-key keypad, 4 micro-switches, 1 Tracker Ball

Operator Outputs ..... LCD screen 2-line x 16 characters

Control Input/Output ..... SensorNet (domes, controller) RS232 (multiplexer or quad splitter)

Electrical

Power Source: ..... 16–32Vac at 50/60Hz

Power Consumption: ..... 1400mA, 2A max.

Mechanical

Height 13cm (5in.)

Width 19.4cm (7.5in.)

Depth 26cm (10in.)

Weight 1kg (2.2lbs)

Environmental

Operating Temperature: ..... -10°–50°C (14°–122°F)

Relative Humidity: ..... 0%–95%, non-condensing

Storage Temperature: ..... –20°–65°C (–4°–149°F)

Product Compatibility

Domes ..... All SpeedDome Optima and SpeedDome Ultra Series domes

J-Boxes ..... All versions of Indoor and Outdoor SensorNet J-Boxes

Quads ..... All Sensormatic, Robot and American Dynamics Quads

Multiplexers ..... Robot/Sensormatic Simplex and Duplex models including the Multivision Pro series Multivision Quest series triplex models

Declarations

Regulatory Compliance

Emissions ..... FCC: 47 CFR Part 15, Class A
CE: EN55022 Class B
CE: EN61000-3-2
CE: EN61000-3-3
AS/NZS 3548, Class A
CISPR22
ICES-003

Immunity ..... CE: EN50130-4

Safety ..... UL: UL1950
cUL: CSA 22.2 No. 950
IEC950
CE: EN60950

FCC COMPLIANCE: This equipment complies with Part 15 of the FCC rules for Class A digital devices when installed and used in accordance with the instruction manual. Following these rules provides reasonable protection against harmful interference from equipment operated in a commercial area. This equipment should not be installed in a residential area as it can radiate radio frequency energy that could interfere with radio communications, a situation the user would have to fix at their own expense.

EQUIPMENT MODIFICATION CAUTION: Equipment changes or modifications not expressly approved by Sensormatic Electronics Corporation, the party responsible for FCC compliance, could void the user's authority to operate the equipment and could create a hazardous condition. See About the ADTT16E Advanced Dome Controller on page 1.

Other Declarations

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BSL 06/2004
CSD 09/2004

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