



# **Legislative Control System Commissioning Guide**

**Version 2.0**

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  - offer the best product quality and support
2. Make Cool Practical Technology
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David Ross  
CEO, Ross Video  
[dross@rossvideo.com](mailto:dross@rossvideo.com)

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# Legislative Control System Commissioning Guide

- Ross Part Number: **4500DR-002-2.0**
- Release Date: December 8, 2014.
- Software Issue: **2.0**

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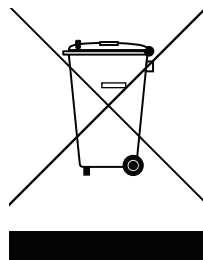
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To avoid the potential release of those substances into the environment and to diminish the need for the extraction of natural resources, Ross Video encourages you to use the appropriate take-back systems. These systems will reuse or recycle most of the materials from your end-of-life equipment in an environmentally friendly and health conscious manner.

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If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You can also contact Ross Video for more information on the environmental performances of our products.

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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

This commissioning guide is intended to help experienced systems integrators plan and deploy DashBoard Legislative Control Systems (LCS).

This guide describes the entire process, and includes detailed procedures for commissioning the LCS.

## 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:

In the **Media Manager Client**, tap **Channel 1** in the **Channels** section.

### 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 Entered Text

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

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

### Referenced Guides

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

*DashBoard Server and User Rights Management User's Guide*

### 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**.

### Important Instructions

Star icons are used to identify important instructions or features. For example:

- ★ Contact your I.T. Department if you experience communication issues with DashBoard and are running anti-virus software.

## 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
- **After Hours Emergency:** (+1) 613-349-0006
- **E-mail:** techsupport@rossvideo.com
- **Website:** <http://www.rossvideo.com>

# System Overview

The Legislative Control System (LCS) integrates several technologies to deliver a system that enables you to produce high-quality video of legislative proceedings. It controls robotic video cameras and provides an easy-to-use interface for switching video, including graphics. The LCS can control selected cameras from Sony and Panasonic. It can also control mixed assortments of these devices.

The LCS is configured and operated from the LCS panel, which is a DashBoard software application that is customized for your legislature. Additional camera panels enable you to create shots and control cameras directly.

Legislative Control Systems include some or all of the following hardware:

- One All-In-One DashBoard LCS server, which includes DashBoard and LCS software. The system also requires the purchase of one or more DashBoard camera control panels, depending on the camera type(s) used (Sony and Panasonic).
- One Carbonite Switcher console and frame.
- One XPression Studio system, for graphics creation, real-time rendering, and playout.
- Two to ten cameras (any mix of selected Sony and Panasonic). Sony and Panasonic camera systems typically include physical control units (joystick and button consoles).
- One SDI to DVI-D converter (AJA HDP2).
- One HDMI to SDI converter (AJA HA5). This applies only to systems that include a Carbonite switcher without multi-media inputs).
- A supported microphone system (optional).
- A network switch

**Note:** The preceding list includes some equipment not provided by Ross Video.

The following illustration shows the architecture of an LCS system:



**Figure 2.1** LCS System Architecture

# Pre-Commissioning

This chapter describes commissioning tasks that can be done off-site in advance of on-site commissioning. Pre-commissioning tasks include information gathering and off-site pre-configuration of the LCS panel.

**IMPORTANT:** Some procedures in this chapter depend on others. Perform them in the order indicated.

**Pre-Commissioning tasks described in this chapter include:**

- “**Gathering Customer Information**” on page 3–1
- “**Installing DashBoard and the LCS Panel for Pre-Configuration**” on page 3–2
- “**Creating XPression Graphics for the LCS**” on page 3–3
- “**Adding Images to the LCS**” on page 3–3
- “**Specifying General Settings**” on page 3–4
- “**Adding Cameras**” on page 3–5
- “**Creating Representatives**” on page 3–6
- “**Creating Marks**” on page 3–7
- “**Mapping Marks to Representatives**” on page 3–8
- “**Copying LCS Panel Files for Transfer to the Customer LCS Panel**” on page 3–9

## Gathering Customer Information

The key to a successful LCS implementation is proper planning. During the pre-sales cycle, information is gathered to determine customer requirements so LCS features and graphics can be adjusted or developed if needed. Then, before commissioning begins, additional information is gathered to support customization of the LCS to suit the customer’s legislative chamber.

**Before system commissioning begins, the following information must be gathered:**

- Name of the legislative body.
- Nation in which the legislative body is located.
- State, province, region, or territory in which the legislative body is located (if applicable).
- Names of all political parties represented.
- Which layout view the LCS panel will use (Seat Layout view or Mark Layout view).
- Information about what graphics are required and about who will produce them. The LCS includes a standard XPression graphics package for bringing representative info on and off air in a lower-third graphic. The graphics can be modified. Additional graphics can be created. Depending on customer requirements and project complexity, an additional DashBoard panel may be required to interact with the graphics package.  
**Note:** XPression graphics for use with the LCS must be created in a particular way to work properly. For more information, see “**Creating XPression Graphics for the LCS**” on page 3–3.
- A background photo or diagram of the legislative chamber, showing the view from above. The image must be either .png or .jpg format. DashBoard automatically resizes images to fit, but to avoid distortion it’s important to maintain the correct ratio of height to width:
  - › The **Mark Layout Background** image area is **1611 pixels wide by 707 pixels high**.
  - › The **Seat Layout Background** image area is **1433 pixels wide by 1067 pixels high**.
- A diagram of the legislative chamber showing the position of all marks. Create a list that maps representatives to marks. Number the marks starting at 1. Print copies of the diagram and representatives list for reference during pre-commissioning and commissioning.
- Information about each camera:
  - › Position in the legislative chamber

- › Type of camera (brand/model)
- › Type of lens (to determine effective range)
- › Effective range of motion (to determine coverage)
- Data about each representative:
  - › First Name and Last Name
  - › District ID (if applicable)
  - › District Name (if applicable)
  - › Party (if applicable)
  - › Portfolio(s) (if applicable)
- Up to two photos for each representative. The photos are shown within the LCS panel but not on-air.
 

The representative **Image** photo appears in the **Representative Info** area. Image photos are required for all LCS panels.

The **Head Shot** photo appears as an icon to indicate the representative’s position in the legislative chamber. Head Shot photos are required only if the LCS panel uses the **Seat Layout** view.

The photos must be either .png or .jpg format. DashBoard automatically resizes photos to fit, but to avoid distortion it’s important to maintain the correct ratio of height to width:

  - › For LCS panels that use the **Mark Layout** view, the **Image** photo area is **155 pixels wide by 284 pixels high**.
  - › For LCS panels that use the **Seat Layout** view, the **Image** photo area is **100 pixels wide by 452 pixels high**. The **Head Shot** photo area is **70 pixels wide by 85 pixels high**.

## Installing DashBoard and the LCS Panel for Pre-Configuration

You can pre-configure many properties of the LCS panel on your own computer in advance, and then simply transfer the panel data to the customer’s DashBoard LCS computer during on-site commissioning. Before pre-configuring the LCS panel, you must install DashBoard and the LCS panel on a computer that meets the DashBoard system requirements.

### To install DashBoard:

1. Download DashBoard software and the DashBoard User Guide from the Ross Video website:  
<http://www.rossvideo.com/control-systems/dashboard/index.html>
2. Consult the DashBoard User Guide to confirm that your computer meets the system requirements for installing DashBoard.
3. Follow the installation instructions in the DashBoard User Guide to install DashBoard.

### To install the LCS Panel:

1. Extract the **LCS\_2.0.zip** file into the C:\ directory.
2. Start DashBoard.
3. From the **Views** menu, tap **File Navigator**.
4. On the **File Navigator** tab, tap the green + symbol.
 

The **Browse for Folder** dialog appears.
5. Navigate to the **LCS** folder located in **Computer > OS (C)**, and then tap **OK**.
6. In the **File Navigator** tree, expand the **LCS** folder to show the **LCS.grid** file.
7. To open the LCS panel anytime, double-tap the **LCS.grid** file.

The LCS panel will always be available from the DashBoard File Navigator.

## Creating XPression Graphics for the LCS

The LCS includes a basic XPression graphics project for displaying representative data in a lower third. You can alter the graphics project to suit your needs.

This section describes some aspects of the XPression project, and how XPression graphics must be organized to work with the LCS panel.

The XPression project includes two scenes: **Preview** and **Program**. The Preview scene appears in the LCS panel to show the operator how the preview shot looks with the graphic. The Program scene is taken to air. Both scenes include representative data streamed from the LCS panel to XPression through Datalinq.

If the graphics mode of the LCS panel is set to **Auto**, the graphic appears every time a shot is taken to air. The transition occurs as follows:

1. The operator taps the **TAKE** button to start the transition.
2. The graphic transitions out.
3. The new shot is taken to air.
4. The updated graphic transitions in.

You can modify the graphics in XPression, or create your own. To work with the LCS panel, the XPression project must be organized as follows:

- The **Program** scene must use **TakeID 02**.
- The **Preview** scene must use **TakeID 03**.
- The **Program** scene (TakeID 02) must be directed to **output channel 1**.
- The **Preview** scene (TakeID 03) must be directed to **output channel 2**.
- There must be a pause between the in and out animations.

By default, this pause is 30 frames. If you set a shorter pause in XPression, the pause will still be 30 frames because that is how long the LCS panel pauses between animations.

**Note:** If you want to create complex animations or multiple animations, you can create a separate Dashboard panel to control them. For more information, contact your Ross Video consultant.

## Adding Images to the LCS

**IMPORTANT:** Do not use high resolutions images! Convert them to lower resolutions, as described in this section.

Each LCS panel uses the following types of images:

- **Background image** — a drawing or photo of the legislative chamber. The view should be from above.

The background image must be either .png or .jpg format. Dashboard automatically resizes images to fit, but to avoid distortion it's important to maintain the correct ratio of height to width.

You need only one background image. Each LCS panel uses either **Seat Layout** view or **Mark Layout** view, and the images areas are as follows:

- › The **Mark Layout Background** image area is **1611 pixels wide by 707 pixels high**.
- › The **Seat Layout Background** image area is **1433 pixels wide by 1067 pixels high**.
- **Representative Image** photos — one photo per representative.

The representative **Image** photo must be either .png or .jpg format. Dashboard automatically resizes photos to fit, but to avoid distortion it's important to maintain the correct ratio of height to width:

  - › For LCS panels that use the **Mark Layout** view, the **Image** photo area is **155 pixels wide by 284 pixels high**.
  - › For LCS panels that use the **Seat Layout** view, the **Image** photo area is **100 pixels wide by 452 pixels high**.
- **Head Shot photos** — one small photo per representative (only for LCS panels that use **Seat Layout** view)

The **Head Shot** photo appears as an icon to indicate the representative's position in the legislative chamber. The photos must be either .png or .jpg format. DashBoard automatically resizes photos to fit, but to avoid distortion it's important to maintain the correct ratio of height to width. The **Head Shot** photo area is **70 pixels wide by 85 pixels high**.

**To store images:**

- On the DashBoard LCS computer, save the images in the **C:\LCS\Images\Photos** folder.

## Specifying General Settings

1. Start dashboard and open the LCS panel.
2. In the LCS panel, tap the **Config** button.

The **Legislative Control System Configuration** window appears.

3. Tap the **General** tab.

The screenshot shows the 'General' configuration window. At the top, there are tabs for 'General', 'Devices', 'Cameras', 'Representatives', 'Marks', 'Maps', and 'Connections'. The 'General' tab is selected. The window is divided into several sections:

- Location:** Fields for 'Body' (Mariposa City Council), 'Country' (Canada), and 'State' (Ontario).
- Images:** Fields for 'Seat Layout Background' (seat layout.png) and 'Mark Layout Background'.
- Parties:** A table with columns 'Party Key' and 'Party Name'. The table contains four entries: 1 Progressive, 2 Traditionalist, 3 Socialist, and 4 Libertarian. Below the table are 'Add', 'New Party', and 'Delete' buttons.

At the bottom right, there is a 'Save Changes' button. At the bottom left, there is a 'Reload Data' button.

4. In the **Location** area, specify data about your legislature:
  - **Body** — Type the name of your legislative body
  - **Country** — Type the name of your nation.
  - **State** — Type the name of the state, province, region, or territory where the legislature is located.
5. In the **Images** area, specify the filename of the background image for the LCS panel. Use the box that corresponds to the type of layout your LCS panel uses.
6. In the **Parties** area, define political parties or groups (if any):
  - a. In the blank box at the bottom of the **Parties** area, type the name of the party you want to add.
  - b. Tap **Add**.

The new party appears on the list of parties.
  - c. If you want to delete a party, tap it in the list and then tap **Delete**.
7. Tap the **Save Changes** button.

