Legislative Control System Commissioning Guide

Version 4.0

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    - offer the best product quality and support
2. Make Cool Practical Technology
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If anything at all with your Ross experience does not live up to your expectations be sure to reach out to us at *solutions@rossvideo.com*.

David Ross
CEO, Ross Video
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1. We will always act in our customers' best interest.
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3. We will not ship crap.
4. We will be great to work with.
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6. We will keep our promises.
7. We will treat the competition with respect.
8. We will cooperate with and help other friendly companies.
9. We will go above and beyond in times of crisis. *If there's no one to authorize the required action in times of company or customer crisis - do what you know in your heart is right. (You may rent helicopters if necessary.)*

Legislative Control System Commissioning Guide

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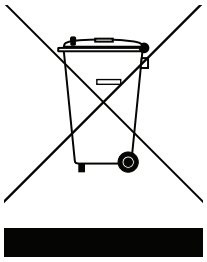
Environmental Information

The equipment that you purchased required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.

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.

The crossed-out wheeled bin symbol invites you to use these systems.



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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Contents

Introduction

This chapter contains the following sections:

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 **Program** pane, tap the **TAKE** button to take the shot to air.

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, type `Channel01.property`.

Referenced Guides

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

LCS User Guide (4500DR-001-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**.

Interface Navigation

Navigation procedures assume that you are running Microsoft® Windows®. If you are running Mac® OS or Linux® Fedora®, menu names and options may differ.

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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 and other meetings. It controls robotic video cameras and provides an easy-to-use interface for switching video, including graphics populated with relevant text.

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

Legislative Control System Architecture

Every Legislative Control System includes some or all of the following:

- One DashBoard LCS all-in-one computer (including monitor, keyboard and mouse), with the following Ross Video software installed:
  - DashBoard Control System
  - An LCS panel (DashBoard panel application)
  - MasterPanel robotic control application, including joystick server software
  - A camera control panel (DashBoard panel application)
- One additional touch-screen monitor, for displaying the camera control panel
- One 1ME or 2ME Carbonite production switcher, consisting of a frame and an optional panel
- One XPression graphics system (0, 1, or 2 channel), for graphics creation, real-time rendering, and playout
- One SmartShell control panel (joystick console)
- Two to ten robotic camera units (Ross Video CamBot robotic heads, and/or IP-based Panasonic HE-series PTZ cameras, and/or Sony BRC-series cameras)
- A supported delegate microphone system
- A network control switch

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

Figure 2.1 shows the typical architecture of an LCS system:

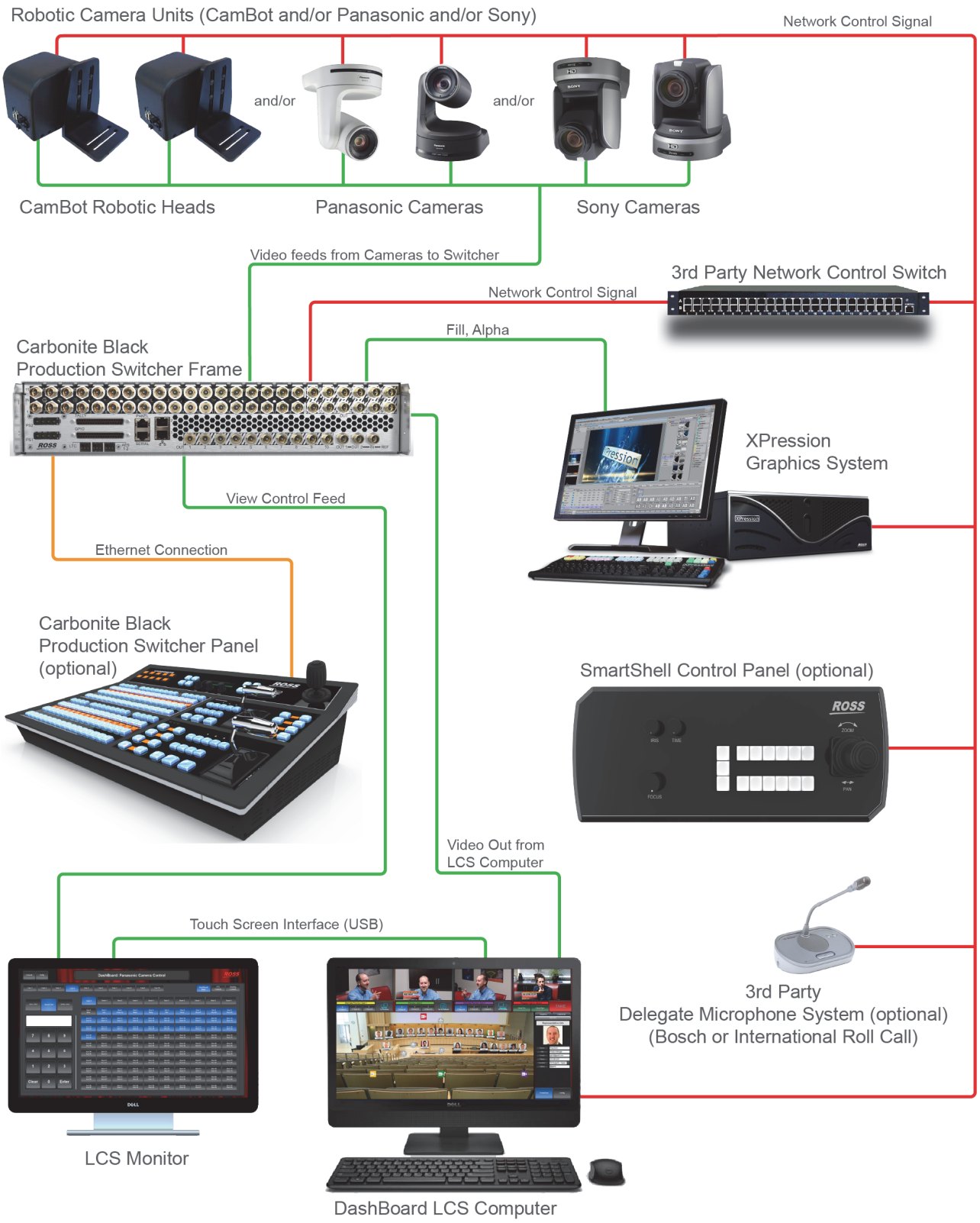


***Figure 2.1** LCS System Architecture*

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

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.

We recommend that you create or obtain a diagram of the legislative chamber, with all marks and camera locations clearly indicated. Marks are positions you may want to shoot and show on air, including representative seats, podiums, the speaker's chair, chamber insignia, etc.

Before system commissioning begins, gather the following information:

- Information about what graphics are required and who will produce them.

  A basic graphics package is included. It can be modified to meet the requirements of a specific assembly. The package includes a lower third name template, free-form text field graphic, and drop down list graphic.

  Any graphic created in XPression can be controlled from the LCS interface with information that can be updated using DataLinq.

  The LCS supports up to 20 customizable **Rep Info** data fields containing data about representatives. You can import this data into custom XPression graphics.

  Ross Video's Creative Services department can create graphics for you. Contact Ross Video to request a quote.

  If custom graphics are being created, they must adhere to certain requirements. For more information, see "**Preparing XPression Graphics for the LCS**" on page 3–3.

- A background photo or diagram of the legislative chamber, showing all areas you might want to shoot. The image must be either .png or .jpg format.

  If you want the entire background image to be visible at all times, the image should be the same size and have the same aspect ratio (width to height ratio) as the area in which it is displayed. If you are using a 1080P format monitor, the display area is 1611 pixels wide by 707 pixels high.

  If the background image is larger or smaller than the area in which it is displayed, it is automatically resized to fit. If the aspect ratio does not match, this results in distortion of the image. You can remedy this by positioning marks outside the default display area, thus expanding it.

- Information about each camera:
  - › Camera position
  - › Type of camera (brand/model). Confirm with Ross Video that your cameras and lenses are supported.
  - › Type of lens (to determine effective range, for shot planning purposes)
  - › Effective range of motion (to determine coverage area, for shot planning purposes)
- Data about each representative:
  - › First Name
  - › Last Name
  - › Data for custom data fields, including data to be used for on-air graphics.

    You can configure up to 20 custom data fields, and populate those fields with data about each representative. For example, you might create a field named **Party** to contain data about the political party affiliations of the representatives.

    You need to know the names of the custom data fields you want to use, and have access to representative data to populate those fields.
- One head shot photo for each representative.

  This image appears in the **Rep Info** area of the layout to help identify the selected representative.

  It may also be used in icons on the room layout. For each representative, the icon can be based on either the head shot image, or on a set of custom graphics.

  The head shot image is not used in on-air graphics.

  Head shot images are stored on the DashBoard LCS computer, in the **Images**/**Photos** folder. Place all head shot images in this folder. The image files must be either .png or .jpg format.

  For best performance and a consistent visual appearance, make all the images the same size and keep them small (typically below 150 pixels by 150 pixels).

  IMPORTANT: Do not use large image files. If your images are large, use graphics software to reduce their file size before using them in the LCS.
- A set of three graphics to use as mark icons, if you are not planning to use representative head shots. Each graphic is associated with a state, and is only shown when the mark is in that state:
  - **Not Selected** — The mark is not selected for preview, and is not on-air.
  - **On Preview** — The mark has been selected and is in preview.
  - **On Air** — The mark is on-air.

  Mark graphics are stored on the DashBoard LCS computer, in the **Images/Photos** folder. Place all mark graphic files in this folder.

  The graphics files must be either .png or .jpg format. If necessary, DashBoard automatically shrinks the graphics to fit within the mark icon.

  For best performance and a consistent visual appearance, make all the images the same size and keep them small (typically below 150 pixels by 150 pixels).

  IMPORTANT: Do not use large image files. If your images are large, use graphics software to reduce their file size before using them in the LCS.
- Icon graphics for special marks, such as a podium.

  These images are used as mark icons on the room layout. They are not used in on-air graphics.

  Mark graphics are stored on the DashBoard LCS computer, in the **Images/Photos** folder. Place all mark graphic files in this folder.

  The graphics files must be either .png or .jpg format. If necessary, DashBoard automatically shrinks the graphics to fit within the mark icon.

  IMPORTANT: Do not use large image files. If your images are large, use graphics software to reduce their file size before using them in the LCS.

Preparing XPression Graphics for the LCS

This section describes characteristics that XPression graphics need to have in order to work properly with the LCS.

Note: This section does not contain complete information about how to use the XPression graphics system. XPression is a complex professional graphics creation environment. To understand this section, you need to already know how to use XPression.

Tip: Ross Video's Creative Services department can create graphics for you. Contact Ross Video to request a quote.

How LCS Graphics Work

In the LCS panel, you can register up to 20 XPression graphics which you can run anytime in the **Preview** pane or the **Program** (on-air) pane.

You can designate one of the graphics as an automatic graphic, so it runs in the Program pane whenever you take a shot to Program (on-air). If you are using XPression Prime or XPression Studio, the graphic also runs in the Preview pane whenever you take a shot to Preview.

How the graphics work depends on the XPression system you are using:

- **XPression Studio (2 output channels):**

  When you take a graphic to **Preview**, the LCS sends a RossTalk command to XPression to run the graphic. The LCS panel commands the Carbonite switcher to perform the transition. The Carbonite switcher provides the resulting video to the LCS computer, which displays it in the Preview pane of the LCS panel.

  When you take a graphic to **Program**, the same process occurs, except that the switcher output is sent to air, and also appears in the Program pane of the LCS panel.

- **XPression Prime (1 output channel):**

  When you take a graphic to **Preview**, the LCS sends a RossTalk command to XPression to run the graphic. XPression generates a still image of the graphic and stores it on the Carbonite switcher. The LCS panel commands the switcher to perform the transition. the switcher performs a self-key to add the still image to the Preview video. The switcher provides the video to the LCS panel, which displays it in the Preview pane.

  When you take a graphic to **Program**, the LCS sends a RossTalk command to XPression to run the graphic. The LCS panel commands the Carbonite switcher to perform the transition. The switcher sends the resulting video to air, and also provides it to the LCS computer, which displays it in the Program pane of the LCS panel.

- **XPression LiveCG (0 output channels):**

  If you are using XPression LiveCG, the graphics are still images, rather than moving animations.

  When you take a graphic to **Preview**, the LCS sends a RossTalk command to XPression to run the graphic. XPression generates a still image of the graphic and stores it on the Carbonite switcher. The LCS panel commands the switcher to perform the transition. The switcher performs a self-key to add the still image to the Preview video. The switcher provides the video to the LCS panel, which displays it in the Preview pane.

  When you take a graphic to **Program**, the same process occurs, except that the switcher output is sent to air, and also appears in the Program pane of the LCS panel.

Characteristics of XPression Graphics for LCS

When creating XPression graphics for the LCS, consider the following:

- You can create up to 20 graphics. Each graphic registered in the LCS consists of two XPression graphics: one for Preview in the LCS, and one for Program (on-air) use.
- The LCS can use one graphic as an automatic graphic, which appears each time a new shot is taken.
- XPression graphics can include data provided by LCS through DataLinq. Configure the text fields in your graphics to use DataLinq. You will establish a link to the exact LCS data item for each field during on-site commissioning.
- XPression graphics can include pauses. Each time the user tap the button that activates the graphic, the LCS sends the same RossTalk command to XPression.

- You can create XPression graphic layers that are not registered in LCS, for ever-present graphics such as a clock bug or station bug.
- In XPression, create a graphic sequence to clear graphics from the LCS **Preview** pane, and another to clear graphics from the LCS **Program** pane. If there are graphic elements you never want to clear, such as a station bug, ensure these are on layers that are not cleared by your clear sequences.

  Note the **Take IDs** for these two clear sequences. You will need to register them in the LCS panel later.
- With the exception of the automatic graphic, all graphics remain until either the operator or XPression removes them. You can remove graphics by tapping the **Clear Prv** (clear Preview) and **Clear Pgm** (clear Program) buttons.
- Ability to show animated graphics depends on the type of XPression graphics system you are using:
  - **XPression Studio** has two physical output channels. You can use animations in graphics for both Program and Preview.
  - **XPression Prime** has one physical output channel. You can use animations in graphics for only Program. Graphics for Preview are still images only.
  - **XPression LiveCG** has zero physical output channels. Graphics for Preview and program are still images only.

Planning The XPression Graphics

We recommend that you plan your graphics in advance. Make a list of the graphics, and determine the order in which you want them listed in the LCS (0 to 19).

When you create a graphic, note the two **TakeIDs** required to run it (one for **Preview** and one for **Program**). You will need the **TakeIDs** when you register the graphic in the LCS.

For each graphic, note what type of data you require from the LCS. You will need to know this when you register the graphic in the LCS. The data types are as follows:

- **LCS** — Data used to populate the graphic is based on the current representative. XPression can use DataLinq to retrieve any **Information** item associated with the current representative.
- **List** — The operator selects a data item from a list of predefined data items.
- **Rep List** — The operator selects a representative from the list of representatives.
- **No DataLinq** — The graphic does not require data from the LCS database.

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

   IMPORTANT: At the time of publication, the minimum supported version of DashBoard to be used with **LCS v4.0** is **DashBoard v8.0**.
2. Consult the ***DashBoard User Guide (8351DR-004-xx)*** to confirm that your computer meets the system requirements for installing DashBoard.
3. Follow the installation instructions in the ***DashBoard User Guide (8351DR-004-xx)*** to install DashBoard.

To install the LCS Panel:

1. Extract the **LCS** folder from the zip file, and place it in 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 the **C:** directory, 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.

Adding Images to the LCS

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

Each LCS panel uses the following types of images:

- **Background image** — a photo or diagram of the legislative chamber, showing all areas you might want to shoot. The image must be either .png or .jpg format.

  If the background image is larger or smaller than the area in which it is displayed, it is automatically resized to fit. If the aspect ratio does not match, this results in distortion of the image.
- **Head Shot photos** — one small photo per representative.

  This image appears in the **Rep Info** area of the layout to help identify the selected representative.

  It may also be used in icons on the room layout. For each representative, the icon can be based on either the head shot image, or on a set of custom graphics.

  The head shot image is not used in on-air graphics.

  For best performance and a consistent visual appearance, make all the images the same size and keep them small (typically below 150 pixels by 150 pixels).

  IMPORTANT: Do not use large image files. If your images are large, use graphics software to reduce their file size before using them in the LCS.

  Tip: We suggest you use the representatives' names as filenames, so that it is easy to associate the representatives and their photos.

To store the images:

- On the DashBoard LCS Computer, save background and head shot 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.

