



# PIVOTCam Control Panel User Guide

Version 1.2

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# PIVOTCam Control Panel User Guide

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# Introduction

This chapter contains the following sections:

- “**Overview**” on page 1–1
- “**Documentation Conventions**” on page 1–1
- “**Contacting Technical Support**” on page 1–2

## Overview

The PIVOTCam Control Panel is a DashBoard panel that enables you to configure and control PIVOTCam robotic cameras. You can control cameras manually, store and recall shots, and configure camera settings.

This guide describes how to use the PIVOTCam Control Panel to configure and control PIVOTCam robotic cameras.

For information about installing PIVOTCam cameras, see the *PIVOTCam User Manual (5000DR-300-xx)*.

## Documentation Conventions

Special text formats are used in this guide to identify parts of the user interface, text that a user must enter, or a sequence of menus and submenus that must be followed to reach a particular command.

### Interface Elements

Bold text is used to identify a user interface element such as a dialog box, menu item, or button. For example:

On the **Store/Recall Shots** tab, tap the **Config Banks and Shots** button.

### Touch-Screen Support

This guide assumes you are using a touch-screen. The guide includes instructions to tap user interface elements. If you are using a mouse instead of a touch screen, click the mouse instead of tapping.

### User-Typed Text

Courier text is used to identify text that a user must type. For example:

In the **File Name** box, type `Channel01.property`.

### Referenced Guides

Italic text is used to identify the titles of referenced guides, manuals, or documents. For example:

*PIVOTCam User Manual (5000DR-300-xx)*

### Menu Sequences

Menu arrows are used in procedures to identify a sequence of menu items that you must follow. For example, if a step reads “**Server > Save As,**” you would tap the **Server** menu and then tap **Save As**.

## Contacting Technical Support

At Ross Video, we take pride in the quality of our products, but if problems occur, help is as close as the nearest telephone.

Our 24-hour Hot Line service ensures you have access to technical expertise around the clock. After-sales service and technical support is provided directly by Ross Video personnel. During business hours (Eastern Time), technical support personnel are available by telephone. After hours and on weekends, a direct emergency technical support phone line is available. If the technical support person who is on call does not answer this line immediately, a voice message can be left and the call will be returned shortly. This team of highly trained staff is available to react to any problem and to do whatever is necessary to ensure customer satisfaction.

- **Technical Support:** (+1) 613-652-4886
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# System Setup

This section describes how to set up and launch the PIVOTCam Control Panel system. It contains the following topics:

- “**Installing Cameras**” on page 2–1
- “**Configuring Cameras**” on page 2–1
- “**Installing DashBoard and the PIVOTCam Control Panel**” on page 2–2
- “**Launching the PIVOTCam Control Panel**” on page 2–2
- “**Joystick Panels and Other Manual Controllers**” on page 2–3

## Installing Cameras

Before you can use the PIVOTCam Control Panel to control your cameras, they must be securely mounted, cabled, and turned on.

PIVOTCam cameras communicate over a serial RS232 interface. Each camera must communicate through a serial-to-IP converter. All serial-to-IP converters must be connected to the same Ethernet network as the computer running DashBoard and the PIVOTCam Control Panel.

Each serial-to-IP converter has a single IP address. It may have multiple ports. Each port may be attached to up to seven daisy-chained PIVOTCam cameras. The maximum cable length for RS232 communication between nodes (between two cameras, or between a camera and a serial-to-IP converter) is 50 feet (15m).

Refer to the *PIVOTCam User Manual (5000DR-300-xx)* for information about how to mount and cable the cameras.

## Configuring Cameras

After the cameras are mounted and cabled, turn them on and perform the following configuration tasks:

- “**Configure Camera Communication Settings**” on page 2–1
- “**Configure Serial-to-IP Converters**” on page 2–2

### Configure Camera Communication Settings

Using the remote control unit that came with the camera, navigate the on-screen menu to configure the following settings:

- **ADDRESS** — Set to a value between **1** and **7**. If multiple cameras are communicating through a single port of a serial-to-IP converter, each camera in the daisy chain must have a unique chain address. Note the chain address of each camera so you can later configure connectivity to it.
- **BAUD RATE** — The factory default baud rate is **9600**. Do not change this value. The baud rate of all cameras in a daisy-chain must be set to **9600**.

For information about using the remote control unit to configure camera settings, see the *PIVOTCam User Manual (5000DR-300-xx)*.

## Configure Serial-to-IP Converters

PIVOTCam cameras communicate over a serial RS232 interface. A serial-to-IP converter is required to enable the cameras to communicate with the PIVOTCam Control Panel.

Each serial-to-IP converter has a single IP address. It may have multiple ports. Each port may be attached to up to seven daisy-chained PIVOTCam cameras.

As you configure each camera, note its IP address, port number, and chain address so you can later configure connectivity to the camera.

### To configure a serial-to-IP converter:

1. Set a unique IP address for the converter.  
This is the IP address for all cameras connected through the converter.  
The IP address must be accessible to the computer running DashBoard.
2. Assign each port of the converter a port number.  
This is the port number for all cameras connected through the port.
3. Set the baud rate to **9600**.
4. For each camera, record the combination of IP address, port number (if applicable), and chain address.

## Installing DashBoard and the PIVOTCam Control Panel

The PIVOTCam Control Panel is a DashBoard panel. DashBoard must be installed to run the camera control panel.

### To install DashBoard and the PIVOTCam Control Panel:

1. Download and install DashBoard, following instructions in the *DashBoard User Guide (8351DR-004-xx)*.  
**Tip:** DashBoard, and the *DashBoard User Guide*, are available as free downloads from [www.rossvideo.com](http://www.rossvideo.com).
2. Open the **Ross PIVOTCam** zip file, and then extract the **Ross Camera Panel** folder into a location of your choice. Note the folder path.

## Launching the PIVOTCam Control Panel

Add the camera control panel to the DashBoard File Navigator, to make it readily available from DashBoard.

### To add the PIVOTCam Control Panel to DashBoard File Navigator:

1. Start DashBoard.
2. From the **Views** menu, tap **File Navigator**.
3. On the **File Navigator** tab, tap the green + symbol.  
The **Browse for Folder** dialog appears.
4. Navigate to the **Ross Camera Panel** folder located where you extracted it, and then tap **OK**.
5. In the **File Navigator** tree, expand the **Ross Camera Panel** folder to show the **PIVOTCamCameraPanel.grid** file.
6. To open the camera control panel anytime, double-tap the **PIVOTCamCameraPanel.grid** file.  
The PIVOTCam Control Panel will always be available from the DashBoard File Navigator.

## Joystick Panels and Other Manual Controllers

A joystick panel and/or other controller(s) can be used to select and manually operate PIVOTCam cameras in conjunction with the PIVOTCam Control Panel.

You can use a Ross Video joystick panel, which includes illuminated camera selection buttons, and requires no configuration. Alternatively, you can add a USB joystick and/or other USB game controllers to DashBoard, and configure them to provide data to the PIVOTCam Control Panel.

For information about adding a USB joystick or other USB controller, see “**Adding a USB Joystick or Other USB Controller**” on page 5–1.



# User Interface Overview

This section describes the PIVOTCam Control Panel user interface.

The PIVOTCam Control Panel is a DashBoard panel that enables you to configure and control PIVOTCam robotic cameras. You can control cameras manually, store and recall shots, and configure camera settings.

The main parts of the PIVOTCam Control Panel are as follows:

- “**Camera Selection Bar**” on page 3–1
- “**Camera Configuration Interface**” on page 3–1
- “**Store/Recall Shots Tab**” on page 3–6
- “**Camera Controls Tab**” on page 3–10
- “**Color Controls Tab**” on page 3–14

## Camera Selection Bar

The camera selection bar (**Figure 3.1**) consists of a row of camera buttons, each representing a PIVOTCam camera. Tap a camera button to select a camera. The blue camera button represents the currently-selected camera. All actions performed on the **Store/Recall Shots** tab, the **Camera Controls** tab, and the **Color Controls** tab affect the selected camera.



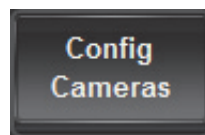
*Figure 3.1 - Camera Selection Bar*

Each camera button has a status indicator dot. A green dot indicates that the control panel can communicate with the camera. A grey dot indicates that the control panel cannot communicate with the camera.

## Camera Configuration Interface

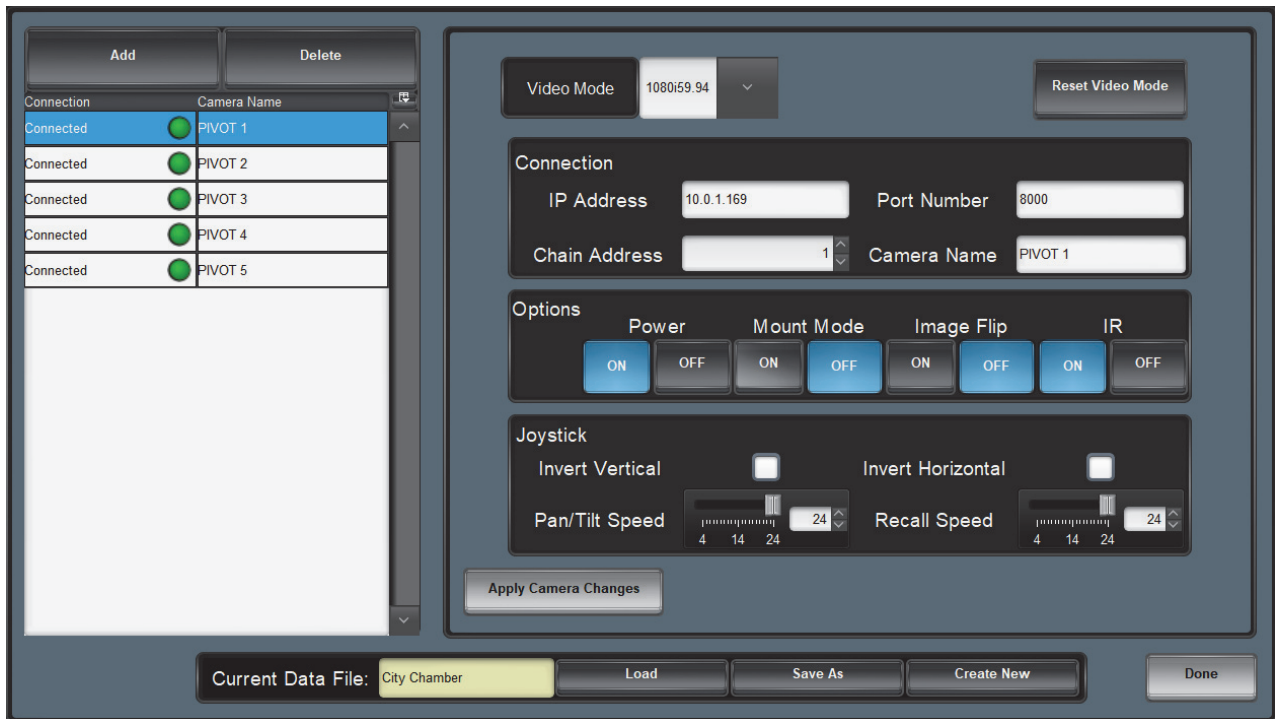
The camera configuration interface enables you to add cameras to the control panel, and to edit camera configuration settings.

To access the camera configuration interface, tap the **Config Cameras** button (**Figure 3.2**).



*Figure 3.2 - Config Cameras Button*

The camera configuration interface appears, as shown in **Figure 3.3**.



**Figure 3.3 - Camera Configuration Interface**

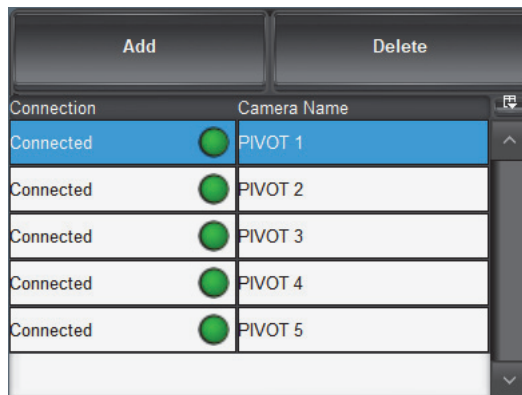
The camera configuration interface includes the following sets of controls:

- “**Camera List**” on page 3–2
- “**Camera Settings Area**” on page 3–3
- “**Data File Area**” on page 3–5
- “**Done Button**” on page 3–5

### Camera List

The camera list (**Figure 3.4**) enables you to add and delete cameras.

Changes you make in the camera list are applied immediately.