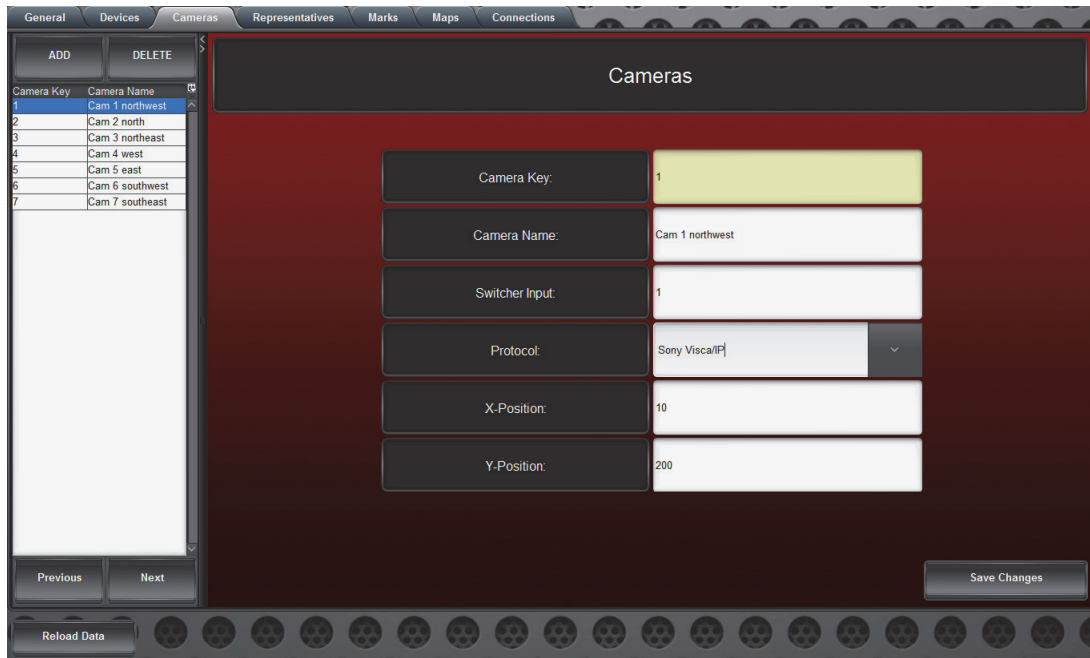
## Adding Cameras

Before you begin, number each camera on your diagram of the legislative chamber, starting at 1. Camera numbers are used during configuration and operation of the system.

In this procedure, you add cameras to the LCS panel. Later, on-site, you will configure the cameras and create shots on a separate camera control panel.

### To add cameras to the LCS panel:

1. In the LCS panel, tap the **Cameras** tab.



2. Add a camera to the list, and specify the camera's properties:
  - a. Tap the **ADD** button.

A new camera entry appears in the list.
  - b. In the **Camera Name** box, type a name for the camera.
  - c. In the **Switcher Input** box, specify the switcher crosspoint associated with the camera.

**Tip:** For easy reference, use the camera numbers as switcher crosspoint numbers; the switcher inputs also start at 1.
  - d. In the **Protocol** list, select the camera type.
  - e. If your LCS panel uses the **Mark Layout** view, in the **X-Position** and **Y-Position** boxes, specify the X (horizontal) and Y (vertical) position of the camera, in pixels.

**Tip:** An X value of 0 places the camera on the far left side. A Y value of 0 places the camera at the top.
3. Tap the **Save Changes** button.
4. If your LCS panel uses the **Mark Layout** view, tap the **Mark Layout** button and find the new camera on the layout. If the camera position is not correct, tap the **Config** button, go to the **Cameras** tab, adjust the **X-Position** and **Y-Position** values, tap **Save Changes**, and then check again.
5. Repeat **Steps 2 to 4** to add all cameras.

## Creating Representatives

When you create representatives, consult the list you created that maps representatives to marks. Create the representatives in the same order, starting from number 1.

### To create representatives:

1. In the LCS panel, tap the **Config** button.
2. On the **Representatives** tab, tap the **ADD** button.

A new representative entry is added to the bottom of the list.

Representative Key	Representative Name
10	Don Locke
11	Glen Maxheleau
12	Gordon Hanes
13	Gordon Mitchell
14	Hilary Powell
15	Isaac Jeong
16	James Peltzer
17	Jeff Nidd
18	Kais Hassanali
19	Kelly Lackey
20	Ken Kicksee
21	Kevin Anderson
22	Kim Hogeveen
23	Neil Takahara
24	Paul Thomson
25	Richard Cunningham
26	Roger Egan
27	Stacey Moore
28	Tammy Forbes
29	Terry Lake
30	Victor Couwenbergh
31	Paul Warren
32	Troy English
33	Jeff Moore
34	David Ross
35	Yvonne Holland
36	Bill Pritchard
37	Podium

Representative Number:	33
First Name:	Jeff
Last Name:	Moore
District ID:	4
District Name:	Ossawippi West
Party:	Progressive

Portfolios:

- Commercial Development Officer

Image: Team\_JeffMoore.PNG

Head Shot: Jeff Moore.jpg

Save Changes

3. Specify the following data as required:
  - **First Name** — Specify the first name of the representative.  
This name appears in the Seat Layout and Mark Layout views, and in on-air graphics.
  - **Last Name** — Specify the last name of the representative.  
This name appears in the Seat Layout and Mark Layout views, and in on-air graphics.
  - **District ID** — Specify the district identifier (if any) for the representative.  
This ID appears in the Seat Layout and Mark Layout views, and in on-air graphics.
  - **District Name** — Specify the district name for the representative.  
This name appears in the Seat Layout and Mark Layout views, and in on-air graphics.
  - **Party** — Select a party for the representative.  
**Tip:** If the representative's party is not listed, you must add it. For more information, see “**Specifying General Settings**” on page 3–4.
4. In the **Portfolios** area, edit the representative's portfolio(s) as required:
  - **To add a portfolio**, type the name of the portfolio in the box at the bottom of the **Portfolios** area, and then tap the **Add** button.
  - **To rename a portfolio**, double-tap the portfolio name in the list, and then type the new portfolio name.
  - **To delete a portfolio**, tap the portfolio in the list, and then tap the **Delete** button.
5. In the **Image** box, type the file name of the representative Image photo.

6. If your LCS panel uses the **Seat Layout** view, in the **Head Shot** box, type the file name of the Head Shot photo.
7. Tap the **Save Changes** button.
8. Repeat Steps 2 to 7 for each representative.

## Creating Marks

Marks represent shot target positions in the legislative chamber. Marks may represent the positions of representative seats, podiums, the speaker's chair, areas of the public gallery, etc.

In the LCS panel, marks are shown differently in each type of layout view:

- In **Mark Layout** view, marks are shown as numbered stars.
- In **Seat Layout** view, marks are shown as photo icons of the representatives associated with them.

**Tip:** Create marks in the same order as you created representatives, so the mark numbers and representative numbers correspond.

### To create a mark:

1. In the LCS panel, tap the **Config** button.
2. On the **Marks** tab, tap the **ADD** button.

A new mark entry is added to the bottom of the list.

The screenshot shows the 'Marks' configuration screen. On the left is a scrollable list of 'Mark Key' numbers from 7 to 34. The main area is titled 'Marks' and contains the following fields and table:

- Mark Key: 26
- X-Position: 1319
- Y-Position: 605

	Camera Number	Preset Shot 1	Preset Shot 2	Preset Shot 3
First Camera:	4	55	56	57
Second Camera:	6	76	77	78
Third Camera:	2	28	29	30
Fourth Camera:	7	76	77	78

Buttons for 'ADD', 'DELETE', 'Previous', 'Next', 'Save Changes', and 'Reload Data' are visible.

3. In the **X-Position** box, specify the horizontal position of mark, in pixels.  
**Tip:** An X value of 0 places the mark on the far left side.
4. In the **Y-Position** box, specify the vertical position of the mark, in pixels.  
**Tip:** A Y value of 0 places the mark at the top.
5. Tap the **Save Changes** button.

6. Check that the mark icon or representative icon appears in the correct position in the layout view:
  - If your LCS panel uses the **Mark Layout** view, tap the **Mark Layout** button and find the new mark on the layout. If the mark position is not correct, tap the **Config** button, go to the **Marks** tab, adjust the **X-Position** and **Y-Position** values, tap **Save Changes**, and then check again.
  - If your LCS panel uses the **Seat Layout** view, tap the **Seat Layout** button and find the new mark on the layout. If the mark position is not correct, tap the **Config** button, go to the **Marks** tab, adjust the **X-Position** and **Y-Position** values, tap **Save Changes**, and then check again.
7. Repeat Steps 2 to 6 for each representative.

## Mapping Marks to Representatives

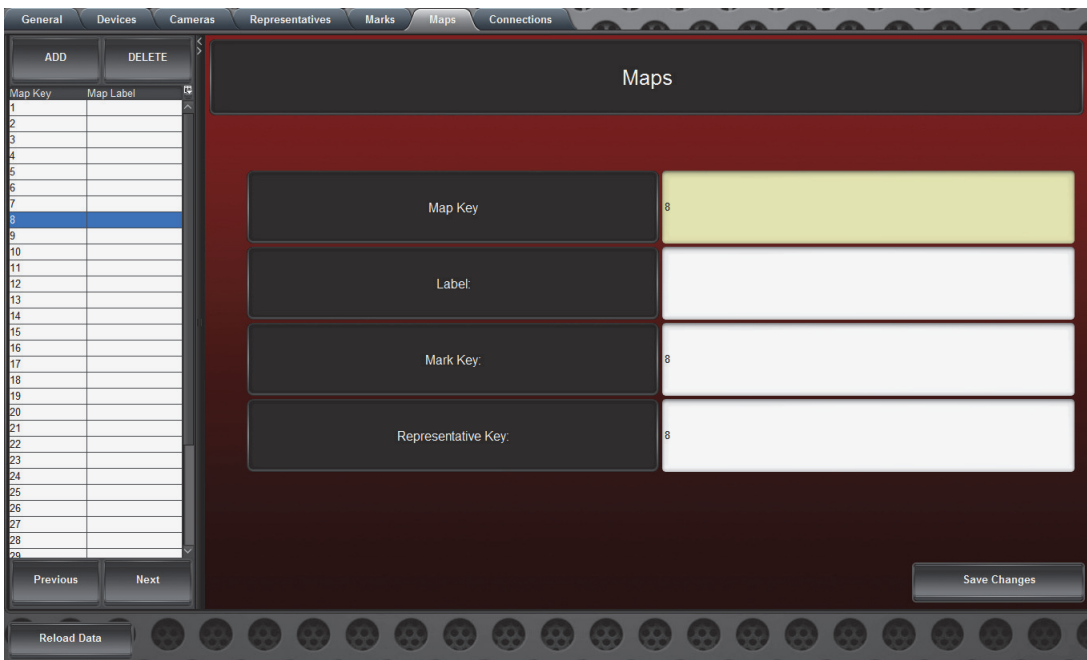
Marks represent shot target positions in the legislative chamber. Each mark definition includes a list of camera shots designed to shoot the mark position. Mapping marks to representatives ensures that the correct representative data is taken to air when a shot is recalled.

**Note:** Every mark must be associated with a representative, even if the mark position is not a representative’s seat. If your LCS panel includes marks that are not associated with real people, create “non-human” representatives for them. Note that data you include in the non-human representative may appear on-air as part of the graphics package.

**To create mappings between marks and representatives:**

1. In the LCS panel, tap the **Config** button.
2. On the **Maps** tab, tap the **ADD** button.

A new mapping entry is added to the bottom of the list.



3. In the **Mark Key** box, type the number of the mark you want to map to a representative.
 

**Tip:** If your mark numbers and representative numbers are matched up, we recommend that you use corresponding mapping numbers to map them. For example, for mapping number 1, you would specify **Mark Key 1** and **Representative Key 1**.
4. In the **Representative Key** box, type the number of the representative you want to match to the mark you specified in Step 3.
5. Tap the **Save Changes** button.

6. Repeat Steps 2 to 5 for each representative.

## Copying LCS Panel Files for Transfer to the Customer LCS Panel

When you are finished pre-configuring the LCS panel, copy the LCS panel files so you can transfer them to the customer's LCS computer on-site.

**Note:** This procedure is not required if you are performing the pre-commissioning tasks on the LCS computer being commissioned.

### **To copy LCS panel data:**

1. Close DashBoard.
2. Navigate to **Computer > OS (C)**.
3. Copy the **LCS** folder to a USB stick.
4. When the transfer is complete, remove the USB stick.



# On-Site Commissioning

This chapter describes the tasks you must do on-site to set up a Legislative Control System (LCS).

**IMPORTANT:** Before you start performing on-site commissioning tasks, you must complete the pre-commissioning tasks as described in “**Pre-Commissioning**” on page 3–1.

**IMPORTANT:** Some procedures in this chapter depend on others. Perform them in the order indicated.

**On-Site commissioning tasks described in this chapter include:**

- “**Setting up Equipment**” on page 4–1
- “**Preparing the LCS Panel**” on page 4–1
- “**Connecting Carbonite to Cameras, XPression, and the LCS**” on page 4–2
- “**Setting Up Communication Between Carbonite, XPression, and the LCS**” on page 4–3
- “**Adding Carbonite as an LCS Data Source**” on page 4–3
- “**Enabling Microphone System Communication**” on page 4–4
- “**Planning Shots and Assigning them to Marks**” on page 4–4
- “**Configuring Cameras and Creating Shots in Camera Control Panels**” on page 4–6

This chapter also describes how to upgrade LCS software while preserving data specific to your LCS panel(s). For more information, see “**Upgrading LCS Panel Software**” on page 4–6.

## Setting up Equipment

**Set up the following equipment:**

- Carbonite switcher
- XPression graphics system
- DashBoard LCS all-in-one computer
- Mouse and keyboard attached to DashBoard LCS computer
- Third-Party camera control console(s) (if applicable)
- Cameras
- Network switch
- SDI to DVI-D converter AJA HA5
- HDMI to SDI converter AJA HDP2 (only for systems that include a Carbonite switcher without multi-media inputs)
- Microphone system (if applicable)

## Preparing the LCS Panel

By default, the LCS panel files are pre-installed on your LCS computer.

