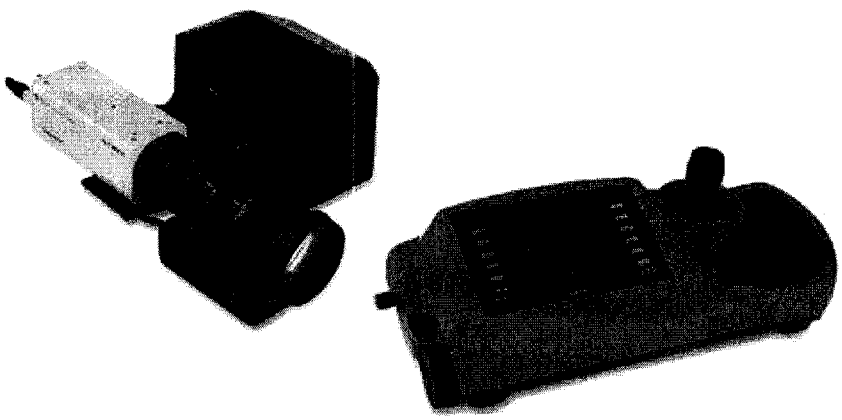
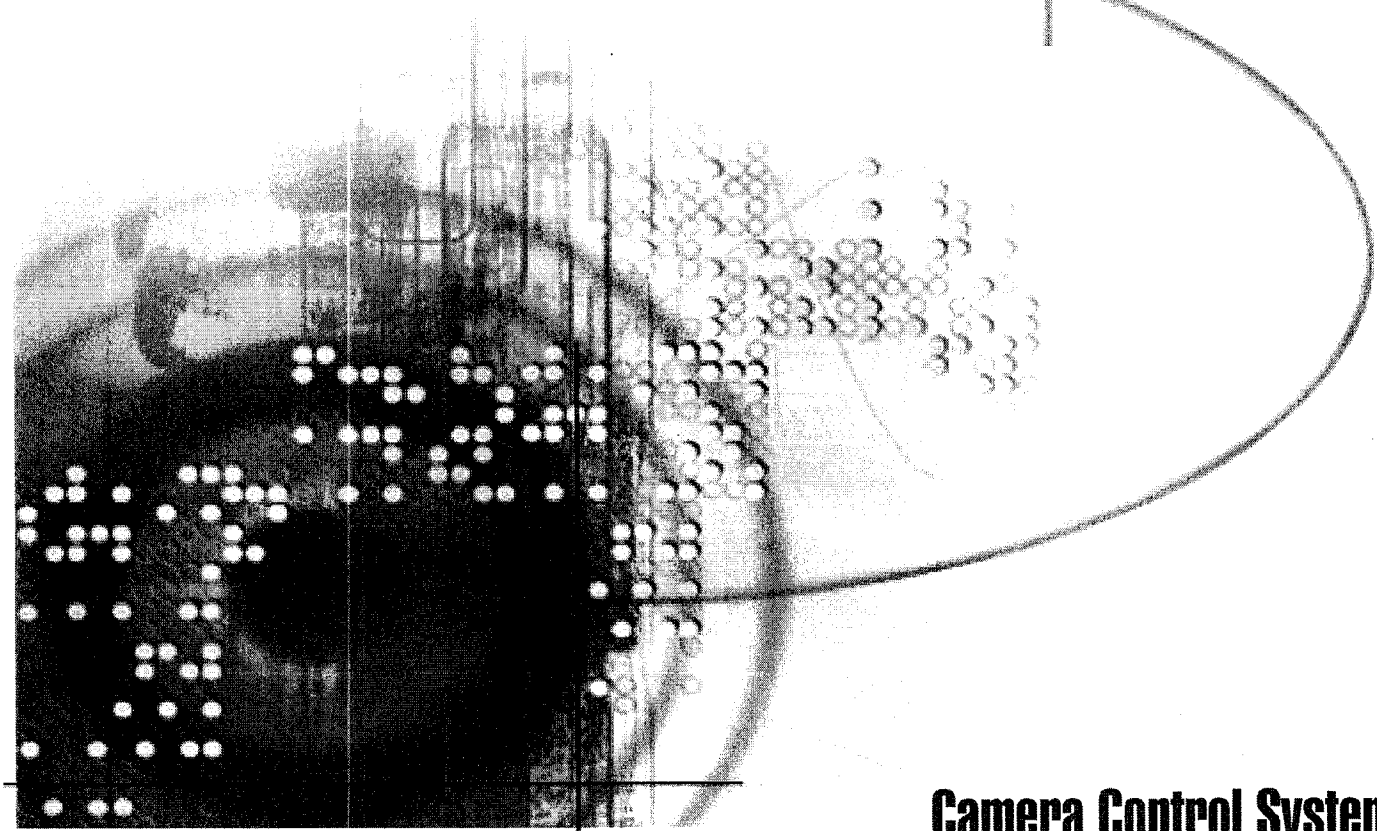


PT10-PLV Single Camera Pan/Tilt System

Instruction Manual



Camera Control Systems

panja

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Table of Contents

PT10-PLV Single Camera Pan/Tilt System Package

The Panja™ Single-Camera Control System delivers an advanced modular solution for precise camera positioning applications. The main system component is the PosiTrack Pilot Video touch panel (PosiPilot) that provides on-screen camera preview and controls the AXB-PT10 camera pan/tilt head over a 4-wire (AXlink) data bus. The system can control up to six Sony® DXC-390/950 video cameras and store/recall up to 24 presets for each camera.

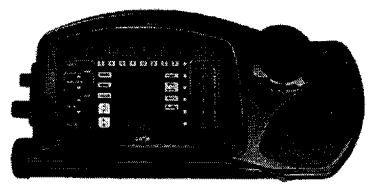
The PT10-PLV Single Camera Pan/Tilt System configuration is the building block for all systems utilizing up to six cameras with Sony CMA-D2/D3 (camera adapters).

PT10-PLV System Components

Figure 1

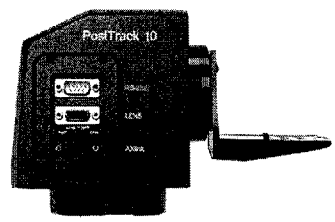
PT10-PLV System Components

AXP-PLV PosiTrack Pilot Video Panel Camera Controller (PosiPilot)



The AXP-PLV PosiTrack Pilot Video Panel Camera Controller (PosiPilot) provides integrated, programmable control of pan/tilt heads and lenses. The integrated color video touch panel gives you touch control and on-screen video monitoring.

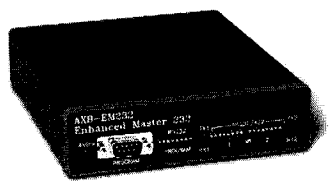
AXB-PT10 Pan/Tilt Camera Head



This AXB-PT10 is a fully integrated camera-positioning controller that provides onboard control of camera pan/tilt, and lens zoom/focus/iris.

The AXB-PT10 power rating is 2 A @ 12 VDC. This power supply must be local.

AXB-EM232 Enhanced Master/RS-232 Controller



The AXB-EM232 is the Panja Master Controller used in every configuration described in this manual, with the exception of the *Multi-camera configuration with CMA-D3 (up to 100 m).*

The multi-camera/D3 configuration uses an AXCENT3 Master Controller (which has additional RS-232 ports).

PS2.8 Power Supply

The PS2.8 Power Supply provides up to 2.8 A of regulated power, automatically switches for 110/220 V AC operation, and is overload protected.

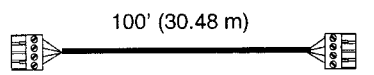
The PS2.8 supplies power to both the AXB-EM232 and AXP-PLV.

PSN6.5 Power Supply

The PSN6.5 NetLinx Power Supply distributes switched-mode 12 VDC power @ 6.5 A to up to three Panja devices.

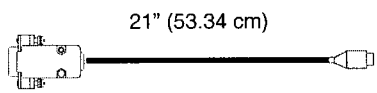
The PSN6.5 supplies power to the AXB-PT10 pan/tilt camera head.

CC-AXL AXlink Connection Cable (4-pin captive-wire to 4-pin captive-wire)



The AXlink cable is used in all configurations, and connects all Panja devices to the Master Controller (either AXB-EM232 or AXCENT3).

CC-CAM Connection Cable (DB-9 to 8-pin Mini DIN)

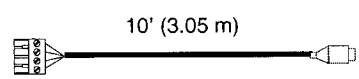


The CC-CAM cable connects the AXB-PT10 to the DXC-390/950 camera.