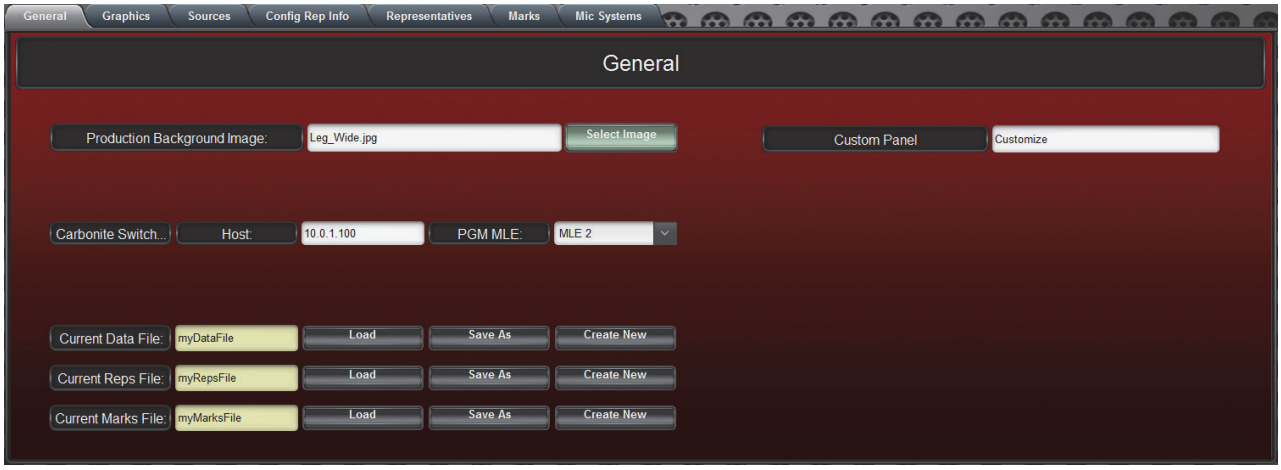


Figure 3.1 *- Configuring General Settings (General tab)*

4. In the **Production Background Image** box, specify the filename of the background image.

   You can type the filename, or tap **Select Image**, tap the image you want, and then tap **Accept**.
5. In the **Custom Panel** box, specify the filename of the DashBoard panel that appears on the **Custom Panel** tab of the **Production** interface. Do not include the .grid file extension.

   The **Custom Panel** tab enables you to make additional controls available through an embedded DashBoard CustomPanel you create. For information about creating a CustomPanel, see the ***DashBoard User Guide (8351DR-004-xx)***, which is available as a PDF file and as online Help from within DashBoard.

   This step is optional. If there is no customized panel, leave the box blank.
6. Specify connection settings for the Carbonite switcher:
   - In the **Host** box, type the IP address of the Carbonite switcher.
   - In the **PGM MLE** box, specify the ME (multi-layer effects) bus to use as the program ME:
     - › If the Carbonite has only 1 ME, set PGM MLE to MLE 1.
     - › If the Carbonite has 2 MEs, set PGM MLE to MLE 2.
7. Tap the **Save Changes** button.

Adding Cameras and Other Video Sources

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

To add sources to the LCS panel:

1. In the LCS panel, tap the **Config** button.
2. Tap the **Sources** tab.

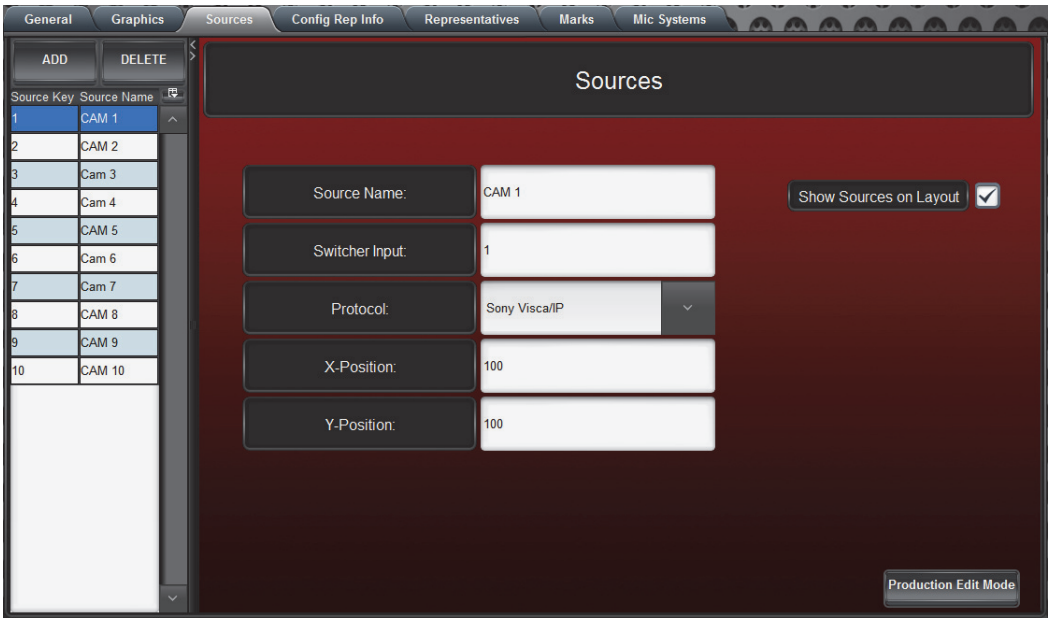


***Figure 3.2** - Configuring Cameras and Other Video Sources (Sources tab)*

3. Tap the **ADD** button.

   A new source entry appears in the list.
4. In the **Sources** area, in the **Source Name** box, type a name for the source.
5. In the **Switcher Input** box, specify the switcher crosspoint associated with the source.

   Tip: For easy reference, use the camera numbers as switcher crosspoint numbers; the switcher inputs also start at 1.
6. In the **Protocol** list, select the camera type.

   If the source is not a camera, select the blank entry.
7. Repeat **Steps 3 to 6** until all sources have been added.
8. If you want camera icons to appear on the layout, select the **Show Sources on Layout** check box.

   This setting applies to all camera icons. They are either all shown or all not shown.
9. If you selected the **Show Sources on Layout** check box in **Step 8**, tap the **Production Edit Mode** button and then do one of the following to position each source on the room layout.

   - Tap the source icon, and then tap the location where you want the center of the icon to appear.
   - Drag and drop the icon.
   - Tap the source icon, and then tap the green directional arrows to move it.
   - Specify **X Position** and **Y Position** values in the **Edit Mode** area.

   To close the **Production Edit Mode** interface, tap the **Exit** button.
10. Tap the **Save Changes** button.

Configuring Representative Information

You can define up to 20 custom data fields about representatives. These data fields can be populated with data for each representative. For example, you might add “Political Party” and “Portfolio” data fields. Representative data can be used in on-air graphics.

To configure representative information data fields:

1. In the LCS panel, tap the **Config** button.
2. On the **Config Rep Info** tab, highlight the **Field Name** of the data field you want to configure.

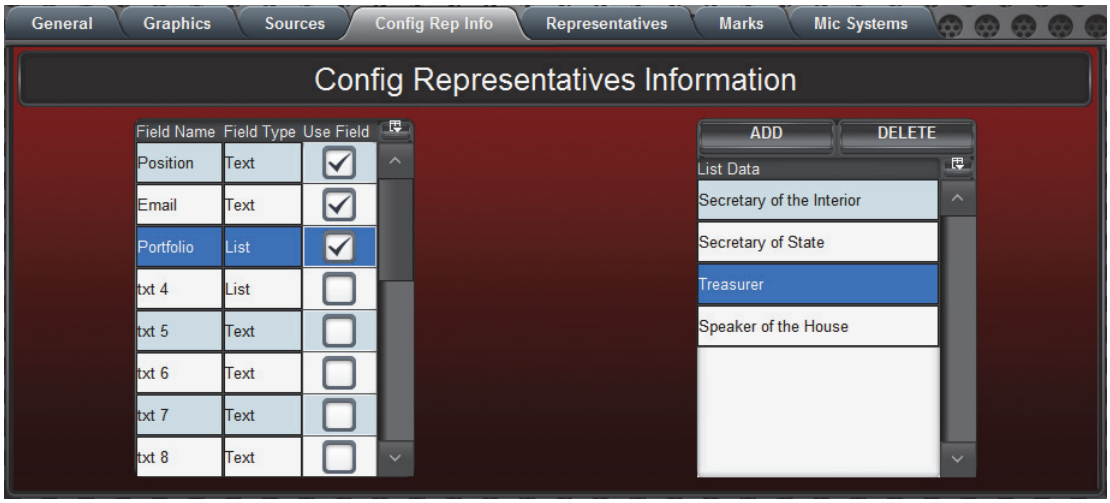


Figure 3.3 *- Configuring Representative Information (Config Rep Info tab)*

3. In the **Field Name** box, type the name of the field.

   Tip: The field name appears on the **Rep Info** tab of the **Production** interface. LCS users can edit can temporarily modify or select the data for a representative.

4. In the **Field Type**: box, select one of the following data types:
   - **Text** — LCS users can type any text string.
   - **List** — LCS users select from a list of valid data items.
5. If you specified **List** as the **Field Type**, define the list of valid data items:
   a. Click **ADD**.

      A new list item appears.

   b. Tap the new item, and then type the valid data string.

   c. Continue adding data items as required.
6. Select the **Use Field** check box for the data field.
7. Repeat **Steps 2 to 6** until all representatives have been added.
8. Tap **Save Changes**.

Creating Representatives

You can create representatives one by one in LCS.

Alternatively, you can create and then import a Reps File based on data imported from an Excel spreadsheet.

Create Representatives in LCS

This section describes how to create representatives in LCS.

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.

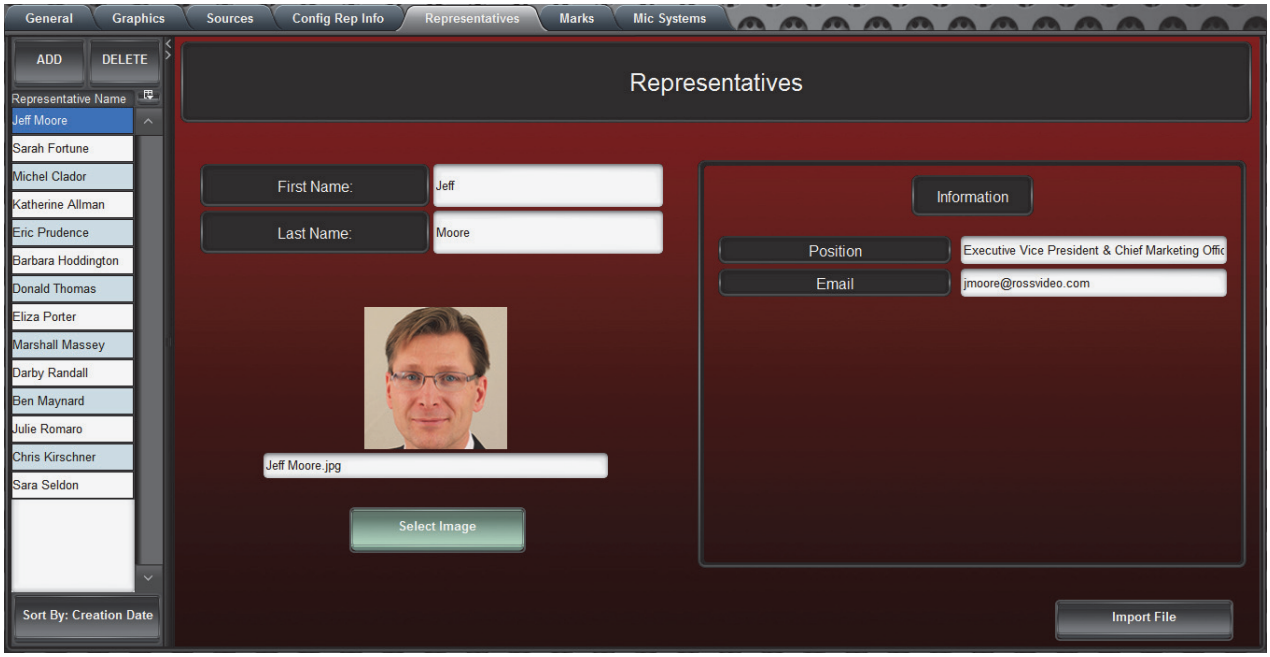


***Figure 3.4** - Creating Representatives (Representatives tab)*

3. Specify the following data as required:
   - **First Name** — Specify the first name of the representative.

     This name appears in the room layout view, and may appear in on-air graphics.
   - **Last Name** — Specify the last name of the representative.
4. Do one of the following to specify a head shot image:
   - Tap the **Select Image** button, tap the image you want to use, and then tap **Accept**.
   - In the box above the **Select Image** button, type the filename for the image. Include the file extension. For example, **DavidRoss.jpg**.

     Tip: Image files are stored in the **C:\LCS\Images\Photos** folder.
5. In each row of the **Information** table, specify data about the representative, as applicable:
   - If the data box has a down arrow, tap it to expand the list of data options, and then tap the correct value.
   - If the data box does not have a down arrow, tap the data box and then type the data value.
6. Repeat **Steps 2 to 5** until all representatives have been added.
7. Tap the **Save Changes** button.

Create Representatives Based on Data From an Excel Spreadsheet

If data about your representatives is available in a Microsoft Excel spreadsheet, you can export the data from Excel as an XML file suitable for importing into the LCS. You map the Excel data to an XML template that ensures data compatibility.

You can use this technique to create a new **Reps** file, or to add representatives to an existing **Reps** file.

This section includes steps for creating an XML data file based on an Excel spreadsheet, and steps for importing the representatives into the LCS.

Tip: The Excel spreadsheet does not need to contain all the data you want to use in the LCS. You can create additional representatives and additional **Rep Info** data items in the Configuration interface of the LCS panel.

Note: The LCS computer does not include Microsoft Excel software.

To create an XML data file of representatives, based on Excel Spreadsheet data:

1. If you want to add the representatives to an existing **Reps** file, do the following:
   a. Open the LCS panel.
   b. In the **Configuration** interface, tap the **Config Rep Info** tab.
   c. Make a list of the data **Field Name**s, in the order shown.

      You will need this information later to ensure that the Excel data is mapped properly.
2. On the LCS computer, navigate to the **LCS\Representatives\Mapping** folder, copy the file named **Use this File for Mapping only - Do NOT Rename or Delete.xml**, and then transfer the copied file to the computer running Microsoft Excel.
3. On the computer running Microsoft Excel, open the Excel spreadsheet containing the data you want to use.
4. Ensure that the spreadsheet has one header row.
5. Delete all non-data rows, except for the header row.
6. Delete all columns that do not contain data you want to use.
7. Ensure that the spreadsheet does not have any text formatting, such as bolding.
8. Click the **Developer** tab.

   Tip: If the **Developer** tab is not visible, click **File**>**Options**>**Customize Ribbon**. In the **Customize the Ribbon** list, click **Main Tabs**. In the **Main Tabs** list, select the **Developer** check box. Click **OK**. The **Developer** tab appears on the ribbon.
9. On the **Developer** tab, in the **XML** section, click **Source**.

   The **XML Source** pane appears.
10. In the **XML Source** pane, click **XML Maps**.

    The **XML Maps** dialog box appears.
11. In the **XML Maps** dialog box, click **Add**.

    The **Select XML Source** dialog box appears.
12. In the **Select XML Source** dialog box, navigate to the file named **Use this File for Mapping only - Do NOT Rename or Delete.xml**, which you transferred earlier.
13. Click **Open**.

14. In the **XML Maps** dialog box, click **OK**.

A list of data items appears in the **XML Source** pane, as shown in **Figure 3.5**.

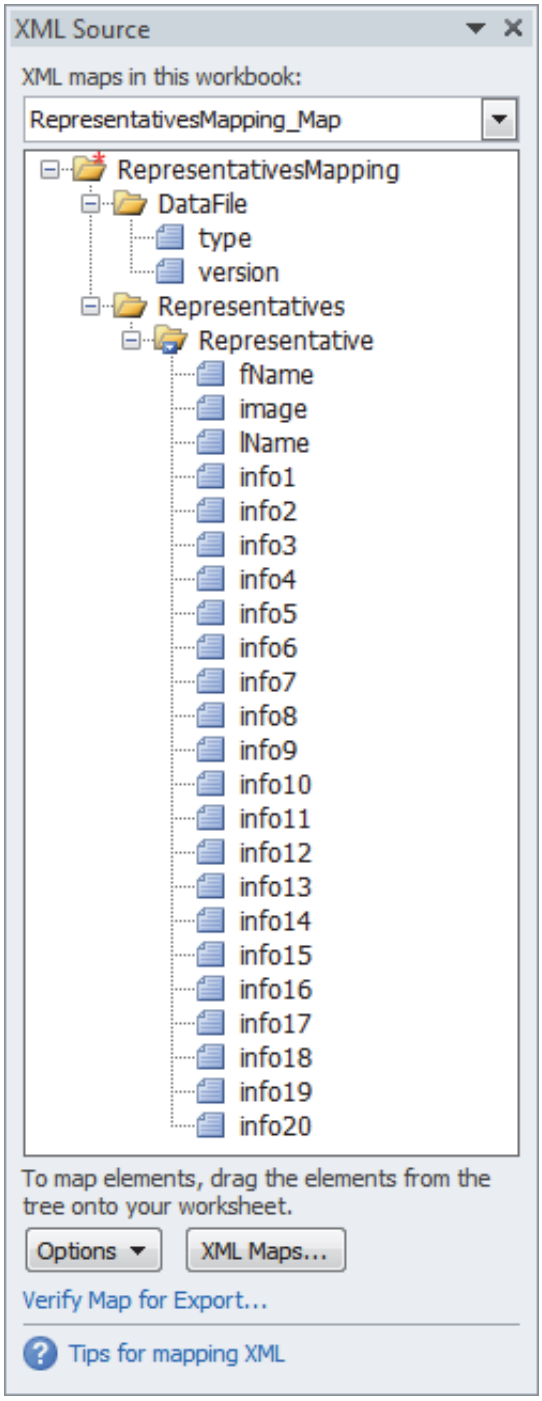


Figure 3.5 *- Mapping Data from an Excel Spreadsheet*

15. In the spreadsheet, select a column of data, and then double-click the corresponding data item in the **XML Source** pane.