If you pre-configured the LCS panel on a different computer and saved the LCS panel files on a USB stick, you must transfer them to the LCS computer.

This section contains instructions for transferring saved LCS panel files, and instructions for adding the LCS panel to the DashBoard File Navigator for easy access.

**To transfer saved LCS panel files to the LCS computer:**

1. On the LCS computer, insert the USB stick that contains the saved LCS panel files.
2. Navigate to **Computer > OS (C)**, and then tap **OK**.

3. Rename the existing **LCS** folder to make it a backup of the LCS panel as originally installed.  
For example, you might rename the folder “**LCS\_original**”.
4. On the USB stick, navigate to the folder that contains the **LCS** folder.
5. Copy the **LCS** folder from the USB stick to the **C:\** folder.
6. When the transfer is complete, remove the USB stick.

**To add the LCS panel to the DashBoard File Navigator:**

1. On the LCS computer, 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 **LCS** folder located in **Computer > OS (C)**, and then tap **OK**.
5. In the **File Navigator** tree, expand the **LCS** folder to show the **LCS.grid** file.
6. To open the LCS panel anytime, double-tap the **LCS.grid** file.

The LCS panel will always be available from the DashBoard File Navigator.

## Connecting Carbonite to Cameras, XPression, and the LCS

**To set up Carbonite for the LCS:**

1. Connect the cameras to inputs on the Carbonite frame, starting at **INPUT 1** and continuing with **INPUT 2**, **INPUT 3**, and so on.  
**Tip:** If you already created cameras in the LCS panel and specified crosspoints for them, connect the actual cameras to the corresponding switcher inputs.
2. Connect XPression to **INPUTS 20** to **23** on the Carbonite frame:
  - Fill1 — **INPUT 20**
  - Alpha1 — **INPUT 21**
  - Fill2 — **INPUT 22**
  - Alpha2 — **INPUT 23**
3. Connect the LCS computer **HDMI out** to **INPUT 24** on the Carbonite frame as follows:
  - For systems that include a multi-media Carbonite switcher, connect the **HDMI out** from the DashBoard LCS computer directly into Carbonite **INPUT 24**.
  - For systems that include a Carbonite switcher that does not have multi-media inputs, connect the **HDMI out** from the DashBoard LCS computer to the **HDMI to SDI converter**, and then connect the **SDI out** from the converter to Carbonite **INPUT 24**.
4. Connect the **SDI OUTPUT 01** on the Carbonite frame to the **SDI to DVI-D converter**, and then connect the converter to the secondary monitor.
5. Load the provided LCS switcher set file onto the Carbonite switcher panel.

For information about loading switcher sets, see the *Carbonite Operation Manual (4802DR-110)*.

## Setting Up Communication Between Carbonite, XPression, and the LCS

### To set up device communication:

1. Start DashBoard and open the LCS panel.
2. In the LCS panel, tap the **Config** button.

The **Legislative Control System Configuration** window appears.

3. On the **Devices** tab, specify **Host IP** addresses and **Ports** for the **Carbonite Switcher** and for the **XPression CG**.

4. Tap the **Save Changes** button.  
Leave the LCS panel open for the next procedure.

## Adding Carbonite as an LCS Data Source

### To add Carbonite as an LCS data source:

1. In **DashBoard**, look at the **Tree View** to ensure that the Carbonite switcher appears in the tree.
2. In the LCS Panel, tap the **PanelBuilder Edit Mode** button to enter **Edit Mode**.  
**Tip:** When a panel is in **Edit Mode**, grid lines are visible over the entire panel.
3. In the **Edit Mode** toolbar, tap the **Data Sources** button.

The **Data Sources** dialog box opens.

4. In the **Data Sources** dialog box, tap the **Edit** button for a Carbonite switcher.

The **Select Device for Context** dialog box opens.

5. Select the Carbonite switcher from the **Select a device** list.  
**Tip:** The switcher entry is within a frame entry, and appears as **Slot 0: Carbonite**.
6. Click **OK**.  
A **Device Type Mismatch** message appears.
7. Click **Yes**.

8. Tap the **PanelBuilder Edit Mode** button to exit **Edit Mode**.

Leave the LCS panel open for the next procedure.

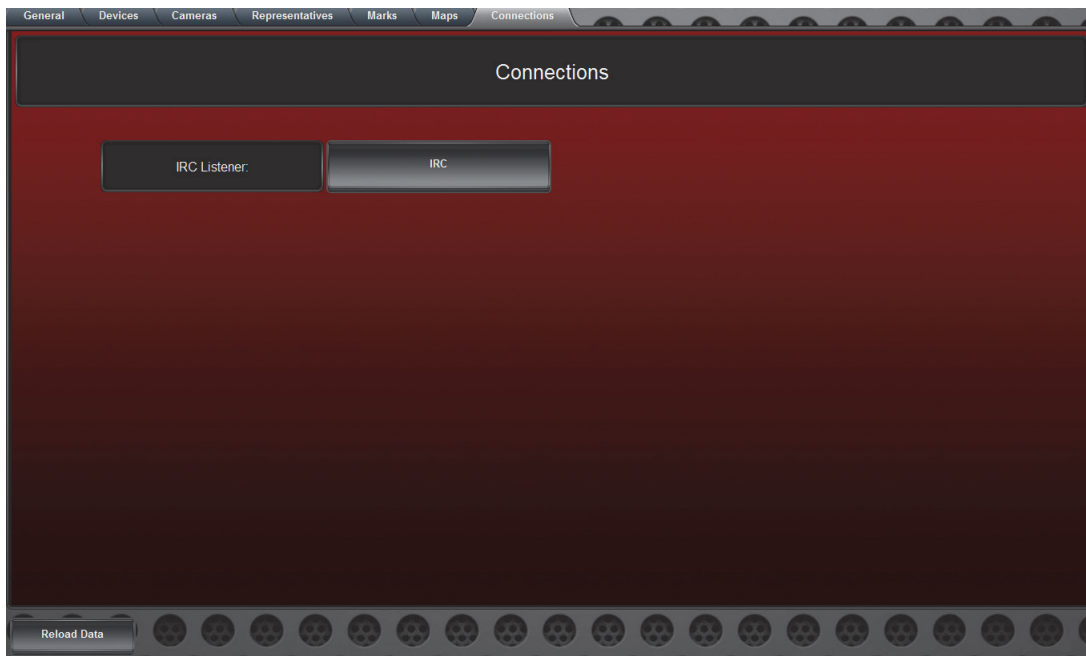
## Enabling Microphone System Communication

Enable a listener to communicate with your Microphone system (if applicable).

This procedure applies only if you want your microphone system to trigger camera shot recalls.

**To enable the listener:**

1. In the LCS panel, tap the **Config** button.
2. The **Legislative Control System Configuration** window appears.
3. Tap the **Connections** tab.



4. If your system includes a supported microphone system, tap the button corresponding to the microphone system to enable the listener.

**Tip:** Listeners are enabled when their buttons are green.

5. Close DashBoard.

## Planning Shots and Assigning them to Marks

This section describes how to plan shots and how to assign shot numbers to marks in LCS configuration.

### Planning Shots

An LCS implementation includes a large number of camera shots; usually several hundred. We recommend that you develop a strategy for keeping track of shots so you can easily assign them to marks in the LCS panel.

You can plan your shot numbers in advance by looking at your diagram of the legislative chamber to determine which cameras to use for each mark. If you create a worksheet listing marks, representatives, cameras, shot numbers and shot names, it becomes easy to enter the data into LCS and to use the worksheet as a shot list when creating the actual shots. Examples of typical shot names include, “sitting”, “standing”, “close”, “far”, “tight”, and “wide”.

Each camera has its own collection of shots. To assign a shot to a mark, you need to know both the camera number and shot number.

Seat Layout enables you to preview three shots from one camera, while a shot from a second camera is on-air. Shot lists for Seat Layout have up to six shots per mark.

Mark layout enables you to preview three shots from each of three cameras, while a shot from a fourth camera is on-air. Shot lists for Mark Layout have up to 12 shots per mark.

**Tip:** Some camera systems number shots starting at 0, and others starting at 1, as follows:

- Sony shot numbers start at 1.
- Panasonic shot numbers start at 0.

## Assigning Shots to Marks

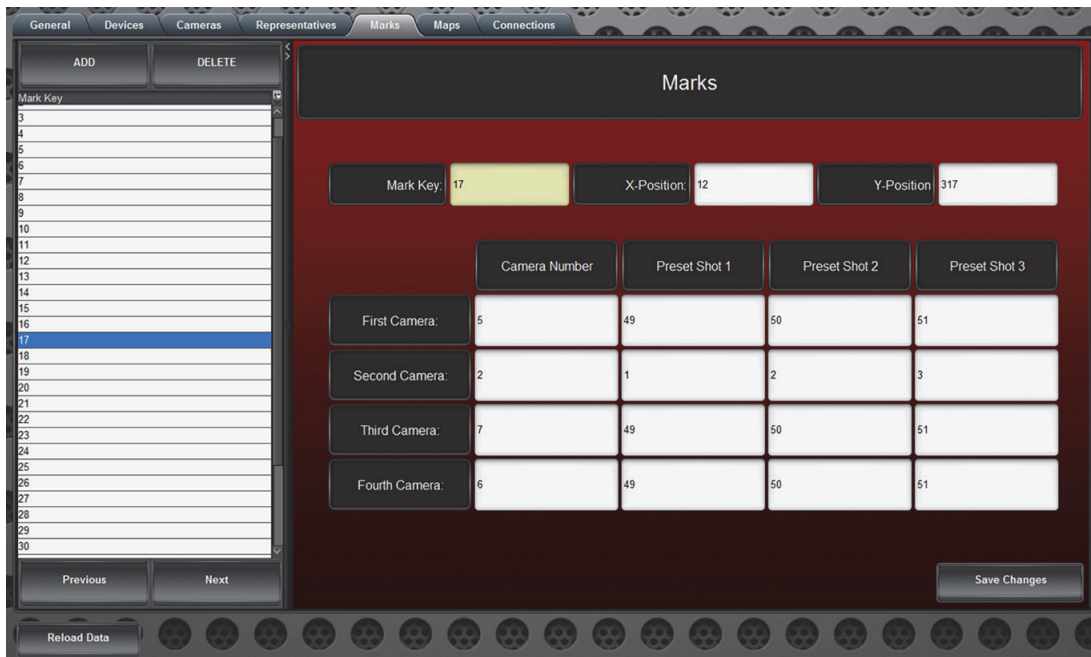
When you assign shots to marks in LCS, you are specifying which shots will be available for taking to on-air when the operator selects a mark or representative in the layout view.

**To assign shots to marks:**

1. Start DashBoard and open the LCS panel.
2. In the LCS panel, tap the **Config** button.

The **Legislative Control System Configuration** window appears.

3. On the **Marks** tab, in the **Mark Key** list, tap the mark number to which you want to assign shots.



4. Specify camera numbers and shot numbers in the shot list, considering the following:
  - Each row of the shot list includes three shots from one camera.
  - The shot list is hierarchical, so the top row is the default, followed by the other rows. Within a row, shots are prioritized from **Preset Shot 1** to **Preset Shot 3**.
  - If your panel uses the **Seat Layout** view, use only the top two rows of the shot list. Only six shots per mark are available.
5. Tap **Save Changes**.

## Configuring Cameras and Creating Shots in Camera Control Panels

To configure cameras and create shots, you use a camera control panel that is separate from the LCS panel. There is one camera control panel for each type of camera in your system. For example, if your system uses only Sony cameras, you use the Sony camera control panel.

For information about how to configure cameras and create shots, see the chapter corresponding to your type(s) of cameras system(s):

- “**The Sony Control Panel**” on page 5–1
- “**The Panasonic Control Panel**” on page 6–1

The remaining tasks in the commissioning process are described in the camera control panel chapters.

## Upgrading LCS Panel Software

This section describes how to upgrade LCS panel software while preserving data specific to your LCS panel(s).

The new LCS panel software is delivered as a compressed zip archive file.

**Note:** If the LCS is used for multiple types of events, there are multiple sets of LCS panel files, each of which must be upgraded.

### To upgrade the LCS panel:

1. On the LCS computer, create a backup copy of your current LCS installation folder (typically, **C:\LCS**).
2. Open the new **LCS zip file** to display the contents of the archive.
3. Copy the **LCS.grid** file and the **LCS.xml** file to **c:\LCS**. Agree to replace the destination files when prompted.
4. Copy the folder **\LCS\Images\Photos** to **c:\LCS\Images\Panel**. Agree to replace the destination files when prompted.

# The Sony Control Panel

The Sony control panel is a DashBoard panel that enables you to configure and control up to ten Sony robotic cameras. You can control cameras manually, store and recall shots, and adjust shading controls.

This chapter contains information about the camera control interface, and how to use it to commission cameras and create shots for a Legislative Control System (LCS).

The remaining LCS commissioning tasks are as follows:

- “**Installing the Camera Control Panel Files**” on page 5–1
- “**Launching the Camera Control Panel**” on page 5–1
- “**Configuring Cameras**” on page 5–2
- “**Creating, Storing, and Recalling Shots**” on page 5–3

The section, “**User Interface Reference**” on page 5–4 describes the controls available in the camera control panel.

**Note:** Each LCS implementation includes one or more camera control panels. There is one camera control panel for each type of camera in your system (Sony, Panasonic). You must configure all cameras in your system, using the appropriate camera control panel for each type.

## Installing the Camera Control Panel Files

The camera control panel is a DashBoard panel. DashBoard must be installed to run the camera control panel. DashBoard is available as a free download from [www.rossvideo.com](http://www.rossvideo.com).