This cable is used with

- Any camera powered by a CMA-D2.
- Cameras powered by a CMA-D3, when an AXCENT3 is used as the Master Controller.

CC-CAM Connection Cable (4-pin captive-wire to 8-pin Mini DIN)



The CC-CAM camera/lens cable connects the AXB-EM232 RS-232 control to the CMA-D3 controllers.

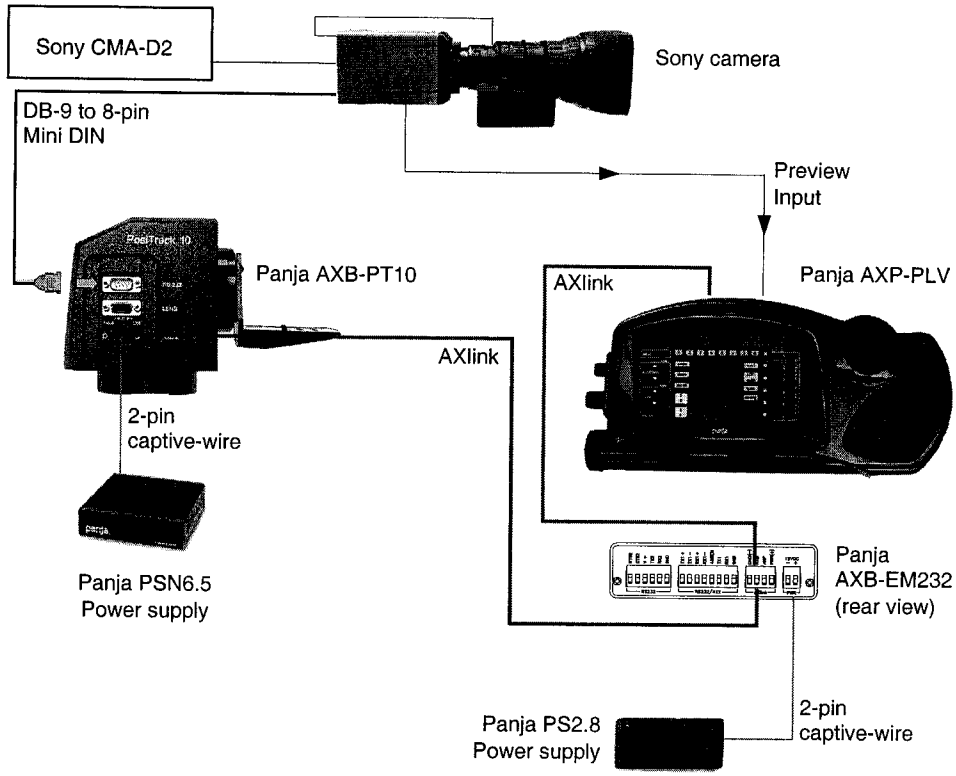
- This cable is used with cameras powered by a CMA-D3 when an AXB-EM232 is used as the Master Controller.

Single Camera Configuration with CMA-D2 (up to 25 m)

Figure 2 shows a sample camera control application using a CMA-D2. The CMA-D2 provides power to cameras at distances of up to 25 meters.

Figure 2

Sample camera control application using a CMA-D2 connection up to 25 m.



Note

Power to the AXB-PT10 is supplied from the PSN6.5 Power Supply to the unused power pin on the AXB-PT10's AXlink connector. Refer to Figure 12 for more information about wiring the AXB-PT10 AXlink connector.

Panja components in this single camera configuration:

- **AXB-EM232** — Master Controller
- **AXB-PT10** — Pan/Tilt Camera Head
- **AXP-PLV** — PosiTrack Pilot Video Panel Camera Controller
- **PS2.8** — Power Supply (for AXB-EM232)
- **PSN6.5** — Power Supply (for AXB-PT10)
- **CC-AXL AXlink cable** — 100' (30.48 m) AXlink connection cable (4-pin captive-wire to 4-pin captive-wire)
- **CC-CAM cable** — 21" (53.34 cm) connection cable (DB-9 to 8-pin mini-DIN)

Optional accessories:

- **WM-CAM** — Wall or Ceiling Mount Adapter (for AXB-PT10)
- **PM-CAM** — Pedestal Mount Adapter (for AXB-PT10)
- **TM-CAM** — Tripod Mount Adapter (for AXB-PT10)
- **AC-RK** — Accessory Rack Kit (for AXB-EM232, AXB-REL8 and AXB-AV2SM)

Installation and Wiring

This section covers the steps necessary to connect and operate a PT10-PLV Single Camera Pan/Tilt System. Before continuing, verify that you have received the correct components for your package (refer to the *PT10-PLV System Components* section at the beginning of this document).

Mounting the AXB-PT10

Mount the AXB-PT10 to a flat horizontal surface, either upright or inverted.

Warning

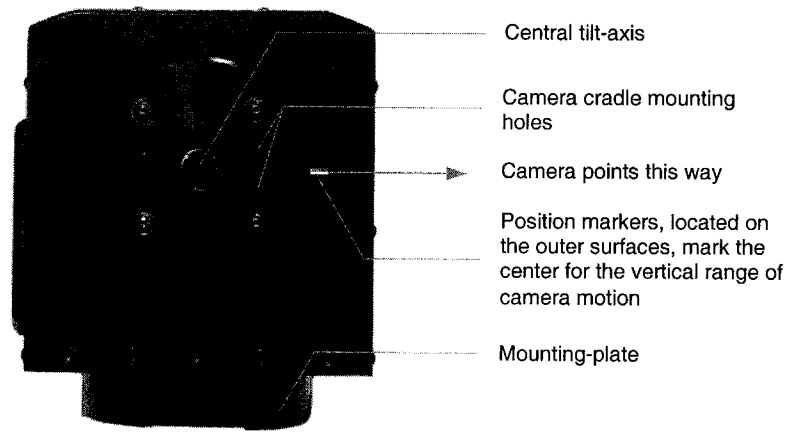
Never use the camera cradle to handle or lift the AXB-PT10.

1. Select a surface that can support the combined weight of the AXB-PT10 (13.05 lbs./5.92 kg), camera/lens (10 lbs./4.54 kg), and control cables.
2. Locate the external white position markers located on the pan and tilt axis. The position markers must align with the pan and tilt axis in order to be considered in the home position.

   a. Figure 3 shows the camera cradle attachment in the center position.

Figure 3

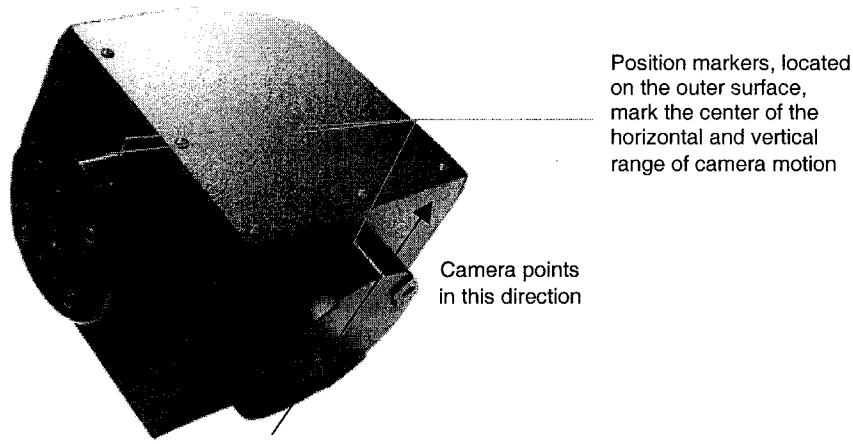
Center position for the camera cradle attachment (side view)



   b. Figure 4 shows the position markers for the pan and tilt axis, in the center position.