    The column is highlighted to indicate the mapping. **Figure 3.6** shows a mapping between the **fName** data item and the **first name** column of an Excel spreadsheet.

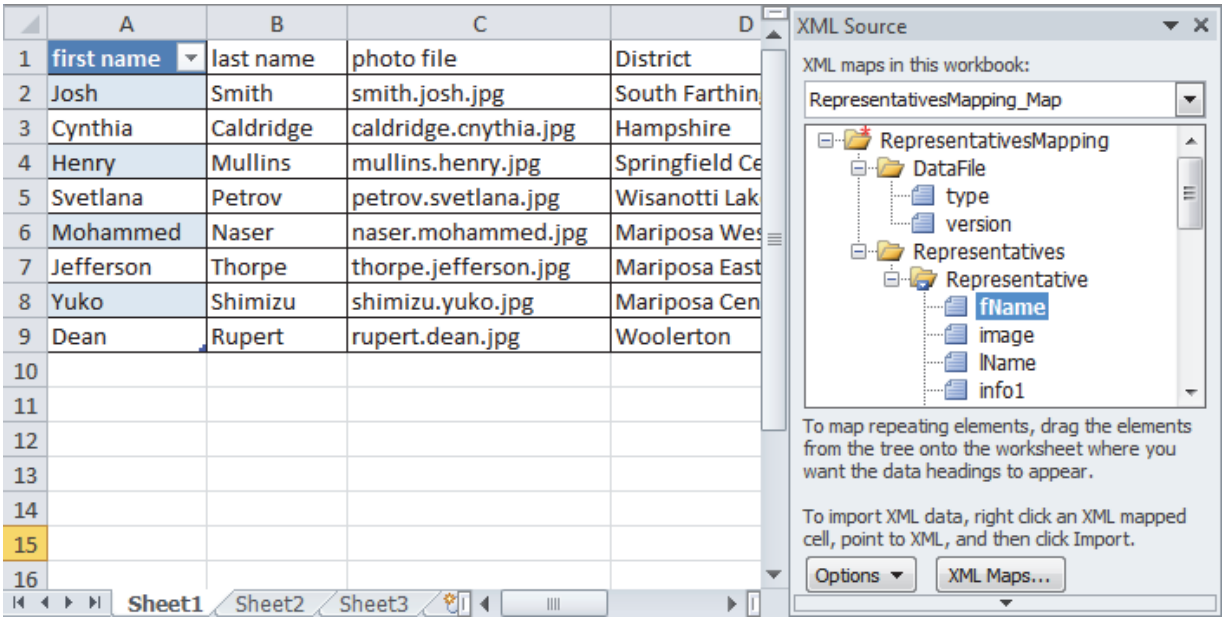


Figure 3.6 *- Mapping the First Name*

16. Repeat **Step 15** for each mappable data item.

    Tip: In the **XML Source** list, the items **fName** (first name), **image**, and **lName** (last name), are named. The others are **info1**, **info2**, etc. Map **info1**, **info2**, etc to other data columns you want to use from the spreadsheet, noting which columns you mapped them to.

    IMPORTANT: If you plan to add the Excel data to an existing **Reps** file, refer to the list you created in **Step 1**. Map **info1** to the first data field in your list, map **info2** to the second data field, and so on. If the spreadsheet is missing fields that are in your list, skip the corresponding **info** entry.

17. On the **Developer** tab, in the **XML** section, click **Export**.

18. Specify a name for the XML data file, and save it.

    This file is a XML data source from which you will later import representative data.

19. Transfer the new XML data source file to the LCS computer, and save it in the **LCS\Representatives\Mapping** folder.

To import representatives from an XML data file:

1. On the LCS computer, ensure that the XML data file in the **LCS\Representatives\Mapping** folder.
2. In the LCS Panel, in the **Configuration** interface, tap the **General** tab.
3. Do one of the following:
   - If you want to add representatives from the XML data file to an existing **Reps** file, load the **Reps** file.
   - If you want to create a new **Reps** file based on the XML data file, do the following:
     - › In the **Current Reps File** row, tap **Create New**.
     - › In the **File Name** box, type a name for the new **Reps** file, and then tap the **Create New** button.
4. On the **Representatives** tab, tap **Import File**.

5. Tap the name of the XML data file, and then tap the **Load** button.

   The representatives are imported.

6. If you are creating a new **Reps** file, tap the **Config Rep Info** tab, and then specify **Field Names** based on the notes you made when you mapped the spreadsheet data. The top row is the data field you mapped to **info1**, the second row is **info2**, etc.

   Tip: To see the data, select the **Use Field** check box for each field, and then view the **Information** table on the **Representatives** tab.

7. Tap **Save Changes**.

Creating Marks

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

This section describes how to configure default mark settings and how to create marks.

Configure Default Mark Settings

Default mark settings are settings that affect the default visual appearance of marks on the layout. Some of these settings can be overridden on a mark-by-mark basis.

You can specify a set of three default images to use as mark icons. Each image is associated with a state, and is only shown when the mark is in that state:

- **Not Selected** — The mark is not selected for preview, and is not on-air.
- **On Preview** — The mark has been selected and is in preview.
- **On Air** — The mark is on-air.

For a given mark, default images are used only if **ALL** of the following are true:

- The **Rep Image if Available** box for the mark is clear, or there is no representative head shot image available.
- No custom icon image has been specified for the mark, for the required state. For example, if the **On Air** box for the mark contains an image, then it is shown instead of the default **On Air** graphic.

To configure default mark settings:

1. In the LCS panel, tap the **Config** button, and then tap the **Marks** tab.

   The **Default Marks Settings** area is on the right side of the LCS panel.

2. In the **Representative Size** area, set the default size of icons for marks that use a representative head shot:

   a. Set the **Height** of the mark icons, in pixels.

   b. Set the **Width** of the mark icons, in pixels.

3. In the **Camera Size** area, set the default size of camera icons:

   a. Set the **Height** of the camera icons, in pixels.

   b. Set the **Width** of the camera icons, in pixels.

4. In the **Mark Settings** area, set the default size of icons for marks that use images:

   a. Set the **Height** of the mark icons, in pixels.

   b. Set the **Width** of the mark icons, in pixels.

5. If you want to specify a custom set of images for the default appearance of icons, do the following:

   a. In the **Mark Settings** area, tap **Default Mark Images**.

      An image selection interface appears, showing available images at the top, and three image selection areas at the bottom.

   b. In each of the three image selection areas, (**Not Selected**, **On Preview**, and **On Air**), select the option button below the image (**Not Selected**, **On Preview**, and **On Air**), and then tap the required image.

   c. Tap the **Accept** button to save your changes, or tap the **Cancel** button to discard them.

6. Tap **Save Changes**.

Create Marks

To create marks:

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

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

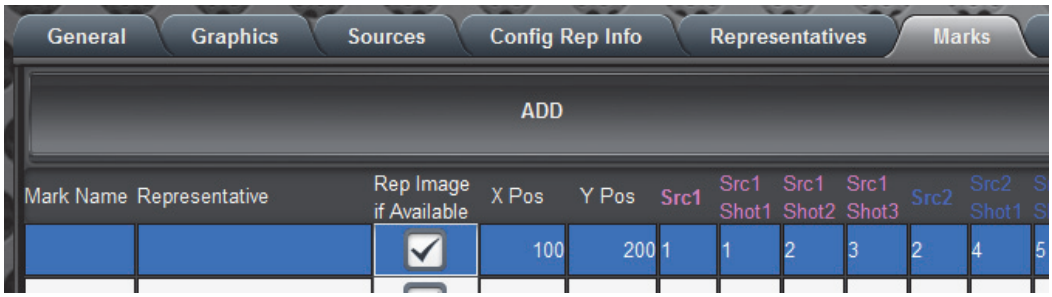


***Figure 3.7** - Marks List*

4. In the **Mark Name** box, type the name of the mark.
5. In the **Representative** box, select the representative who sits at the mark location.

   Tip: If the mark is not associated with a representative, select the blank entry at the top of the list.

6. If you want to use the representative's head shot photo in the icon for this mark, select the **Rep Image if Available** check box.
7. In the **Mic ID** box, type the string that the delegate microphone system sends to indicate that the microphone at the mark location is activated.

   Note: This applies only to systems that include a delegate microphone system used for selecting previews and/or triggering video transitions.

8. If you want to specify a custom set of icon images for this mark, do the following:

   a. double-click the **Not Selected** box for the mark.

      An image selection interface appears, showing available images at the top, and three image selection areas at the bottom.

   b. In each of the three image selection areas, (**Not Selected**, **On Preview**, and **On Air**), select the option button below the image (**Not Selected**, **On Preview**, and **On Air**), and then tap the required image.

   c. Tap the **Accept** button to save your changes, or tap the **Cancel** button to discard them.

9. Repeat **Steps 3 to 8** for each mark in the chamber.

10. Tap the **Production Edit Mode** button and then do one of the following to position each mark on the room layout:

    - Tap the mark icon (in the top left corner by default), and then tap the location where you want the center of the icon to appear.
    - Drag and drop the icon.
    - Tap the source icon, and then tap the green directional arrows to move it.
    - Specify **X Position** and **Y Position** values in the **Edit Mode** area.

    To close the **Production Edit Mode** interface, tap the **Exit** button.

11. Tap the **Save Changes** button.

Enabling Microphone System Communication

Enable the LCS panel to communicate with your delegate microphone system (if applicable).

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

To enable microphone system communication:

1. In the LCS panel, tap the **Config** button, and then tap the **Mic Systems** tab.

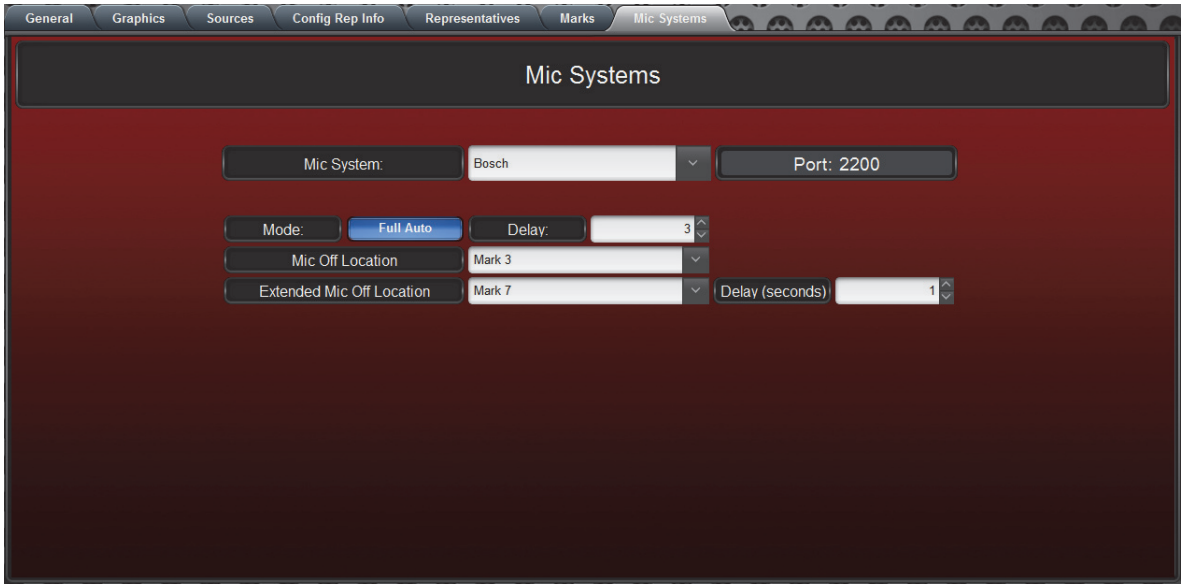


***Figure 3.8** - Configuring a Microphone System to Work with LCS (Mic Systems tab)*

2. From the **Mic System** list, select the type of delegate microphone system you are using.

    - **NONE** — Select this option if you want to always select previews manually.
    - **IRC** — Select this option if you have an International Roll Call (IRC) microphone system.
    - **Bosch** — Select this option if you have a Bosch microphone system.

3. If you have a Bosch microphone system, configure the LCS to work with it, as follows:

    a. Tap the **Mode** button to select an operating mode:

    - **Semi-Auto** — The Bosch system selects preview shots, but an operator must take them to air.
    - **Full Auto** — The Bosch system selects a preview shot and takes it to air. No operator is required.

    Tip: The button shows the current operating mode.

b. If you have a Bosch microphone system using **Full Auto** mode, in the **Delay** box specify a delay period in seconds.

When a microphone goes live, the system pauses for the number of seconds specified in the **Delay** box before taking the preview shot to air.

IMPORTANT: Set the delay to be longer than the longest shot recall. If a shot recall takes longer than the delay, the camera may still be moving when the shot goes to air.

c. Specify how the LCS should react when microphones turn off:

- If you want a certain mark to go on-air when microphones turn off, select the mark from the **Mic Off Location** list.

  For example, you may want the LCS to switch to a view of the Speaker's Chair. The mark's primary camera and primary shot are used, unless that camera is already in use.

- If you do not want the system to immediately react to microphones turning off, select the **Do Not Move Camera** option from the **Mic Off Location** list.

d. Specify how the LCS should behave when microphones remain off for a specified period of time:

- If you want a certain mark to go on-air when microphones remain off for a certain period of time, select the mark from the **Extended Mic Off Location** list, and then specify the delay period in the **Delay (seconds)** box.

  For example, when proceedings appear to be over, you may want to switch to a wide view of the legislature. The mark's primary camera and primary shot are used, unless that camera is already in use.

  Note: If you set both a **Mic Off Location** and an **Extended Mic Off Location**, the delay for the **Extended Mic Off Location** starts after the transition for the **Mic Off Location** is complete.

- If you do not want the system to react to microphones remaining off, select the **Do Not Move Camera** option from the **Extended Mic Off Location** list.

Copying LCS Panel Data for Transfer to the Customer Site

When you are finished pre-commissioning tasks in the LCS panel, you can save the data and then copy it to a USB stick for transfer to the customer site.

Note: This section does not apply if you performed the pre-commissioning tasks on the exact same DashBoard LCS computer that is to be commissioned on-site.

To save LCS panel data:

1. In the LCS panel, tap the **Config** button.
2. Tap the **General** tab.

   At the bottom of the tab, there are three rows: **Current Data File**, **Current Reps File**, and **Current Marks File**.
3. In the **Current Data File** row, tap the **Save As** button.

   The **Save LCS Data File As** dialog box appears.
4. In the **File Name** box, type a new name for the LCS data file, and then tap the **Save As** button.

   Note the name of the LCS data file. You will need it for on-site commissioning.
5. In the **Current Reps File** row, tap the **Save As** button.

   The **Save Representatives File As** dialog box appears.
6. In the **File Name** box, type a new name for the representatives data file, and then tap the **Save As** button.

   Note the name of the representatives data file. You will need it for on-site commissioning.

7. In the **Current Marks File** row, tap the **Save As** button.

   The **Save Marks File As** dialog box appears.

8. In the **File Name** box, type a new name for the marks data file, and then tap the **Save As** button.

   Note the name of the marks data file. You will need it for on-site commissioning.

To copy the LCS panel data to a USB stick:

1. On the DashBoard LCS computer, navigate to the LCS installation location.

   Tip: The default installation location is **C:\LCS**.

2. In the **LCS** folder, create a new folder.
3. Copy the following folders (including their contents) from the LCS folder to the new folder:
   - The **Data** folder
   - The **Marks** folder
   - The **Representatives** folder
   - The **Images** folder.
4. Rename the new folder as **LCS**, and then save it to a mobile storage device such as a 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

Set up the following equipment:

- Carbonite Black Production Switcher (frame and optional panel)
- XPression graphics system

  Copy the XPression graphics project onto the XPression computer.
- DashBoard LCS all-in-one computer, including keyboard and mouse.
- Touch-screen monitor (for camera control panel)
- SmartShell Control Panel (joystick console)
- Robotic camera units (CamBot and/or Panasonic and/or Sony)
- Network switch
- Delegate microphone system (if applicable)

Installing and Configuring MasterPanel Software

This section applies if your LCS includes CamBot robotics heads and/or a SmartShell Control Panel (joystick console).

MasterPanel is an application that controls CamBot robotic heads and interprets data from the SmartShell Control Panel (joystick console). It is required if your system includes a SmartShell Control Panel. Although LCS users do not interact with the MasterPanel user interface, MasterPanel must be running whenever the LCS is in use.

You must configure MasterPanel to work with the LCS, and ensure one or more CamBot shot list files exist.

Typically, MasterPanel is pre-installed on the DashBoard LCS Computer. In some cases, Ross Video may instruct you to upgrade to a newer version.

To install or upgrade MasterPanel:

1. On the DashBoard LCS Computer, navigate to the **C:** directory.
2. If the **C:** directory contains a **Cambotics** folder, rename the folder so it can act as a backup.

   For example, you might rename the folder **Cambotics_backup**.
3. In the **C:** directory, create a new folder named **Cambotics**.
4. Extract the contents of the **masterpanel** zip file into the **C:\Cambotics** folder.
5. If you are adding the LCS to an existing CamBot system and you want to retain data such as camera IP addresses, camera names, etc, do the following:
   a. Navigate to the **Cambotics backup** folder you created in **Step 2**.
   b. Select all files that end in a **.cam** extension, and copy them.
   c. Paste the copied files into the **C:\Cambotics** folder.

      When prompted about existing files with the same names, tap the **Copy and Replace** option.