**To install the camera control panel:**

1. Ensure that DashBoard is installed.
2. Open the camera control panel zip file and then extract the **Sony** folder into the **C:\** directory.

## Launching the Camera Control Panel

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

**To add the camera 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 **Sony BRC-900** folder located in **Computer > OS (C)**, and then tap **OK**.
5. In the **File Navigator** tree, expand the **Sony BRC-900** folder to show the **SonyCamera.grid** file.
6. To open the camera control panel anytime, double-tap the **SonyCamera.grid** file.

The camera control panel will always be available from the DashBoard File Navigator.

## Configuring Cameras

This section describes how to configure cameras.

For more detailed information about specific configuration settings, see “**Camera Configuration Window**” on page 5–4.

### To configure a camera:

1. In the camera control panel, tap the **Config** button.
2. On the **Cameras** tab, specify names and IP addresses for the cameras.

**IMPORTANT:** If you are configuring cameras for use in a Ross Video Legislative Control System (LCS) that includes more than one type of camera (Panasonic, Sony), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Panasonic cameras and five Sony cameras, you might set up the Panasonic cameras as numbers 1 to 5, and the Sony cameras as numbers 6 to 10. Each type of camera is configured on a separate camera control panel. For example, if you have Sony and Panasonic cameras, there is one camera control panel for Sony, and one for Panasonic. Additionally, the camera numbers in the camera control panels must correspond with the **Camera Key** numbers in the LCS configuration (**Config** interface, **Cameras** tab).

3. On the **Preset Names** tab, name the presets (shots) for each camera. These names will appear in the LCS panel.

**Tip:** Within the **Preset Names** tab there is a tab for each camera.

4. When you are finished naming your shots, tap the **Send Shot Names** button. This makes the names available to the LCS.

5. If you want to adjust camera shading and other selected controls, tap the **Controls** button, then tap the **Shading Controls** button, and then adjust the following as required:

- **Exposure** — Choose an exposure mode:
  - › **Full Auto** enables automatic exposure.
  - › **Manual** enables you to manually set the Shutter Speed and Gain.
  - › **Shutter Priority** enables you to manually set the Shutter Speed, but not the Gain.
  - › **Iris Priority** enables the iris to determine exposure.
- **Shutter Speed** — Select a shutter speed.

Tip: Shutter Speed is available only if Exposure is set to Manual or Shutter Priority.
- **Gain** — Specify a gain value (-3, or 0 to 30).

Tip: Gain is available only if **Exposure** is set to **Manual**.
- **White Balance** — Select a white balance option:
  - › **Auto** enables automatic white balance.
  - › **Indoor** sets white balance levels for typical indoor shooting conditions.
  - › **Outdoor** sets white balance levels for typical outdoor shooting conditions.
  - › **One Push** enables you to perform a white balance operation on demand, using the **One Push** button.
  - › **Manual** enables manual white balance.
- **One Push WB** — Performs a white balance operation if **White Balance** is set to **Auto** or to **One Push**.

**Note:** When you store a shot, shading controls are saved as part of the shot.

6. If you want to turn the camera **ON** or **OFF**, tap the **Power** button until it shows the desired state (**Power ON** or **Power OFF**).

## Creating, Storing, and Recalling Shots

An LCS implementation typically includes several hundred camera shots. Creating and storing these shots can be tedious, but the task is easy if the shots are planned in advance. This section assumes that you have a list of shots to be created for each camera, and that the shot numbers have already been assigned to marks in the LCS panel configuration interface. For more information, see “**Assigning Shots to Marks**” on page 4–5.

This section summarizes how to create, store, and recall shots.

For more detailed information about specific controls, see “**Camera Control Window**” on page 5–7.

**Tip:** This section describes how to use the camera control panel to move cameras. If your system includes a control console (joystick), you can use the joystick to move cameras and use the camera control panel to store and recall shots.

### To create and store a shot:

1. In the camera control panel, tap the **Controls** button.
2. Tap a camera button to control that camera.

**Tip:** The ten camera buttons are in a row along the top of the window.

3. If you want to move the camera, tap the **PTZ Controls** button, and then adjust the following as required:

- **Pan and Tilt** — Tap the **Positioner** button to choose between **PAN / TILT** sliders or the pan/tilt positioner, and then move the camera.
- **Zoom** — Tap and drag the **ZOOM** slider handle to adjust the zoom.
- **Focus** — Tap and drag the **FOCUS** slider handle to adjust the focus.

**Note:** You cannot adjust the focus if **Auto Focus** is **ON**. Unfortunately, the Auto Focus status may be shown incorrectly because Sony cameras cannot communicate their focus status to the LCS panel. Before you adjust the focus, tap the **Auto Focus** button at least once until the button says **Auto Focus OFF**.

- **Iris** — Tap and drag the **IRIS** slider handle to adjust the iris.

**Note:** You cannot adjust the iris if **Auto Iris** is **ON**. Unfortunately, the Auto Iris status and iris value may be shown incorrectly because Sony cameras cannot communicate their iris status to the LCS panel. Before you adjust the iris, tap the **Auto Iris** button at least once until the button says **Auto Iris OFF**.

4. Tap the **Store/Recall Shots** button.
5. Tap the **Shot** button for the shot number you want to store.

**Tip:** If you want to store a shot higher than 100, use the Shot Selection keypad to specify the shot number, instead of tapping a **Shot** button.

6. Continue creating and storing shots until all required shots exist for all cameras in your system.

**Note:** If your LCS setup includes multiple types of cameras (i.e. Sony and Panasonic), you must use the corresponding camera control panel to configure each type of camera, and to create shots for them. For more information, see the chapter corresponding to the camera type(s).

## User Interface Reference

This section describes the controls available in the Sony camera control panel.

The camera control panel consists of two interfaces:

- **Camera Configuration (Config) Window** — Enables you to configure camera settings such as camera names, IP addresses, and preset (shot) names. For more information, see “**Camera Configuration Window**” on page 5–4.
- **Camera Control (Controls) Window** — Enables you to operate cameras. You can move cameras, store and recall shots, and adjust shading controls. For more information, see “**Camera Control Window**” on page 5–7.

### Camera Configuration Window

The camera configuration window enables you to configure camera settings such as camera names, IP addresses, and preset (shot) names.

**To access the camera configuration window:**

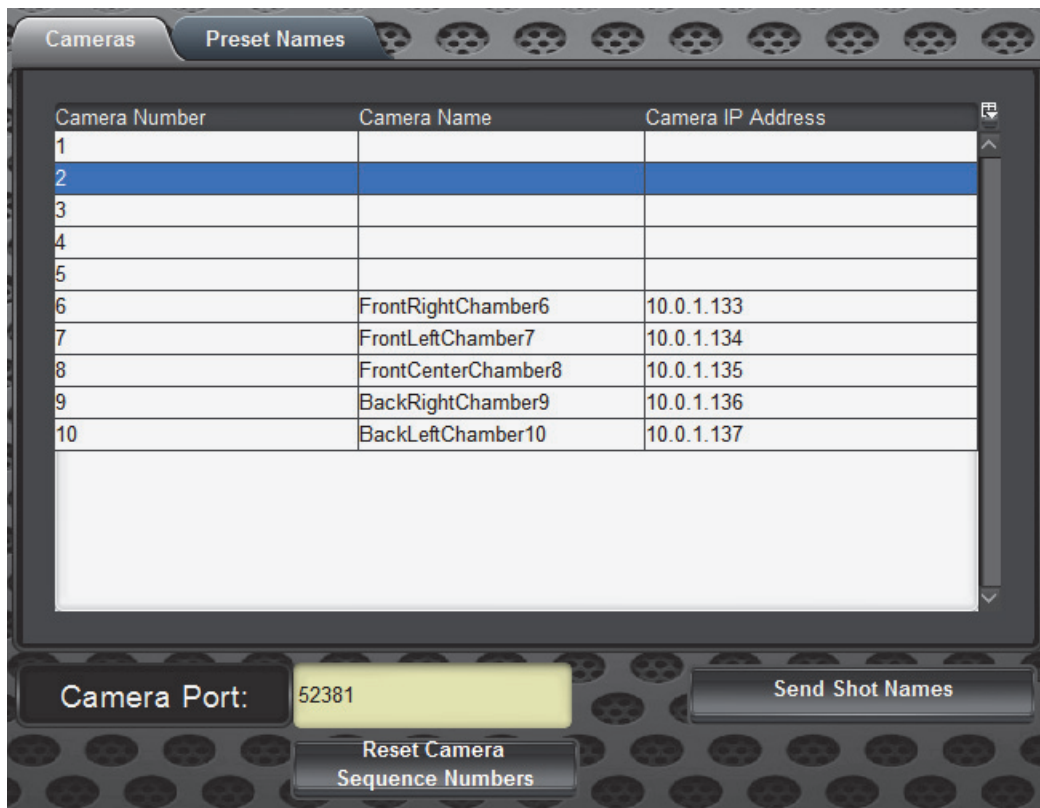
- Tap the **Config** button.

The **Config** window includes the following tabs:

- “**Cameras Tab**” on page 5–4
- “**Preset Names Tab**” on page 5–6

Cameras Tab

(**Figure 5.1**) shows the **Cameras** tab.



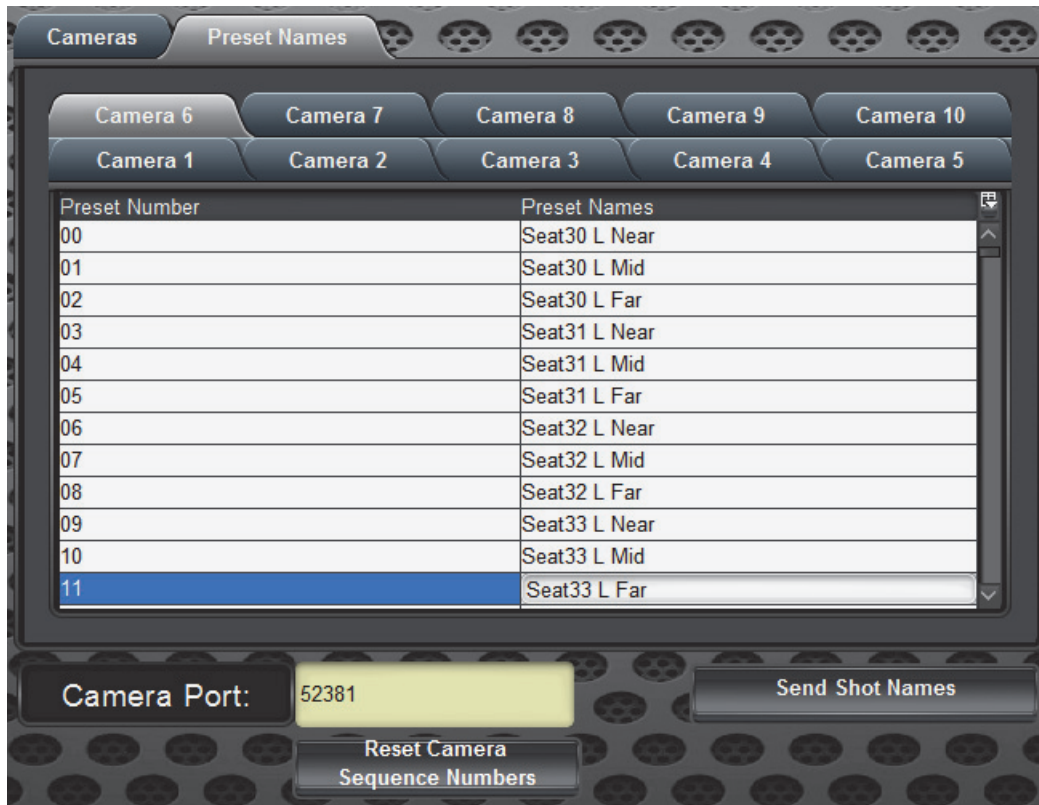
**Figure 5.1** Cameras Tab

The **Cameras** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera Number</b>	<p>The number of the camera being controlled. This is not editable. Each row in the table represents one camera.</p> <p><b>IMPORTANT:</b> If you are configuring cameras for use in a Ross Video Legislative Control System (LCS) that includes more than one type of camera (Panasonic, Sony), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Panasonic cameras and five Sony cameras, you could set up the Panasonic cameras as numbers 1 to 5, and the Sony cameras as numbers 6 to 10. Each type of camera is configured on a separate camera control panel. For example, if you have Sony and Panasonic cameras, there is one camera control panel for Sony, and one for Panasonic. Additionally, the camera numbers in the camera control panels must correspond with the <b>Camera Key</b> numbers in the LCS configuration (<b>Config</b> interface, <b>Cameras</b> tab).</p>
<b>Camera Name</b>	Specify a meaningful name for the camera.
<b>Camera IP Address</b>	<p>Specify the IP address of the camera. Every camera must have a unique IP address.</p> <p><b>IMPORTANT:</b> If you are configuring cameras for use in a Ross Video Legislative Control System (LCS) that includes more than one type of camera (Panasonic, Sony), you must ensure that all camera IP addresses in the system are unique. Each type of camera is configured on a separate camera control panel. For example, if you have Sony and Panasonic cameras, there is one camera control panel for Sony, and one for Panasonic.</p>
<b>Camera Port</b>	<p>Shows the computer port over which the cameras communicate.</p> <p>The camera port is not configurable.</p>
<b>Send Shot Names</b>	<p>Tap this button to send the names of presets (shots) to other inter-connected DashBoard panels, such as a Legislative Control System (LCS) panel. Sending the preset names enables the other panel(s) to display them.</p> <p><b>Tip:</b> Preset names are defined on the Preset Names tab.</p>
<b>Reset Camera Sequence Numbers</b>	This button resets addressing numbers on the Sony cameras, to ensure that the LCS panel has control of the cameras. The numbers can become mismatched between the camera and the LCS panel if another system takes control of one or more cameras.