Figure 4

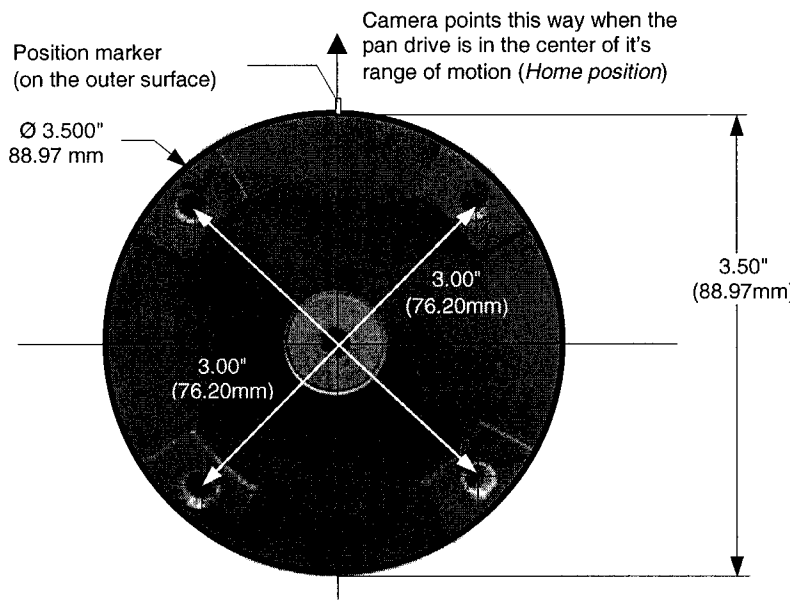
AXB-PT10 position markers



3. Mount the AXB-PT10 to a flat surface by drilling four holes, according to the mounting-plate dimensions shown in Figure 5. Secure the AXB-PT10 to the surface using four 1/4" x 20 machine bolts and lock washers. **Ensure that the external white position marker, on the pan drive hub, is inside the desired camera rotation range.**

Figure 5

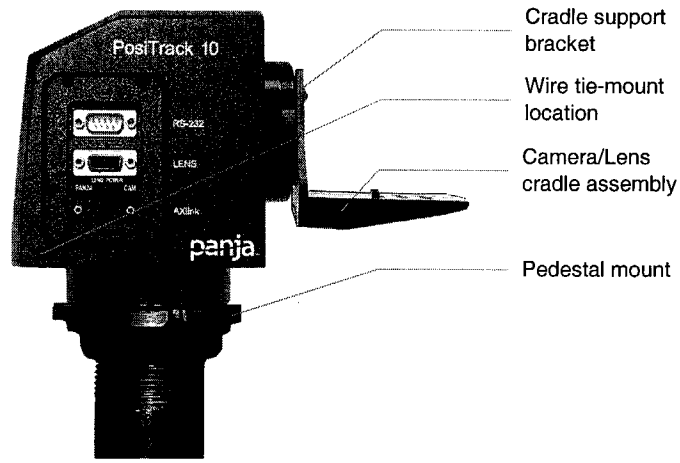
Mounting-plate dimensions



The PT10 can be mounted to camera mounts such as the Ceiling mount and the Pedestal mount shown in Figure 6.

Figure 6

PT10 and pedestal mount



Note

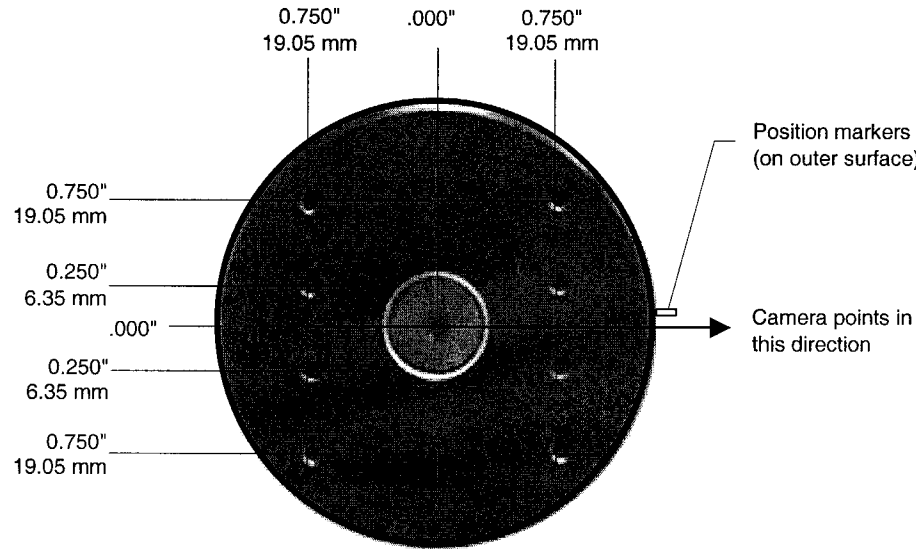
The Camera/Lens cradle can be mounted on either side of the cradle support bracket.

Mounting and Balancing the Camera/Lens

The camera/lens assembly should be mounted so that the tilt axis intersects with the optical axis of the camera, assuming the optical centerline is between ½" (12.70 mm) and 5 " (127.00 mm) above the mounting plane of the camera lens. The mounting platform (camera cradle) allows the camera/lens to be mounted with its center of gravity on the tilt axis. The maximum weight of the camera/lens assembly is 10 lbs. (4.54 kg). The camera cradle is mounted to the Tilt Hub (Figure 7).

Figure 7

Tilt Hub dimensions



Caution

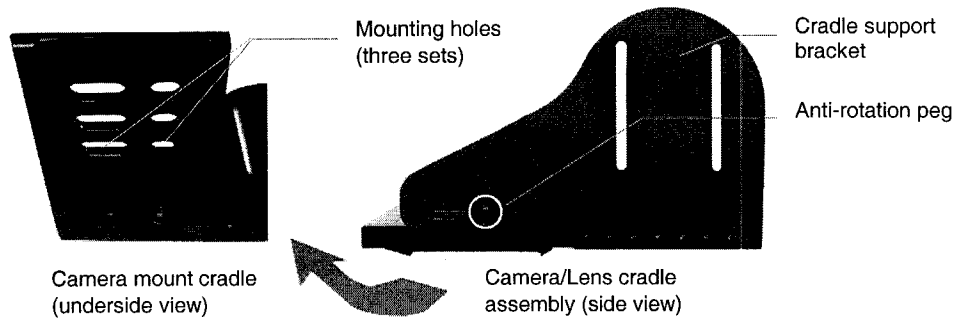
Do not lift the PT10 by the Camera/Lens cradle as this procedure damages internal components.

To mount and balance the assembly:

1. Remove the Camera/Lens cradle assembly by removing the four ½" screws and washers from the Tilt hub.
2. Separate the Camera mount cradle from the Cradle support bracket by removing the two ½" screws from the underside of the Camera mount cradle (Figure 8).

Figure 8

Camera/Lens cradle assembly (camera mount and lens mount)



3. Align the cradle mounting holes under the main connection hole of the camera being mounted.
4. Secure the camera and lens to the cradle (at the camera attachment peg) with a fastener recommended by the camera manufacturer.

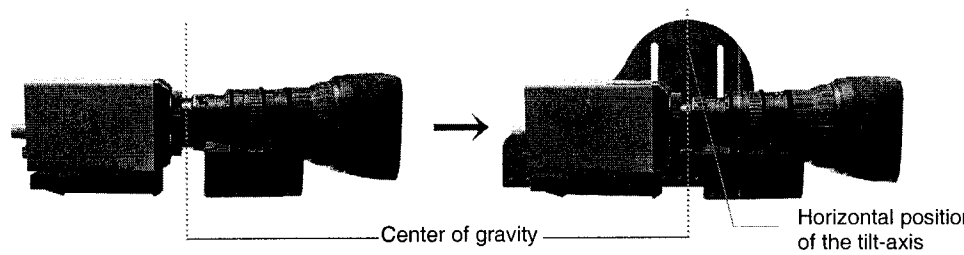
Note

The tilt-axis must align with this point.

5. Determine the center of gravity for the camera (with lens) by grasping the entire device and balancing it until it appears level. The center of gravity is the location on the long axis of the camera/lens around which the camera balances.
6. Place the cradle into the appropriate location along the cradle support bracket so that the camera's center of gravity aligns with the horizontal position of the tilt-axis, as seen in Figure 9.

Figure 9

Mounting a camera



Note

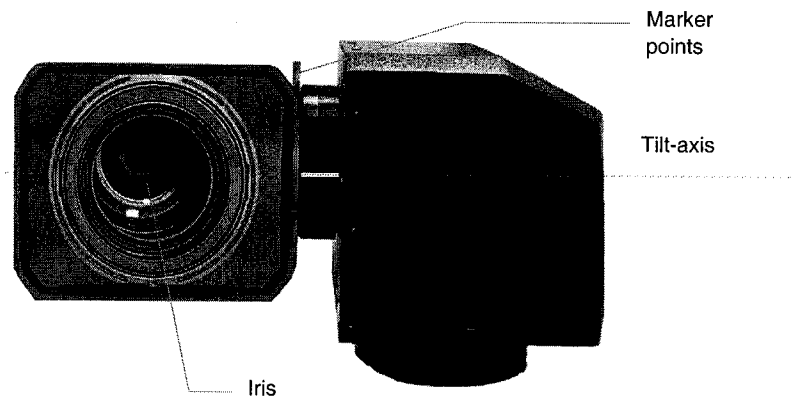
Make sure to mount the camera as close to the tilt hub as possible to obtain a true center of gravity.