To configure MasterPanel:

1. On the DashBoard LCS Computer, navigate to the **C:\Cambotics** folder.
2. If your system includes CamBot robotic heads, edit the **devices.cam** file, as follows:
   a. Open the **devices.cam** file in a text editor, such as Notepad.
   b. In the list of cameras at the end of the file, specify the **camera number**, **IP address**, **camera name**, and **shot capacity** for each camera in your system.

      Tip: Each line contains several pieces of data, separated by spaces. The line format is described at the start of the file, and shown below:

      IMPORTANT: Set the shot capacity to **400**. This is the maximum number of shots for CamBot units.

      Tip: If you are adding the LCS to an existing CamBot system, the IP addresses and camera names may already be defined.

      Note: The maximum number of cameras supported by the LCS is ten.

      IMPORTANT: If your system includes CamBots plus Sony and/or Panasonic robotic cameras, you must ensure that each camera has a unique camera number. For example, you might number Sony cameras as 1, 2, 4, and 7, and number CamBot cameras as 3, 5, 6, and 8. For CamBots, camera numbers are defined in the

devices.cam file. For Sony and Panasonic cameras, they are defined in the camera control panels. Steps for configuring Sony and Panasonic cameras appear later in this guide.

IMPORTANT: If you add cameras or update camera IP addresses in the **devices.cam** file, you must also restart the CamBot Camera Control panel, or tap the **Refresh Master Panel Connection** button from within the CamBot Camera Control panel.

Refreshes the connection to the MasterPanel application. Enables you to establish a connection to cameras that have been added or that have had their IP addresses changed in the MasterPanel devices.cam file.

c. Save and close the **devices.cam** file.

3. Edit the **masterpanel1.exe.config** file, as follows:

   a. Open the **masterpanel1.exe.config** file in a text editor, such as Notepad.

   b. Find the section of the file that resembles the following:

   <CambotControlPanel

   MaxDevices="8"

   DeviceButtonsPerRow="8"

   MaxShots="96"

   MaxVias="16"

   EnableShotReflow="true"

   EnableCameraWindowButtonBar="true"

   EnableNonModalJoysticksWindow="true"

   EnableMainWindowNotAlwaysOnTop="false"

   MouseWheelTimeIncrement="15"

   c. Set the **MaxDevices** value to **10**.

   d. Set the **DeviceButtonsPer Row** value to **10**.

   e. Set the **MaxShots** value to **400**.

   f. If you do not want the **CamBot Control Panel** window to always be on top of all other windows, set the **EnableMainWindowNotAlwaysOnTop** property to **true**.

   Tip: We recommend setting this property to **true** to maximize visibility of the LCS panel and camera control panel(s).

   g. Save and close the **masterpanel1.exe.config** file.

4. Launch MasterPanel (**C:\Cambotics\masterpanel1.exe**).

   Tip: To make the MasterPanel application more readily available, create a shortcut to the application, and place the shortcut on your desktop.

5. In the **CamBot Control Panel** window, tap the **Configure** button.

6. In the **Configuration** window, tap the **Engineering Screen** button.

7. In the **password** box, type the password, **foo**.

8. Tap **OK**

9. In the **Engineering Configuration** window, tap the **automation cam-switch following** button to turn it **off**.

10. Tap the s**ave changes and exit** button.

11. In the **Configuration** window, tap the **remote** button until it reads "**remote: Ross Video**".

12. Tap the s**ave config settings** button.

13. Tap the **exit** button.
14. Leave MasterPanel open for the next procedure.

To ensure that one or more CamBot shot list files exist:

1. Navigate to the **C:\Cambotics** folder.
2. If the **Cambotics** folder contains any files with a **.dat** extension, such as **file1.dat**, then CamBot shot list files exist.

   Skip the remaining steps.
3. In the **CamBot Control Panel** window, if the **System** button is visible, tap it.
4. Tap the **File Save** button.

   The **File Save** window appears.
5. In the **File Save** window, tap a **file** button.

   The button turns red.
6. Tap the **Save File** button.

   A message notifies you that the file has been saved.
7. In the message box, tap **OK**.
8. Tap the **Return** button.
9. Minimize the **CamBot Control Panel** window, but do not close it.

   MasterPanel must be running whenever you use the LCS.

Preparing the LCS Panel and Camera Control Panel(s)

By default, DashBoard and the LCS panel files, including camera control panel files, are pre-installed on the DashBoard LCS Computer. If newer versions of versions DashBoard, the LCS panel files, or the camera control panel files are required, Ross Video may ask you to install them.

Note: Each camera control panel is designed to control one type of camera (CamBot, Sony, or Panasonic). If your system includes multiple camera types, you need multiple camera control panels.

Install DashBoard

To install DashBoard:

1. Download the required version of DashBoard software and the DashBoard User Guide from the Ross Video website: http://www.rossvideo.com/control-systems/DashBoard/index.html

   IMPORTANT: At the time of publication, the minimum supported version of DashBoard to be used with **LCS v4.0** is **DashBoard v8.0**.
2. Follow the installation instructions in the ***DashBoard User Guide (8351DR-004-xx)*** to remove any previous versions of DashBoard, and then to install the new one.

Install the LCS Panel

To install the LCS Panel:

1. On the DashBoard LCS computer, navigate to the **C:** directory.
2. If the **C:** directory contains an **LCS** folder, do one of the following:
   - If you want to keep the old LCS panel and data for future reference, rename the folder.
   - If you do not want to keep the old LCS panel and data, delete the **LCS** folder.
3. Extract the **LCS** folder from the zip file, and place it in the **C:** directory.

Install Camera Control Panel(s)

To install a camera control panel:

1. On the DashBoard LCS computer, navigate to the **C:** directory.
2. In the **C:** directory, find the folder for the type of camera panel you are installing:
   - **CamBotCamera** folder — contains files to control CamBot robotic heads and cameras mounted to them.
   - **Panasonic HE-120** folder — contains files to control Panasonic cameras.
   - **Sony BRC-900** folder — contains files to control Sony cameras.
3. Do one of the following:
   - If you want to keep the old camera control panel files and data for future reference, rename the folder.
   - If you do not want to keep the old camera control panel files and data, delete the folder.
4. Extract the new camera control folder from the zip file, and place it in the **C:** directory.
5. Start DashBoard.
6. From the **Views** menu, tap **File Navigator**.
7. On the **File Navigator** tab, tap the green + symbol.

   The **Browse for Folder** dialog appears.
8. Navigate to the camera control folder located in the **C:** directory, and then tap **OK**.
9. In the **File Navigator** tree, expand the folder to show the **.grid** file (**CamBot.grid** or **PanasonicCamera.grid**, or **SonyCamera.grid**).
10. To open the camera control panel anytime, double-tap the **.grid** file.

    The camera control panel will always be available from the DashBoard File Navigator.
11. If your system requires multiple camera control panels, repeat these steps for each type of camera control panel.

Transfer LCS Data

If you pre-configured the LCS panel on a different computer and saved the LCS panel files on a mobile storage device such as a USB stick, you must transfer them to the DashBoard 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 DashBoard LCS Computer:

1. On the DashBoard LCS computer, navigate to the **C:** directory.
2. Copy the **LCS** folder and save it using a new name, to make it a backup of the LCS panel as originally installed.

   For example, you might rename the folder "**LCS_backup**".

3. In the **C:\LCS** folder, delete the following folders and their contents:
   - **Data**
   - **Images**
   - **Marks**
   - **Representatives**
4. Insert the USB stick that contains the saved LCS panel files, and navigate to its **LCS** folder.
5. Copy all the folders in the USB stick's **LCS** folder, and paste them into the **C:\LCS** directory on the DashBoard LCS computer.
6. When the transfer is complete, remove the USB stick.

To add the LCS panel to the DashBoard File Navigator:

1. On the DashBoard 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 the **C:** directory, 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.

Configuring the LCS and XPression to Run XPression Graphics

This section describes how to configure the LCS and XPression to run XPression graphics. It contains the following topics:

Note: This section does not contain complete information about how to use the XPression graphics system. XPression is a complex professional graphics creation environment. To understand this section, you need to already know how to use XPression.

How LCS Graphics Work

In the LCS panel, when you take a graphic to **Preview**, the LCS sends a RossTalk command to XPression to run the graphic. XPression sends the fill and alpha signals for the graphic key to the Carbonite switcher. XPression commands the Carbonite switcher to perform the transition. The Carbonite switcher provides the resulting video to the LCS computer, which displays it in the **Preview** pane of the LCS panel.

When you take a graphic to **Program**, the same process occurs, except that the switcher output is sent to air, and also appears in the **Program** pane of the LCS panel.

Configuring the LCS to Communicate with XPression

To perform the procedures in this section, you need to know the following:

- The IP address of the computer running the XPression graphics software.

  Tip: If the LCS software and XPression are installed on the same computer, the IP address can be entered as **localhost**.
- The number of output channels on the XPression Graphics System (**0**, **1**, or **2**).
- The two RossTalk commands required to clear XPression graphics from the **Preview** pane and from the **Program** pane. These depend on how your XPression graphics were created.
- Whether you want to use **Auto Graphics Mode**, and the name of the graphic you want to run if you do.

To configure the LCS to communicate with XPression:

1. In the LCS panel, in the **Configuration** interface, on the **Graphics** tab, in the **CG Host** box, type the IP address of the **XPression** graphics system.

   Tip: If the LCS software and XPression are installed on the same computer, the IP address can be entered as **localhost**.
2. Tap the **Locked** button, to make protected values (yellow text boxes) on the **Graphics** tab editable.
3. In the **Number of Channels** box, select the number of output channels for the **XPression** graphics system (**0**, **1**, or **2**).
4. In the **Clear Preview Command** box, type the RossTalk command to be sent to the XPression graphics system whenever the user taps the **Clear Prv** button in the **Production** interface.

   Typically, the command clears all optional graphics layers but does not clear persistent layers. For example, you might want a layer with a clock bug to persist.

   Tip: To view a syntax guide about Ross Talk commands commonly used in LCS to control the XPression graphics system, tap the **Commands Description** question mark (**?**). For a complete list of commands, see "**Appendix A: XPression RossTalk Commands**" on page 8–1.
5. In the **Clear Program Command** box, type the RossTalk command to be sent to the XPression graphics system whenever the user taps the **Clear Pgm** button in the **Production** interface.

   Typically, the command clears all optional graphics layers but does not clear persistent layers. For example, you might want a layer with a clock bug to persist.
6. If you want a graphic to automatically appear whenever a shot is taken to air, select the **Auto Graphics Mode** check box, and then from the drop-down list, select the graphic to be used.
7. If **Auto Graphics Mode** is enabled, in the **Delay** box, specify the minimum number of seconds allowed between **TAKE** actions.

   The delay temporarily deactivates the **TAKE** button each time a shot is taken. Ensure that the delay is long enough that the automated graphic plays out completely before the **TAKE** button is reactivated.

Adding Graphics to the LCS

When you add graphics to the LCS, you populate a list of up to 20 graphics (0 to 19), and specify the RossTalk commands required to run them.

Before you can add graphics to the LCS, you have to create them in XPression. For more information, see "**Preparing XPression Graphics for the LCS**" on page 3–3.

To perform the procedures in this section, you need to know the following:

- The names of the graphics.

  Names are used by operators when they select graphics to run.
- The order in which you want to list the graphics in the LCS.

  The order you specify in the LCS determines the order in which they appear to operators when they select graphics to run.
- Whether each graphic requires data from the LCS, and if so, the data type:
  - **LCS** — Data used to populate the graphic is based on the current representative. XPression can use DataLinq to retrieve any **Information** item associated with the current representative.
  - **List** — The operator selects a data item from a list of predefined data items. You also need to know what text strings you want to provide as selectable data items.
  - **Rep List** — The operator selects a representative from the list of representatives.
  - **No DataLinq** — The graphic does not require data from the LCS database.
- For each graphic, the two **TakeIDs** required to run it (one for **Preview** and one for **Program**). You need to know the **TakeIDs** to create RossTalk commands the run the graphics.

To add a graphic to the LCS:

1. In the LCS Panel, in the **Configuration** interface, tap the **Graphics** tab.

   The **Graphics** tab includes a table where you can register up to 20 XPression graphics (0 to 19). Each row of the graphics table includes information required to run one graphic.

   IMPORTANT: The graphics are numbered 0 to 19. You can see these numbers in the **DLQ** column. These numbers correspond to the data source that LCS uses to provide graphics data to XPression. In XPression, these numbers are referenced when establishing DataLinq connections for data fields in the XPression graphics. When you created the graphics in XPression, you created an ordered list. Register the graphics in the same order.
2. Tap the **Locked** button to enable editing of the graphics table.
3. In the graphics table, register each graphic by specifying the following:
   - **Name** — Type the name of the graphic. Specify a name that will be meaningful to LCS operators.
   - **Type** — Specify the data type for the graphic.
   - **Use Field** — Select this check box if you want the graphic to be available for operators to run.
   - **Take Preview Command** — Specify the RossTalk command the LCS sends to the XPression graphics system to run the graphic in the LCS Preview pane.

     Tip: Tap the **Commands Description** question mark (**?**) to open a syntax guide about Ross Talk commands commonly used in LCS to control the XPression graphics system. For a list of all RossTalk commands applicable to XPression, see "**Appendix A: XPression RossTalk Commands**" on page 8–1.
   - **Take Program Command** — Specify the RossTalk command the LCS sends to the XPression graphics system to run the graphic in the LCS Program pane (on-air).
4. Tap the **Unlocked** button to disable editing of the graphics table.
5. Tap **Save Changes**.

Configuring XPression Output Settings

The XPression output settings vary depending on the type of XPression system you are using:

- **XPression Studio** has two physical output channels. For use with the LCS, the **Preview** output and **Program** outputs are both physical outputs.
- **XPression Prime** has one physical output channel. For use with the LCS, the **Preview** output is via an XPression RossLinq connection over Ethernet. The **Program** output is physical.
- **XPression LiveCG** has zero physical output channels. For use with the LCS, the **Preview** output and **Program** output are both via XPression RossLinq connections over Ethernet.

Physical outputs are through a breakout cable attached to the back of the XPression server. The outputs are labeled.

In XPression, all outputs are referred to as framebuffers.

XPression graphics can include animation for physical outputs only. For RossLinq outputs, XPression sends a still image to the Carbonite still store, and that image is shown. Animations are not possible.

Adding Output Framebuffers

You must add two output framebuffers; one for **Preview** and one for **Program**:

- If you are using **XPression Studio** (2 channel), configure two physical outputs.
- If you are using **XPression Prime** (1 channel), configure one physical output for **Program**, and one RossLinq output for **Preview**.
- If you are using **XPression LiveCG** (0 channel), configure two RossLinq outputs.

To add a physical output:

1. In XPression, on the **Edit** menu, click **Hardware Setup**.
2. In the **Hardware Setup** dialog box, on the **Inputs/Outputs** tab, click **ADD**.
3. In the **Add New FrameBuffer Board** dialog box, in the **Brand** box, select the type of framebuffer device connected to your XPression computer, and then click **OK**.
4. In the **Framebuffer Setup** dialog box, in the **Hardware** area, specify the exact framebuffer board.
5. In the **GenLock** area, specify the genlock **Source** and **Standard**.
6. Click **OK**.

   The **Hardware Setup** dialog box appears. The new framebuffer is added to the list.
7. If you are finished adding outputs, click **Close**.

To add a RossLinq output:

1. In XPression, on the **Edit** menu, click **Hardware Setup**.
2. In the **Hardware Setup** dialog box, on the **Inputs/Outputs** tab, click **ADD**.
3. In the **Add New FrameBuffer Board** dialog box, in the **Brand** box, select **XPression RossLinq Connector**, and then click **OK**.

   The **RossLinq - Setup** dialog box appears.
4. In the **RossLinq - Setup** dialog box, in the **Host** box, type the IP address of the Carbonite switcher.
5. In the **Channel** box, select the number of the Carbonite still store to be used for this output:
   - If the output is for **Preview**, select **Channel 1**.
   - If the output is for **Program**, select **Channel 2**.

6. Click **OK**.

   The **Hardware Setup** dialog box appears. The new **RossLinq Output** is added to the list.

7. If you are finished adding outputs, click **Close**.

Establishing the Order of Framebuffers

You must arrange the output framebuffers in the **Hardware Setup** list so that the **Preview** output is first, and the **Program** output is second. This establishes the **Preview** output as **Framebuffer 1**, and the **Program** output as **Framebuffer 2**.

To establish the order of framebuffers:

1. In XPression, on the **Edit** menu, click **Hardware Setup**.
2. The **Hardware Setup** dialog box appears.
3. On, the **Inputs/Outputs** tab, find the output you set up for **Preview**, and then use the **Move Up** button to move it to the top of the list.
4. Find the output you set up for **Program**, and then use the **Move Up** button to move it to the second position in the list.
5. Click **Close**.

Establishing an XPression DataLinq Connection

XPression uses DataLinq server connections to retrieve data from the LCS to populate graphics.

This section describes how to establish the required DataLinq connection.

To establish a DataLinq connection:

1. On the XPression computer, open the DataLinq server interface.

   The interface shows a list of **DataLinq Sources**.

2. Click **Add New**.

   The **Select DataLinq Source** dialog box appears.

3. Select **DashBoard DataLinq Source**, and then click **OK**.

   The **Connection Options** dialog box appears.

4. In the **Host** box, type the IP address of the DashBoard LCS computer.
5. In **Name** box, provide a name for the DataLinq connection, and then click **OK**.

   The DataLinq server connection is established.