**Figure 3.4 - Camera List**

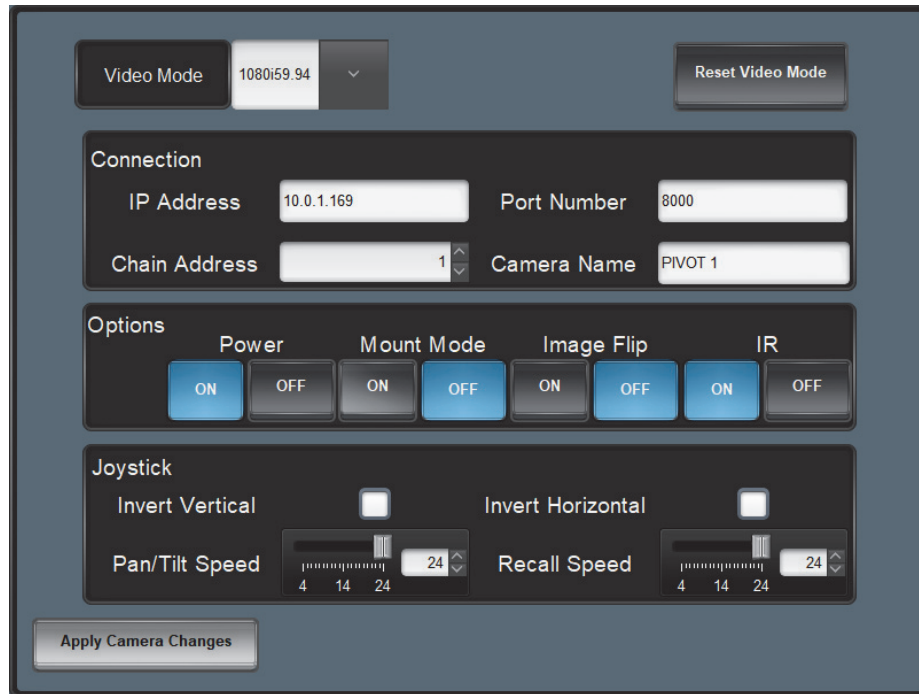
The camera list includes the following controls:

- **Add** button — adds a new camera entry to the camera list.
- **Delete** button — deletes the selected camera from the list.

- **Connection** column — shows the connectivity status of all cameras. A green dot indicates that the control panel can communicate with the camera. A grey dot indicates that the control panel cannot communicate with the camera.
- **Camera Name** column — lists the names of all cameras.

## Camera Settings Area

The camera settings area (**Figure 3.5**) includes controls that define the name, connection parameters, and behavior of the selected camera.



**Figure 3.5 - Camera Settings Area**

The camera settings area includes the following:

- “**Apply Camera Changes Button**” on page 3–3
- “**Video Mode Selection and the Reset Video Mode Button**” on page 3–3
- “**Connection Area**” on page 3–4
- “**Options Area**” on page 3–4
- “**Joystick Area**” on page 3–5

### Apply Camera Changes Button

The **Apply Camera Changes** button applies all changes made in the camera settings area.

Some changes take effect as soon as you make them, but they are not retained unless you apply them.

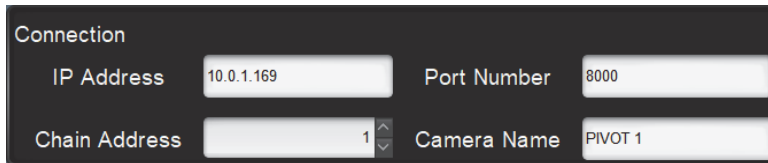
### Video Mode Selection and the Reset Video Mode Button

By default, the PIVOTCam Control Panel sets the video output format of each camera to **1080i59.94**. If you want the selected camera to output a different format, select a format from the **Video Mode** list.

The video format setting is retained even after the PIVOTCam camera is shut down and restarted. In some rare instances, a camera may not retain the setting after shutdown, and may output a different video format. If this occurs, tap the **Reset Video Mode** button. The camera briefly switches to a different video format, and then returns to the format shown in the **Video Mode** list.

## Connection Area

Controls in the **Connection** area (**Figure 3.6**) enable communication between the control panel and the selected camera.

The screenshot shows a dark-themed control panel titled "Connection". It contains four input fields: "IP Address" with the value "10.0.1.169", "Port Number" with the value "8000", "Chain Address" with a dropdown menu showing "1", and "Camera Name" with the value "PIVOT 1".

**Figure 3.6** - Connection Area

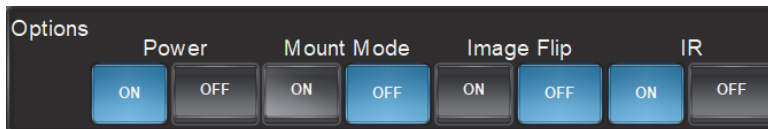
The **Connection** area includes the following controls:

- **IP Address** — The IP address of the camera. This is the IP address of the serial-to-IP converter through which the camera communicates.
- **Port Number** — This is the port number of the camera. This is the port on the serial-to-IP converter through which the camera communicates.
- **Chain Address** — This is the daisy-chain address of the camera. This value is configured on the camera. Each port on a serial-to IP converter can connect to a daisy-chain of up to 7 cameras. Each camera in the chain has a unique chain address.
- **Camera Name** — This is the name of the camera, as you want it to appear within the control panel. After you apply changes, the name appears in the camera list.

For more information about configuring connectivity settings, see “**Configuring Cameras**” on page 2–1.

## Options Area

Controls in the **Options** area (**Figure 3.7**) enable you to turn the selected camera on and off, and to set the video image orientation.

The screenshot shows a dark-themed control panel titled "Options". It contains four pairs of toggle buttons: "Power" (ON/OFF), "Mount Mode" (ON/OFF), "Image Flip" (ON/OFF), and "IR" (ON/OFF). The "ON" buttons are highlighted in blue.

**Figure 3.7** - Options Area

The **Options** area includes the following controls:

- **Power** — Tap **ON** to turn the camera on. Tap **OFF** to turn the camera off.
- **Mount Mode** — Rotates the camera image 180 degrees.
- **Image Flip** — Reverses the camera view vertically, but not horizontally. This results in a vertical mirror-image.
- **IR** — Controls whether the camera can receive commands from the infra-red (IR) remote control unit. Tap **ON** to turn on the IR receiver. Tap **OFF** to turn off the IR receiver.

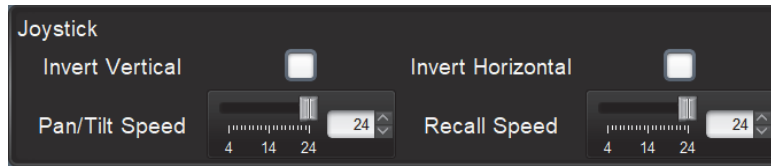
### Tips:

- For ceiling-mounted cameras, turn **Mount Mode ON**, and turn **Image Flip OFF**.
- To simulate a horizontal mirror image, turn **Image Flip ON** and **Mount Mode ON**.
- If you change the **Mount Mode** and **Image Flip** settings, remember to configure the **Joystick** settings so the direction of joystick motion corresponds with the direction of camera movement.



## Joystick Area

The **Joystick** area (**Figure 3.8**) includes controls that co-ordinate the direction of joystick motion with the direction of camera motion, set maximum pan and tilt speed, and set maximum speed when recalling a shot.



**Figure 3.8** - Joystick Area

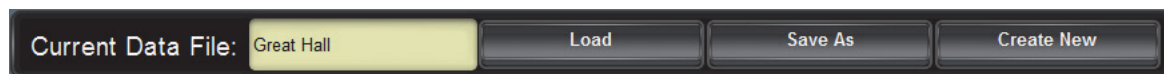
The **Joystick** area includes the following settings:

- **Invert Vertical** — Reverses the directions (forward/back) you must move the joystick to tilt the camera.
- **Invert Horizontal** — Reverses the directions (right/left) you must move the joystick to pan the camera.
- **Pan/Tilt Speed** — Sets the maximum camera movement speed when controlled by the joystick. The value ranges from 4 to 24.
- **Recall Speed** — Sets the maximum camera movement speed when recalling a shot. The value ranges from 4 to 24.

**Tip:** Configure the **Mount Mode** and **Image Flip** settings before you configure the **Invert Vertical** and **Invert Horizontal** settings. For more information, see “**Options Area**” on page 3–4.

## Data File Area

The data file area (**Figure 3.9**) includes controls for managing files that contain camera configuration data and shot data.



**Figure 3.9** - Data File Area

The data file area shows the name of the current data file, and includes the following buttons:

- **Load** — Loads a saved data file. After you load a data file, any changes you make in the control panel are immediately saved to the data file.
- **Save As** — Saves all current data in a new data file. If you continue to make changes in the control panel, they are immediately saved to the new data file.
- **Create New** — Creates a new, blank data file, and clears all data in the control panel. Use this option to begin a new project.

For more information about using controls in the data file area, see “**Saving and Loading Data Files**” on page 4–4.

## Done Button

The **Done** button closes the camera configuration interface.

If there are any unapplied changes, you are prompted to save (apply) or discard them.

## Store/Recall Shots Tab

Controls on the **Store/Recall Shots** tab (**Figure 3.10**) enable you to store, recall, rename, and delete shots. You can also configure shot banks and the text on shot buttons.



**Figure 3.10** - Store/Recall Shots Tab

The following sections describe the controls on the **Store/Recall Shots** tab:

- “**Shot Bank Buttons**” on page 3–6
- “**Config Banks and Shots Button and Configuration Interface**” on page 3–7
- “**Shot Button Matrix**” on page 3–8
- “**Store Mode Buttons**” on page 3–8
- “**Recall Shots Button**” on page 3–9
- “**Store Shots Button**” on page 3–9
- “**Rename Shots Button**” on page 3–9
- “**Delete Shots Button**” on page 3–9

### Shot Bank Buttons

Shot bank buttons (**Figure 3.11**) enable you to select which bank of 100 shots is currently in use.



**Figure 3.11** - Shot Bank Buttons

To select a bank of shots, tap the corresponding shot bank button.

Shot banks are numbered (0-99, 100-199, etc).

For information about adding and deleting shot banks, see “**Configuring Shot Banks**” on page 4–11.

## Config Banks and Shots Button and Configuration Interface

The **Config Banks and Shots** button (Figure 3.12) opens a configuration interface (Figure 3.13) that includes controls for adding and deleting shot banks, renaming shots, and formatting the appearance of text on shot buttons.

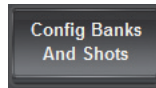


Figure 3.12 - Config Banks and Shots Button

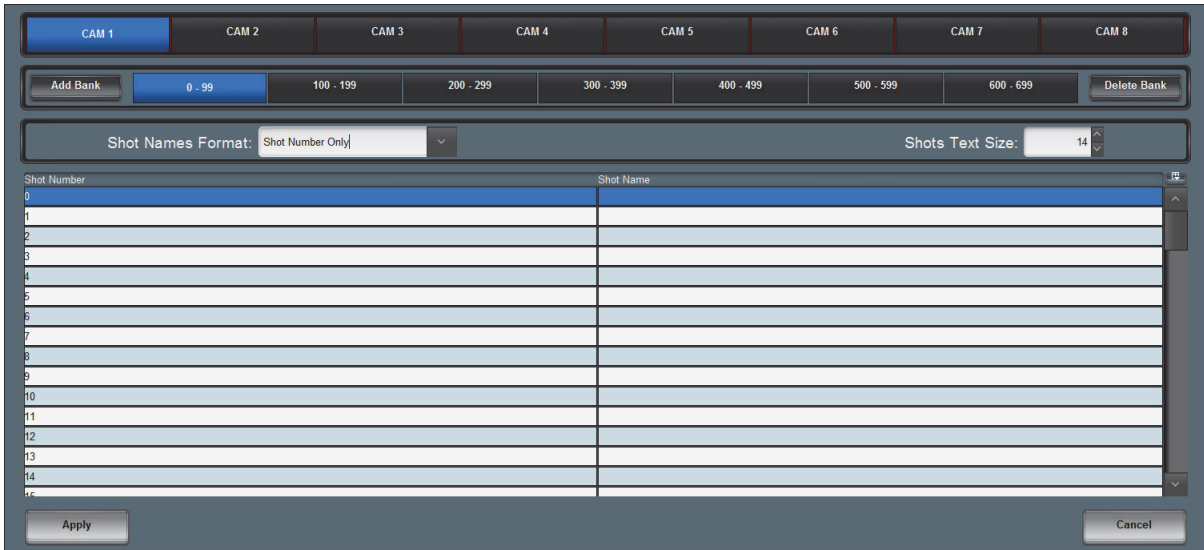


Figure 3.13 - Configuring Banks and Shots

The configuration interface includes the following controls:

- **Add Bank** button — Adds a new bank of shot buttons, numbered higher than the highest bank.
- **Delete Bank** button — Deletes the selected bank of shot buttons.  
Shot buttons that contain shot data are never re-numbered. If any higher-numbered banks contain shots that are not empty, the current shot bank remains, but all its buttons are emptied.
- **Shot Names Format** box — Enables you to specify how shot numbers and names are displayed on shot buttons:
  - › Shot Number Only
  - › Shot Name Only
  - › Shot Number & Name (1 line)
  - › Shot Number & Name (2 lines)
- **Shots Text Size** box — Enables you to specify the text size for shot names and numbers on shot buttons. Valid values range from **8** to **50**.
- **Shot Number** column — Lists shot numbers. This column is not editable.
- **Shot Name** column — Enables you to specify shot names.
- **Apply** button — Applies changes and closes the banks and shots configuration interface.
- **Cancel** button — Cancels changes and closes the banks and shots configuration interface.