7. Fasten the Camera mount cradle to the Cradle support bracket by using the two ½" screws. Make sure the location aligns with the tilt-axis.

8. Take the entire Camera/Lens cradle assembly and align it with the Tilt hub so that the tilt axis intersects the longitudinal axis of the camera's iris (Figure 10).

Figure 10

Iris alignment with tilt axis



9. Secure the Camera/Lens cradle assembly to the AXB-PT10 with some or all of the four ½" screws and washers, if possible at this time. Otherwise, note the vertical position of the cradle assembly on the Tilt hub by marking the borders of the hub along the back of the Cradle support bracket. This allows you to maintain a reference for the alignment of the camera.

10. If necessary, remove the camera/lens from the cradle assembly.

Note

The Camera/Lens cradle can be mounted on either side of the cradle support bracket. This is especially useful when the camera is mounted to the ceiling.

11. Secure the Camera/Lens cradle assembly to the Tilt hub on the PT10 in the correct vertical position (along any of the eight vertical socket holes) with any remaining screws and washers.

12. Re-attach the camera and lens to its previous position on the Camera/Lens cradle assembly.

Caution

When applying power to the AXB-PT10, adjust the soft-set pan/tilt-limit stops to a safe position to prevent camera or AXB-PT10 damage.

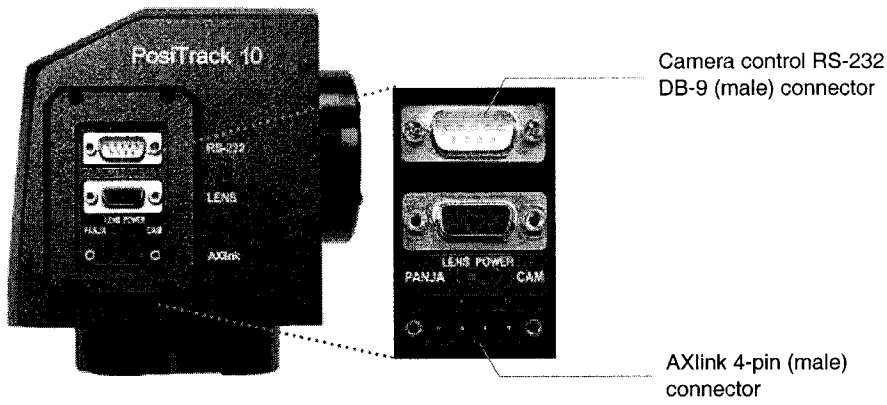
13. Support the weight of the camera cables with the wire tie attached to the wire tie-mount location on the lower corner of the face of the AXB-PT10 shown in Figure 6 .

Wiring Information for the AXB-PT10

The AXlink 4-pin connector is located on the side of the AXB-PT10, as shown in Figure 11.

Figure 11

Side view of the AXB-PT10 showing the location of the AXlink connector.



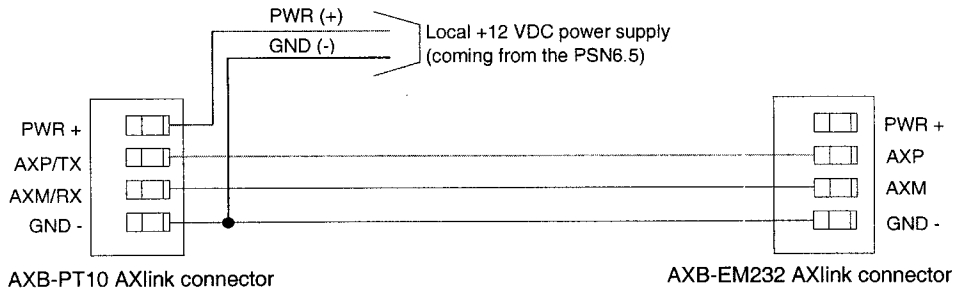
The AXB-PT10 receives all power from the +12 VDC and GND connections on the 4-pin AXlink connector. The portion of the power that is directed toward the pan and tilt motors is fused. The fuses are self-resetting.

Using the AXlink connector for data and power

To use the AXlink 4-pin connector for data communication with the AXB-EM232 and power transfer from the PSN6.5 power supply, the incoming PWR and GND cable from the PSN6.5 must be connected to the AXlink cable connector going to the AXB-PT10. Figure 12 shows how the power cable from the PSN6.5 is used to power the AXB-PT10 and the GND cable is connected onto the existing GND cable on the AXlink cable coming from the AXB-EM232. Always use a local power supply to power the AXB-PT10.

Figure 12

AXlink connector and local +12 VDC power supply wiring diagram



Warning

Make sure to connect only the AXM, AXP, and GND wires on the AXB-PT10 AXlink connector when using the PSN6.5 power supply. *Do not* connect the PWR wire to the AXlink connector's PWR terminal.

Caution

Do not provide power to the PSN6.5 at this point, this system is powered-up in a later section.

1. Unscrew the PWR and GND wires on the terminal end of the PSN6.5 2-pin cable.
2. Pair the GND wires from the PSN6.5 and the AXB-EM232 AXlink connectors together and insert them into the clamp position for GND on the AXB-PT10 AXlink connector.
3. Tighten the clamp and secure the two wires.
4. Place the PWR wire from the PSN6.5 into the open clamp position for PWR on the AXB-PT10 AXlink connector.
5. Tighten the clamp to secure the wire.

Using the camera control RS-232 DB-9 connector

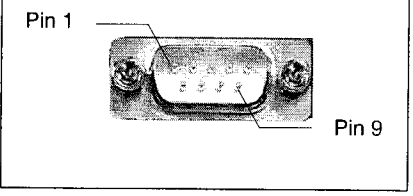
The RS-232 DB-9 (male) connector on the AXB-PT10 connects to the camera head's RS-232 connector. Figure 13 lists the pinouts and shows the pin configuration for the DB-9.

Figure 13

Camera control RS-232 DB-9 connector pinouts

Camera control DB-9 RS-232 connector pinouts

Pin	Signal	Pin	Signal
1	N/A	6	N/A
2	RXD	7	RTS
3	TXD	8	CTS
4	NA	9	N/A
5	GND		



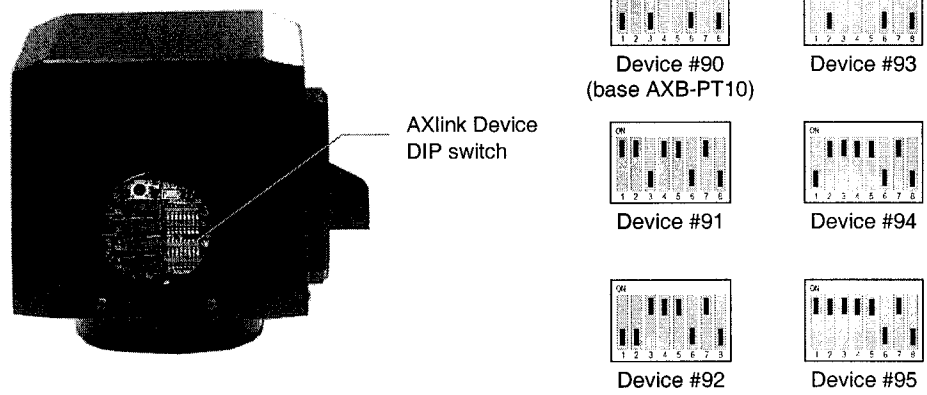
Preparing the AXB-PT10 for communication

If you add one or more AXB-PT10s to your system, it will be necessary to set the AXlink Device DIP switches on the additional PT10s. The AXB-PT10 that came with your kit was factory set as AXlink device number 90. The first additional AXB-PT10 must be set to AXlink device 91, the next one to device 92, then 93, and so on - up to 95 (for a maximum total of six PT10s).

The AXlink Device DIP switch is located beneath the round cover on the back of the AXB-PT10. Figure 14 shows the location of the DIP switch and each of the possible AXlink Device DIP switch settings for additional PT10s.

Figure 14

AXB-PT10 (rear view) and AXLink Device DIP switch settings for devices 90 – 95.