6. Open the XPression graphics project.
7. In XPression, open the **XPression DataLinq Manager**.
8. In the **DataLinq Servers** area, click **Add**.
9. In the **DataLinq Server - Properties** dialog box, in the **Name** box, type a name for the connection.
10. In the **Host Address** box, type `localhost`.
11. In the port box, type the port number. The default is 8888.
12. Click **OK**.

Linking XPression Graphic Data Fields to LCS Data Items

XPression graphics can display data provided by the LCS panel. The data is made available through DataLinq.

This section describes how to connect data fields in your XPression graphics to data provided by the LCS panel.

Before you can connect LCS data to XPression graphics, you must:

- Create the XPression graphics. For more information, see "**Preparing XPression Graphics for the LCS**" on page 3–3.
- Establish a DataLinq connection between XPression and the LCS. For more information, see "**Establishing an XPression DataLinq Connection**" on page 4–10.

To connect XPression data fields to LCS data:

1. In XPression, open the graphics project.
2. Press **F4** to open the **Sequence** view.
3. If the **Take Inspector** pane is not open, on the **Display** menu, click **Take Inspector**.
4. In the **Take Inspector** pane, click the **Template Data** tab.
5. In the graphics table, click a row to select a graphic.

   A list of **Objects** and **Values** for the graphic appears in the **Take Inspector** pane.
6. Click an item that has a **<DataLinq> Value**.

   The **DataLinq Properties** area appears.
7. In the **DataLinq Properties** area, click **Browse**.

   The **Select DataLinq Field** dialog box appears. For LCS, the list of DataLinq fields suitable for use in graphics includes the following:

Item	Description
Program Graphics[0] to **Program Graphics[19]**	These DataLinq fields enable LCS operators to specify graphics data by typing **Text** or selecting data from a **List**. **Program Graphics** DataLinq fields **[0]** to **[19]** correspond to the graphics listed on the **Graphics** tab of the LCS **Configuration** interface. The graphics are numbered **0** to **19** in the **DLQ** column. The list also shows the data **Type** of each graphic. Select a **Program Graphics** DataLinq field only if the data **Type** of the corresponding graphic is **Text** or **List**. The data appears in **Program** graphics only, not in **Preview** graphics.

Item	Description
Program Rep List (Info)[0] to **Program Rep List (Info)[19]**	These DataLinq fields enable the XPression graphic to display data about a representative who has been selected by the LCS operator. For example, when a representative approaches a podium, the LCS operator selects the representative's name from a list that appears below the **PGM** button for the graphic, on the **Graphics** tab of the LCS **Production** interface. The XPression graphic displays the selected **Information** item(**[0]** to **[19]**) about the representative. **Program Rep List (Info)** DataLinq fields **[0]** to **[19]** correspond to the 20 data **Fields** listed on the **Config Rep Info** tab of the LCS **Configuration** interface. **IMPORTANT:** On the **Graphics** tab of the LCS **Configuration** interface, the graphic must have the data **Type** of **Rep List**. This makes it possible for the LCS operator to select a representative. The data appears in **Program** graphics only, not in **Preview** graphics.
Program Rep List (Name)	This DataLinq field enables the XPression graphic to display the first and last name of a representative who has been selected by the LCS operator. The data appears in **Program** graphics only, not in **Preview** graphics. For example, when a representative approaches a podium, the LCS operator selects the representative's name from a list that appears below the **PGM** button for the graphic, on the **Graphics** tab of the LCS **Production** interface. The XPression graphic displays the name of the representative. **IMPORTANT:** On the **Graphics** tab of the LCS **Configuration** interface, the graphic must have the data **Type** of **Rep List**. This makes it possible for the LCS operator to select a representative.
Program LCS Rep (Info)[0] to **Program LCS Rep (Info)[19]**	These DataLinq fields enable the XPression graphic to display data about the representative who is currently selected in the **Program** pane of the LCS **Production** interface. **Program Rep List (Info)** DataLinq fields **[0]** to **[19]** correspond to the 20 data **Fields** listed on the **Config Rep Info** tab of the LCS **Configuration** interface. The data appears in **Program** graphics only, not in **Preview** graphics.
Program LCS Rep (Name)	This DataLinq field enables the XPression graphic to display the first and last name of the representative who is currently selected in the **Program** pane of the LCS **Production** interface. The data appears in **Program** graphics only, not in **Preview** graphics.
Preview Graphics[0] to **Preview Graphics[19]**	These DataLinq fields enable LCS operators to specify graphics data by typing **Text** or selecting data from a **List**. **Preview Graphics** DataLinq fields **[0]** to **[19]** correspond to the graphics listed on the **Graphics** tab of the LCS **Configuration** interface. The graphics are numbered **0** to **19** in the **DLQ** column. The list also shows the data **Type** of each graphic. Select a **Preview Graphics** DataLinq field only if the data **Type** of the corresponding graphic is **Text** or **List**. The data appears in **Preview** graphics only, not in **Program** graphics.

Item	Description
Preview Rep List (Info)[0] to **Preview Rep List (Info)[19]**	These DataLinq fields enable the XPression graphic to display data about a representative who has been selected by the LCS operator. For example, when a representative approaches a podium, the LCS operator selects the representative's name from a list that appears below the **PRV** button for the graphic, on the **Graphics** tab of the LCS **Production** interface. The XPression graphic displays the selected **Information** item(**[0]** to **[19]**) about the representative. **Preview Rep List (Info)** DataLinq fields **[0]** to **[19]** correspond to the 20 data **Fields** listed on the **Config Rep Info** tab of the LCS **Configuration** interface. **IMPORTANT:** On the **Graphics** tab of the LCS **Configuration** interface, the graphic must have the data **Type** of **Rep List**. This makes it possible for the LCS operator to select a representative. The data appears in **Preview** graphics only, not in **Program** graphics.
Preview LCS Rep (Info)[0] to Preview LCS Rep (Info)[19]	These DataLinq fields enable the XPression graphic to display data about the representative who is currently selected in the **Preview** pane of the LCS **Production** interface. **Preview Rep List (Info)** DataLinq fields **[0]** to **[19]** correspond to the 20 data **Fields** listed on the **Config Rep Info** tab of the LCS **Configuration** interface. The data appears in **Preview** graphics only, not in **Program** graphics.
Preview Rep List (Name)	This DataLinq field enables the XPression graphic to display the first and last name of a representative who has been selected by the LCS operator. For example, when a representative approaches a podium, the LCS operator selects the representative's name from a list that appears below the **PRV** button for the graphic, on the **Graphics** tab of the LCS **Production** interface. The XPression graphic displays the name of the representative. **IMPORTANT:** On the **Graphics** tab of the LCS **Configuration** interface, the graphic must have the data **Type** of **Rep List**. This makes it possible for the LCS operator to select a representative. The data appears in **Preview** graphics only, not in **Program** graphics.
Preview LCS Rep (Name)	This DataLinq field enables the XPression graphic to display the first and last name of the representative who is currently selected in the **Preview** pane of the LCS **Production** interface. The data appears in **Preview** graphics only, not in **Program** graphics.

8. Select the desired **DataLinq Field**, and then click **OK**.
9. When you are finished linking XPression graphic data fields to LCS data items, save the XPression project.

Configuring Carbonite to Work with the LCS

To configure Carbonite to work with the LCS, perform the following tasks:

- "**Configuring the Preview and Program Channels**" on page 4–14
- "**Configuring the Carbonite MultiViewer**" on page 4–18
- "**Configuring the Carbonite Switcher Program Out**" on page 4–19

Configuring the Preview and Program Channels

This section describes how to configure the Preview and Program channels, using the **Carbonite Live Assist** panel in **DashBoard**.

The LCS uses two Carbonite MiniMEs:

- **MiniME1** is for the **Preview** channel.
- **MiniME2** is for the **Program** channel.

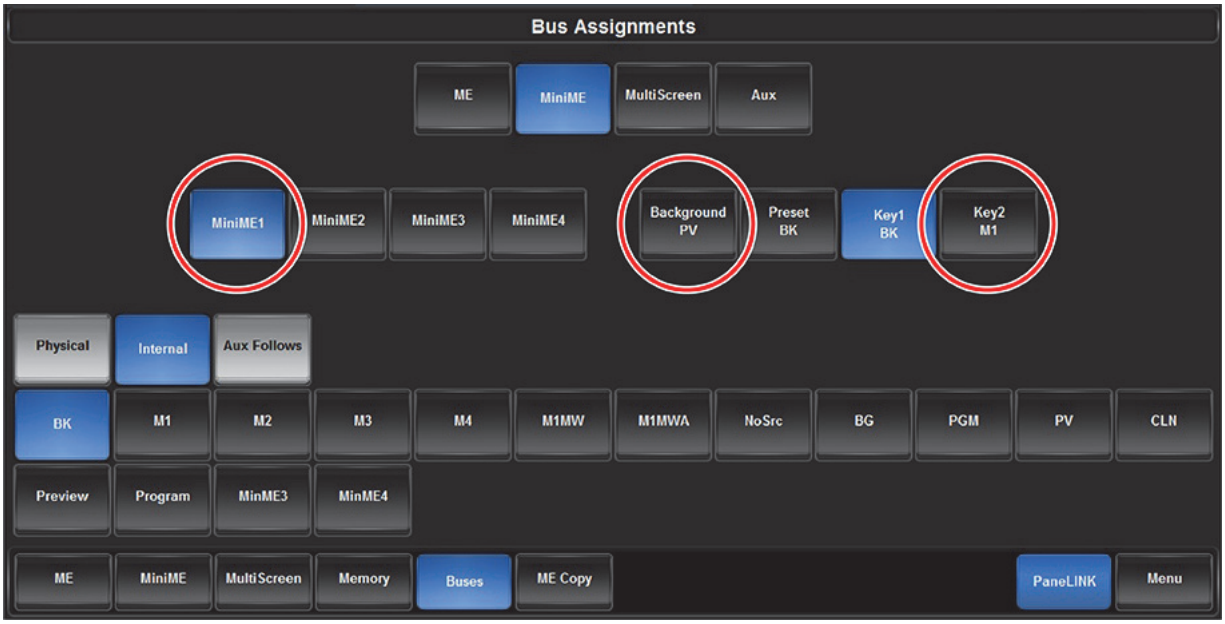
How you configure the Preview and Program channels varies, depending on whether the XPression graphics system has 0, 1, or 2 output channels.

To configure Carbonite to work with the LCS:

1. In DashBoard, in the component tree, expand the **Carbonite** node, and then double-click **Live Assist**.

   The **Live Assis**t panel appears.

2. Tap the **Buses** button.
3. If the XPression graphics system has **0** output channels (**XPression LiveCG**), do the following:
   a. In the top row, tap **MiniME**.
   b. In the second row, tap **MiniME1**.
   c. In the second row, tap the **Background** button.
   d. Tap the **Internal** button, and then tap the **PV** button.
   e. In the second row, tap the **Key2** button.
   f. Tap the **Internal** button, and then tap the **M1** button.
   g. Confirm that for **MiniME1**, **Background** is set to **PV**, and **Key2** is set to **M1**, as shown below:



h. In the second row, tap **MiniME2**.

i. In the second row, tap the **Background** button.

j. Tap the **Internal** button, and then tap the **PGM** button.

k. In the second row, tap **Key2**.

l. Tap the **Internal** button, and then tap the **M2** button.

m. Confirm that for **MiniME2**, **Background** is set to **PGM**, and **Key2** is set to **M2**, as shown below:

4. If the XPression graphics system has 1 output channel (**XPression Prime**), do the following:

a. In the top row, tap **MiniME**.

b. In the second row, tap **MiniME1**.

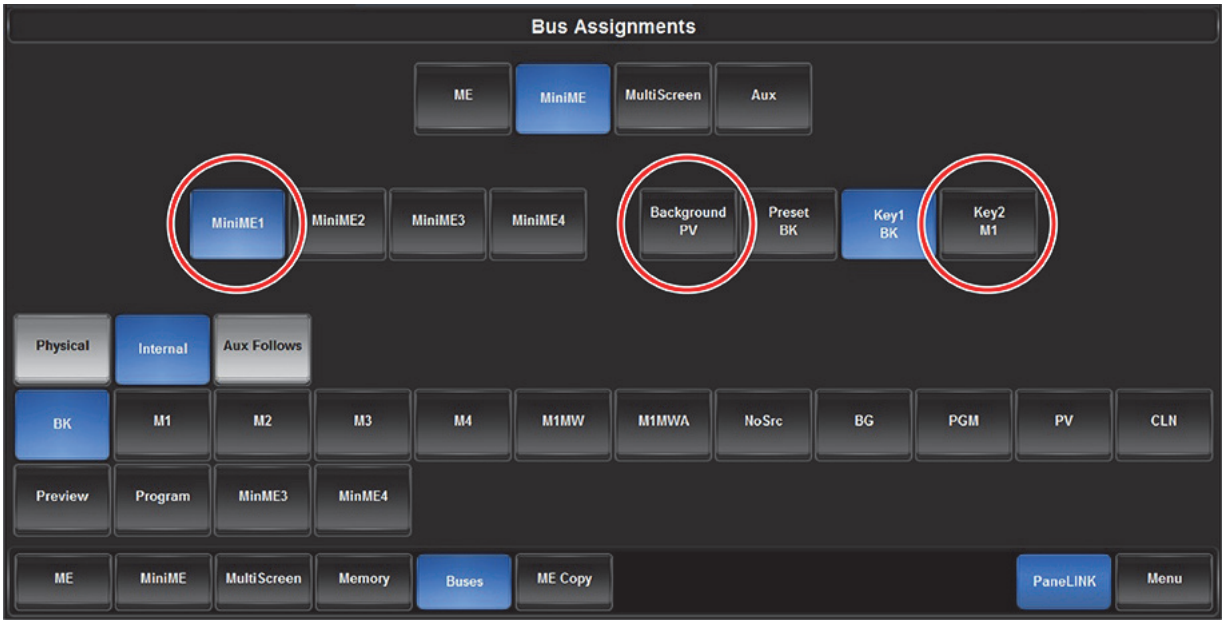
c. In the second row, tap the **Background** button.

d. Tap the **Internal** button, and then tap the **PV** button.

e. In the second row, tap the **Key2** button.

f. Tap the **Internal** button, and then tap the **M1** button.

g. Confirm that for **MiniME1**, **Background** is set to **PV**, and **Key2** is set to **M1**, as shown below:



h. In the second row, tap **MiniME2**.

i. In the second row, tap the **Background** button.

j. Tap the **Internal** button, and then tap the **PGM** button.

k. In the second row, tap **Key2**.

l. In the third row, tap the **Physical**. button, and then tap the **XPN CH1** button.

m. Confirm that for **MiniME2**, **Background** is set to **PGM**, and **Key2** is set to **XPN CH1**, as shown below:

5. If the XPression graphics system has 2 output channels (**XPression Studio**), do the following:

a. In the top row, tap **MiniME**.

b. In the second row, tap **MiniME1**.

c. In the second row, tap the **Background** button.

d. Tap the **Internal** button, and then tap the **PV** button.

e. In the second row, tap **Key2**.

f. In the third row, tap the **Physical**. button, and then tap the **XPN CH1** button.

g. Confirm that for **MiniME1**, **Background** is set to **PV**, and **Key2** is set to **XPN CH1**, as shown below:

h. In the second row, tap **MiniME2**.

i. In the second row, tap the **Background** button.

j. In the third row, tap **Internal**.

k. In the fourth row, tap **PGM**.

l. In the second row, tap **Key2**.

m. In the third row, tap **Physical**.

n. Tap the **XPN CH2** button.

o. Confirm that for **MiniME2**, **Background** is set to **PGM**, and **Key2** is set to **XPN CH2**, as shown below:

6. Close the **Live Assist** panel.

Configuring the Carbonite MultiViewer

This section describes how to configure the Carbonite MultiViewer so that the Carbonite video monitor displays the **Preview** and **Program** outputs

Note: Displaying the LCS **Preview** and **Program** outputs on the Carbonite video monitor is optional. The Carbonite video monitor is also optional. The LCS is fully functional without additional monitors.

To configure the Carbonite MultiViewer:

1. In DashBoard, in the component tree, expand the **Carbonite** node, and then double-click **Configuration**.

   The Carbonite configuration panel appears.

2. Rename the **MiniME Internal Inputs**, as follows:

   a. Click the **Inputs** button, and then click the **Internal** button.

      The **Internal Input Configuration** list appears.

   b. In the text box beside **MiniME 1**, type `Preview`.

   c. In the text box beside **MiniME 2**, type `Program`.

3. Click the **MultiViewers** button.

4. Click the **MultiViewer 2** button.

   Tip: **MultiViewer 2** is used to send video to the Carbonite video monitor.

5. If you want to use a layout other than the one shown in the icon below the **Layout** label, click the icon, and then click the layout you want to use.

Figure 4.1 *- Layout Label and Layout Button Showing H4-4-2 Icon*

6. In the **Boxes** area, click the **Box** button for the box in which you want to display the **Preview** view.

   The **Box Setup** window appears.

7. In the **Input/Output** area, click the **MiniME 1** source, which is labeled **Preview** because you renamed it in **Step 2**.

8. In the **Boxes** area, click the **Box** button for the box in which you want to display the **Program** view.

   The **Box Setup** window appears.

9. In the **Input/Output** area, click the **MiniME 2** source, which is labeled **Program** because you renamed it in **Step 2**.

Configuring the Carbonite Switcher Program Out

To configure the Carbonite switcher program out:

1. In DashBoard, in the component tree, expand the **Carbonite** node, and then double-click **Configuration**.

   The Carbonite configuration panel appears.