## Preset Names Tab

(Figure 5.2) shows the **Preset Names** tab.



**Figure 5.2** Preset Names Tab

The **Preset Names** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera tabs</b>	Each <b>Camera</b> tab corresponds to a camera in the system. Each camera has a separate list of presets. Tap a tab to set preset names for shots on a different camera.
<b>Preset Names</b>	Specify a meaningful name for the preset (also known as a shot). Examples of typical shot names include, “sitting”, “standing”, “close”, “far”, “tight”, and “wide”.
<b>Camera Port</b>	Shows the computer port over which the cameras communicate. The camera port is not configurable.
<b>Send Shot Names</b>	Tap this button to send the names of presets (shots) to other inter-connected DashBoard panels, such as a Legislative Control System (LCS) panel. Sending the preset names enables the other panel(s) to display them.
<b>Reset Camera Sequence Numbers</b>	This button resets addressing numbers on the Sony cameras, to ensure that the LCS panel has control of the cameras. The numbers can become mismatched between the camera and the LCS panel if another system takes control of one or more cameras.

## Camera Control Window

The camera control window enables you to operate cameras. You can move cameras, store and recall shots, and adjust shading controls.

### To access the camera control interface:

- Tap the **Controls** button.

The **Controls** interface includes the following windows:

- “**Store/Recall Shots Window**” on page 5–7
- “**PTZ Controls Window**” on page 5–8
- “**Shading Controls Window**” on page 5–11

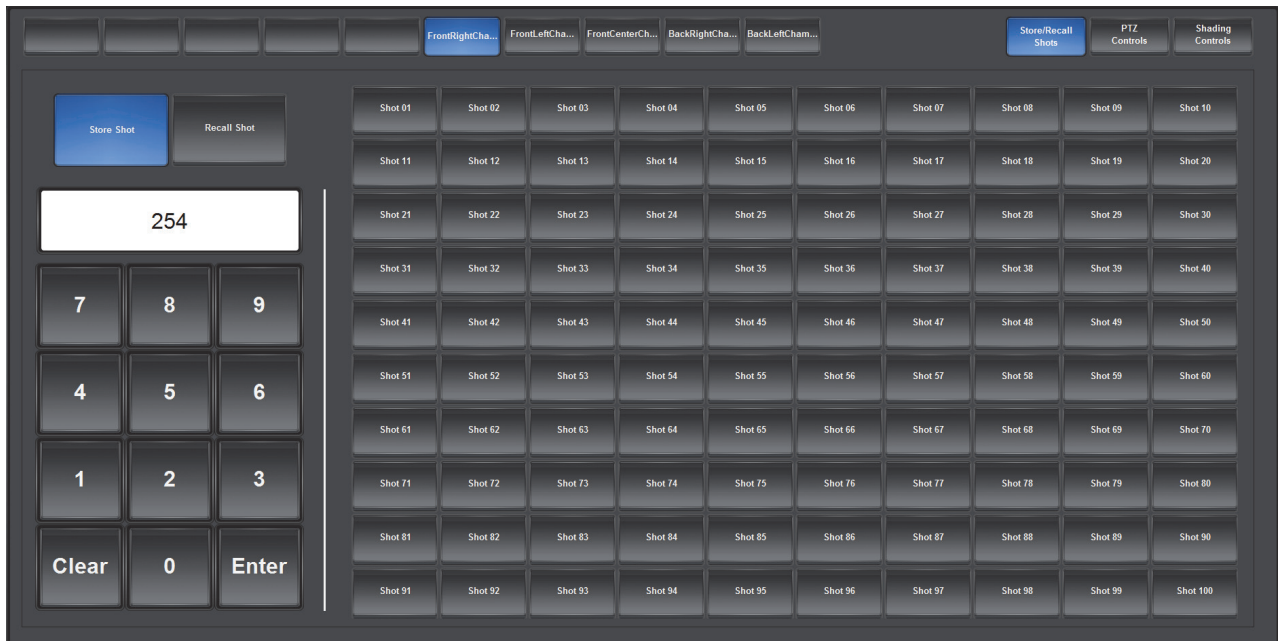
### Store/Recall Shots Window

The **Store/Recall Shots** window enables you to store camera positions as shots for future recall. It also enables you to recall those shots. The **Store/Recall Shots** window is used as an operator interface for controlling cameras during a presentation.

### To access the Store/Recall Shots window:

- From the camera control interface, tap the **Store/Recall Shots** button.

(**Figure 5.3**) shows the **Store/Recall Shots** window.



**Figure 5.3** Store/Recall Shots Window

The **Store/Recall Shots** window includes the following settings and buttons:

Setting or Button	Description
<b>Camera buttons</b>	The row of ten buttons across the top of the <b>Store/Recall Shots</b> window includes one button per camera. Tap a button to select the camera to which you want to store shots, or from which you want to recall them.
<b>Store Shot button</b>	Tap the button to switch to <b>Store Shot</b> mode. In <b>Store Shot</b> mode, you can save the current camera position as a shot for future recall.

Setting or Button	Description
<b>Recall Shot button</b>	<p>Tap the button to switch to <b>Recall Shot</b> mode.</p> <p>In <b>Recall Shot</b> mode, you can recall saved shots for the current camera.</p> <p><b>Recall Shot</b> mode is used for camera operation.</p>
<b>Shot Selection keypad</b>	<p>Type a shot number and then press the <b>Enter</b> button on the keypad to store or recall a shot, depending on the current mode.</p> <p>Alternatively, you can type a number in the box above the keypad and then press the <b>Enter</b> button on the keypad.</p> <p><b>Tip:</b> The <b>Shot</b> buttons can also be used to select a shot for storage or recall. There are 100 <b>Shot</b> buttons, numbered <b>01</b> to <b>100</b>. If you want to store or recall a shot higher than <b>100</b>, use the <b>Shot Selection</b> keypad.</p>
<b>Shot buttons</b>	<p>Tap a <b>Shot</b> button to store or recall a shot, depending on the current mode.</p> <p><b>Shot</b> buttons are used for camera operation.</p> <p><b>Tip:</b> Be aware of the current mode (<b>Store Shot</b> or <b>Recall Shot</b>) before you tap a <b>Shot</b> button. If you are in <b>Recall Shot</b> mode and tap a <b>Shot</b> button, the current camera position is stored as that shot.</p> <p><b>Tip:</b> Sony cameras can store up to 16 shots. The camera control panel also uses virtual shots, enabling you to store up to 1000 shots in total. The camera control panel has 100 <b>Shot</b> buttons, numbered 01 to 100. If you want to store or recall a shot higher than 100, use the <b>Shot Selection</b> keypad.</p> <p><b>Tip:</b> Shots 01 to 16 are stored on the Sony cameras. The camera control panel stores only shots 17 to 999. If you want all your shots to be saved in data files, use only shots above 16.</p>

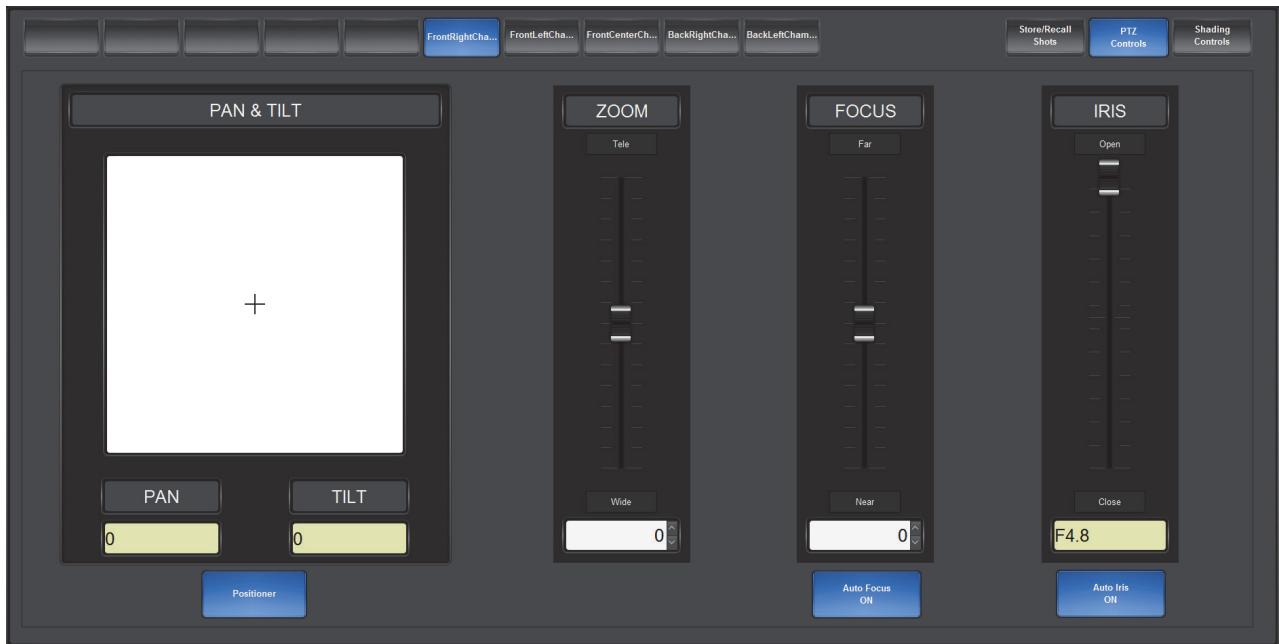
### PTZ Controls Window

The **PTZ Controls** window enables you to manually adjust the position of the currently-selected camera. You can move cameras during a presentation, or move them into position to store a shot.

#### To access the PTZ Controls window:

- From the camera control interface, tap the **PTZ Controls** button.

(**Figure 5.4**) shows the **PTZ Controls** window.



**Figure 5.4** PTZ Controls Window (showing Pan/Tilt positioner)

The **PTZ Controls** window includes the following settings and buttons:

Setting or Button	Description
<b>Camera buttons</b>	The row of ten buttons across the top of the <b>PTZ Controls</b> window includes one button per camera. Tap a button to select which camera you want to move.
<b>Positioner button</b>	Switches between interfaces for adjusting pan and tilt positions: <ul style="list-style-type: none"> <li>• <b>PAN and TILT sliders</b> — enable you to adjust pan and tilt separately.</li> <li>• <b>Pan/Tilt Positioner</b> — enables you to adjust pan and tilt simultaneously.</li> </ul>

This interface shows two vertical sliders side-by-side. The left slider is labeled 'PAN' with 'Right' at the top and 'Left' at the bottom. The right slider is labeled 'TILT' with 'Up' at the top and 'Down' at the bottom. Both sliders have a yellow display at the bottom showing '0'. A blue button labeled 'Positioner' is centered below the sliders.

This interface shows a large white square with a black crosshair in the center. Below the square are two buttons labeled 'PAN' and 'TILT', each with a yellow display showing '0'. A blue button labeled 'Positioner' is centered below the buttons.

**Figure 5.5** Pan/Tilt Sliders (left) and Pan/Tilt Positioner (Right)

Setting or Button	Description
<b>PAN and TILT sliders</b>	<p>Tap and drag the <b>PAN</b> or <b>TILT</b> slider handles to pan or tilt the camera.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>-24 to 24</b>. Higher pan values pan right. Higher tilt values tilt upwards.</p> <p>Pan and tilt slider values are relative, not absolute. When you release the slider, the value shown returns to zero.</p>
<b>Pan/Tilt Positioner</b>	<p>Tap and drag the cross-hairs within the white box until the camera is in the desired pan/tilt position.</p>
<b>ZOOM slider</b>	<p>Tap and drag the <b>ZOOM</b> slider handle up or down to zoom the lens.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>-7 to 7</b>. Higher values are towards telephoto, and lower values are towards wide.</p> <p>Zoom slider values are relative, not absolute. When you release the slider, the value shown returns to zero.</p>
<b>Auto Focus button</b>	<p>Tap to switch between automatic focus and manual focus control.</p> <p>When <b>Auto Focus</b> is <b>OFF</b>, you can adjust focus using the <b>FOCUS</b> slider.</p> <p><b>Note:</b> The Auto Focus status may be shown incorrectly because Sony cameras cannot communicate their focus status to the LCS panel. Whenever you want to adjust the focus or know the Auto Focus state of a camera, tap the <b>Auto Focus</b> button at least once, until the desired state is shown.</p>
<b>FOCUS slider</b>	<p>Tap and drag the <b>FOCUS</b> slider handle up or down to focus the lens manually.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>-7 to 7</b>. Higher values are towards far focus, and lower values are towards near focus.</p> <p>Focus slider values are relative, not absolute. When you release the slider, the value shown returns to zero.</p> <p><b>Note:</b> You cannot adjust the focus if <b>Auto Focus</b> is <b>ON</b>. Unfortunately, the Auto Focus status may be shown incorrectly because Sony cameras cannot communicate their focus status to the LCS panel. Before you adjust the focus, tap the <b>Auto Focus</b> button at least once until the button says <b>Auto Focus OFF</b>.</p>
<b>Auto Iris button</b>	<p>Tap to switch between automatic and manual iris control.</p> <p>When <b>Auto Iris</b> is <b>OFF</b>, you can adjust the iris using the <b>IRIS</b> slider.</p> <p><b>Note:</b> The Auto Iris status may be shown incorrectly because Sony cameras cannot communicate their iris status to the LCS panel. Whenever you want to adjust the iris or know the Auto Iris state of a camera, tap the <b>Auto Iris</b> button at least once, until the desired state is shown.</p>
<b>Iris slider</b>	<p>If you want to adjust the iris, tap and drag the <b>IRIS</b> slider handle up or down.</p> <p>Iris slider values are absolute. When you release the slider, the value you set remains.</p> <p><b>Note:</b> You cannot adjust the iris if <b>Auto Iris</b> is <b>ON</b>. Unfortunately, the Auto Iris status and iris value may be shown incorrectly because Sony cameras cannot communicate their iris status to the LCS panel. Before you adjust the iris, tap the <b>Auto Iris</b> button at least once until the button says <b>Auto Iris OFF</b>.</p>