Wiring Information for the AXP-PLV

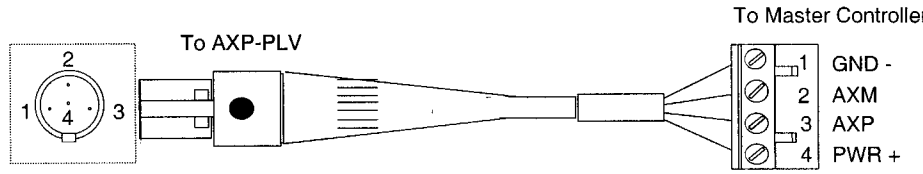
The AXP-PLV comes with a mini-XLR connector plugged into the back panel. Use this connector with the supplied AXlink wire and an AXlink (4-pin, captive wire) connector to make an AXlink to mini-XLR cable.

Using the AXlink mini-XLR connector for data and power

Wire the Master Controller's AXlink connector to the mini-XLR connector (male) on the rear panel of the AXP-PLV for data and 12 VDC power as shown in Figure 15.

Figure 15

Mini-XLR connector to Central Controller wiring diagram



4 - PWR + (red)
3 - AXP (white)
2 - AXM (green)
1 - GND – (black)

Wiring Information for the AXB-EM232

Figure 16 shows the front and rear view of the AXB-EM232 and describes the features relevant to this configuration.

Figure 16

Front and rear views of the AXB-EM232

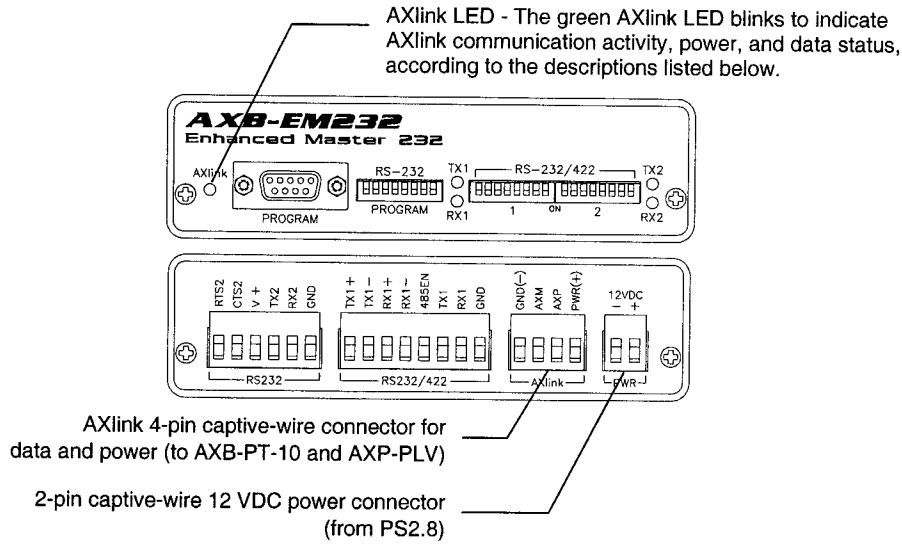


Figure 17 describes the blink patterns for the front panel AXlink LED.

Figure 17

AXlink LED blink patterns

AXlink LED blink patterns:	
One blink/second:	Indicates that power is active and AXlink communication is functioning.
Two blinks/second:	Indicates that the devices specified in the master program do not match the devices found.
Three blinks/second:	Indicates that there is an AXlink communication error.
Full On:	Indicates that there is either no AXlink activity or that the AXCESS program is not loaded.

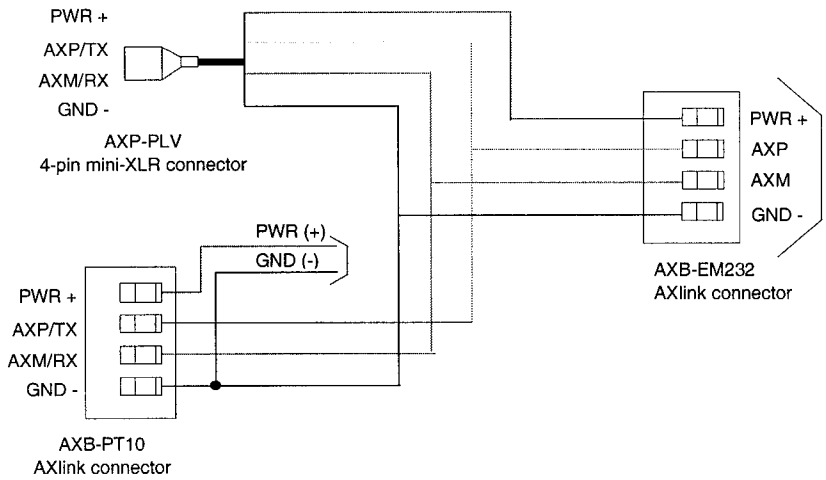
The following section describes how to combine the ends of both the AXB-PT10 and AXP-PLV AXlink cables into one AXlink connector located on the AXB-EM232.

Using a 2x1 AXlink connector for data and power

To use the AXlink 4-pin connector for data communication from the AXB-EM232 to both the AXP-PLV and AXB-PT10, the outgoing wires from the above mentioned devices must be joined at the terminal AXlink connector on the AXB-EM232. Figure 18 shows how the AXlink cables from the AXP-PLV and the AXB-PT10 can be merged to terminate in one AXlink connector on the AXB-EM232.

Figure 18

AXlink connector split cable wiring diagram



Caution

Do not connect the wire from the PWR terminal on the Master Controller to the PWR terminal on the AXB-PT10 when you connect an external power supply.

1. Disconnect the AXP, AXM and GND wires from the AXB-EM232 AXlink connectors on the AXP-PLV (4-pin mini-XLR to 4-pin captive-wire) and AXB-PT10 (4-pin captive-wire to 4-pin captive-wire) cables.
2. Pair the AXP, AXM and GND wires from the AXB-PT10 and the AXP-PLV connectors.
3. Place each twisted pair into its respective clamp position on the AXB-EM232 AXlink connector. Refer to Figure 18 for more information.
4. Tighten the clamps and secure the twisted pairs to the AXB-EM232 AXlink connector.
5. Plug the AXB-EM232 AXlink connector to the AXlink port at the rear of the AXB-EM232.

Caution

Do not provide power to the AXCENT3 at this point, this system is powered-up in the Putting It All Together section.

Putting It All Together

1. Connect the green 2-pin PS2.8 power connector to the rear of the AXB-EM232.
2. Connect the AXB-PT10 AXlink connector (from the AXB-EM232) to the AXlink port on the side of the AXB-PT10. Refer to the *Using AXlink for data and power* and *Using a 2x1 AXlink connector for data and power* sections for more information.
3. Connect the lens control cable from the side of the camera to the 6-pin LENS connector on the rear of the camera.
4. Connect the DB-9 port on the AXB-PT10 to the 8-pin mini-DIN REMOTE connector on the rear of the camera (for systems where the camera is located within 25 m of the CMA-D2). For systems where the camera is located over 25 m,

Caution

When applying power to the AXB-PT10, adjust the soft-set pan/tilt-limit stops to a safe position to prevent camera or AXB-PT10 damage.

use the 4-pin captive-wire to mini 8-pin DIN cable to connect the CMA-D3 to the AXB-EM232 (RS-232 ports 1 and 2 on the rear panel of the AXB-EM232). The CMA-D3 can be located up to 100 m from the camera.

5. Use a BNC cable to connect the VIDEO OUT port on the rear of the camera to the BNC connector on the rear of the AXP-PLV.

6. Connect the CMA-D2 to the DC IN/VBS port on the rear of the camera.

7. Verify there are no obstructions in the horizontal or vertical paths of the attached camera on the AXB-PT10.

8. Connect the mini-XLR connector (from the AXB-EM232 AXlink connector) to the rear of the AXP-PLV. Be sure to mount the AXB-EM232 as close to the CMA-D2 as possible for best performance.

9. Connect the AXB-EM232 AXlink connector to the rear of the AXB-EM232.

10. Plug in the PSN6.5, PS2.8, and CMA-D2 power supplies to their respective outlets.

11. Press and hold the SETUP button (located on the rear of the AXB-PT10, beneath a protective cover) for three seconds to exercise each control axis (pan/tilt), to verify correct installation. This procedure checks for proper lens connection.

12. Allow the AXP-PLV touch panel software approximately 20 seconds to properly load before beginning use.

13. Select the video input for camera one by pressing the Camera Station 1 pushbutton located on the right side of the AXP-PLV touch panel.

Suggested Wire Types (for custom cables)

AXlink is a control network that uses four wires to carry data and power to all remote devices in the system. Two wires carry a balanced-line data signal; the other two provide ground and +12 VDC power. Large distributed systems that use long AXlink runs with a maximum of 3,000 feet (914.4 m) should use low-capacitance (12-14 pF/ft) shielded twisted pair cable.