2. Click the **Outputs** button.

3. In the **Source** list, tap the button beside **PGM**.

   The **Source** selection window appears.

4. Click the **MiniME 2** source.

   Tip: The source is labeled **Program** because you renamed it while configuring the MultiViewer in **step 2** on page 4-18.

5. Close the Carbonite configuration panel.

Establishing a Device Connection to the Joystick Server

This procedure applies only to systems that include a SmartShell Control Panel (joystick console).

The MasterPanel software includes a joystick server component. You must establish a device connection in DashBoard to enable the LCS panel to use the SmartShell Control Panel.

To Establish a Device Connection to the Joystick Server:

1. Ensure that **MasterPanel** is running (**C:\Cambotics\masterpanel1.exe**).

2. In **DashBoard**, from the **File** menu, tap **New**, and then tap **TCP/IP openGear Frame**.

   The **New TCP openGear Frame Connection** dialog box appears.

3. In the **IP Address** box, type **localhost**.

4. In the **Display Name** box, type a name for the node.

   For example, you might name it **Robots**. The name doesn't matter.

5. Tap **Finish**.

   The new node appears in the tree. Because MasterPanel is running, the node icon includes a green dot.

   Leave the LCS panel open for the next procedure.

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.

Note: The terms "**preset**" and "**shot**" are used interchangeably.

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 determining which cameras to use for each mark. If you create a worksheet listing mark names, 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.

The **Production** interface enables you to preview three shots from each of three cameras, while a shot from a fourth camera is on-air. Shot lists have up to 12 shots per mark.

Tip: Shot numbers start at 0.

Assigning Shots to Marks

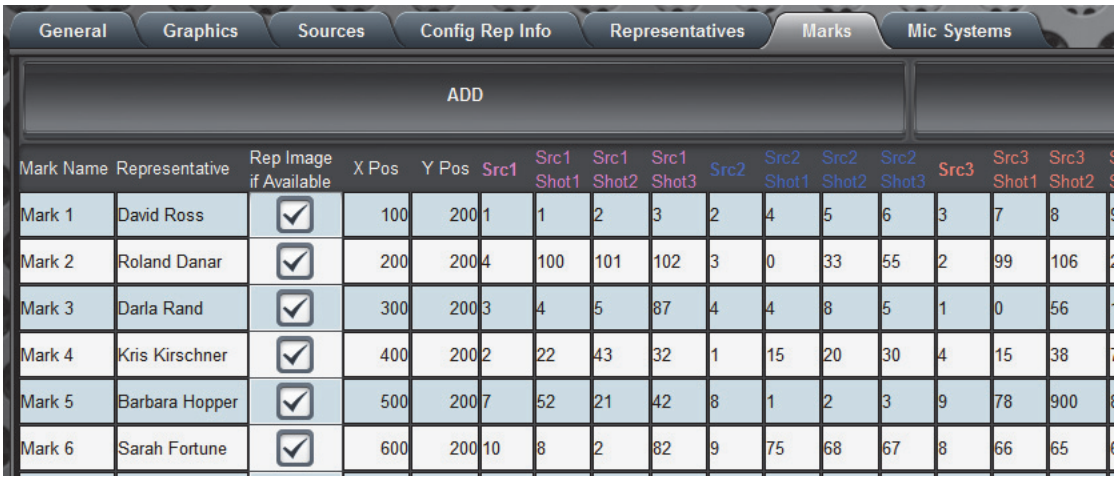
When you assign shots to marks in LCS, you are specifying which shots will be available for taking on-air when the operator selects a mark in the layout view.

This section assumes you have planned your shots, so you know which cameras and shot numbers are to be used for which marks. If this is not the case, you may choose to create all the shots first, note their purpose, and then assign shots to marks afterwards.

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, tap the **Engineering** button.



Mark Name	Representative	Rep Image if Available	X Pos	Y Pos	Src1	Src1 Shot1	Src1 Shot2	Src1 Shot3	Src2	Src2 Shot1	Src2 Shot2	Src2 Shot3	Src3	Src3 Shot1	Src3 Shot2
Mark 1	David Ross	☑	100	200	1	1	2	3	2	4	5	6	3	7	8
Mark 2	Roland Danar	☑	200	200	4	100	101	102	3	0	33	55	2	99	106
Mark 3	Darla Rand	☑	300	200	3	4	5	87	4	4	8	5	1	0	56
Mark 4	Kris Kirschner	☑	400	200	2	22	43	32	1	15	20	30	4	15	38
Mark 5	Barbara Hopper	☑	500	200	7	52	21	42	8	1	2	3	9	78	900
Mark 6	Sarah Fortune	☑	600	200	10	8	2	82	9	75	68	67	8	66	65

4. Specify the source and shots to use for each mark:

   a. In the source columns (**Src1**, **Src2**, **Src3**, **Src4**), specify the source (camera) numbers to be used for the mark.

      Note: Source priority is from **Src1** to **Src4**. **Src1** is the default source. If **Src1** is unavailable, the LCS tries to use **Src2**, and so on.

   b. In the shot columns (**Src1 Shot1**, **Src1 Shot2**, **Src1 Shot3**, **Src2 Shot1**, and so on to **Src4 Shot3**), specify the shot numbers to be used for the mark.

      Tip: If a source is not a camera, leave the **Shot** columns for the source blank.

      Note: For each camera, **Shot1** (for example, **Cam3 Shot1**) is the default shot. The other two shots are available as alternatives.

      IMPORTANT: Ensure that **Shot1** is specified for each camera to be used for shooting the mark. For example, if using two cameras for the mark, specify shots for **Cam1 Shot1** and **Cam2 Shot1**. These "shot 1s" are the default shots for the cameras, and must be present for the system to work properly.

      IMPORTANT: Always tap the **Save Changes** button before entering **Edit Mode.** If you tap the **Edit Mode** button before saving changes, your changes are lost.

5. When you are finished assigning shots to marks, tap the **Save Changes** button.

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 CamBot Control Panel**" on page 5–1
- "**The Sony Control Panel**" on page 6–1
- "**The Panasonic Control Panel**" on page 7–1

IMPORTANT: After you configure cameras and create shots, you must return to this section to complete the commissioning procedures and to back up your LCS files.

Backing Up LCS Data

When the LCS is completely configured and ready for use, create a backup of all LCS files.

To back up LCS Data:

1. On the DashBoard LCS computer, ensure the LCS panel and camera control panel(s) are configured as required.
2. In the **Configuration** interface of the LCS panel, tap the **Save Changes** button.
3. Close DashBoard.
4. Navigate to the **C:** directory.
5. Create a new folder, and give it a name that indicates it is an archive of your LCS setup.

   Tip: Include the name of your organization and the date in the file name.

6. Copy the following folders and paste them into the new archive folder:
   - **LCS**
   - **CamBotCamera** — This folder is present only if the LCS uses CamBot robotic heads.
   - **Sony BRC-900** — This folder is present only if the LCS uses Sony cameras.
   - **Panasonic HE-120** — This folder is present only if the LCS uses Panasonic cameras
7. Store a copy of the archive folder in a safe place, such as on a different computer, in a backed-up network location, or on a mobile storage device such as a USB stick.
8. We recommend you send a copy of the archive folder to Ross Video. Sharing your LCS files with Ross Video may improve the response time for future support requests.

The CamBot Control Panel

The CamBot Control Panel is a DashBoard panel used to configure CamBot units and create shots. Camera control panels interact with camera systems and the LCS panel to control cameras.

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:

The section, "**User Interface Reference**" on page 5–5 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, CamBot). 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.

To install the camera control panel:

1. Ensure that DashBoard is installed.
2. Open the camera control panel zip file and then extract the **CamBotCamera** 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 **CamBotCamera** folder located in **Computer > OS (C)**, and then tap **OK**.
5. In the **File Navigator** tree, expand the **CamBotCamera** folder to show the **CamBot.grid** file.
6. To open the camera control panel anytime, double-tap the **CamBot.grid** file.

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

Configuration

This section describes how to perform the following configuration tasks:

- "**Configuring Connectivity**" on page 5–2
- "**Configuring Shot Store Mode**" on page 5–2
- "**Renaming Presets (Shots)**" on page 5–3
- "**Saving and Loading Camera Data**" on page 5–3

For more detailed information about specific configuration settings, see "**Camera Configuration Window**" on page 2–11.

Configuring Connectivity

You can configure settings that enable the camera control panel to communicate with cameras and the SmartShell Control Panel (joystick console), if equipped.

To configure connectivity:

1. In the camera control panel, tap the **Config** button.
2. On the **General** tab, tap the **Refresh Master Panel Connection** button to ensure the connection is active.

   Tip: The MasterPanel application must be running whenever you use the LCS. MasterPanel is on the DashBoard LCS Computer at **C:\Cambotics\masterpanel1.exe**.
3. If any of the cameras are mounted in an inverted position, on the **Cameras** tab, select the **Invert Horizontal Axis** and **Invert Vertical Axis** check boxes as required.

   Tip: Invert camera axes as required to make all cameras behave consistently when manipulated by any controls, including joysticks, camera controls, and LCS panels.
4. On the **Joystick** tab, check that joystick data is shown.

   The **Joystick** tab displays raw data from the SmartShell Control Panel (joystick console), if equipped, for diagnostic purposes. The data is not configurable. If the tab does not show data, or says **No Connection**, then no connection to the joystick is detected. Ensure that MasterPanel is running, and then check the joystick data again.

Configuring Shot Store Mode

The camera control panel has two buttons related to storing and recalling shots: **Store Shot**, and **Recall Shot**. By default, after you use the **Store Shot**, the **Recall Shot** button becomes the active button. If you then tap a shot button, the shot is recalled because the **Recall Shot** button is active. This helps protect you from overwriting shots if you accidentally tap a shot button without first tapping the **Recall Shot** button.

You can change the behavior of these buttons so that whichever button you tap remains active until you tap a different one.

To configure shot store mode:

1. In the camera control panel, tap the **Config** button.
2. In the **Store Mode** list, select one of the following options:
   - **1-Time** — After you store or delete a shot, the **Recall Shot** button becomes the active button.
   - **Hold** — Whichever button you tap (**Store Shot**, or **Recall Shot**) remains active until you tap a different one.

     Tip: The **Hold** mode is helpful when you want to add or update many presets at once, such as during commissioning.

Renaming Presets (Shots)

Every preset, or shot, has a number. They also have names.

Shot numbers cannot be changed, but you can change the shot names to make them more meaningful.

Shot names and numbers appear in the LCS panel.

To rename shots:

1. In the CamBot camera control panel, create all your shots.

   For more information, see "**Creating and Storing Shots**" on page 5–4.

2. Save your shots in a **Camera File**.

   Note the name of the file. This is also the name of the CamBot shot list file.

   For more information, see "**Saving and Loading Camera Data**" on page 5–3.

3. In the **Master Panel** application, load the CamBot shot list file, rename the shots, and then save the shot list file.

   For more information, see the ***CamBot Control System User Guide (5100DR-503-xx)***.

4. In the CamBot camera control panel, load the **Camera File**.

Saving and Loading Camera Data

You can save all camera data in a file, and later load that file back into your camera control panel. Camera data includes camera configuration data and preset (shot) data.

Note: When you load a camera data file, any unsaved changes you made are lost. If you want to save your current camera data, do so before you load a camera data file.

To save a camera data file:

1. In the camera control panel, tap the **Config** button.
2. In the **Camera File** box, tap the camera for which you want to save data, or tap **All Cameras** to save data for all cameras.

   This feature enables you to save CamBot shot list data for each camera individually.

3. Beside the **Camera File** box, tap the **Save File** button.

   The **Save Camera File** dialog box appears.

4. In the **Filename** box, type a new name for the camera data file.

   Tip: this filename is also the name of the CamBot shot list file.

5. Tap **Save As**.

   The camera data file is saved.

To load a camera data file:

1. In the camera control panel, tap the **Config** button.
2. In the **Camera File** box, tap the camera for which you want to load data, or tap **All Cameras** to load data for all cameras.

   This feature enables you to load CamBot shot list data for each camera individually.

3. Beside the **Camera File** box, tap the **Load File** button.

   The **Load Camera File** dialog box appears.

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

   The camera data file loads.

Creating and Storing 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 4–20.

This section describes how to control a camera to move it into position, and how to store shots. It also describes how to recall shots.

Controlling a Camera

This section describes how to use the camera control panel to control cameras. After you move a camera, you can save its position as a shot to be recalled later.

To position a camera:

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. Move the camera using either the SmartShell Control Panel (joystick console), or the Camera Control window:
   - To use the SmartShell Control Panel:
     - **Pan** — Push the right joystick right and left.
     - **Tilt** — Push the right joystick forward and backward.
     - **Zoom** — Rotate the right joystick.
     - **Focus** — Turn the **FOCUS** knob.
   - To use the Camera Control window, 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.

Storing and Recalling Shots

You can save a camera's position as a shot and recall it later.

After you create and store shots, you can save them in a camera data file. For more information, see "**Saving and Loading Camera Data**" on page 2–7.

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

To store a shot:

1. Move the camera to the position you want to store as a shot.

   For more information, see "**Controlling a Camera**" on page 5–4.
2. Tap the **Store/Recall Shots** button.
3. Tap the **Store Shot** button.

4. Do one of the following to store the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Store the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to store the shot.

     Tip: Blue shots buttons already shots stored. If you tap a blue button, the system overwrites the existing shot with the new data.
5. Rename the shot, if necessary.

   For more information, see "**Renaming Presets (Shots)**" on page 2–7.

To recall a shot:

1. Tap the **Store/Recall Shots** button.
2. Tap the **Recall Shot** button.
3. Do one of the following to recall the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Recall the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to recall the shot.

     Tip: Only blue buttons contain shots.

Backing up LCS Data

When the LCS is completely configured and ready for use, you must back up all LCS files.

Follow the instructions in the section, "**Backing Up LCS Data**" on page 4–21.

User Interface Reference

This section describes the controls available in the CamBot 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 5–6.
- **Camera Control (Controls) Window** — Enables you to operate cameras. You can move cameras, and store and recall shots. For more information, see "**Camera Control Window**" on page 5–8.

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:

- "**General Tab**" on page 5–6
- "**Cameras Tab**" on page 5–7
- "**Preset Names Tab**" on page 5–8
- "**Joystick Tab**" on page 5–8

General Tab

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

Setting or Button	Description
Debug	Debug mode collects information about camera control panel performance. Turn Debug mode on only if asked to do so by Ross Video Technical Support.
Master Panel IP	Shows the IP address of the CamBot MasterPanel software. For LCS applications, MasterPanel is installed on the same computer as the LCS software (localhost). This is not configurable.
Store Mode	By default, after you use the **Store Shot** button, the **Recall Shot** button becomes the active button. If you then tap a shot button, the shot is recalled because the **Recall Shot** button is active. This helps protect you from overwriting or deleting shots if you accidentally tap a shot button without first tapping the **Recall Shot** button. The Store Mode feature enables you to change the behavior of these buttons so that whichever button you tap remains active until you tap a different one. The options are as follows: • **1-Time** — After you store or delete a shot, the **Recall Shot** button becomes the active button. • **Hold** — Whichever button you tap (**Store Shot** or **Recall Shot**) remains active until you tap a different one.
Camera File	Select an option for loading or saving camera data, including shots: Tap the camera for which you want to load/save data, or tap All Cameras to load/save data for all cameras.
Load File	Enables you to load a camera data file.
Save File	Enables you to save a camera data file.
Refresh Master Panel Connection	Refreshes the connection to the MasterPanel application. Enables you to establish a connection to cameras that have been added or that have had their IP addresses changed in the Master Panel **devices.cam** file.

Cameras Tab

Figure 5.1 shows the **Cameras** tab.

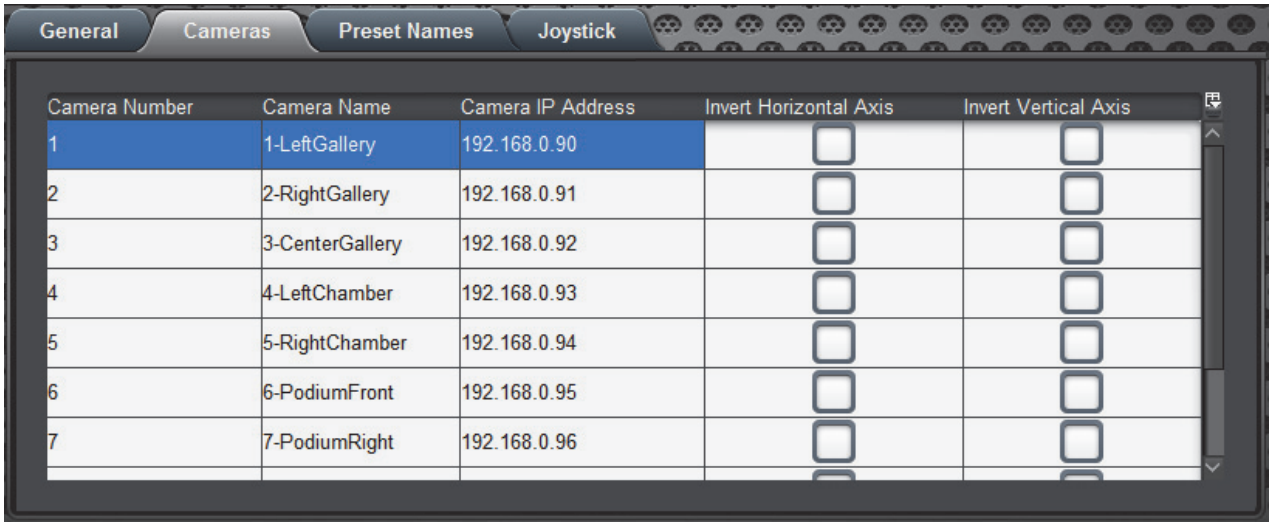


Figure 5.1 *Cameras Tab*

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

Setting or Button	Description
Camera Number	Displays the numbers of the cameras. This is not editable. Each row in the table represents one camera.
Camera Name	Specify a meaningful name for the camera.
Camera IP Address	Displays the IP addresses of the cameras. This is not editable. Each row in the table represents one camera. For information about configuring camera IP addresses, see "**Installing and Configuring MasterPanel Software**" on page 4–2.
Invert Horizontal Axis	Reverses the direction the camera pans when manipulated by the joystick or the Camera Control window. Use this option if the camera is mounted in an inverted position.
Invert Vertical Axis	Reverses the direction the camera tilts when manipulated by the joystick or the Camera Control window. Use this option if the camera is mounted in an inverted position.