## Shading Controls Window

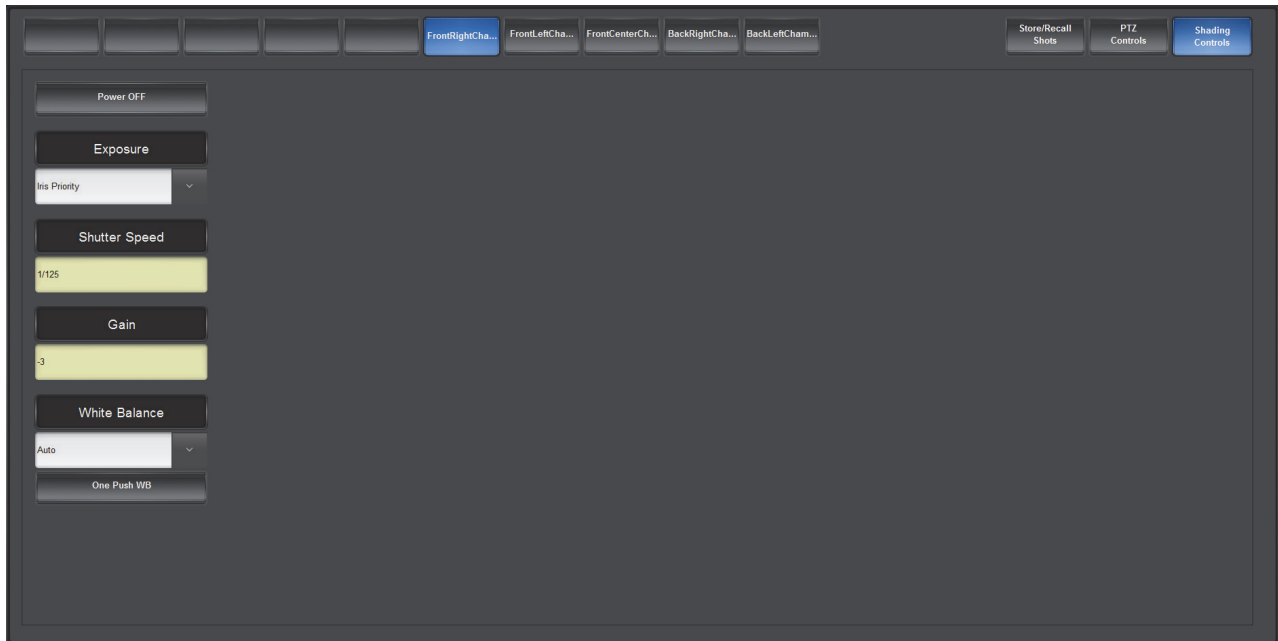
The **Shading Controls** window enables you to adjust selected camera controls, including shading and shutter speed. Shading settings remain until changed again. They are saved as part of the shots.

**Note:** For more information about the effect of these camera controls, refer to the documentation that came with your camera system.

**To access the Shading Controls window:**

- From the camera control interface, tap the **Shading Controls** button.

(**Figure 5.6**) shows the **Shading Controls** window.



**Figure 5.6** Shading Controls Window

The **Shading Controls** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera buttons</b>	The row of ten buttons across the top of the <b>Shading Controls</b> window includes one button per camera. Tap a button to select which camera you want to adjust.
<b>Power button</b>	Turns the camera <b>ON</b> or <b>OFF</b> . The <b>Power</b> button shows the current state.
<b>Exposure</b>	Select an exposure mode: <ul style="list-style-type: none"><li>• <b>Full Auto</b> enables automatic exposure.</li><li>• <b>Manual</b> enables you to manually set the <b>Shutter Speed</b> and <b>Gain</b>.</li><li>• <b>Shutter Priority</b> enables you to manually set the <b>Shutter Speed</b>, but not the <b>Gain</b>.</li><li>• <b>Iris Priority</b> enables the iris to determine exposure.</li><li>•</li></ul>
<b>Shutter Speed</b>	Select a shutter speed. <b>Tip:</b> Shutter Speed is available only if <b>Exposure</b> is set to <b>Manual</b> or <b>Shutter Priority</b> .
<b>Gain</b>	Specify a gain value (-3, or 0 to 30). <b>Tip:</b> Gain is available only if <b>Exposure</b> is set to <b>Manual</b> .

Setting or Button	Description
<b>White Balance</b>	<p><b>White Balance</b> — Select a white balance option:</p> <ul style="list-style-type: none"> <li>• <b>Auto</b> enables automatic white balance.</li> <li>• <b>Indoor</b> sets white balance levels for typical indoor shooting conditions.</li> <li>• <b>Outdoor</b> sets white balance levels for typical outdoor shooting conditions.</li> <li>• <b>One Push</b> enables you to perform a white balance operation on demand, using the <b>One Push</b> button.</li> <li>• <b>Manual</b> enables manual white balance.</li> </ul>
<b>One Push WB</b>	Performs a white balance operation if <b>White Balance</b> is set to <b>Auto</b> or to <b>One Push</b> .

# The Panasonic Control Panel

The Panasonic control panel is a DashBoard panel that enables you to configure and control up to ten Panasonic robotic cameras. You can control cameras manually, store and recall shots, and adjust shading controls and shot recall speeds.

This chapter contains information about the camera control interface, and how to use it to commission cameras and create shots for a Legislative Control System (LCS).

The remaining LCS commissioning tasks are as follows:

- “**Installing the Camera Control Panel Files**” on page 6–1
- “**Launching the Camera Control Panel**” on page 6–1
- “**Configuring Cameras**” on page 6–2
- “**Creating, Storing, and Recalling Shots**” on page 6–3

The section, “**User Interface Reference**” on page 6–3 describes the controls available in the camera control panel.

**Note:** Each LCS implementation includes one or more camera control panels. There is one camera control panel for each type of camera in your system (Sony, Panasonic). You must configure all cameras in your system, using the appropriate camera control panel for each type.

## Installing the Camera Control Panel Files

The camera control panel is a DashBoard panel. DashBoard must be installed to run the camera control panel. DashBoard is available as a free download from [www.rossvideo.com](http://www.rossvideo.com).

**To install the camera control panel:**

1. Ensure that DashBoard is installed.
2. Open the camera control panel zip file and then extract the **Panasonic** folder into the **C:\** directory.

## Launching the Camera Control Panel

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

**To add the camera 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 **Panasonic HE-120** folder located in **Computer > OS (C)**, and then tap **OK**.
5. In the **File Navigator** tree, expand the **Panasonic HE-120** folder to show the **PanasonicCamera.grid** file.
6. To open the camera control panel anytime, double-tap the **PanasonicCamera.grid** file.

The camera control panel will always be available from the DashBoard File Navigator.

## Configuring Cameras

This section describes how to configure cameras.

For more detailed information about specific configuration settings, see “**Camera Configuration Window**” on page 6–4.

### To configure a camera:

1. In the camera control panel, tap the **Config** button.
2. In the **Remote Control IP** box, type the IP address of the **Panasonic AW-RP120** control console (joystick console), if present.

**Note:** A joystick console is not required to use the Panasonic camera control panel.

3. On the **Cameras** tab, specify names and IP addresses for the cameras.

**IMPORTANT:** If you are configuring cameras for use in a Ross Video Legislative Control System (LCS) that includes more than one type of camera (Panasonic, Sony, etc), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Panasonic cameras and five Sony cameras, you might set up the Panasonic cameras as numbers 1 to 5, and the Sony cameras as numbers 6 to 10. Each type of camera is configured on a separate camera control panel. For example, if you have Sony and Panasonic cameras, there is one camera control panel for Sony, and one for Panasonic. Additionally, the camera numbers in the camera control panels must correspond with the **Camera Key** numbers in the LCS configuration (**Config** interface, **Cameras** tab).

4. On the **Recall Speed** tab, set the shot recall speed for each camera.
5. On the **Preset Names** tab, name the presets (shots) for each camera. These names will appear in the LCS panel.

**Tip:** Within the **Preset Names** tab there is a tab for each camera.

6. When you are finished naming your shots, tap the **Send Camera Preset Names** button. This makes the names available to the LCS.

7. If you want to adjust camera shading and other selected controls, tap the **Controls** button, then tap the **Shading Controls** button, and then adjust the following as required:

- **Camera Output** — Choose between normal camera output and test bars.
- **Shutter Speed** — Select a shutter speed.
- **Gain** — Specify a gain value (0 to 30).
- **Chroma** — Specify a chroma value (-3 to 3).
- **Detail** — Select a level of detail (High, Low, Off)
- **White Balance** — Select a white balance option from the list, to perform a camera white balance:
  - › **ATW** — Auto-Tracing White Balance. White balance adjusts continuously as you shoot.
  - › **AWB A** — Auto White Balance A. Applies a saved white balance preset.
  - › **AWB B** — Auto White Balance B. Applies a saved white balance preset.
  - › **Preset 3200K** — Applies white balance for typical indoor (incandescent) conditions.
  - › **Preset 5600K** — Applies white balance for typical outdoor (daylight) conditions.

Alternatively, to perform a manual white balance, tap the **Execute AWB** button. If **AWB A** or **AWB B** are selected, the **Execute AWB** button also stores the white balance level in the preset shown (**AWB A** or **AWB B**).

- **Black Balance** — Tap this button to perform a manual black balance.
- **Pedestal** — Specify a black pedestal level (-150 to 150).
- **Digital Noise Reduction** — Select a level of digital noise reduction (High, Low, Off).
- **Flesh Tone Noise Suppress** — Select a level of flesh tone noise suppression (High, Low, Off).

**Note:** When you store a shot, shading controls are not saved as part of the shot.

## Creating, Storing, and Recalling Shots

An LCS implementation typically includes several hundred camera shots. Creating and storing these shots can be tedious, but the task is easy if the shots are planned in advance. This section assumes that you have a list of shots to be created for each camera, and that the shot numbers have already been assigned to marks in the LCS panel configuration interface. For more information, see “**Assigning Shots to Marks**” on page 4–5.

This section summarizes how to create, store, and recall shots.

For more detailed information about specific controls, see “**Camera Control Window**” on page 6–7.

**Tip:** This section describes how to use the camera control panel to move cameras. If your system includes a control console (joystick), you can use the joystick to move cameras and use the camera control panel to store and recall shots.

### To create and store a shot:

1. In the camera control panel, tap the **Controls** button.
2. Tap a camera button to control that camera.

**Tip:** The ten camera buttons are in a row along the top of the window.

3. If you want to move the camera, tap the **PTZ Controls** button, and then adjust the following as required:

- **Pan and Tilt** — Tap the **Positioner** button to choose between **PAN / TILT** sliders or the pan/tilt positioner, and then move the camera.
- **Zoom** — Tap and drag the **ZOOM** slider handle to adjust the zoom.
- **Focus** — Tap and drag the **FOCUS** slider handle to adjust the focus.

**Tip:** If the **FOCUS** slider is visible but not available, tap the **Auto Focus** button to turn off auto focus.

- **Iris** — Tap and drag the **IRIS** slider handle to adjust the iris.

**Tip:** If the **IRIS** slider is visible but not available, tap the **Auto Iris** button to turn off automatic iris.

4. Tap the **Store/Recall Shots** button.
5. Tap the **Shot** button for the shot number you want to store.

**Tip:** If you want to store a shot higher than 99, use the Shot Selection keypad to specify the shot number, instead of tapping a **Shot** button.

6. Continue creating and storing shots until all required shots exist for all cameras in your system.

**Note:** If your LCS setup includes multiple types of cameras (i.e. Sony and Panasonic), you must use the corresponding camera control panel to configure each type of camera, and to create shots for them. For more information, see the chapter corresponding to the camera type(s).

## User Interface Reference

This section describes the controls available in the Panasonic camera control panel.

The camera control panel consists of two interfaces:

- **Camera Configuration (Config) Window** — Enables you to configure camera settings such as camera names, IP addresses, recall speeds, and preset (shot) names. For more information, see “**Camera Configuration Window**” on page 6–4.
- **Camera Control (Controls) Window** — Enables you to operate cameras. You can move cameras, store and recall shots, and adjust shading controls. For more information, see “**Camera Control Window**” on page 6–7.

## Camera Configuration Window

The camera configuration window enables you to configure camera settings such as camera names, IP addresses, recall speeds, and preset (shot) names.

### To access the camera configuration window:

- Tap the **Config** button.

The **Config** window includes the following tabs:

- “**Cameras Tab**” on page 6–4
- “**Recall Speed Tab**” on page 6–5
- “**Preset Names Tab**” on page 6–6

### Cameras Tab

Figure 6.1 shows the **Cameras** tab.