### For More Information on...

- adding and deleting shot banks, see “**Configuring Shot Banks**” on page 4–11.
- renaming shots, see “**Renaming Shots**” on page 4–13.
- formatting shot button text, see “**Configuring Shot Button Text**” on page 4–12.

## Shot Button Matrix

A shot is a stored camera position. A shot includes the pan, tilt, zoom, and focus positions of the camera, as well as exposure and color settings.

Shot buttons represent shots. The shot button matrix (**Figure 3.14**) shows one bank of shot buttons (100 shots). There can be multiple shot banks per camera.

0 Podium 1 L	1 Podium 2 C	2 Podium 1 R	3	4	5	6	7	8	9
10 Podium 2 L	11 Podium 2 C	12 Podium 2 R	13	14	15	16	17	18	19
20 Speaker's Chair	21 Spkr & Pod 1	22 Spkr & Pod 2	23 Spkr & Pods	24	25	26	27	28	29
30 Gallery L	31 Gallery C	32 Gallery R	33 Gallery Wide	34	35	36	37	38	39
40	41	42	43	44	45	46	47	48	49
50 Seat 1	51 Seat 2	52 Seat 3	53 Seat 4	54 Seat 5	55	56	57	58	59
60 Seat 6	61 Seat 7	62 Seat 8	63 Seat 9	64 Seat 10	65	66	67	68	69
70 Seat 11	71 Seat 12	72 Seat 13	73 Seat 14	74 Seat 15	75	76	77	78	79
80 Seat 16	81 Seat 17	82 Seat 18	83 Seat 19	84 Seat 20	85	86	87	88	89
90	91	92	93	94	95	96	97	98	99

**Figure 3.14 - Shot Button Matrix**

Shot buttons are color-coded:

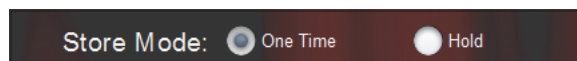
- **Blue** — recorded shots. These can be recalled, renamed, or deleted.
- **Dark Grey** — empty shots. These can be renamed.
- **Light Grey** — shots that have been deleted but not discarded. These can be renamed, restored, or discarded.

You can overwrite any shot button with a new shot position. You can also rename any shot.

For more information, see “**Storing, Recalling, Renaming, and Deleting Shots**” on page 4–11.

## Store Mode Buttons

Store mode buttons (**Figure 3.15**) control the behavior of the panel after you store a shot.



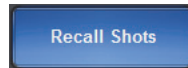
**Figure 3.15 - Store Mode Buttons**

The two store modes are as follows:

- **One-Time** — After you store a shot, the panel reverts to shot recall mode.  
This option reduces the risk of someone accidentally overwriting shots. If someone thinks the panel is in shot recall mode when it is actually in shot storage mode, they may tap a shot to recall it, but instead the shot is overwritten.
- **Hold** — After you store a shot, the panel remains in shot storage mode.  
This option enables you to store or delete several shots in succession without having to re-enter shot storage mode.

## Recall Shots Button

Tap the **Recall Shots** button (**Figure 3.16**) to enter shot recall mode.



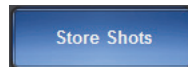
**Figure 3.16** - Recall Shots Button

In shot recall mode, you can tap a shot to move the selected camera to the shot position.

For more information, see “**Recalling Shots**” on page 4–13.

## Store Shots Button

Tap the **Store Shots** button (**Figure 3.17**) to enter shot storage mode.



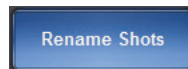
**Figure 3.17** - Store Shots Button

In shot storage mode, you can tap a shot button to store the selected camera’s position as a shot. The camera’s pan, tilt, zoom, and focus positions are stored, as well as exposure and color settings.

For more information, see “**Creating and Storing Shots**” on page 4–12.

## Rename Shots Button

Tap the **Rename Shots** button (**Figure 3.18**) to enter shot renaming mode.



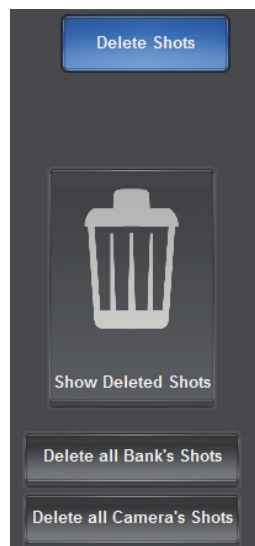
**Figure 3.18** - Rename Shots Button

In shot renaming mode, you can tap a shot and rename it.

For more information, see “**Renaming Shots**” on page 4–13.

## Delete Shots Button

Tap the **Delete Shots** button to enter shot deletion mode (**Figure 3.19**).



**Figure 3.19** - Delete Shots Button, and Controls Available in Shot Deletion Mode

In shot deletion mode, you can delete individual shots, or all shots in the current bank, or all shots for the current camera. You can also view a list of deleted shots, and either restore or discard them.

When you tap the **Delete Shots** button, the following buttons appear:

- **Show Deleted Shots** button — Opens an interface for managing deleted shots, from which you can discard or restore individual shots, all shots on the current shot bank, or all shots on the current camera.
- **Delete all Bank’s Shots** button — Deletes all shots on the current bank.
- **Delete all Camera’s Shots** button — Deletes all shots on the current camera.

For more information, see “**Deleting, Restoring, and Discarding Shots**” on page 4–15.

## Camera Controls Tab

The **Camera Controls** tab (**Figure 3.20**) includes controls for manually repositioning the selected camera, and for adjusting exposure settings (iris, shutter, and gain). There is also an **Open Menu** button, which opens an interface for operating the current camera’s on-screen menu.



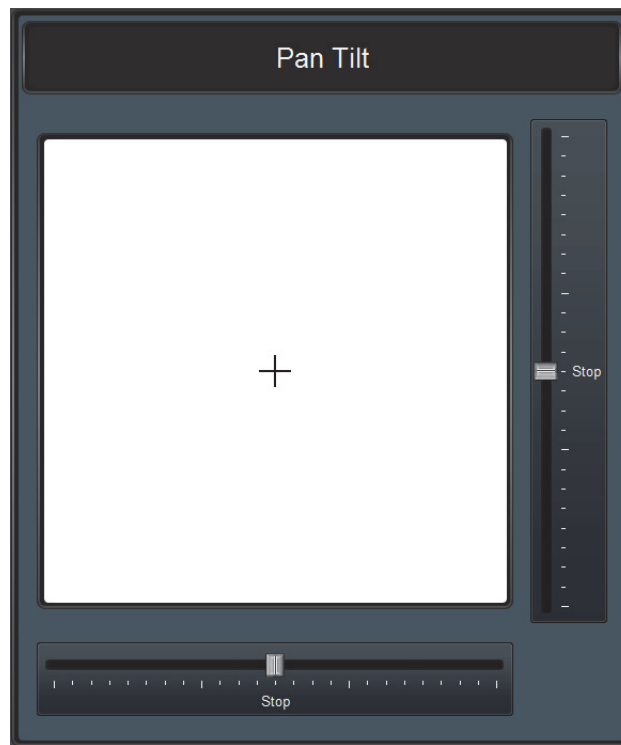
**Figure 3.20 - Camera Controls Tab**

The **Camera Controls** tab includes the following controls:

- “**Pan Tilt Control**” on page 3–10
- “**Zoom Slider**” on page 3–11
- “**Focus Controls**” on page 3–12
- “**Exposure Area**” on page 3–12
- “**Open Menu Button (on-screen menu control)**” on page 3–13

### Pan Tilt Control

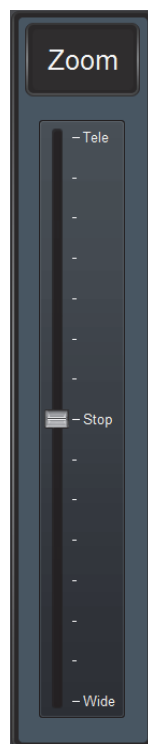
The **Pan Tilt** controls (**Figure 3.21**) enable you to move the current camera view left and right (pan), and up and down (tilt). For more information, see “**Panning and Tilting**” on page 4–5.



**Figure 3.21** - Pan Tilt Controls

### Zoom Slider

The **Zoom** slider (**Figure 3.22**) enables you to zoom the lens of the current camera in and out. For more information, see “**Zooming**” on page 4–6.



**Figure 3.22** - Zoom Slider

## Focus Controls

The **Focus** controls (**Figure 3.23**) enable you to focus the lens of the current camera manually, or turn on auto focus. For more information, see “**Focusing**” on page 4–7.



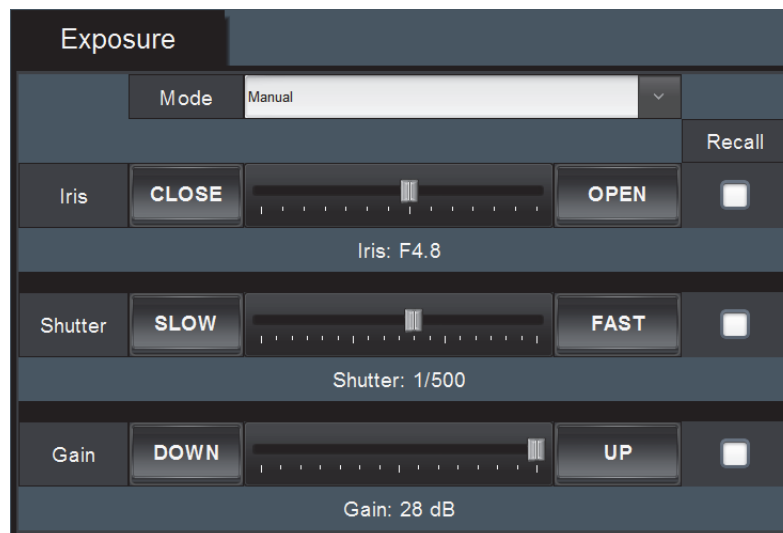
**Figure 3.23** - Focus Controls - Auto Focus (left), and Manual Focus (right)

## Exposure Area

The **Exposure** area enables you to manually adjust exposure settings (iris, shutter, and gain), or set them to **Full Auto**.

If you set iris, shutter, and gain values manually, those values are saved in shots. You can specify whether recalling shots applies the saved exposure settings.

For more information, see “**Adjusting Exposure Settings (Iris, Shutter, Gain)**” on page 4–8.

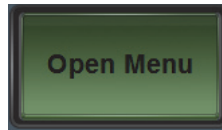


**Figure 3.24** - Exposure Area (manual mode)



## Open Menu Button (on-screen menu control)

The **Open Menu** button (**Figure 3.25**) opens the **Menu Control** interface (**Figure 3.26**), which enables you to operate the current camera's on-screen menu.



**Figure 3.25** - Open Menu Button



**Figure 3.26** - Menu Control Interface

The **Menu Control** interface includes the following controls:

- **Up arrow** button — Navigates up the list of settings in the current level of the menu.
- **Down arrow** button — Navigates down the list of settings in the current level of the menu.
- **Right arrow** button — Navigates from the upper level of the menu (left column) to the lower level (right column). Within the right column, tapping the right arrow button cycles through values for the current setting.
- **Left arrow** button — Cycles through values for the current setting. The left arrow button does not navigate between levels of the menu.
- **Back** button — Returns to a higher level of the hierarchy.
- **OK** button — Applies the currently-selected value. Applies to **FORMAT** values, and **SAVE** selection.
- **Close Menu** button — Closes the on-screen menu and the **Menu Control** interface.