- The length of an AXlink wire run is equal to the total length of wire used; a star run made of one 300′ section and six 50′ sections equals one 600′ AXlink line.
- AXlink data lines (AXM and AXP) are designed for balance-line operation; wire the data lines in the same twisted pair.

- Use a shielded cable for best results, both to reduce electronic interference radiated by adjacent wiring and to eliminate noise from AXlink cabling to adjacent audio cabling.

If you find that the included 100' (30.48 m) AXlink cables are not long enough for your application, use the wire types suggested below to make custom cables.

AXlink - (local-area, low-power requirement)

22/24 AWG 4-conductor cables can be used for short wiring runs.

- Level 3, 4, or 5 unshielded, twisted pair
- Belden 8102, 2 twisted pair, 1 shield 12 pF/ft, PVC and plenum cable available.

AXlink - (local-area, high-power requirement)

Large systems that power many bus controllers or touch panels should use a heavier gauge wire to handle DC power.

- Liberty Wire and Cable AMX-2S22218 AXlink Cable, 1 shielded, twisted pair 22 AWG, 12.5 pF/ft, 2 18 AWG, PVC and plenum cable available.

AXlink - (wide-area, local-power supply)

In this type of system, power is rarely distributed over the AXlink bus; local power supplies are used for each controller or linked system.

- West Penn D2401 1 twisted pair, 1 shield 14 pF/ft, Plenum cable available.

Using the AXP-PLV PosiTrack Video Pilot

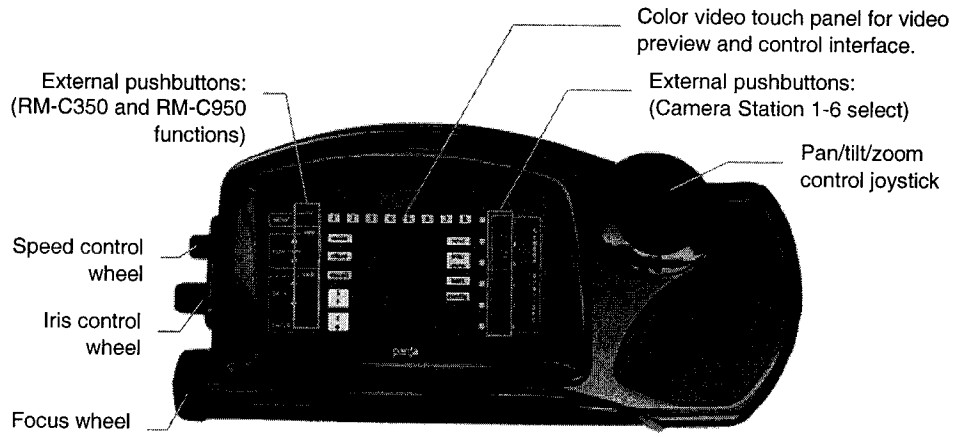


Figure 19

AXP-PLV PosiTrack Video Pilot camera controller

The control features of the AXP-PLV PosiTrack Video Pilot camera controller (Figure 19) are described below:

Pan/tilt/zoom control joystick:	Use the joystick to control pan and tilt movements. Rotate the top of the joystick left and right to zoom in and out.
Speed control wheel:	Rotate to control the speed of the pan and tilt movements.
Iris control wheel:	Rotate to open and close the camera's iris.
Focus wheel:	Rotate to control focus on the camera.
External pushbuttons (left side):	This set of six pushbuttons closely duplicate the buttons on Sony RM-C350/950 camera controllers.
Menu:	Press to open the camera's on-screen menu.
Function up/down:	Press to scroll up/down through the camera menu options
ABB:	Press to set Automatic Black Balance.
Data up/down:	Once you have selected a camera menu option, press the Data up/down buttons to scroll through the available choices.
AWB:	Press to set Automatic White Balance.
Enter:	Press to make a selection from the menu.

CAMERA STATION Select External pushbuttons (right side):	This set of six pushbuttons allows you select which camera (1-6) you are controlling. The Camera Station selection indicators along the right edge of the touch panel light to indicate which camera is currently selected.
1	Selects camera 1
2	Selects camera 2
3	Selects camera 3
4	Selects camera 4
5	Selects camera 5
6	Selects camera 6
Video preview/touch panel screen:	The touch panel screen displays a video preview and gives you access to various control features such as store/recall presets, gain and detail settings and the camera configuration options via the touch panel buttons. For details on using the touch panel buttons, refer to the *Using the AXP-PLV Touch Panel Program* section on the following page.

Using the AXP-PLV Touch Panel Program

This section describes the touch panel pages, and their buttons. When the AXP-PLV is powered up, a setup screen appears for several seconds. Then, the CAMERA page (Figure 20) appears:

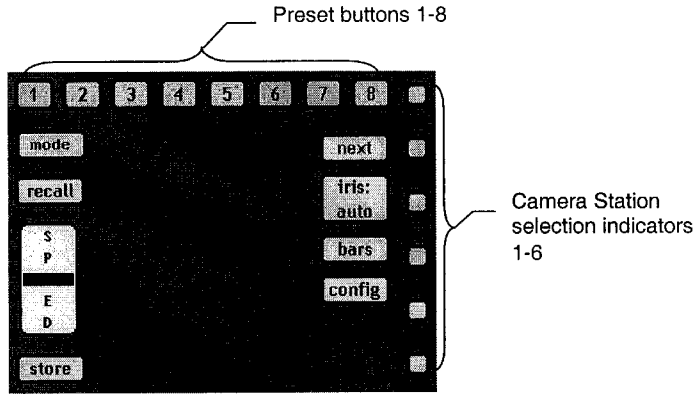


Figure 20

CAMERA page

Note

Simply touch the panel to manipulate the buttons and sliders on the panel.

• Preset buttons **1-8**	You can store and recall up to 24 presets for zoom, focus, iris, pan/tilt and speed settings. By default, preset buttons 1-8 are shown.
• **mode** button	Touch to display preset buttons 9-16. Press the **mode** button again to display preset buttons 17-24.
• **store** button	Touch a preset button, then touch the **store** button to store the camera's current pan/tilt position, zoom, focus, speed and iris settings as a preset.
• **recall** button	Touch a preset button, then touch the **recall** button to recall the pan/tilt position, zoom, focus, speed and iris settings saved for the selected preset.

• **speed** slider control	Use this slider control to adjust the preset pan/tilt speed.
• **next** button	Touch to flip to the next touch panel page (in this case, the MENU page).
• **iris** button	Touch to toggle between automatic and manual iris control. If it is set to Manual, you will use the iris control wheel on the side of the AXP-PLV to open/close the iris.
• **bars** button	Touch to toggle a color bar display on the screen.
• **config** button	Touch to open the CAMERA CONFIGURATION page, where you can configure a camera for your system.
• Camera Station selection indicators **1-6**	These indicators light to indicate which camera is currently selected (via the CAMERA STATIONS 1-6 external pushbuttons).

Press the NEXT button in the CAMERA page to open the CAMERA MENU page (Figure 21). Use the CAMERA MENU page to view the camera's menu page.

Figure 21

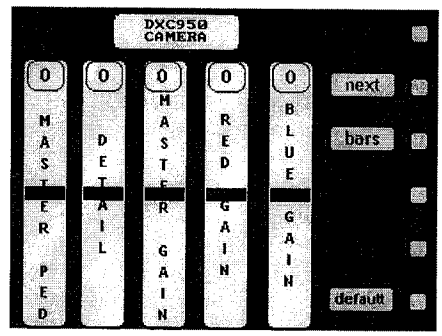
CAMERA MENU page

While the MENU page is open, press the external button labeled MENU (to the right of the touch panel). The camera's menu page is displayed on the panel. The items in the MENU page will vary, depending on the camera installed, so consult the Sony literature for details on your camera.

• **next** button	Touch to flip to the next touch panel page (in this case, the CAMERA ADJUSTMENT page).
• **DEFAULT** button	Touch to return the selected camera menu item to its default setting.

Figure 22

CAMERA ADJUSTMENT page



Use the CAMERA ADJUSTMENT page slider bars to:

- Adjust the master pedestal setting.
- Adjust the detail setting.
- Adjust the master gain setting.
- Adjust the red gain setting.
- Adjust the blue gain setting.

When you press any of these slider bars, a secondary page is opened that shows only the selected slider bar, leaving the rest of the screen free to view the preview picture.