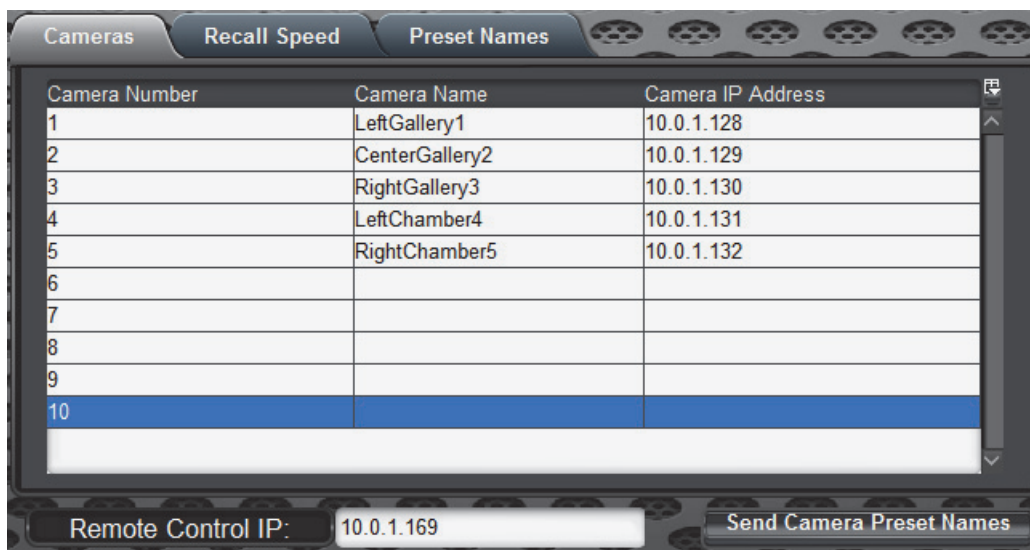


Figure 6.1 Cameras Tab

The **Cameras** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera Number</b>	The number of the camera being controlled. This is not editable. Each row in the table represents one camera.  <b>IMPORTANT:</b> If you are configuring cameras for use in a Ross Video Legislative Control System (LCS) that includes more than one type of camera (Panasonic, Sony, etc), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Panasonic cameras and five Sony cameras, you could set up the Panasonic cameras as numbers 1 to 5, and the Sony cameras as numbers 6 to 10. Each type of camera is configured on a separate camera control panel. For example, if you have Sony and Panasonic cameras, there is one camera control panel for Sony, and one for Panasonic. Additionally, the camera numbers in the camera control panels must correspond with the <b>Camera Key</b> numbers in the LCS configuration ( <b>Config</b> interface, <b>Cameras</b> tab).
<b>Camera Name</b>	Specify a meaningful name for the camera.

Setting or Button	Description
<b>Camera IP Address</b>	Specify the IP address of the camera. Every camera must have a unique IP address. <b>IMPORTANT:</b> If you are configuring cameras for use in a Ross Video Legislative Control System (LCS) that includes more than one type of camera (Panasonic, Sony, etc), you must ensure that all camera IP addresses in the system are unique. Each type of camera is configured on a separate camera control panel. For example, if you have Sony and Panasonic cameras, there is one camera control panel for Sony, and one for Panasonic.
<b>Remote Control IP</b>	Specify the IP address of the Panasonic AW-RP120 control console (joystick console), if present. A joystick console is not required to use Panasonic camera control panel.
<b>Send Camera Preset Names</b>	Tap this button to send the names of presets (shots) to other inter-connected DashBoard panels, such as a Legislative Control System (LCS) panel. Sending the preset names enables the other panel(s) to display them. <b>Tip:</b> Preset names are defined on the Preset Names tab.

### Recall Speed Tab

Figure 6.3 shows the Recall Speed tab.

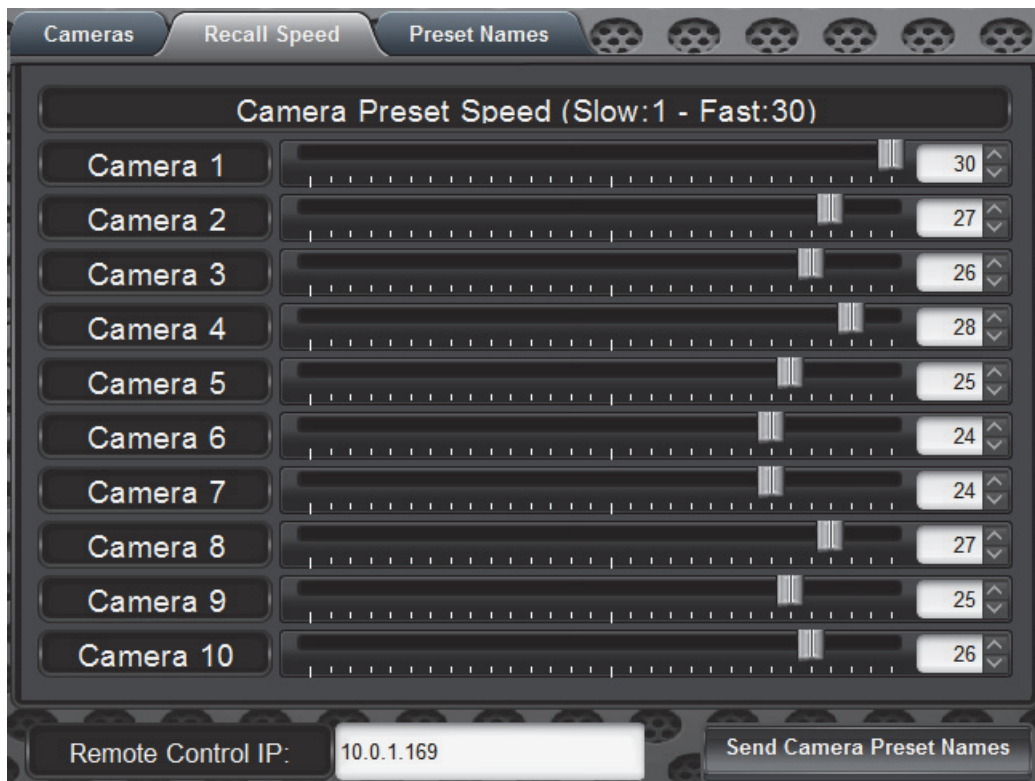


Figure 6.2 Recall Speed Tab

The **Recall Speed** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera preset speeds</b>	Do one of the following to set the speed of each camera: <ul style="list-style-type: none"> <li>• Tap and drag the speed slider. The speed is shown in a box to the right of the slider.</li> <li>• Type a number in the speed box to the right of the slider.</li> <li>• Tap the up and down arrows beside the speed box.</li> </ul> <b>Tip:</b> Higher numbers represent faster speeds
<b>Remote Control IP</b>	Specify the IP address of the Panasonic AW-RP120 hard IP control panel, if present. Hard control panel is not required to use Panasonic camera control panel.
<b>Send Camera Preset Names</b>	Tap this button to send the names of presets (shots) to other inter-connected DashBoard panels, such as a Legislative Control System (LCS) panel. Sending the preset names enables the other panel(s) to display them. <b>Tip:</b> Preset names are defined on the Preset Names tab.

### Preset Names Tab

**Figure 6.3** shows the **Preset Names** tab.



**Figure 6.3** Preset Names Tab

The **Preset Names** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera tabs</b>	Each <b>Camera</b> tab corresponds to a camera in the system. Each camera has a separate list of presets. Tap a tab to set preset names for shots on a different camera.
<b>Preset Names</b>	Specify a meaningful name for the preset (also known as a shot). Examples of typical shot names include, “sitting”, “standing”, “close”, “far”, “tight”, and “wide”.
<b>Remote Control IP</b>	Specify the IP address of the Panasonic AW-RP120 hard IP control panel, if present. Hard control panel is not required to use Panasonic camera control panel.
<b>Send Camera Preset Names</b>	Tap this button to send the names of presets (shots) to other inter-connected DashBoard panels, such as a Legislative Control System (LCS) panel. Sending the preset names enables the other panel(s) to display them.

## Camera Control Window

The camera control window enables you to operate cameras. You can move cameras, store and recall shots, and adjust shading controls.

### To access the camera control interface:

- Tap the **Controls** button.

The **Controls** interface includes the following windows:

- “**Store/Recall Shots Window**” on page 6–7
- “**PTZ Controls Window**” on page 6–8
- “**Shading Controls Window**” on page 6–10

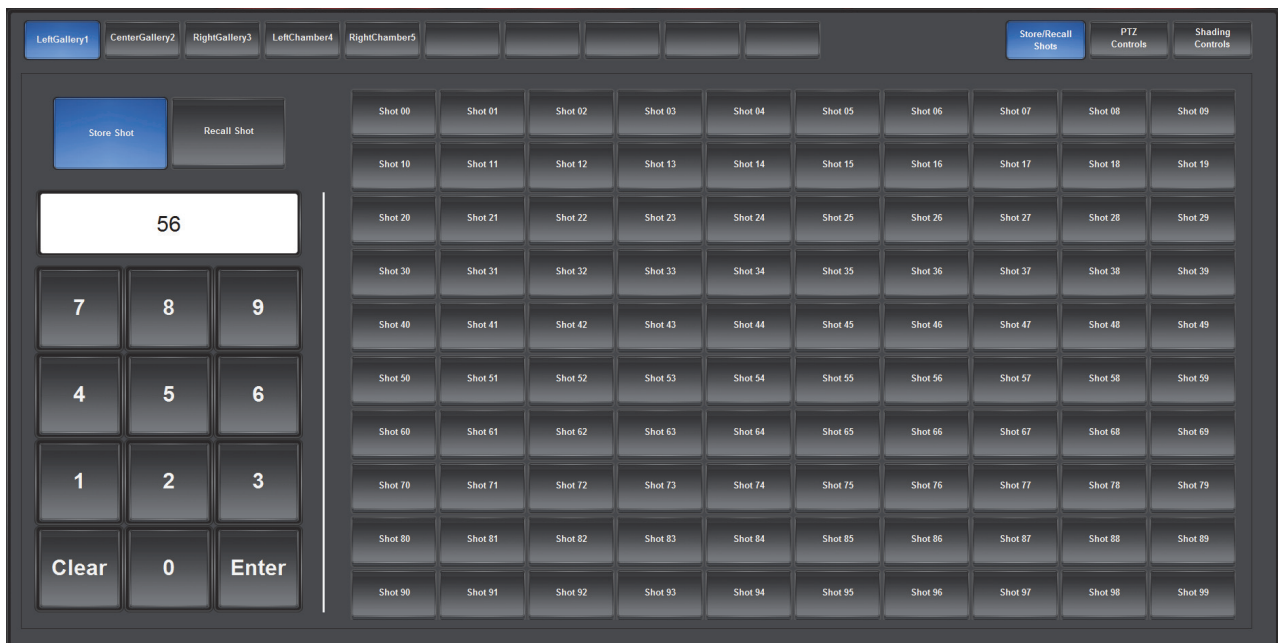
### Store/Recall Shots Window

The **Store/Recall Shots** window enables you to store camera positions as shots for future recall. It also enables you to recall those shots. The **Store/Recall Shots** window is used as an operator interface for controlling cameras during a presentation.

### To access the Store/Recall Shots window:

- From the camera control interface, tap the **Store/Recall Shots** button.

**Figure 6.4** shows the **Store/Recall Shots** window.



**Figure 6.4** Store/Recall Shots Window

The **Store/Recall Shots** window includes the following settings and buttons:

Setting or Button	Description
<b>Camera buttons</b>	The row of ten buttons across the top of the <b>Store/Recall Shots</b> window includes one button per camera. Tap a button to select the camera to which you want to store shots, or from which you want to recall them.
<b>Store Shot button</b>	Tap the button to switch to <b>Store Shot</b> mode. In <b>Store Shot</b> mode, you can save the current camera position as a shot for future recall.

Setting or Button	Description
<b>Recall Shot button</b>	<p>Tap the button to switch to <b>Recall Shot</b> mode.</p> <p>In <b>Recall Shot</b> mode, you can recall saved shots for the current camera.</p> <p><b>Recall Shot</b> mode is used for camera operation.</p>
<b>Shot Selection keypad</b>	<p>Type a shot number and then press the <b>Enter</b> button on the keypad to store or recall a shot, depending on the current mode.</p> <p>Alternatively, you can type a number in the box above the keypad and then press the <b>Enter</b> button on the keypad.</p> <p><b>Tip:</b> The <b>Shot</b> buttons can also be used to select a shot for storage or recall. There are 100 <b>Shot</b> buttons, numbered <b>00</b> to <b>99</b>. If you want to store or recall a shot higher than <b>99</b>, use the <b>Shot Selection</b> keypad.</p>
<b>Shot buttons</b>	<p>Tap a <b>Shot</b> button to store or recall a shot, depending on the current mode.</p> <p><b>Shot</b> buttons are used for camera operation.</p> <p><b>Tip:</b> Be aware of the current mode (<b>Store Shot</b> or <b>Recall Shot</b>) before you tap a <b>Shot</b> button. If you are in <b>Recall Shot</b> mode and tap a <b>Shot</b> button, the current camera position is stored as that shot.</p> <p><b>Tip:</b> Panasonic cameras can store up to 100 shots. The camera control panel also uses virtual shots, enabling you to store up to 1000 shots in total. The camera control panel has 100 Shot buttons, numbered 00 to 99. If you want to store or recall a shot higher than 99, use the <b>Shot Selection</b> keypad.</p> <p><b>Tip:</b> Shots 00 to 99 are stored on the Panasonic cameras. The camera control panel stores only shots 100 to 999. If you want all your shots to be saved in data files, use only shots above 99.</p>

### PTZ Controls Window

The **PTZ Controls** window enables you to manually adjust the position of the currently-selected camera. You can move cameras during a presentation, or move them into position to store a shot.