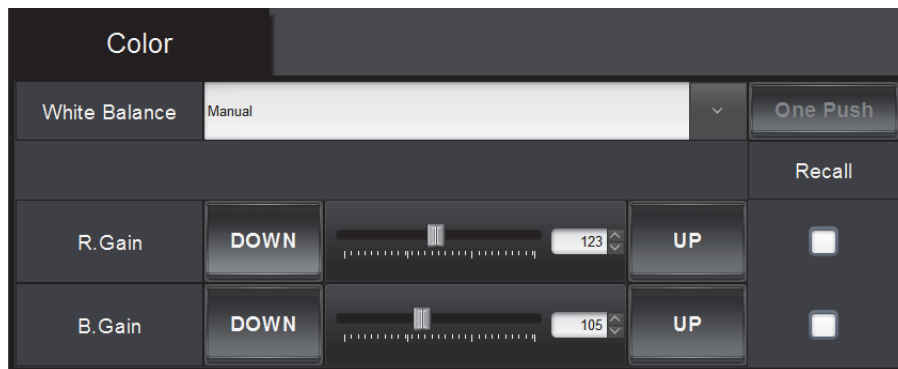
**Tip:** After one minute of inactivity, the on-screen menu closes automatically. You must close and re-open the **Menu Control** interface to continue using the on-screen menu.

**Tip:** The joystick is not operational while the **Menu Control** interface is open.

## Color Controls Tab

The **Color Controls** tab enables you to set the white balance mode for the selected camera.

If you select **Manual** mode, you can specify whether recalling shots applies red gain and blue gain values that were saved when the shots were created.



*Figure 3.27 - Color Controls (Manual mode)*

The **Color Controls** tab includes the following controls:

- **White Balance** box — Enables you to specify a white balance mode:
  - › **Auto**
  - › **Indoor**
  - › **Outdoor**
  - › **One Push** — To calibrate white balance, tap the **One Push** button.
  - › **Manual** — Set the **Red Gain** and the **Blue Gain** as desired.

Manual gain settings are saved in shots. If you want the camera to apply the saved gain values when shots are recalled, select the corresponding **Recall** check box(es).

**Note:** Manual gain settings are always saved with shots. The **Recall** check boxes only control whether the settings are applied when shots are recalled. You can select or clear these check boxes at any time.

# Using the PIVOTCam Control Panel

The PIVOTCam Control Panel is a DashBoard panel that enables you to configure and control PIVOTCam robotic cameras. You can control cameras manually, store and recall shots, and configure camera settings.

This section describes how to use the PIVOTCam Control Panel. It contains the following topics:

- “**Adding Cameras and Editing Camera Settings**” on page 4-1
- “**Monitoring Camera Status**” on page 4-3
- “**Selecting the Store Mode**” on page 4-4
- “**Deleting Cameras**” on page 4-4
- “**Saving and Loading Data Files**” on page 4-4
- “**Controlling Cameras**” on page 4-5
- “**Storing, Recalling, Renaming, and Deleting Shots**” on page 4-11
- “**Operating the System During a Show**” on page 4-18

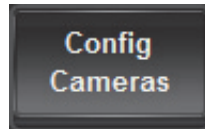
## Adding Cameras and Editing Camera Settings

This section describes how to add cameras to the control panel, and how to edit camera configuration settings.

**Tip:** After you finish adding cameras and editing settings, you can save the configuration data. For more information, see “**Saving and Loading Data Files**” on page 4-4.

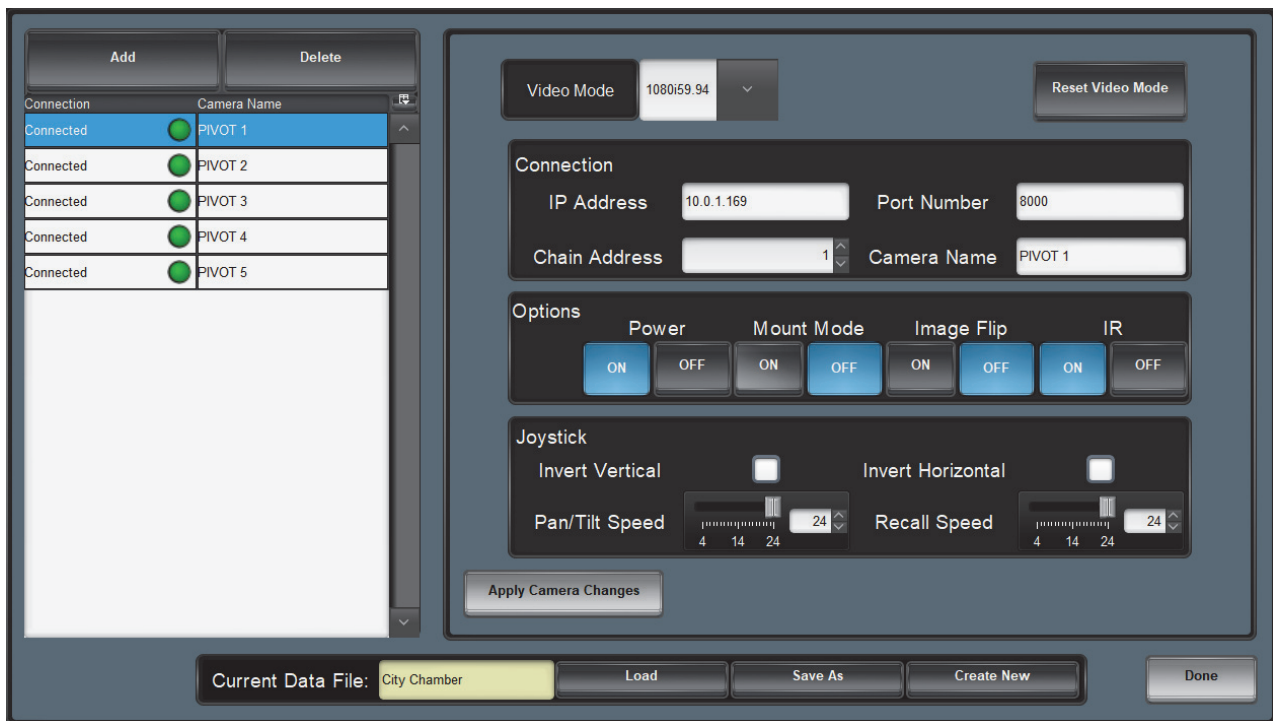
**To add a camera or edit camera configuration settings:**

1. Tap the **Config Cameras** button (Figure 4.1).



**Figure 4.1** - Config Cameras Button

The camera configuration interface appears, as shown in **Figure 4.2**.



**Figure 4.2 - Camera Configuration Interface**

**2.** Do one of the following:

- To add a camera, tap **Add**.

If there are unsaved changes, you may be prompted to save or discard them.

A new camera entry appears in the camera list.

- To edit the configuration of an existing camera, tap the camera entry in the camera list.

**3.** From the **Video Mode** list, select the video mode you want to the camera to output.

**4.** In the **Connection** area, specify network connection settings for the camera:

- **IP Address** — Type the IP address for the camera.

**Tip:** The IP address is determined by the configuration of the serial-to-IP converter. Each converter must have a unique IP address.

- **Port Number** — Type the port number for the camera.

The port number is determined by the configuration of the serial-to-IP converter. Some converters have multiple ports. Each camera has a unique port number on its converter.

- **Chain Address** — Type the chain address number for the camera (1 to 7).

Chain addresses enable cameras to be daisy-chained, so that up to seven cameras can be connected to the network through a single port on a serial-to-IP converter.

Chain addresses are set on the camera.

- **Camera Name** — This is the name of the camera, as you want it to appear within the control panel. After you apply changes, the name appears in the camera list.

For more information about camera IP addresses, ports, and chain addresses, see “**Installing Cameras**” on page 2–1.

5. In the **Options** area, specify the following:

- **Power** — Turns the camera on or off. Cameras must be turned **ON** to function.
- **Mount Mode** — Rotates the camera view 180 degrees.
- **Image Flip** — Reverses the camera view vertically, but not horizontally. This results in a vertical mirror-image.
- **IR** — Controls whether the camera can receive commands from the infra-red (IR) remote control unit. Tap **ON** to turn on the IR receiver, or tap **OFF** to turn off the IR receiver.

**Tip:** For ceiling-mounted cameras, turn **Mount Mode ON**, and turn **Image Flip OFF**.

**Tip:** To simulate a horizontal mirror image, turn **Image Flip ON** and **Mount Mode ON**.

**Tip:** If you changed the **Mount Mode** and **Image Flip** settings, remember to configure the **Joystick** settings so the joystick motion corresponds with camera movement.

6. If your system includes a joystick, in the **Joystick** area, specify the following to make joystick motion correspond with camera movement:

- **Invert Vertical** — Reverses the directions (forward/back) you must move the joystick to tilt the camera.
- **Invert Horizontal** — Reverses the directions (right/left) you must move the joystick to pan the camera.

**Tip:** Configure the **Mount Mode** and **Image Flip** settings before you configure the **Invert Vertical** and **Invert Horizontal** settings.

7. If your system includes a joystick, in the **Joystick** area, specify the **Pan/Tilt Speed** to set the maximum camera movement speed when controlled by the joystick. The value ranges from **4** to **24**.

8. In the **Joystick** area, specify the **Recall Speed** to set the maximum camera movement speed when recalling a shot. The value ranges from **4** to **24**.

9. When you are finished making changes to the current camera, tap **Apply Camera Changes**.

10. Configure additional cameras as required.

11. When you are finished adding and configuring cameras, tap **Done**.

## Monitoring Camera Status

Camera status dots indicate whether the PIVOTCam Control Panel is able to communicate with the cameras:

- **Green dot** — The panel and the camera are connected.
- **Grey dot** — The panel is unable to communicate with the camera.

**Note:** After you make a change to camera configuration, the status dot may turn grey for a few seconds before turning back to green.

### To monitor camera status:

1. Do one of the following:

- Look at the camera buttons across the top of the panel.  
Each camera button has a colored status dot.
- Tap **Config Cameras**, and then look at the **Connection** column of the camera list.  
The status of each camera is indicated by text, and by a colored status dot.

## Selecting the Store Mode

Store mode controls the behavior of the panel after you store a shot:

- **One-Time** — After you store a shot, the panel reverts to shot recall mode.  
This option reduces the risk of someone accidentally overwriting shots. If someone thinks the panel is in shot recall mode when it is actually in shot storage mode, they may tap a shot to recall it, but instead the shot is overwritten.
- **Hold** — After you store a shot, the panel remains in shot storage mode.  
This option enables you to store or delete several shots in succession without having to re-enter shot storage mode.

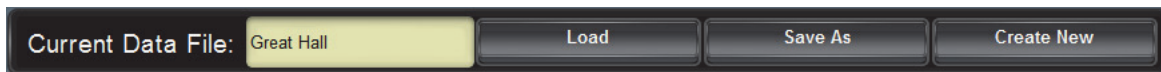
## Deleting Cameras

**To delete a camera:**

1. Tap the **Config Cameras** button.  
The camera configuration interface appears.
2. In the camera list, tap the entry for the camera you want to delete.
3. Tap **Delete**.
4. When prompted to confirm that you want to delete the camera, tap **Delete**.

## Saving and Loading Data Files

You can create data files that contain camera configuration data and shot data. The camera configuration interface includes a data file area (**Figure 4.3**).



**Figure 4.3** - Data File Area

The data file area shows the name of the current data file, and includes the following buttons:

- **Create New** — Creates a new, blank data file, and clears all data in the control panel. Use this option to begin a new project. Any changes you make in the control panel are immediately saved to the new data file.
- **Save As** — Saves all current data in a new data file. If you continue to make changes in the control panel, they are immediately saved to the new data file.
- **Load** — Loads a saved data file. After you load a data file, any changes you make in the control panel are immediately saved to the data file.

**To create a new, empty data file:**

1. Tap the **Config Cameras** button.  
The camera configuration interface appears.
2. In the data file area, tap **Create New**.  
The **Create New Data File** dialog box appears.
3. In the **File Name** box, type a name for the new data file.

**4. Tap Save As.**

A new empty data file is created, and is active in the PIVOTCam Control Panel.

Any changes you make in the control panel are immediately saved to the new data file.

**To save all current data in a new file:**

**1. Tap the Config Cameras button.**

The camera configuration interface appears.

**2. In the data file area, tap Save As.**

The **Save Current Data File As** dialog box appears.

**3. In the File Name box, type a new name for the new data file.**

**4. Tap Save As.**

The new data file is saved. The saved data remains active in the PIVOTCam Control Panel.

Any changes you make in the control panel are immediately saved to the new data file.

**To load a data file:**

**1. Tap the Config Cameras button.**

The camera configuration interface appears.

**2. In the data file area, tap Load.**

The **Load Data File** dialog box appears, and shows buttons for each saved file.

**3. Tap the name of the file you want to load, and then tap Load.**

The data file loads.

Any changes you make in the control panel are immediately saved to the data file.

## Controlling Cameras

Controls on the **Camera Controls** tab enable you to control cameras manually.