Preset Names Tab

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

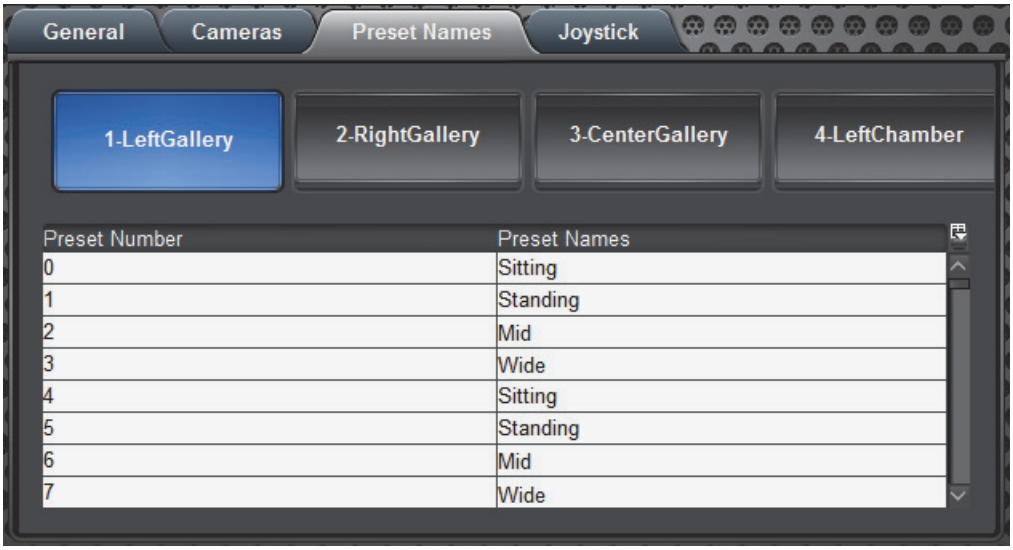


***Figure 5.2** Preset Names Tab*

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

Setting or Button	Description
Camera tabs	Each **Camera** 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.
Preset Number	Displays the numbers of the camera presets (shots). This is not editable. Each row in the table represents one preset.
Preset Names	Displays the names of the camera presets (shots). This is not editable. Each row in the table represents one preset. For information about renaming presets, see "**Renaming Presets (Shots)**" on page 2–7.
Send Camera Preset Names	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. **Tip:** Preset names are defined in Master Panel. For more information, see "**Renaming Presets (Shots)**" on page 2–7.

Joystick Tab

The Joystick tab displays raw data from the SmartShell Control Panel (joystick console). If the tab does not show data, or says **No Connection**, then no connection to the joystick is detected.

Camera Control Window

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

To access the camera control interface:

- Tap the **Controls** button.

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

- "**Store/Recall Shots Window**" on page 5–9
- "**PTZ Controls Window**" on page 5–10

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 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
Camera buttons	The row of ten buttons across the top of the **Store/Recall Shots** 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.
Store Shot button	Tap the button to switch to **Store Shot** mode. In **Store Shot** mode, you can save the current camera position as a shot for future recall.
Recall Shot button	Tap the button to switch to **Recall Shot** mode. In **Recall Shot** mode, you can recall saved shots for the current camera. **Recall Shot** mode is used for camera operation.
Shot Selection keypad	Type a shot number and then press the **Enter** button on the keypad to store or recall a shot, depending on the current mode. Alternatively, you can type a number in the box above the keypad and then press the **Enter** button on the keypad.

Setting or Button	Description
Bank buttons	Tap a bank button to quickly access a group of shots. The camera control panel can only display 100 shot buttons at a time. Shot banks enable you to change which group of 100 shots is shown.
Shot buttons	Tap a **Shot** button to store or recall a shot, depending on the current mode. **Shot** buttons are used for camera operation. **Tip:** Be aware of the current mode (**Store Shot**, or **Recall Shot**) before you tap a **Shot** button.

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.

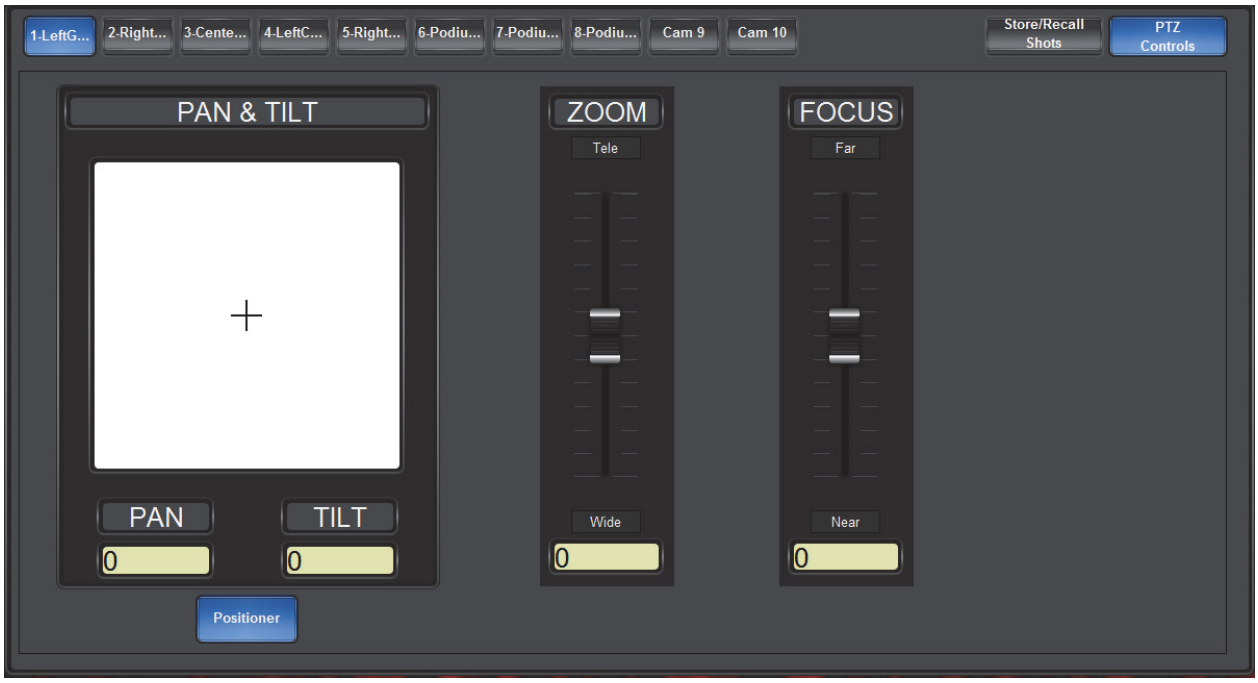


Figure 5.4 *PTZ Controls Window (showing Pan/Tilt positioner)*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **PTZ Controls** window includes one button per camera. Tap a button to select which camera you want to move.
Positioner button	Switches between interfaces for adjusting pan and tilt positions: • **PAN and TILT sliders** — enable you to adjust pan and tilt individually. • **PAN & TILT Positioner** — enables you to adjust pan and tilt simultaneously.  ***Figure 5.5*** *Pan/Tilt Sliders (left) and Pan/Tilt Positioner (Right)*
PAN and TILT sliders	Tap and drag the **PAN** or **TILT** slider handles to pan or tilt the camera. Alternatively, you can use the up/down arrows beside the box to select a value. Higher pan values pan right. Higher tilt values tilt upwards. Pan and tilt slider values are relative, not absolute. When you release the slider, the value shown returns to zero.
PAN & TILT Positioner	Tap and drag the cross-hairs within the white box until the camera is in the desired pan/tilt position. Positioner values are relative, not absolute. When you release the cross-hairs, they return to the center and the values return to **0**.
ZOOM slider	Tap and drag the **ZOOM** slider handle up or down to zoom the lens. Alternatively, you can use the up/down arrows beside the box to select a value. Higher values are towards telephoto, and lower values are towards wide. Zoom slider values are relative, not absolute. When you release the slider, the value shown returns to **0**.
FOCUS slider	Tap and drag the **FOCUS** slider handle up or down to focus the lens manually. Alternatively, you can use the up/down arrows beside the box to select a value. Higher values are towards far focus, and lower values are towards near focus. Focus slider values are relative, not absolute. When you release the slider, the value shown returns to **0**.

The Sony Control Panel

The Sony camera 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 Sony 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:

The section, "**User Interface Reference**" on page 6–7 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, CamBot). 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.

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.

Configuration

This section describes how to perform the following configuration tasks:

For more detailed information about specific configuration settings, see "**Camera Configuration Window**" on page 6–7.

Configuring Connectivity

You can configure settings that enable the camera control panel to communicate with cameras and the SmartShell Control Panel (joystick console), if equipped).

To configure connectivity:

1. In the camera control panel, tap the **Config** button.
2. On the **Cameras** tab, tap the camera number to highlight the settings for that camera.

   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, CamBot), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Sony cameras and five CamBot cameras, you might number the Sony cameras as 1, 2, 3, 7, and 9, and number the CamBot cameras as 4, 5, 6, 8, and 10. The camera numbers you assign here must correspond with the **Camera Numbers** in the LCS panel configuration (**Config** interface, **Cameras** tab).
3. In the **Camera IP Address** box, type the IP address of the camera.
4. If any of the cameras are mounted in an inverted position, select the **Invert Horizontal Axis** and **Invert Vertical Axis** check boxes as required.

   Tip: Invert camera axes as required to make all cameras behave consistently when manipulated by any controls, including the SmartShell Control Panel (joystick console), camera control panels, and LCS panels.
5. Repeat **Steps 2 to 4** for each Sony camera in your system.
6. If your system includes a SmartShell Control Panel (joystick console), on the **Joystick** tab, check that joystick data is shown.

   The **Joystick** tab displays raw data from the SmartShell Control Panel (if equipped), for diagnostic purposes. The data is not configurable. If the tab does not show data, or says **No Connection**, then no connection to the joystick is detected.

Adjusting Camera Shading Controls

You can adjust camera shading controls (also known as paint controls). Shading controls are used to ensure consistent video quality from each camera.

Note: When you store a shot, settings for white balance mode, red gain, and blue gain are saved as part of the shot.

To set camera shading controls:

1. In the camera control panel, tap the **Controls** button.
2. Tap the camera button for the camera you want to adjust.
3. Tap the **Shading Controls** button, and then adjust the following as required:
   - **Exposure** — Select 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 mode:
     - **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. It also enables you to set red gain and blue gain values.
   - **One Push WB** — Performs a white balance operation if **White Balance** is set to **Auto** or to **One Push**.
   - **R.Gain** — Specify a red gain value (-128 to 127).

     Tip: Red gain is available only if **White Balance** is set to **Manual**.
   - **B.Gain** — Specify a blue gain value (-128 to 127).

     Tip: Blue gain is available only if **White Balance** is set to **Manual**.
4. Repeat **Steps 2 to 3** for each Sony camera in your system.

Turning Cameras On and Off

You can turn individual cameras on or off.

To turn a camera on or off:

1. In the camera control panel, tap the **Controls** button.
2. Tap the camera button for the camera you want to turn on or off.
3. Tap the **Shading Controls** button, and then tap the **Power** button until it shows the desired state (**Power ON** or **Power OFF**).

Configuring Shot Store Mode

The camera control panel has three buttons related to storing and recalling shots: **Store Shot**, **Recall Shot**, and **Delete Shot**. By default, after you use the **Store Shot** button or the **Delete Shot** button, the **Recall Shot** button becomes the active button. If you then tap a shot button, the shot is recalled because the **Recall Shot** button is active. This helps protect you from overwriting or deleting shots if you accidentally tap a shot button without first tapping the **Recall Shot** button.

You can change the behavior of these buttons so that whichever button you tap remains active until you tap a different one.

To configure shot store mode:

1. In the camera control panel, tap the **Config** button.
2. In the **Store Mode** list, select one of the following options:
   - **1-Time** — After you store or delete a shot, the **Recall Shot** button becomes the active button.
   - **Hold** — Whichever button you tap (**Store Shot**, **Recall Shot**, or **Delete Shot**) remains active until you tap a different one.
3. Tap the **Save** button.

Renaming Presets (Shots)

Every preset, or shot, has a number. They also have names. You can change the shot names to make them more meaningful.

Shot names and numbers appear in the LCS panel.

To rename a preset:

1. In the camera control panel, tap the **Config** button.
2. On the **Preset Names** tab, tap the camera button corresponding to the camera for which you want to rename presets.
3. In the list of presets, find the preset you want to rename.
4. In the **Preset Names** box for the preset you want to rename, delete the old name, and then type a new one.
5. Rename other presets, as required.
6. When you are finished naming your presets, on the **General** tab, tap the **Send Camera Preset Names** button. This makes the names available to the LCS.

Saving and Loading Camera Data

You can save all camera data in a file, and later load that file back into your camera control panel. Camera data includes camera configuration data and preset (shot) data.

Note: When you load a camera data file, any unsaved changes you made are lost. If you want to save your current camera data, do so before you load a camera data file.

To save a camera data file:

1. In the camera control panel, tap the **Config** button.
2. Beside the **Camera Data** box, tap the **Save As** button.

   The **Save Camera Data** dialog box appears.
3. In the **Filename** box, type a new name for the camera data file.
4. Tap **Save As**.

   The camera data file is saved.

To load a camera data file:

1. In the camera control panel, tap the **Config** button.
2. Beside the **Camera Data** box, tap the **Load** button.

   The **Load Camera Data** dialog box appears.
3. Tap the name of the file you want to load, and then tap the **Load Data** button.

   The camera data file loads.

Creating and Storing 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 4–20.

This section describes how to control a camera to move it into position, and how to store shots. It also describes how to recall and delete shots.

Controlling a Camera

This section describes how to use the camera control panel to control cameras. After you move a camera, you can save its position as a shot to be recalled later.

To position a camera:

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. Move the camera using either the SmartShell Control Panel (joystick console), or the Camera Control window:
   - To use the SmartShell Control Panel:
     - **Pan** — Push the right joystick right and left.
     - **Tilt** — Push the right joystick forward and backward.
     - **Zoom** — Rotate the right joystick.
     - **Focus** — Turn the **FOCUS** knob.
   - To use the Camera Control window, tap the **PTZ Controls** button, and then adjust the following as required:
     - **Pan and Tilt** — Tap the **Positioner** button to choose between **PAN** and **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 camera control 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 camera control panel. Before you adjust the iris, tap the **Auto Iris** button at least once until the button says **Auto Iris OFF**.

4. If you want to adjust the camera's white balance mode, red gain, or blue gain and save these settings as part of the shot, follow **Steps 2 to 3** in the section, "**Adjusting Camera Shading Controls**" on page 6–3.

   White balance mode, red gain, and blue gain are saved as part of the shot.

Storing, Recalling, and Deleting Shots

You can save a camera's position as a shot and recall it later. You can also delete shots.

After you create and store shots, you can save them in a camera data file. For more information, see "**Saving and Loading Camera Data**" on page 6–4.

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

To store a shot:

1. Move the camera to the position you want to store as a shot.

   For more information, see "**Controlling a Camera**" on page 6–5.

2. Tap the **Store/Recall Shots** button.
3. Tap the **Store Shot** button.
4. Do one of the following to store the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Store the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to store the shot.

     The shot button turns blue to indicate that it contains a shot.
5. Rename the shot, if necessary.

   For more information, see "**Renaming Presets (Shots)**" on page 6–4.

To recall a shot:

1. Tap the **Store/Recall Shots** button.
2. Tap the **Recall Shot** button.
3. Do one of the following to recall the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Recall the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to recall the shot.

     Tip: Only blue buttons contain shots.

To delete a shot:

1. Tap the **Store/Recall Shots** button.
2. Tap the **Delete Shot** button.

3. Do one of the following to delete the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Delete the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to delete the shot.

     Tip: Only blue buttons contain shots.

Backing up LCS Data

When the LCS is completely configured and ready for use, you must back up all LCS files.

Follow the instructions in the section, "**Backing Up LCS Data**" on page 4–21.

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 6–7.
- **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 6–10.

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:

- "**General Tab**" on page 6–7
- "**Cameras Tab**" on page 6–9
- "**Preset Names Tab**" on page 6–10
- "**Joystick Tab**" on page 6–10

General Tab

The General tab contains settings related to connectivity and panel behavior.

IMPORTANT: After you make changes on the **General** tab, tap the **Save** button.