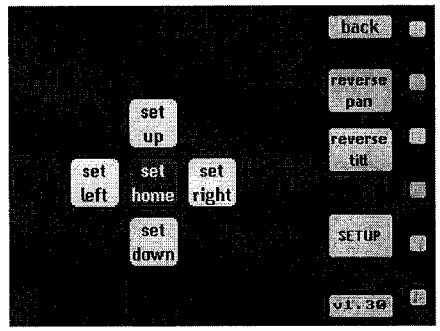
• **next** button	Touch to flip to the next touch panel page (in this case it flips back to the CAMERA page).

• **bars** button	Touch to toggle a color bar display on the screen.
• **default** button	Touch to restore the camera to its default master pedestal, detail and gain settings. (This is the same as pressing the Data UP and DOWN buttons simultaneously on the Sony RM-C950).

Press the CONFIG button on the CAMERA page to open the CAMERA CONFIGURATION page (Figure 23):

Figure 23

CAMERA CONFIGURATION page



Use the CAMERA CONFIGURATION page buttons to configure a new camera to the system:

- Set and/or clear limit stops for pan up/down and left/right.
- Set the home position
- Reverse the pan orientation on the joystick.
- Reverse the tilt orientation on the joystick.
- Enter the touch panel's SETUP screen (for system administrators only).

• **set home** button	Touch to set the home position.
• **set up** button	Touch to set the up limit stop.
• **clear up** button	Touch to clear the up limit stop.
• **set down** button	Touch to set the down limit stop.
• **clear down** button	Touch to clear the down limit stop.
• **set right** button	Touch to set the right limit stop.
• **clear right** button	Touch to clear the right limit stop.
• **set left** button	Touch to set the left limit stop.
• **clear left** button	Touch to clear the left limit stop.
• **back** button	Touch to flip to the previous page.
• **reverse pan** button	Touch to reverse the current pan orientation on the joystick.
• **reverse tilt** button	Touch to reverse the current tilt orientation on the joystick.
• **SETUP** button	Touch to access the touch panel Setup screen (for system administrators only).

Optional Configurations

This section covers general wiring configurations for the various possible camera configurations available using different combinations of the three PosiTrack camera systems. These combinations are all built from the base PT10-PLV camera package.

Multi-Camera Configuration with CMA-D2 (up to 25 m)

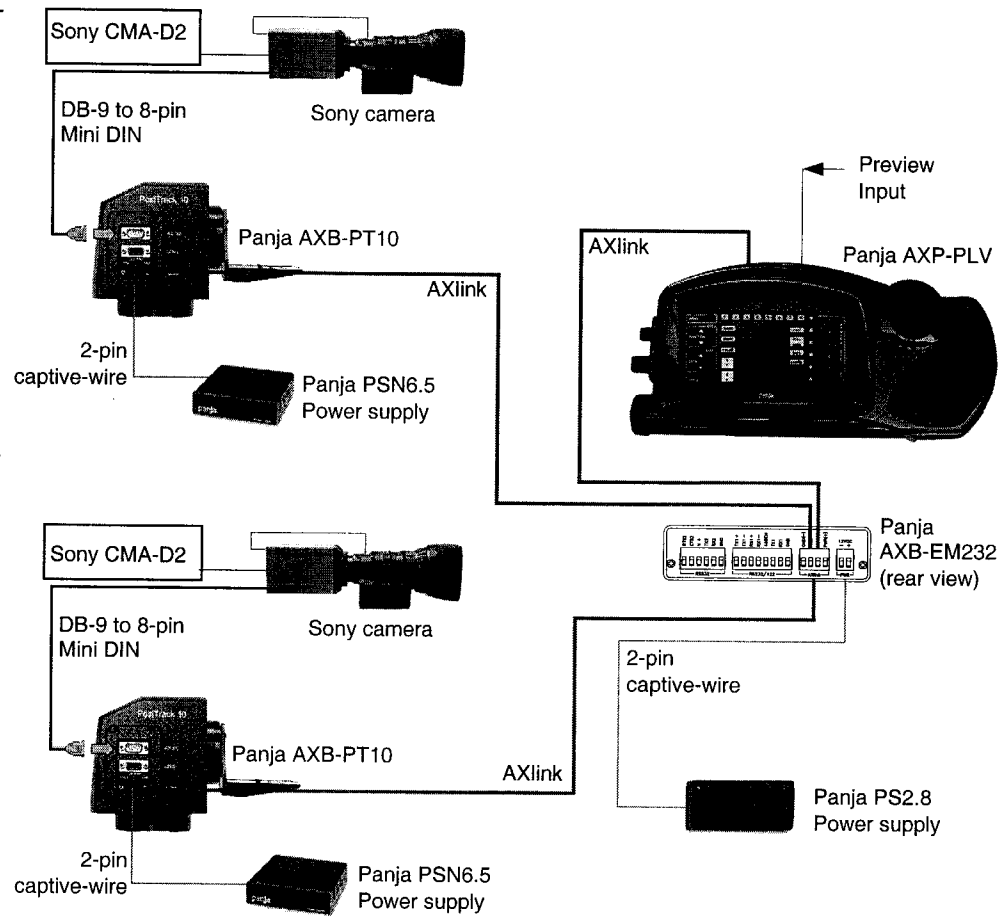
Adding the following components can expand this system from the base PT10-PLV camera package:

- AXB-PT10 Pan/Tilt Camera Head
- PSN6.5 Power Supply
- CC-CAM Connection Cable (DB-9 to 8-pin Mini DIN)
- CC-AXL AXlink Connection Cable (4-pin captive-wire to 4-pin captive-wire)

The CMA-D2 provides power to cameras at distances of up to 25 meters (Figure 24). This system handles up to six cameras.

Figure 24

Multi-Camera Configuration with CMA-D2 (up to 25 m)



Note

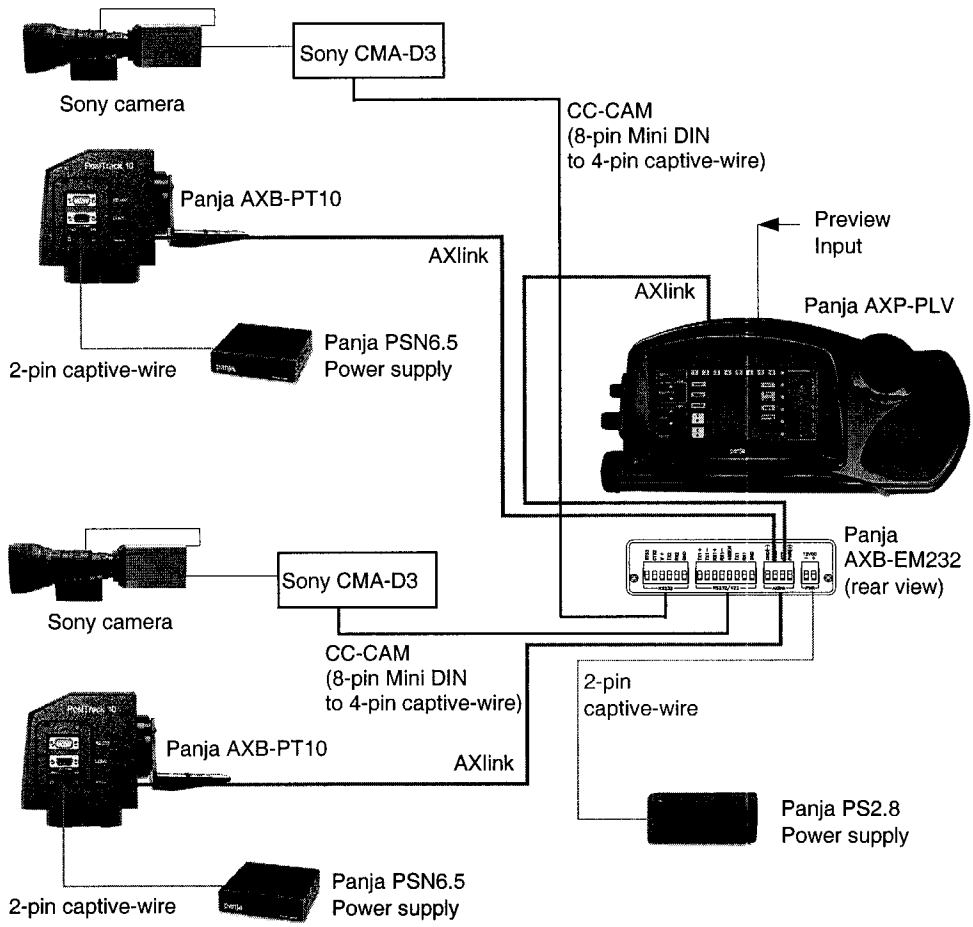
This configuration includes the same components in the single camera configuration.