Alternatively, you can use a joystick panel (if equipped).

The following sections describe how to use controls on the **Camera Controls** tab to control cameras manually:

- “**Panning and Tilting**” on page 4–5
- “**Zooming**” on page 4–6
- “**Focusing**” on page 4–7
- “**Adjusting Exposure Settings (Iris, Shutter, Gain)**” on page 4–8
- “**Using the On-Screen Menu (Remote Control)**” on page 4–9

### Panning and Tilting

**To pan and tilt a camera:**

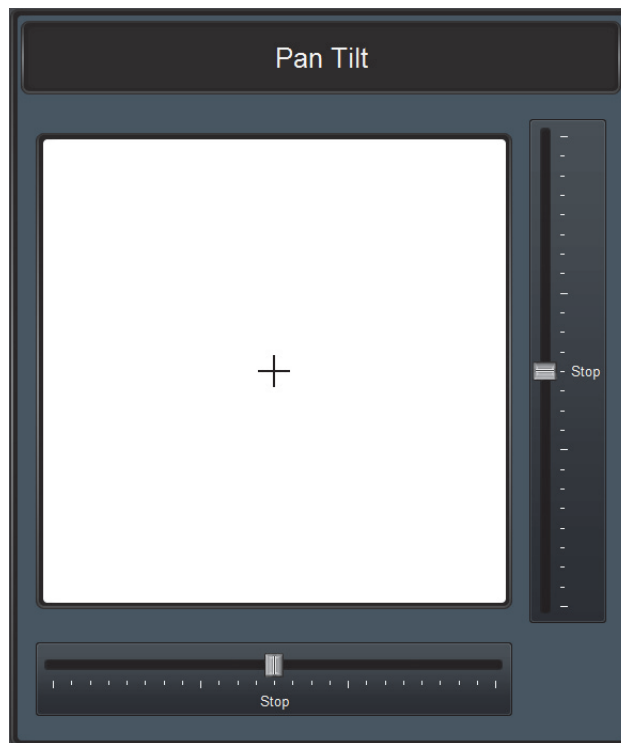
**1. Tap the Camera Controls tab.**

**2. Tap the camera button for the camera you want to control.**

**Tip:** The selected camera button is highlighted blue.

**3. Tap the Camera Controls tab.**

The **Camera Controls** tab includes the **Pan Tilt** area (**Figure 4.4**).



**Figure 4.4** - Pan Tilt Area, on the Camera Controls Tab

**4.** In the **Pan Tilt** area, do one of the following:

- Tap and drag the cross-hairs to pan and tilt the camera.  
When you release the cross-hairs, the camera stops moving and the cross-hairs return to center.
- Tap and drag the vertical slider to tilt, or the horizontal slider to pan.  
When you release a slider, the camera stops moving and the slider returns to center.

## Zooming

**To zoom the camera lens:**

1. Tap the camera button for the camera you want to control.

**Tip:** The selected camera button is highlighted blue.

2. Tap the **Camera Controls** tab.

The **Camera Controls** tab includes the **Zoom** slider (**Figure 4.5**).





**Figure 4.5** - Zoom Slider, on the Camera Controls Tab

3. Tap and drag the **Zoom** slider upwards (Telephoto) or downwards (Wide).  
When you release the slider, the lens stops zooming and the slider handle returns to center.

## Focusing

You can manually focus the camera lens, or set it to auto-focus.

### To adjust focus settings:

1. Tap the camera button for the camera you want to control.  
**Tip:** The selected camera button is highlighted blue.
2. Tap the **Camera Controls** tab.  
The **Camera Controls** tab includes the **Focus** controls (**Figure 4.6**).



**Figure 4.6** - Focus Controls - Auto-Focus (left), and Manual Focus (right)

3. To turn auto-focus on and off, tap the **Auto** button.
 

**Tip:** Auto-focus is on when the **Auto** button is blue.
4. If you want to manually focus the lens, do the following:
  - a. Turn off auto-focus.
  - b. Do one of the following:
    - Tap and hold the **Near** button or the **Far** button to focus the lens.
    - Tap and drag the **Focus** slider upwards (**Near**) or downwards (**Far**).

When you release the slider, the lens stops focusing and the slider handle returns to center.

### Adjusting Exposure Settings (Iris, Shutter, Gain)

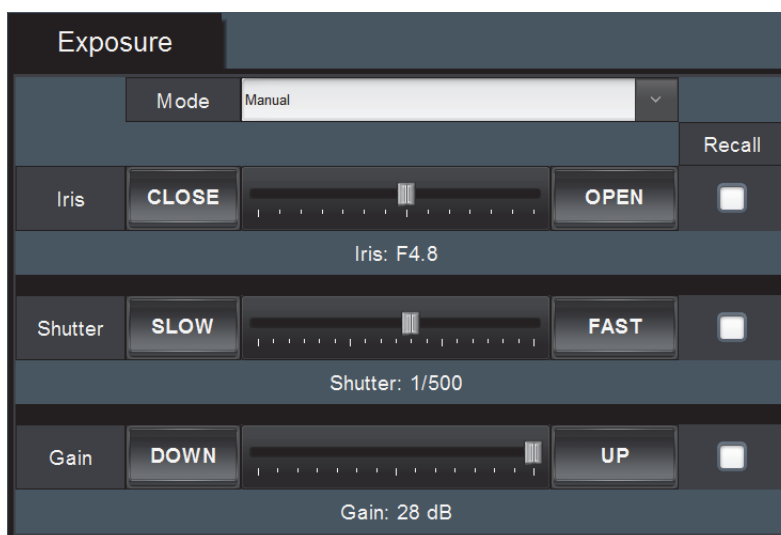
You can manually adjust exposure settings (iris, shutter, and gain), or set them to **Full Auto**.

#### To adjust exposure settings:

1. Tap the camera button for the camera you want to control.
 

**Tip:** The selected camera button is highlighted blue.
2. Tap the **Camera Controls** tab.
 

The **Camera Controls** tab includes the **Exposure** controls (**Figure 4.7**).



**Figure 4.7** - Exposure Controls (manual mode)

3. If you want the exposure settings to adjust automatically, in the **Mode** list, tap **Full Auto**.  
Skip the remaining steps.
4. In the **Mode** list, tap **Manual**.
5. To adjust the **Iris** position, do one of the following:
  - Tap and hold the **OPEN** button to open the iris (reduce f/stop), or the **CLOSE** button to close it (increase f/stop).
  - Tap and drag the **Iris** slider left (**CLOSE**) to open the iris (reduce f/stop), or right (**OPEN**) to close the iris (increase f/stop).
6. To adjust the **Shutter** speed, do one of the following:
  - Tap and hold the **SLOW** button to reduce the shutter speed, or the **FAST** button to increase it.
  - Tap and drag the **Shutter** slider left (**SLOW**) to reduce the shutter speed, or right (**FAST**) to increase it.
7. To adjust the **Gain** value, do one of the following:
  - Tap and hold the **DOWN** button to decrease gain, or the **UP** button to increase it.
  - Tap and drag the **Gain** slider left (**DOWN**) to decrease gain, or right (**UP**) to increase it.
8. If you want some or all of the exposure settings (iris, shutter, gain) to be applied when shots are recalled, select the corresponding **Recall** check box(es).

**Note:** Manual exposure settings are always saved with shots. The **Recall** check boxes only control whether the settings are applied when shots are recalled. You can select or clear these check boxes at any time.

## Using the On-Screen Menu (Remote Control)

The PIVOTCam Control Panel includes controls to operate PIVOTCam on-screen menus.

The on-screen menu enables you to configure a variety of camera settings.

**Note:** Alternatively, you can access on-screen menus using the remote control that came with the camera. For more information about linking a remote control to a given camera, and using the remote control to configure cameras, see the *PIVOTCam User Manual (5000DR-300-xx)*.

**IMPORTANT:** When configuring settings, do not change the **BAUDRATE** or **ADDRESS** (chain address). Doing so causes the PIVOTCam Control Panel to lose connectivity with the camera. If you accidentally change one of these settings, use the remote control device that came with the camera to reset the values.

**To access the on-screen menu through the PIVOTCam Control Panel:**

1. Tap the camera button for the camera you want to control.

**Tip:** The selected camera button is highlighted blue.

2. Tap the **Camera Controls** tab.

3. Tap the **Open Menu** button.

The **Menu Control** interface appears (**Figure 4.8**).



**Figure 4.8 - Menu Control Interface**

4. Tap the up and down arrows to select a category that contains a setting you want to change.

**Note:** The menu has two hierarchical levels, represented by columns. The left column is the upper level, and the right column is the lower level. Selecting a category in the upper level changes the settings available in the lower level.

5. After you select a category, tap the right arrow to move to the right column.

6. Tap the up and down arrows to select a setting you want to change.

7. Tap the right and left arrows to select a value.

**Note:** If the setting is **FORMAT**, use the up and down arrows to select the video format, and then tap OK.

8. After you select a value, do one of the following:

- Tap the up and down arrows to select another setting you want to change.
- Tap the **Back** button to return to the upper level of the menu hierarchy, from which you can select another category and then another setting to change.

9. When you are finished changing settings, tap the **Back** button until the **SAVE** prompt appears.

10. Tap **OK**.

11. Tap the **Close Menu** button.

## Storing, Recalling, Renaming, and Deleting Shots

Controls on the **Store/Recall Shots** tab enable you to store, recall, rename, and delete shots. You can also configure shot banks and the text on shot buttons.

The following sections describe how to work with shots:

- “**Configuring Shot Banks**” on page 4–11
- “**Configuring Shot Button Text**” on page 4–12
- “**Creating and Storing Shots**” on page 4–12
- “**Recalling Shots**” on page 4–13
- “**Renaming Shots**” on page 4–13
- “**Deleting, Restoring, and Discarding Shots**” on page 4–15

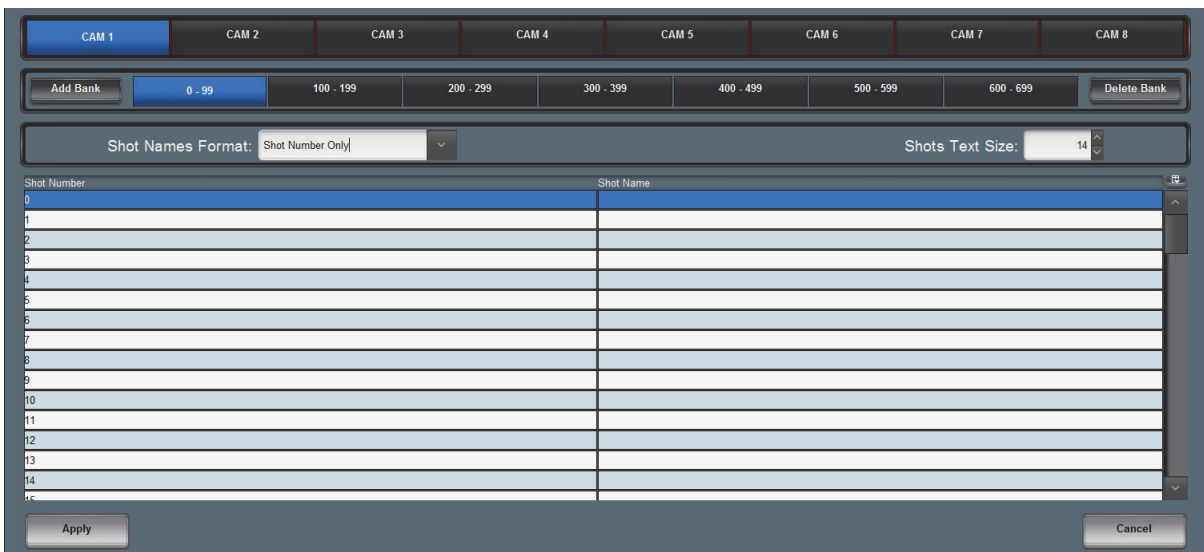
### Configuring Shot Banks

Shot banks are groups of 100 shots stored by the PIVOTCam Control Panel. One bank of shots is visible at a time. You can add and delete shot banks.

#### To add or delete a shot bank:

1. On the **Store/Recall Shots** tab, tap the **Config Banks and Shots** button.

A configuration interface appears (**Figure 4.9**).



**Figure 4.9** - Configuring Shot Banks

2. Tap the camera button corresponding to the camera for which you want to add or delete a shot bank.
3. If you want to add a shot bank, tap the **Add Bank** button.

A new shot bank button appears on the right end of the row of shot bank buttons. The shot numbers in the new shot bank are higher than previous shot numbers.

4. If you want to delete a shot bank, tap the shot bank button for the bank, and then tap **Delete Bank**.

The shot bank is deleted, or all shots in the bank are emptied but the empty bank remains.