#### To access the PTZ Controls window:

- From the camera control interface, tap the **PTZ Controls** button.

**Figure 6.5** shows the **PTZ Controls** window.

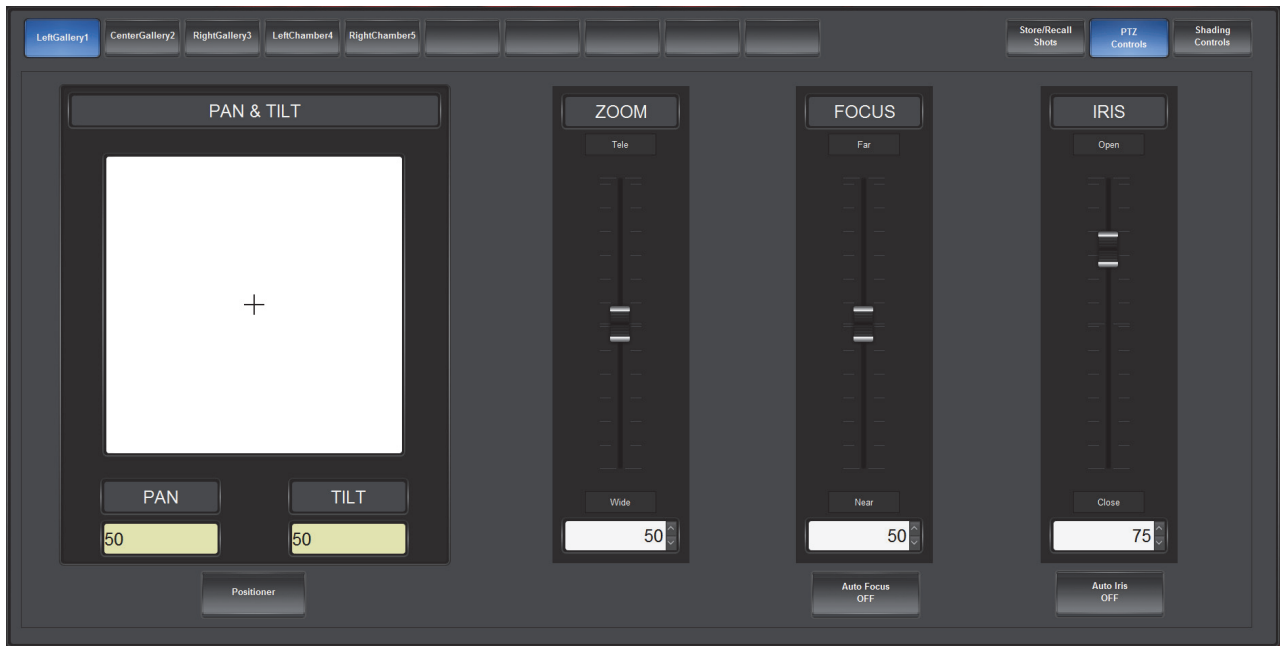


Figure 6.5 PTZ Controls Window (showing Pan/Tilt positioner)

The **PTZ Controls** window includes the following settings and buttons:

Setting or Button	Description
<b>Camera buttons</b>	The row of ten buttons across the top of the <b>PTZ Controls</b> window includes one button per camera. Tap a button to select which camera you want to move.
<b>Positioner button</b>	Switches between interfaces for adjusting pan and tilt positions: <ul style="list-style-type: none"> <li>• <b>PAN and TILT sliders</b> — enable you to adjust pan and tilt separately.</li> <li>• <b>Pan/Tilt Positioner</b> — enables you to adjust pan and tilt simultaneously.</li> </ul>

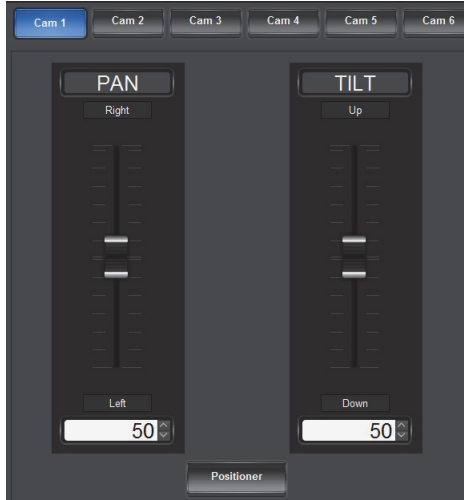
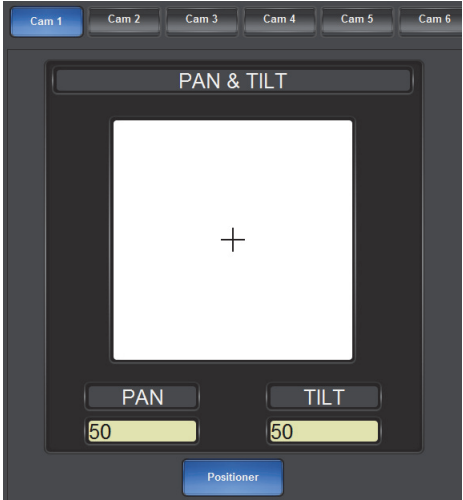



Figure 6.6 Pan/Tilt Sliders (left) and Pan/Tilt Positioner (Right)

Setting or Button	Description
<b>PAN and TILT sliders</b>	<p>Tap and drag the <b>PAN</b> or <b>TILT</b> slider handles to pan or tilt the camera.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>1</b> to <b>99</b>. Higher pan values pan right. Higher tilt values tilt upwards.</p> <p>Pan and tilt slider values are relative, not absolute. When you release the slider, the value shown returns to zero.</p>
<b>Pan/Tilt Positioner</b>	<p>Tap and drag the cross-hairs within the white box until the camera is in the desired pan/tilt position.</p> <p>Positioner values are relative, not absolute. When you release the cross-hairs, they return to the center and the values return to <b>50</b>.</p>
<b>ZOOM slider</b>	<p>Tap and drag the <b>ZOOM</b> slider handle up or down to zoom the lens.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>1</b> to <b>99</b>. Higher values are towards telephoto, and lower values are towards wide.</p> <p>Zoom slider values are relative, not absolute. When you release the slider, the value shown returns to zero.</p>
<b>Auto Focus button</b>	<p>Tap to switch between automatic focus and manual focus control.</p> <p>When <b>Auto Focus</b> is <b>OFF</b>, you can adjust focus using the <b>FOCUS</b> slider.</p>
<b>FOCUS slider</b>	<p>Tap and drag the <b>FOCUS</b> slider handle up or down to focus the lens manually.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>1</b> to <b>99</b>. Higher values are towards far focus, and lower values are towards near focus.</p> <p>Focus slider values are relative, not absolute. When you release the slider, the value shown returns to zero.</p> <p><b>Note:</b> If the <b>FOCUS</b> controls are shown but not available, tap the <b>Auto Focus</b> button below the slider to turn auto focus <b>OFF</b>. You cannot adjust focus if auto focus is <b>ON</b>.</p>
<b>Auto Iris button</b>	<p>Tap to switch between automatic and manual iris control.</p> <p>When <b>Auto Iris</b> is <b>OFF</b>, you can adjust the iris using the <b>IRIS</b> slider.</p>
<b>Iris slider</b>	<p>If you want to adjust the iris, tap and drag the <b>IRIS</b> slider handle up or down.</p> <p>Alternatively, you can type a value in the box below the slider, or use the up/down arrows beside the box to select a value.</p> <p>The value range is <b>1</b> to <b>99</b>. Higher values open the iris, and lower values close it.</p> <p>Iris slider values are absolute. When you release the slider, the value you set remains.</p> <p><b>Note:</b> If the <b>IRIS</b> controls are shown but not available, tap the <b>Auto Iris</b> button below the slider to turn automatic iris <b>OFF</b>. You cannot adjust the iris if automatic iris is <b>ON</b>.</p>

### Shading Controls Window

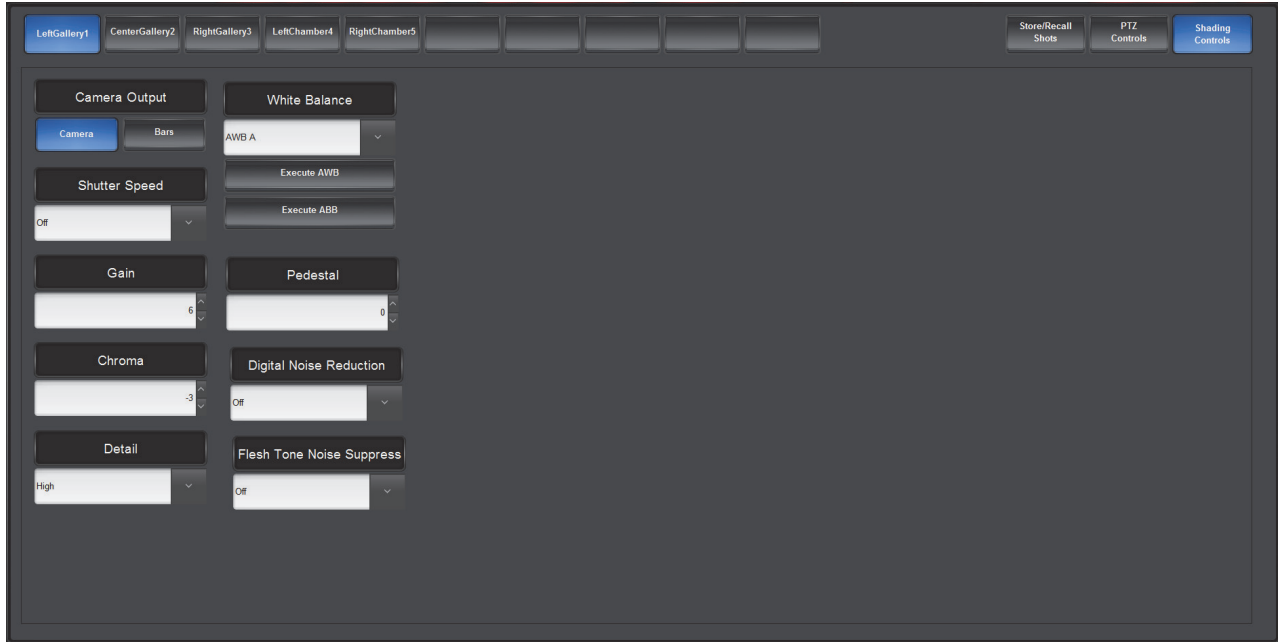
The **Shading Controls** window enables you to adjust selected camera controls, including shading and shutter speed. Shading settings remain until changed again. They are not saved as part of the shots.

**Note:** For more information about the effect of these camera controls, refer to the documentation that came with your camera system.

#### To access the Shading Controls window:

- From the camera control interface, tap the **Shading Controls** button.

Figure 6.7 shows the **Shading Controls** window.



**Figure 6.7** *Shading Controls Window*

The **Shading Controls** tab includes the following settings and buttons:

Setting or Button	Description
<b>Camera buttons</b>	The row of ten buttons across the top of the <b>Shading Controls</b> window includes one button per camera. Tap a button to select which camera you want to adjust.
<b>Camera Output</b>	Switches between normal camera output and test bars.
<b>Shutter Speed</b>	Select a shutter speed from the list, or select <b>Off</b> . <b>Tip:</b> When this setting is <b>Off</b> , the shutter will not operate, even if the <b>Shutter</b> button on the camera is pressed.
<b>Gain</b>	Specify a gain value. The range is 0 to 18.
<b>Chroma</b>	Specify a chroma value. The range is -3 to 3.
<b>Detail</b>	Select a level of image detail (sharpness) from the list. The options are <b>High</b> , <b>Low</b> , or <b>Off</b> . <b>Tip:</b> If <b>Detail</b> is set to <b>High</b> , detail is enhanced.
<b>White Balance</b>	Select a white balance option from the list, to perform a camera white balance: <ul style="list-style-type: none"> <li>• <b>ATW</b> — Auto-Tracing White Balance. White balance adjusts continuously as you shoot.</li> <li>• <b>AWB A</b> — Auto White Balance A. Applies a saved white balance preset.</li> <li>• <b>AWB B</b> — Auto White Balance B. Applies a saved white balance preset.</li> <li>• <b>Preset 3200K</b> — Applies white balance for typical indoor (incandescent) conditions.</li> <li>• <b>Preset 5600K</b> — Applies white balance for typical outdoor (daylight) conditions.</li> </ul>
<b>Execute AWB button</b>	Tap this button to perform a white balance. If <b>AWB A</b> or <b>AWB B</b> are selected, tapping <b>Execute AWB</b> also stores the white balance level in the preset shown ( <b>AWB A</b> or <b>AWB B</b> ).
<b>Execute ABB button</b>	Tap this button to perform an Automatic Black Balance ( <b>ABB</b> ).

Setting or Button	Description
<b>Pedestal</b>	Specify a black pedestal level. The range is <b>-150</b> to <b>150</b> .
<b>Digital Noise Reduction</b>	Select a level of digital noise reduction. The options are <b>Off</b> , <b>Low</b> , and <b>High</b> .
<b>Flesh Tone Noise Suppress</b>	Select a level of flesh tone noise suppression. The options are <b>Off</b> , <b>Low</b> , and <b>High</b> .