Two-Camera Configuration with CMA-D3 (up to 100 m)

The CMA-D3 provides power to cameras at distances of up to 100 meters (Figure 25).

Figure 25

Two-Camera Configuration with CMA-D3 (up to 100 m)



Note

This configuration includes the same components in the PT10-PLV single camera configuration.

Note

This configuration provides control and video reception at greater distances with the use of a CMA-D3 unit.

Multi-Camera Configuration with CMA-D3 (up to 100 m)

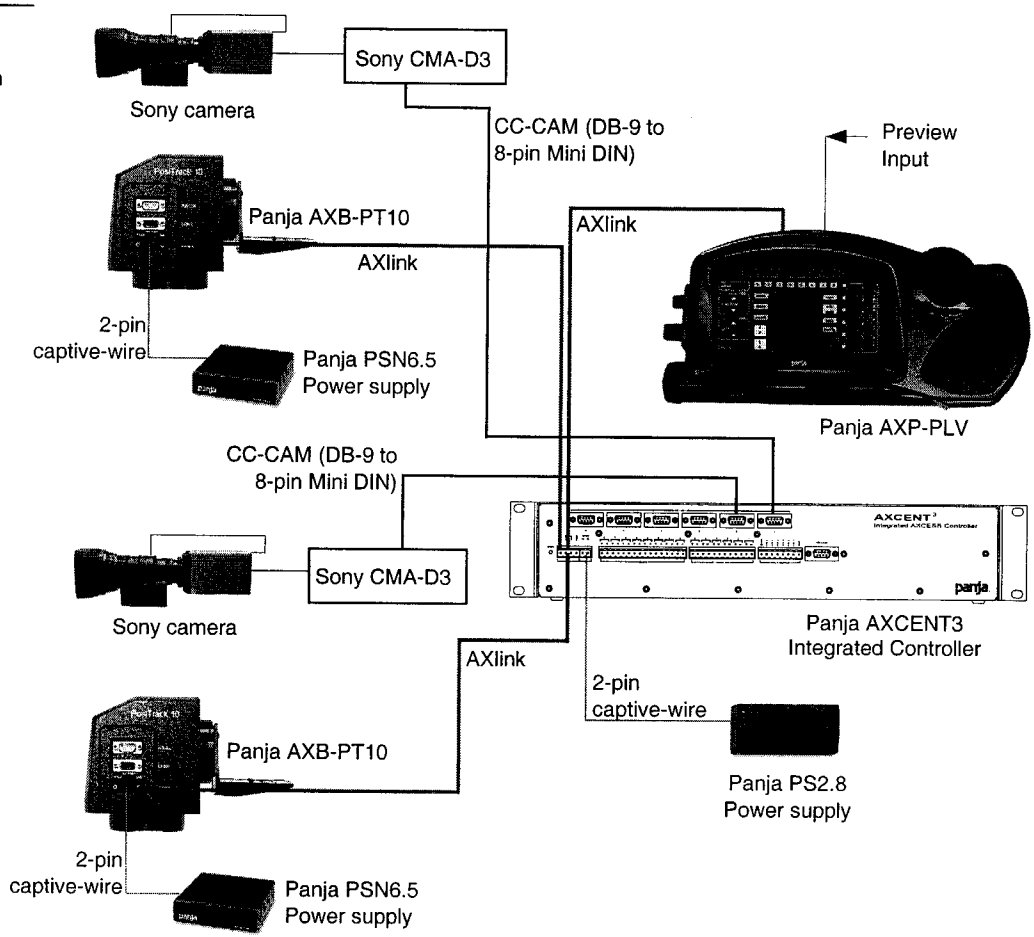
When the quantity of the CMA-D3s exceeds two, the following system configuration (Figure 26) must be used. This application requires the following components:

- AXB-PT10 Pan/Tilt Camera Head
- AXCENT3 Integrated Controller
- AXP-PLV PosiTrack Pilot Video touch panel
- CC-CAM Connection Cable (DB-9 to 8-pin Mini DIN)
- PS2.8 Power Supply
- PSN6.5 Power Supply

The CMA-D3 provides power to cameras at distances of up to 100 meters. This system handles up to six cameras.

Figure 26

Multi-Camera Configuration with CMA-D3 (up to 100 m)



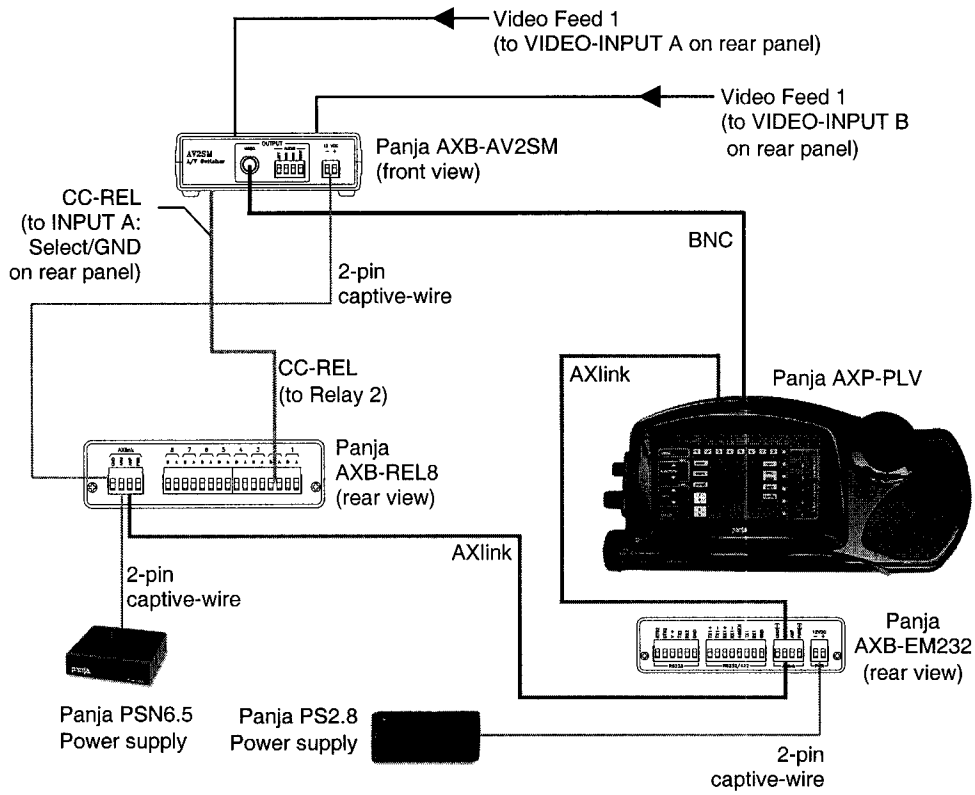
2x1 Video Preview Switcher Configuration

The following example (Figure 27) adds a 2x1 video preview switcher to any of the previous systems. This application requires the following additional components:

- Panja AXB-AV2SM Auto/Manual Video Switcher
- Panja AXB-REL8 Relay Controller

Figure 27

2x1 Video Preview Switcher Configuration



Troubleshooting

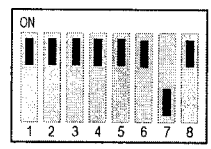
If you are experiencing communication problems with the AXB-EM232, check the communications settings for the device. The RS-232 communications parameters for this device are set via the eight-position RS-232 DIP switch. On the AXB-EM232, the RS-232 DIP switch is located on the front panel. Verify that this DIP switch is set to the default positions indicated in Figure 28.

Setting the RS-232 DIP switch (S2)

Figure 28 shows the RS-232 DIP switch set to the default positions:

Figure 28

RS-232 communications parameters DIP switch (S2)



- 9,600 baud
- No parity
- 8 bits
- 1 stop bit

Figure 29 lists the RS-232 DIP switch settings.

Figure 29

RS-232 DIP switch (S2) settings

RS-232 DIP switch (S2) settings									
Position	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Function	**Stop Bits**	**Data Bits**	**Parity**			**Baud Rate**		
	Off 2 bits	Off 7 bits	Off	Off Unused	Off	Off	Off 300	Off
	On 1 bit	On 8 bits	On	Off Unused	Off	On	Off 600	Off
			Off	On Unused	Off	Off	On 1,200	Off
			On	On Unused	Off	On	On 2,400	Off
			Off	Off Unused	On	Off	Off 4,800	On
			On	Off Even	On	On	Off 9,600	On
			Off	On Odd	On	Off	On 19,200	On
			On	On None	On	On	On 38,400	On

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