Shot buttons that contain shot data are never re-numbered. If any higher-numbered banks contain shots that are not empty, the current shot bank remains, but all its buttons are emptied.

5. When you are finished making changes, tap the **Apply** button.

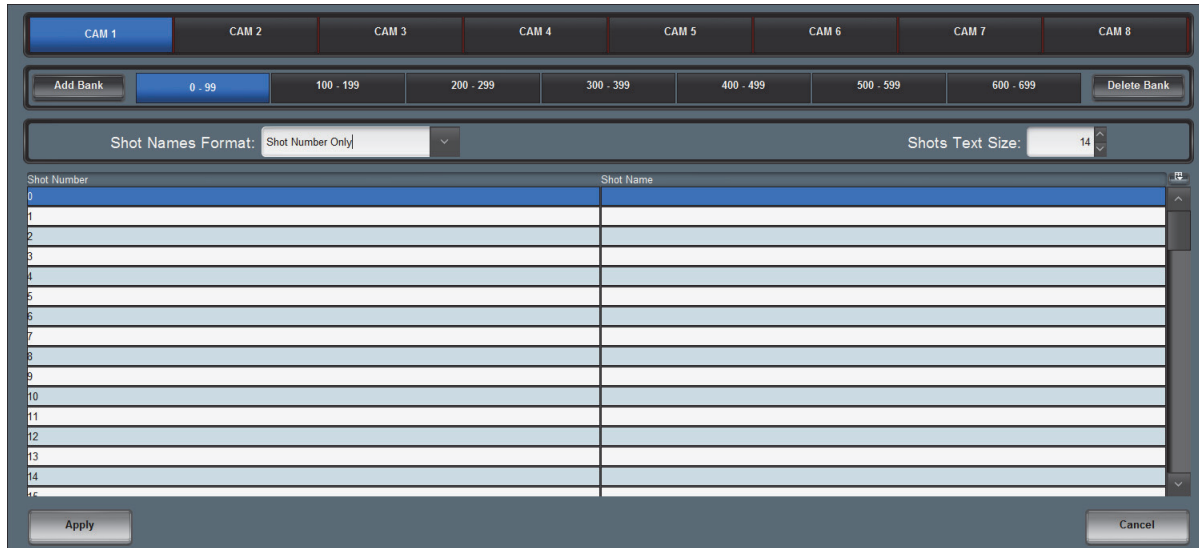
## Configuring Shot Button Text

You can change the format and size of the text that appears on shot buttons. The same values apply to all shots in all banks on all cameras.

### To format shot button text:

1. On the **Store/Recall Shots** tab, tap the **Config Banks and Shots** button.

A configuration interface appears (**Figure 4.10**).



**Figure 4.10** - Configuring Shot Button Text

2. In the **Shot Names Format** list, tap one of the following formats:
    - **Shot Number Only** — Shot buttons show only the shot number.
    - **Shot Name Only** — Shot buttons show only the name of the shot.
    - **Shot Number & Name (1 Line)** — Shot buttons show the shot name and number on one line.
    - **Shot Number & Name (2 Lines)** — Shot buttons show the shot number on one line, and the shot name on another.
- Tip:** If you hide shot button text, the text still exists and can be restored by changing the shot name format.
3. In the **Shots Text Size** box, specify the text size, as a number. Larger numbers correspond to larger text. The valid range is **8 to 50**.
  4. When you are finished making changes, tap the **Apply** button.

## Creating and Storing Shots

To create and store a shot, you move the camera system to the desired shot position, and then store the shot.

### To create and store shots:

1. Tap the camera button corresponding to the camera you want to use in the shot.
2. Tap the shot bank button for the bank where you want to store the shot.
3. Move the camera into the position you want to store as a shot.

To move the camera, you can use a joystick panel (if equipped), or use controls on the **Camera Controls** tab. For more information, see “**Controlling Cameras**” on page 4-5.

4. On the **Store/Recall Shots** tab, tap the **Store Shots** button.

The **Store Shots** button turns blue, to indicate that the panel is in shot storage mode.

The panel is in shot storage mode.

5. Tap the shot button where you want to store the shot.

**Note:** Grey shot buttons represent deleted shots that have not been discarded. If you tap a gray shot button to store a shot, it overwrites the deleted shot.

The shot is stored.

Depending on the **Store Mode** setting, the panel switches to one of two states:

- If **Store Mode** is set to **One-Time**, the panel switches to shot recall mode. To store another shot, move the camera to the position you want to record as a shot, tap the **Store Shots** button, and then tap the shot button where you want to store the shot.
- If **Store Mode** is set to **Hold**, the panel remains in shot storage mode. To store another shot, move the camera to the position you want to record as a shot, and then tap the shot button where you want to store the shot.

## Recalling Shots

When you recall a shot, the camera moves to the shot position as quickly as it can.

The maximum speed of each camera is determined by its **Recall Speed** setting. For more information, see “**Adding Cameras and Editing Camera Settings**” on page 4–1.

### To recall a shot:

1. Tap the camera button corresponding to the camera that has the shot.
2. Tap the shot bank button for the bank where the shot is stored.
3. On the **Store/Recall Shots** tab, tap the **Recall Shots** button.

The **Recall Shots** button turns blue, to indicate that the panel is in shot recall mode.

The panel is in shot recall mode.

4. Tap the shot button for the desired shot.

The shot is recalled.

**Note:** Grey shot buttons represent deleted shots that have not been discarded. These cannot be recalled.

**Tip:** If you recall a shot while a previous shot is running, the camera moves to the new shot position.

5. To recall another shot from the same shot bank for the same camera, tap the desired shot button.

## Renaming Shots

Each shot has a shot number that cannot change. You can also assign a name to each shot.

Shot numbers and names are shown in two places:

- **On shot buttons** — Buttons in the shot button matrix can be configured show the shot number, or the shot name, or both.

For information about how to configure shot button text, see “**Configuring Shot Button Text**” on page 4–12.

- **In the shot table** — The shot table is a list of all shots for a camera. It enables you to easily view and edit all shot names for a camera. The shot table is part of the **Config Banks and Shots** interface.

You can rename shots in the shot button matrix, or in the shot table. When you rename a shot, it is renamed everywhere.

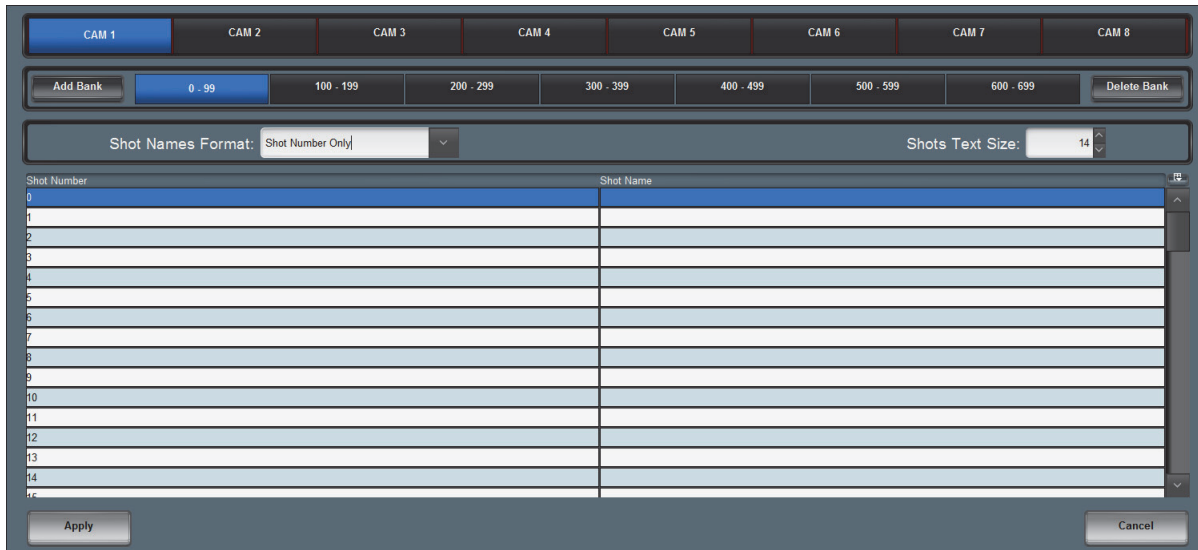
**To rename shots in the shot button matrix:**

1. Tap the camera button corresponding to the camera that has the shot you want to rename.
2. Tap the shot bank button for the bank where the shot is stored.
3. On the **Store/Recall Shots** tab, tap the **Rename Shots** button.  
The **Rename Shots** button turns blue, to indicate that the panel is in shot renaming mode.
4. Tap the shot button for the shot.  
The **Rename Shot** dialog box appears.
5. In the white text box, type a new name for the shot, and then tap **OK**.  
The shot is renamed.

**Tip:** You can rename shots even if shot button text is hidden, or if the shot position has not yet been recorded.

**To rename shots in the shot table:**

1. On the **Store/Recall Shots** tab, tap the **Config Banks and Shots** button.  
A configuration interface appears (**Figure 4.11**).



**Figure 4.11 - Renaming Shots in the Shot Table**

2. Tap the camera button corresponding to the camera that has the shot you want to rename.
3. Tap the shot bank button for the bank where the shot is stored.
4. In the **Shot Name** column of the shot table, tap the text box for the shot, and then type a new name.
5. Rename other shots as required.

**Tip:** You can assign names to shots that have not yet been created. This allows you to name all your shots in one session, and then create them later.

6. When you are finished renaming shots, tap the **Apply** button.  
The shots are renamed, and the configuration interface closes.



## Deleting, Restoring, and Discarding Shots

Permanently deleting shots is a two-steps process. First you delete the shot, and then you discard it. If a shot has been deleted but not discarded, it can be restored.

You can delete and discard individual shots, all shots in the current shot bank, or all shots on the current camera.

**Tip:** If you want to perform several shot deletions, set **Store Mode** to **Hold**. For more information, see “**Selecting the Store Mode**” on page 4-4.

### To delete shots:

1. Tap the camera button corresponding to the camera that has the shots you want to delete.
2. Tap the shot bank button for the bank where the shots are stored.
3. On the **Store/Recall Shots** tab, tap the **Delete Shots** button.

The **Delete Shots** button turns blue, to indicate that the panel is in shot deletion mode.

4. If you want to delete a single shot, tap the shot button for the shot.

The shot button turns grey to indicate that the shot has been deleted.

5. If you want to delete all shots in the current shot bank, tap the **Delete all Bank’s Shots** button.

A confirmation dialog box appears. Tap **Delete**.

All the shot buttons in the bank turn grey to indicate that the shots have been deleted.

**Tip:** If you want to delete most of the shots, you can delete them all and then restore only the shots you want to keep.

6. If you want to delete all shots for the current camera, tap the **Delete all Camera’s Shots** button.

A confirmation dialog box appears. Tap **Delete**.

All the shot buttons in all banks for the current camera turn grey to indicate that the shots have been deleted.

**Tip:** If you want to delete most of the shots, you can delete them all and then restore only the shots you want to keep.

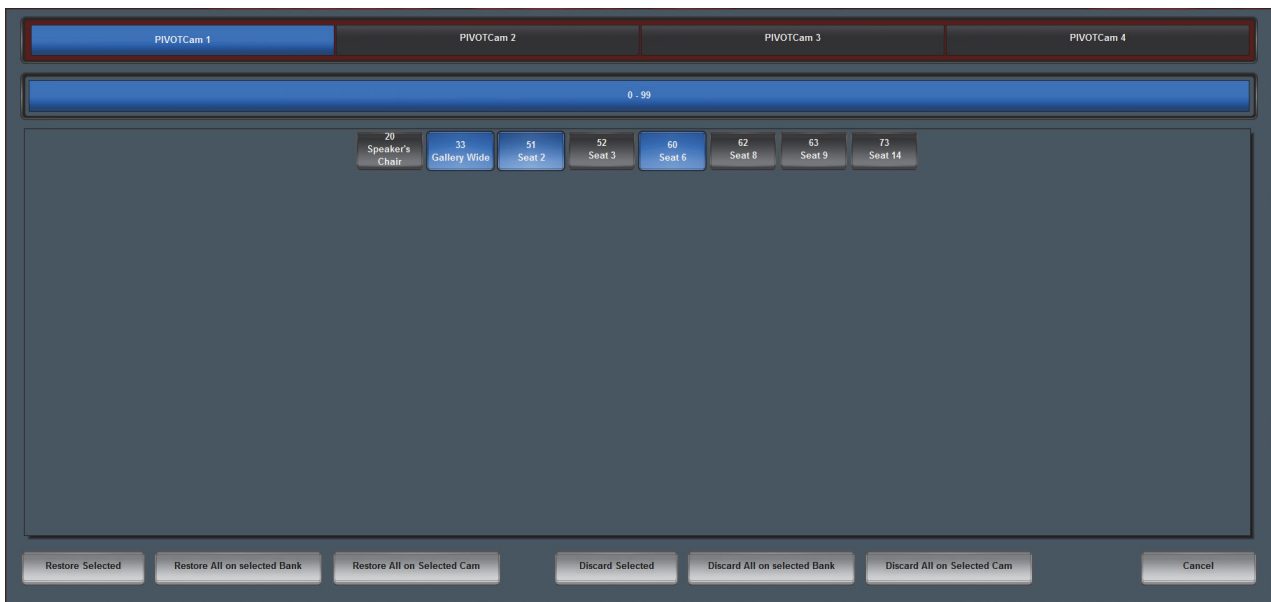
### To restore deleted shots:

1. Tap the camera button corresponding to the camera that had the shots you want to restore.
2. Tap the shot bank button for the bank where the shots were stored.
3. On the **Store/Recall Shots** tab, tap the **Delete Shots** button.

The **Delete Shots** button turns blue, to indicate that the panel is in shot deletion mode.

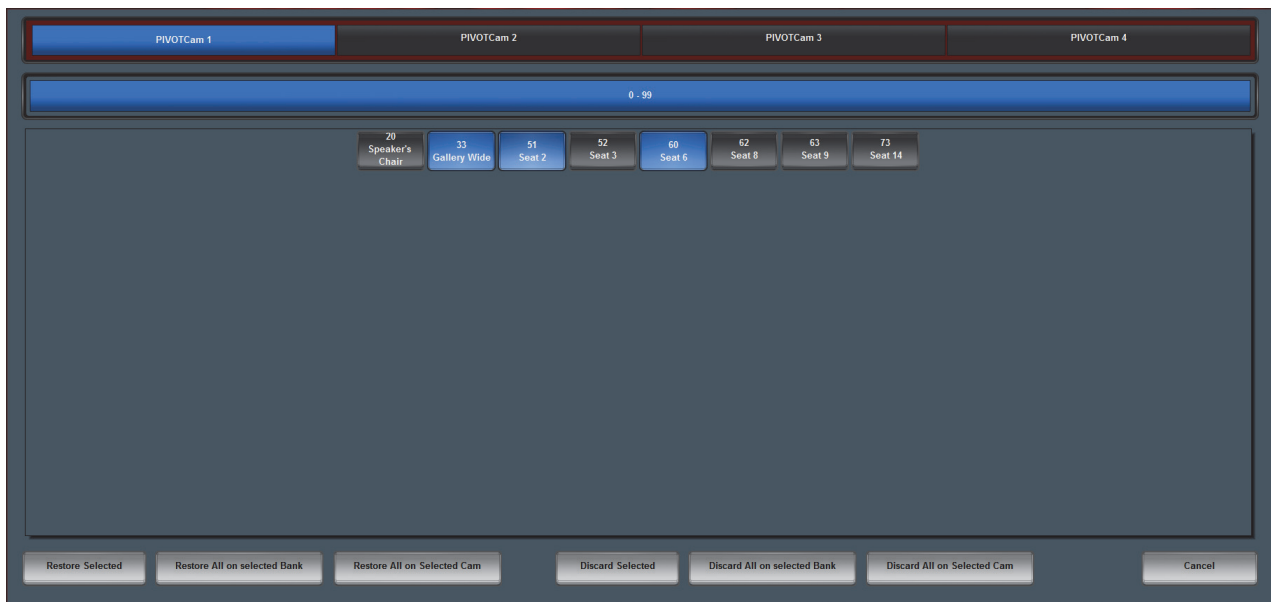
4. Tap the **Show Deleted Shots** button.

5. An interface for managing deleted shots appears (**Figure 4.12**).



**Figure 4.12 - Restoring Deleted Shots**

6. If you want to restore individual shots:
    - a. Tap the shot buttons for the shots you want to restore.  
The shot buttons turn blue to indicate that the shots are selected.  
**Tip:** If you accidentally tapped the wrong shot button, tap it again to deselect it.
    - b. Tap the **Restore Selected** button.  
The shots are restored.
  7. If you want to restore all deleted shots for the selected shot bank, tap the **Restore All on Selected Bank** button.  
The shots are restored.
  8. If you want to restore all deleted shots for the selected camera, tap the **Restore All on Selected Cam** button.  
The shots are restored.
- To discard deleted shots:**
1. Tap the camera button corresponding to the camera that had the shots you want to discard.
  2. Tap the shot bank button for the bank where the shots were stored.
  3. On the **Store/Recall Shots** tab, tap the **Delete Shots** button.  
The **Delete Shots** button turns blue, to indicate that the panel is in shot deletion mode.
  4. Tap the **Show Deleted Shots** button.
  5. An interface for managing deleted shots appears (**Figure 4.13**).



**Figure 4.13 - Discarding Deleted Shots**

6. If you want to discard individual shots:
  - a. Tap the shot buttons for the shots you want to discard.  
The shot buttons turn blue to indicate that the shots are selected.  
**Tip:** If you accidentally tapped the wrong shot button, tap it again to deselect it.
  - b. Tap the **Discard Selected** button.  
The shots are permanently discarded.
7. If you want to discard all deleted shots for the selected shot bank, tap the **Discard All on Selected Bank** button.  
All deleted shots in the selected shot bank are permanently discarded.
8. If you want to discard all deleted shots for the selected camera, tap the **Discard All on Selected Cam** button.  
All deleted shots for the camera are permanently discarded.

## Adjusting Color Controls

You can set the white balance mode for a camera.

### To adjust color controls:

1. Tap the camera button for the camera you want to control.  
**Tip:** The selected camera button is highlighted blue.
2. Tap the **Color Controls** tab.
3. In the **White Balance** box, select a white balance mode:
  - **Auto**
  - **Indoor**
  - **Outdoor**
  - **One Push** — To calibrate white balance, tap the **One Push** button.
  - **Manual** — Set the **Red Gain** and the **Blue Gain** as desired.

Manual gain settings are saved in shots. If you want the camera to apply the saved gain values when shots are recalled, select the corresponding **Recall** check box(es).

**Note:** Manual gain settings are always saved with shots. The **Recall** check boxes only control whether the settings are applied when shots are recalled. You can select or clear these check boxes at any time.

## Operating the System During a Show

This section summarizes how to operate cameras during a show. It assumes all cameras are fully configured, and that all shots have been created.

**Note:** To operate the system during a show:

1. Turn on all cameras, serial-to-IP converters, and the computer running DashBoard and the PIVOTCam Control Panel.
2. Launch DashBoard.
3. Launch the PIVOTCam Control Panel.

**Tip:** If the control panel was still open when DashBoard was last used, it automatically appears when you launch DashBoard.

4. Test each camera to ensure that it responds to control requests from the joystick panel and from the PIVOTCam Control Panel.
5. If your organization uses different data files for each show, load the correct data file.  
Data file contain camera configuration and shot data.
6. On the **Store/Recall Shots** tab, tap **Recall Shots**.
7. To recall a shot, navigate to it, and then tap its shot button:
  - To view a different bank of shots for the current camera, tap a shot bank.
  - To view shots for a different camera, tap a camera button.
8. To move a camera manually:
  - a. Select it, either in the PIVOTCam Control Panel, or by pressing a camera button on the joystick panel.
  - b. Move it, either by moving the joystick or by using the controls on the **Camera Controls** tab of the PIVOTCam Control Panel.

# Adding a USB Joystick or Other USB Controller

This chapter describes how to set up a USB joystick or other USB controller to control PIVOTCam cameras, in conjunction with the PIVOTCam Control Panel.

PIVOTCam functions that can be controlled by a USB controller fall into three groups; camera selection, camera motion (pan, tilt, zoom, and focus), and paintbox controls (lens iris and lens shutter speed).

Depending on the USB controller(s) available, you can control all functions with a single controller, or add a separate controller for each group of functions.

You can also configure otherwise unassigned buttons on the controller to open DashBoard device views or panels.

**Note:** USB controllers can control PIVOTCam cameras only. If you have a Lightning Control System that includes other types of cameras, the controller can not control them.

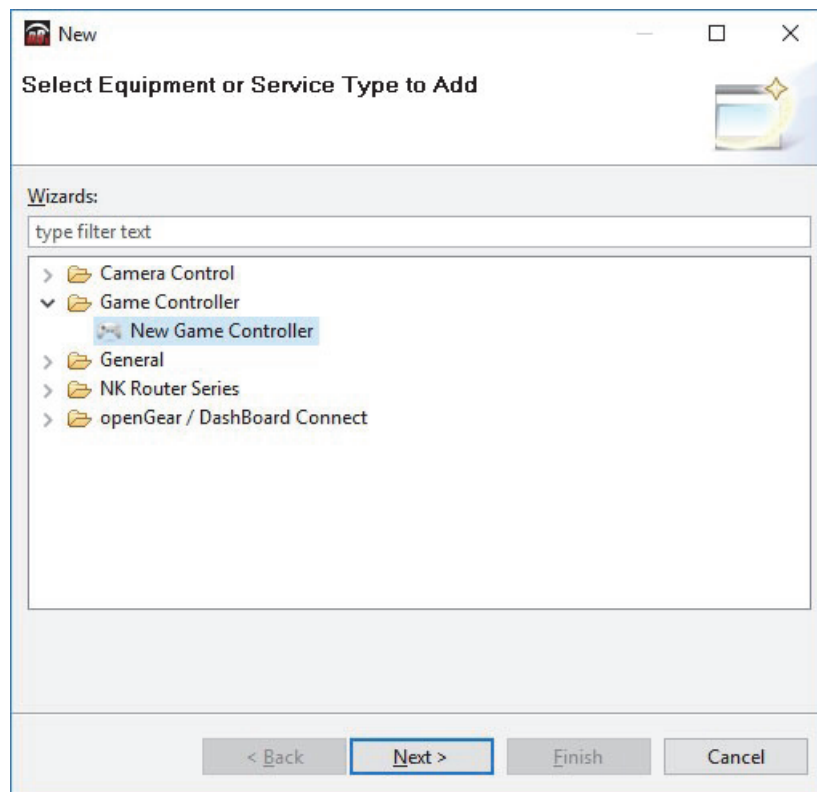
## To add a USB controller to control PIVOTCam cameras:

1. Close DashBoard.
2. Plug the USB controller into a USB port on the DashBoard computer.
3. Start DashBoard.

When DashBoard starts, it detects the controller.

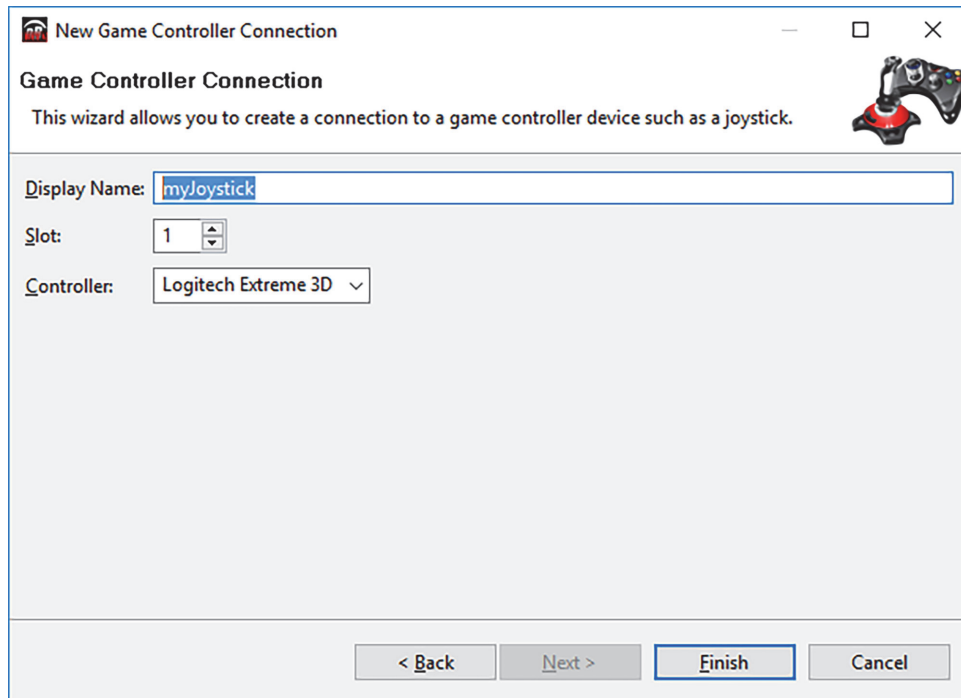
4. In DashBoard, on the **File** menu, select **New**, and then select **Other**.

The **New** dialog box appears.



**Figure 5.1** - Adding a USB Controller

5. In the **Wizards** list, expand **Game Controller**, and then double-click **New Game Controller**.  
The **New Game Controller Connection** dialog box appears.



*Figure 5.2 - Connecting to a USB Controller*

6. In the **Display Name** box, type a name for the controller.
7. In the **Controller** list, select the type of USB controller you plugged in.  
**Note:** If the controller type is not on the list, either it was not detected or it is already registered in DashBoard.
8. Click **Finish**.  
A node for the controller appears within the **Input Devices** node in the DashBoard **Component Tree**. The node has the name you provided for the controller.
9. In the **Component Tree**, expand the **Input Devices** node, and then double-click the controller node you added.  
The configuration interface for the controller appears.
10. In the **Device Classes** list, add a new device class named **paintbox**.
11. In the **Device Classes** list, add a new device class named **selector**.



**Figure 5.3** - Mapping USB Controller Data to PIVOTCam Control Panel Parameter OIDs

**12.** Create mappings for the parameters you want the controller to control.

When you create mappings, you link data items reported by the controller to parameters (OIDs) in the PIVOTCam Control Panel.

**Tip:** To determine which **Axis Controls** and **Buttons** correspond to physical controls on the controller, move the controller’s joystick and push its buttons while observing changes in the **Value** column.

Relevant columns in the **Axis Controls** mapping table are as follows:

- **ID** - The ID of the control, as reported by the controller. This is not configurable.
- **Name** - You can name the controls for future reference. (optional).
- **Sensitivity** - Responsiveness of the input. This is configurable.
- **Invert** - When selected, reverses the direction of joystick motion required to move the axis. For example, if the camera is ceiling mounted, select **Invert** for pan and tilt so when you move the joystick, the camera moves as desired.
- **Value** - Shows the current data value reported by the controller. This is useful for testing.
- **Mapped OID** - Specify the parameter OID from the PIVOTCam Control Panel to be mapped to the control.

Relevant columns in the **Buttons** mapping table are as follows:

- **ID** - The ID of the control, as reported by the controller. This is not configurable.
- **Name** - You can name the controls for future reference. (optional).
- **Action** - If you are going to use buttons on the controller for camera selection, set **Action** for each such button to **Set Value**.
- **Value (Off)** - This is the value of the parameter when the button is not pressed.
- **Value (On)** - This is the value of the parameter when the button is pressed.
- **Value** - Shows the current data value reported by the controller. This is useful for testing.
- **Mapped OID** - Specify the parameter OID from the PIVOTCam Control Panel to be mapped to the control. For buttons, the parameter OID is **selector.selection**.

**Tip:** If you are configuring multiple controllers and dividing the control functions among them, the controls within each device class must be assigned to a single controller. The name of each parameter OID starts with the name of its device class (**selector**, **ptzjoystick**, or **paintbox**).

The parameters that can be mapped are as follows:

Parameter (Mapped OID)	Description
selector.selection	Camera selection. Map this parameter to a set of buttons to be used for selecting the camera to be controlled. Each row in the <b>Buttons</b> table corresponds to a button on the controller.  For each button you want to assign as the selector for a camera, do the following: <ul style="list-style-type: none"> <li>• In the <b>Name</b> column, assign a camera name for future reference (optional).</li> <li>• Set <b>Action</b> to <b>Set Value</b>.</li> <li>• Set <b>Value Off</b> to <b>-1</b></li> <li>• Set <b>Value (On)</b> to a camera number (<b>0, 1, 2, 3</b>, etc.)</li> </ul>
ptzjoystick.vel.tilt	Tilt axis
ptzjoystick.vel.pan	Pan axis
ptzjoystick.vel.zoom	Zoom axis (lens zoom)
ptzjoystick.vel.focus	Focus axis (lens focus)
paintbox.vel.shutter.preset	Shutter speed (lens shutter speed)
paintbox.vel.iris.control	Iris axis (lens iris)

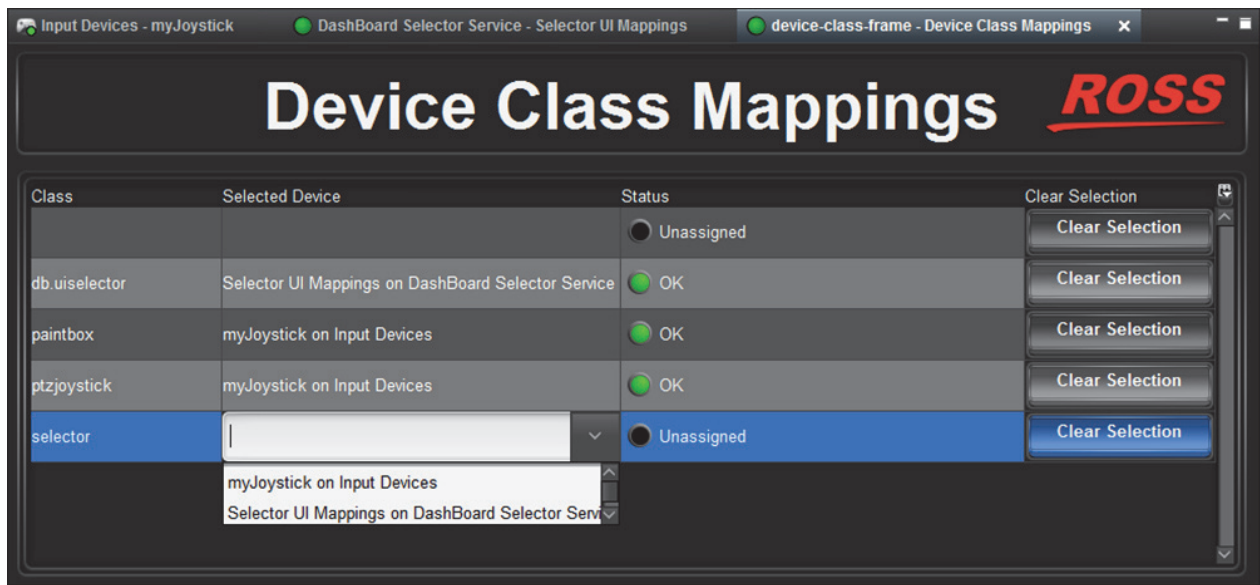
13. If you want to save the mappings in a file that can be loaded onto other DashBoard computers, click the **SAVE** button and specify a file name and path.

**Note:** The mappings are specific to the controller(s) you configured. You can use the mappings on other DashBoard computers only if their controllers are the same model, or report the exact same controls.

14. In the **Component Tree**, within the **DashBoard Services** node, double-click **Device Class Mappings**.

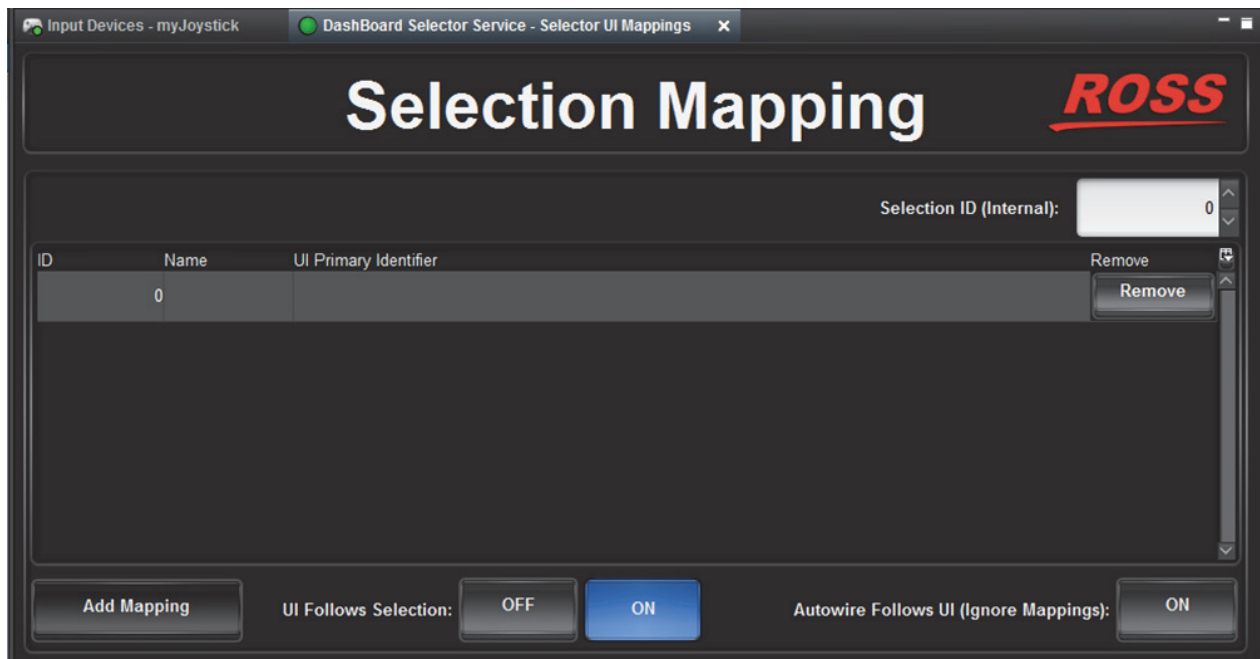
The **Device Class Mappings** interface appears.





**Figure 5.4** - Device Class Mappings for a USB Controller

15. If you plan to use the controller to adjust lens iris and lens shutter speed, in the **paintbox** row set **Selected Device** to the controller you are configuring.  
**Tip:** If a class you want to map is already mapped, click **Clear Selection** and then map it to the controller.
16. If you plan to use the controller to move cameras (pan, tilt, zoom, focus), in the **ptzjoystick** row set **Selected Device** to the controller you are configuring.
17. If you plan to use buttons on the controller to select cameras in the PIVOTCam panel, in the **selector** row set **Selected Device** to the controller you are configuring.
18. In the **Component Tree**, expand the **DashBoard Services** node, and then double-click **Selector UI Mappings**.  
The **Selection Mapping** interface appears.



**Figure 5.5** - UI Follow and Autowire Settings

19. Tap one of the following buttons:

- **Autowire Follows UI ON**

If you select this option, you cannot use the controller to select and control cameras unless the PIVOTCam Control Panel is the active DashBoard panel (in focus).

This option helps prevent accidental movement of cameras while the operator is using other DashBoard panels or device views. It also ensures that the PIVOTCam panel is always readily available while you are controlling cameras.

- **UI Follows Selection OFF**

If you select this option, you can use the controller to select and control cameras regardless of which panel or device view is active (in focus).

This option enables you to use the PIVOTCam panel and other DashBoard panels or device views for other tasks while you use the controller to select and control cameras.

This option is suitable for controlling PIVOTCam cameras as part of the Lightning Control System.

- **UI Follows Selection ON**

Use this option if you want to configure otherwise unassigned controller buttons to open DashBoard panels and device views on demand, such as Carbonite control, or the PIVOTCam Control Panel.

If you select this option, whenever a configured controller button opens a DashBoard panel or device view, that panel or device view becomes active (in focus). If the PIVOTCam Control Panel is active and you press a controller button to open a different panel or a device view, the PIVOTCam Control Panel loses focus.

This option is suitable for controlling PIVOTCam cameras as part of the Lightning Control System.

20. If there are unassigned buttons on the controller and you want to configure them to open device views or panels, do the following:

- a. Tap the **Add Mapping** button.

A new mapping row appears in the **Selection Mapping** table.

- b. In the new mapping, set **ID** to any number, except those you configured as **Value (On)** values in previous button mappings.

- c. Specify a **Name** for the mapping (optional).

- d. For **UI Primary Identifier**, navigate to select the panel or device view that you want DashBoard to open whenever you press the controller button you are configuring.

**Tip:** If you want to select a panel, you must open the panel's **.grid** file so the panel appears in the **Open Panels** list.

**Tip:** Make a note of the **ID** value and which panel or device view it is intended to open.

- e. Repeat 20a to 20d for each button you want to configure.

- f. In the **Component Tree**, within the **Input Devices** node, double-click the controller node you added.

The configuration interface for the controller appears.

- g. In the **Buttons** table, for each button you want to assign to open a panel or device view, configure settings in the corresponding row as follows:

- In the **Name** column, specify a name the mapping for future reference (optional).
- Set **Action** to **Set Value**.
- Set **Value Off** to **-1**.
- Set **Value (On)** to the number you mapped for the desired action in step 20b.
- Set **Mapped OID** to **selector.selection**.

- h.** If you want to save the mappings in a file that can be loaded onto other DashBoard computers, click the **SAVE** button and provide a file name and path.

**Note:** The mappings are specific to the controller(s) you configured. You can use the mappings on other DashBoard computers only if their controllers are the same model, or report the exact same controls.