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

Setting or Button	Description
Debug	Debug mode collects information about camera control panel performance. Turn Debug mode on only if asked to do so by Ross Video Technical Support.
Camera Port	Shows the computer port over which the cameras communicate. The camera port is not configurable.

Setting or Button	Description
Joystick Server	Shows the IP address of the computer running the Ross Video joystick server software. This is not configurable.
Store Mode	By default, after you use the **Store Shot** button or the **Delete Shot** button, the **Recall Shot** button becomes the active button. If you then tap a shot button, the shot is recalled because the **Recall Shot** button is active. This helps protect you from overwriting or deleting shots if you accidentally tap a shot button without first tapping the **Recall Shot** button. The Store Mode feature enables you to change the behavior of these buttons so that whichever button you tap remains active until you tap a different one. The options are as follows: • **1-Time** — After you store or delete a shot, the **Recall Shot** button becomes the active button. • **Hold** — Whichever button you tap (**Store Shot**, **Recall Shot**, or **Delete Shot**) remains active until you tap a different one.
Camera Data	Shows the name of the current camera data file. Camera data includes camera configuration data and preset (shot) data.
Load button	Enables you to load a camera data file.
Save As button	Enables you to save a camera data file.
Send Camera Preset Names	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. **Tip:** Preset names are defined on the Preset Names tab.
Reset Camera Sequence Numbers	This button resets addressing numbers on the Sony cameras to ensure that an inter-connected DashBoard panel, such as a Legislative Control System (LCS) panel, can control the cameras. The numbers can become mismatched between the camera and the LCS panel if another system takes control of one or more cameras.
Save	Saves changes made on the **General** tab. If you do not save your changes, they may be lost.

Cameras Tab

Figure 6.1 shows the **Cameras** tab.

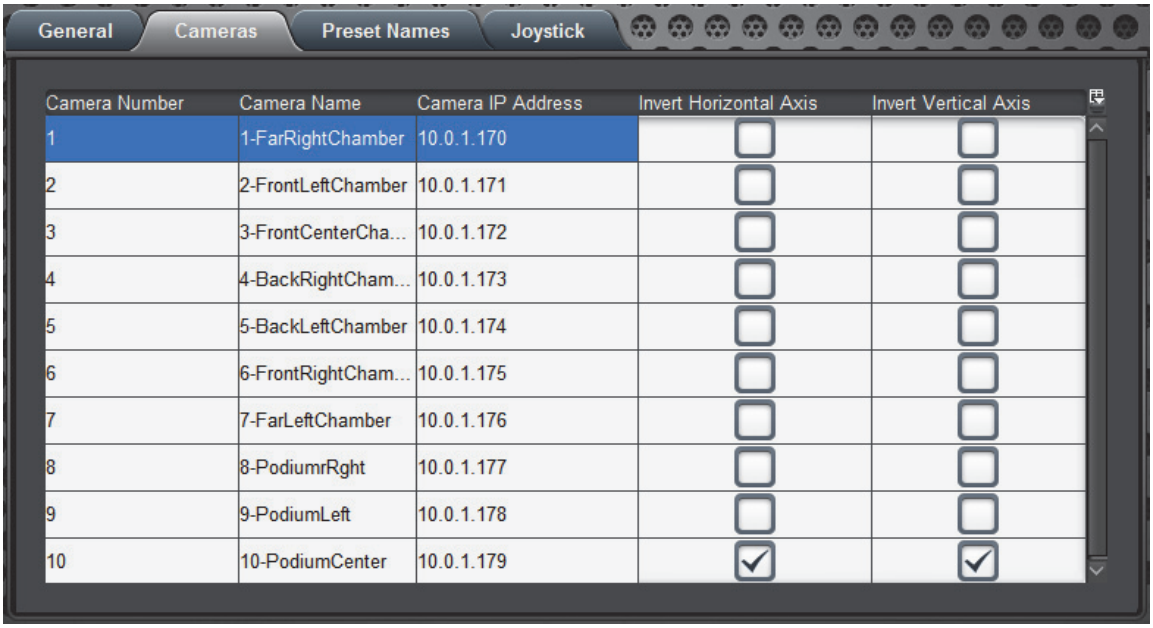


Figure 6.1 *Cameras Tab*

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

Setting or Button	Description
Camera Number	The number of the camera being controlled. This is not editable. Each row in the table represents one camera. **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, CamBot), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Sony cameras and five CamBot cameras, you might number the Sony cameras as 1, 2, 3, 7, and 9, and number the CamBot cameras as 4, 5, 6, 8, and 10. The camera numbers you assign here must correspond with the **Camera Key** numbers in the LCS panel configuration (**Config** interface, **Cameras** tab).
Camera Name	Specify a meaningful name for the camera. This name appears in the LCS panel.
Camera IP Address	Specify the IP address of the camera. Every camera must have a unique IP address. **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, CamBot), you must ensure that all camera IP addresses in the system are unique.
Invert Horizontal Axis	Reverses the direction the camera pans when manipulated by a joystick or by the Camera Control window. Use this option if the camera is mounted in an inverted position.
Invert Vertical Axis	Reverses the direction the camera tilts when manipulated by a joystick or by the Camera Control window. Use this option if the camera is mounted in an inverted position.

Preset Names Tab

Figure 6.2 shows the **Preset Names** tab.

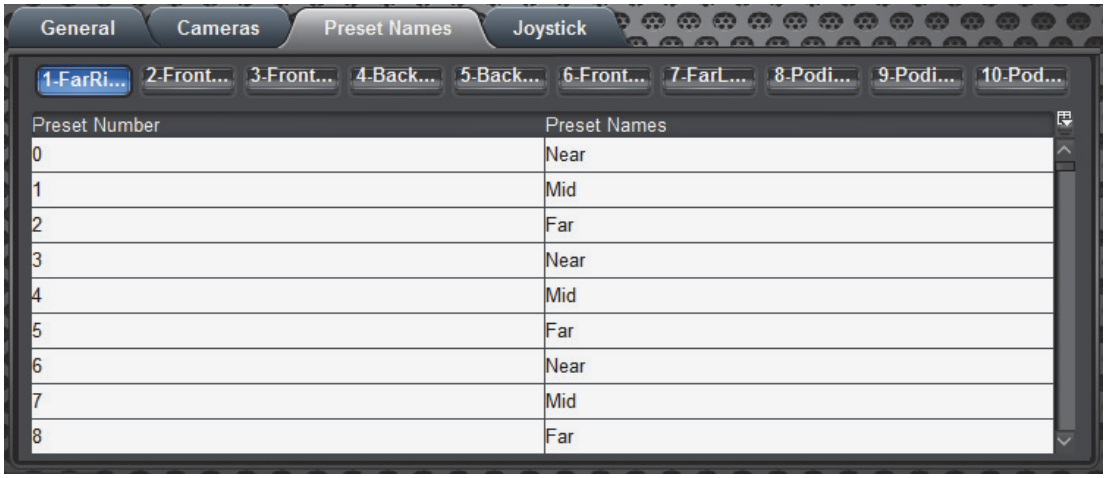


***Figure 6.2** Preset Names Tab*

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

Setting or Button	Description
Camera buttons	Each camera button 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.
Preset Number	Each preset on a given camera has a unique preset number, or shot number, to identify the preset. This is not configurable. Shot numbers appear in the LCS panel.
Preset Names	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”. Preset names, or shot names, appear in the LCS panel. After you define preset names, you must send them to the LCS panel by tapping the **Send Camera Preset Names** button on the **General** tab.

Joystick Tab

The **Joystick** tab displays raw data from the SmartShell Control Panel (joystick console), if equipped, for diagnostic purposes. The data is not configurable. If the tab does not show data, or says **No Connection**, then no connection to the joystick is detected.

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 6–11
- “**PTZ Controls Window**” on page 6–12
- “**Shading Controls Window**” on page 6–14

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 6.3 shows the **Store/Recall Shots** window.

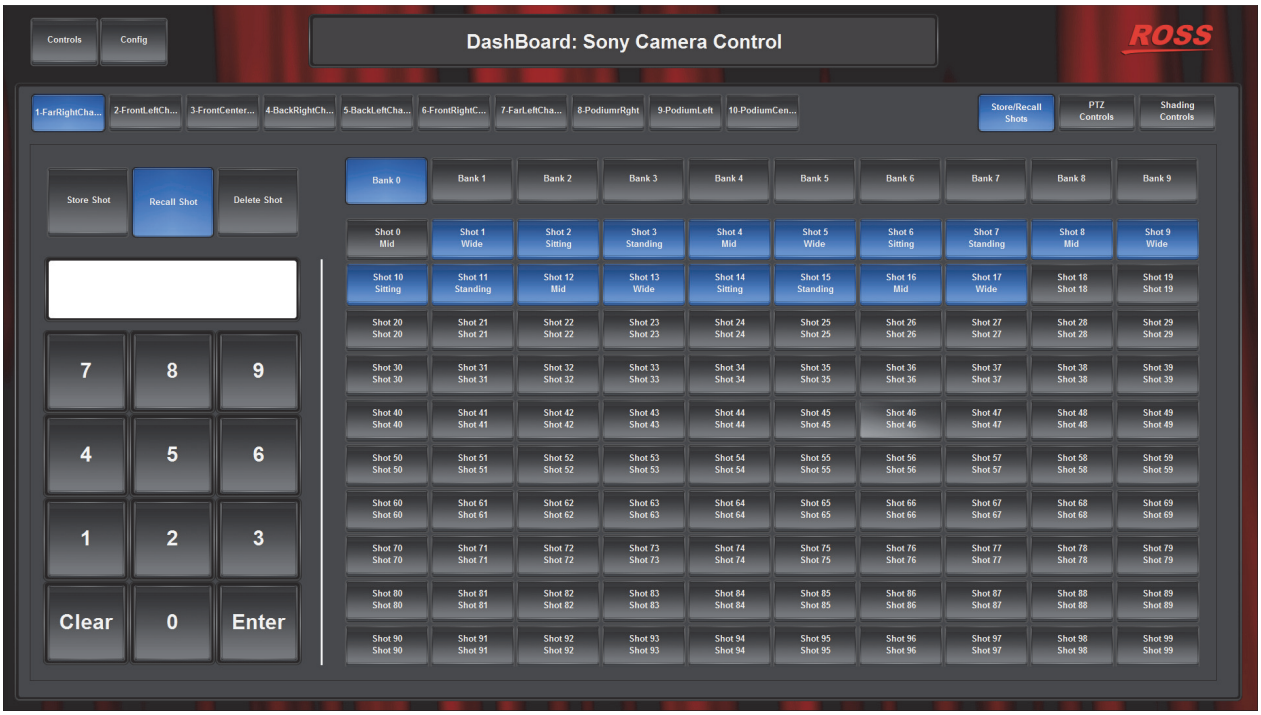


Figure 6.3 *Store/Recall Shots Window*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **Store/Recall Shots** 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.
Store Shot button	Tap the button to switch to **Store Shot** mode. In **Store Shot** mode, you can save the current camera position as a shot for future recall.
Recall Shot button	Tap the button to switch to **Recall Shot** mode. In **Recall Shot** mode, you can recall saved shots for the current camera. **Recall Shot** mode is used for camera operation.
Delete Shot button	Tap the button to switch to **Delete Shot** mode. In **Delete Shot** mode, you can delete existing shots. **Tip:** Shot buttons that contain shots are blue.
Shot Selection keypad	Type a shot number and then press the **Enter** button on the keypad to store, recall, or delete a shot, depending on the current mode. Alternatively, you can type a number in the box above the keypad and then press the **Enter** button on the keypad.

Setting or Button	Description
Bank buttons	Tap a bank button to quickly access a group of shots. The camera control panel can only display 100 shot buttons at a time. Shot banks enable you to change which group of 100 shots is shown.
Shot buttons	Tap a **Shot** button to store, recall, or delete a shot, depending on the current mode. **Shot** buttons are used for camera operation. **Tip:** Be aware of the current mode (**Store Shot**, **Recall Shot**, or **Delete Shot**) before you tap a **Shot** button.

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 6.4 shows the **PTZ Controls** window.

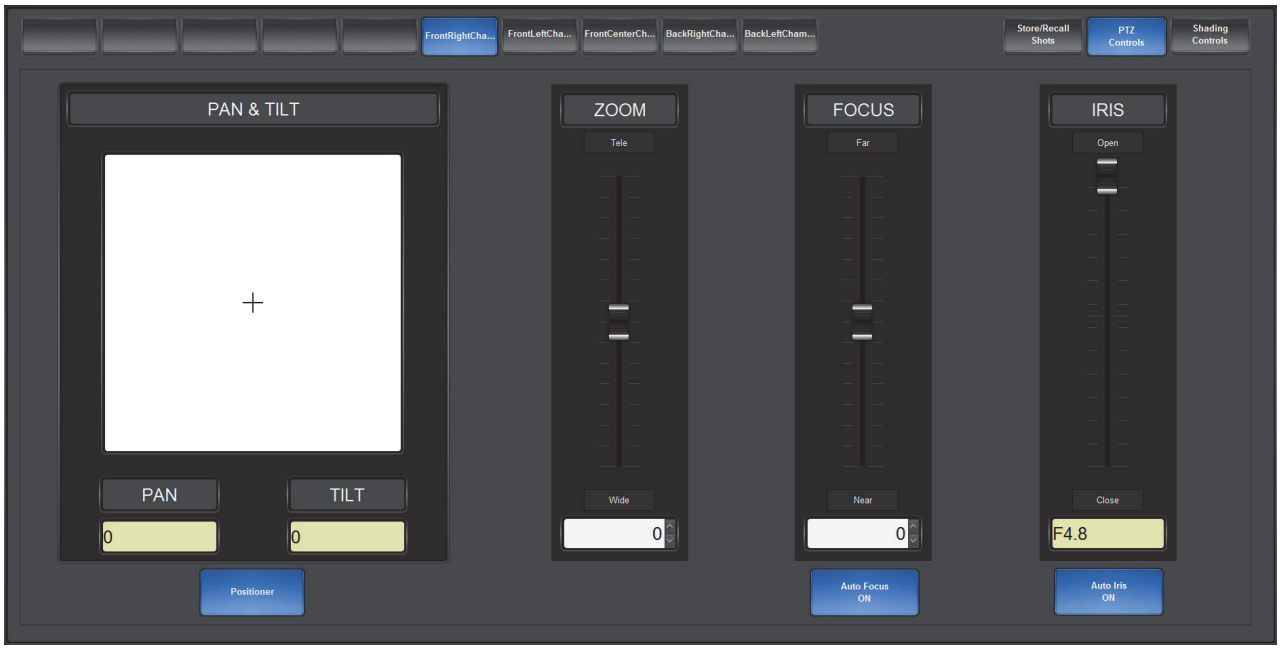


Figure 6.4 *PTZ Controls Window (showing Pan/Tilt positioner)*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **PTZ Controls** window includes one button per camera. Tap a button to select which camera you want to move.
Positioner button	Switches between interfaces for adjusting pan and tilt positions: • **PAN and TILT sliders** — enable you to adjust pan and tilt separately. • **Pan & Tilt Positioner** — enables you to adjust pan and tilt simultaneously.  ***Figure 6.5*** *Pan/Tilt Sliders (left) and Pan/Tilt Positioner (Right)*
PAN and TILT sliders	Tap and drag the **PAN** or **TILT** slider handles to pan or tilt the camera. 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. The value range is **-24** to **24**. Higher pan values pan right. Higher tilt values tilt upwards. Pan and tilt slider values are relative, not absolute. When you release the slider, the value shown returns to zero.
Pan & Tilt Positioner	Tap and drag the cross-hairs within the white box until the camera is in the desired pan/tilt position.
ZOOM slider	Tap and drag the **ZOOM** slider handle up or down to zoom the lens. 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. The value range is **-7** to **7**. Higher values are towards telephoto, and lower values are towards wide. Zoom slider values are relative, not absolute. When you release the slider, the value shown returns to zero.
Auto Focus button	Tap to switch between automatic focus and manual focus control. When **Auto Focus** is **OFF**, you can adjust focus using the **FOCUS** slider. **Note:** The Auto Focus status may be shown incorrectly because Sony cameras cannot communicate their focus status to the camera control panel. Whenever you want to adjust the focus or know the Auto Focus state of a camera, tap the **Auto Focus** button at least once, until the desired state is shown.

Setting or Button	Description
FOCUS slider	Tap and drag the **FOCUS** slider handle up or down to focus the lens manually. 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. The value range is **-7** to **7**. Higher values are towards far focus, and lower values are towards near focus. Focus slider values are relative, not absolute. When you release the slider, the value shown returns to zero. **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 camera control panel. Before you adjust the focus, tap the **Auto Focus** button at least once until the button says **Auto Focus OFF**.
Auto Iris button	Tap to switch between automatic and manual iris control. When **Auto Iris** is **OFF**, you can adjust the iris using the **IRIS** slider. **Note:** The Auto Iris status may be shown incorrectly because Sony cameras cannot communicate their iris status to the camera control panel. Whenever you want to adjust the iris or know the Auto Iris state of a camera, tap the **Auto Iris** button at least once, until the desired state is shown.
Iris slider	If you want to adjust the iris, tap and drag the **IRIS** slider handle up or down. Iris slider values are absolute. When you release the slider, the value you set remains. **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 camera control panel. Before you adjust the iris, tap the **Auto Iris** button at least once until the button says **Auto Iris OFF**.

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.

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 6.6 shows the **Shading Controls** window.

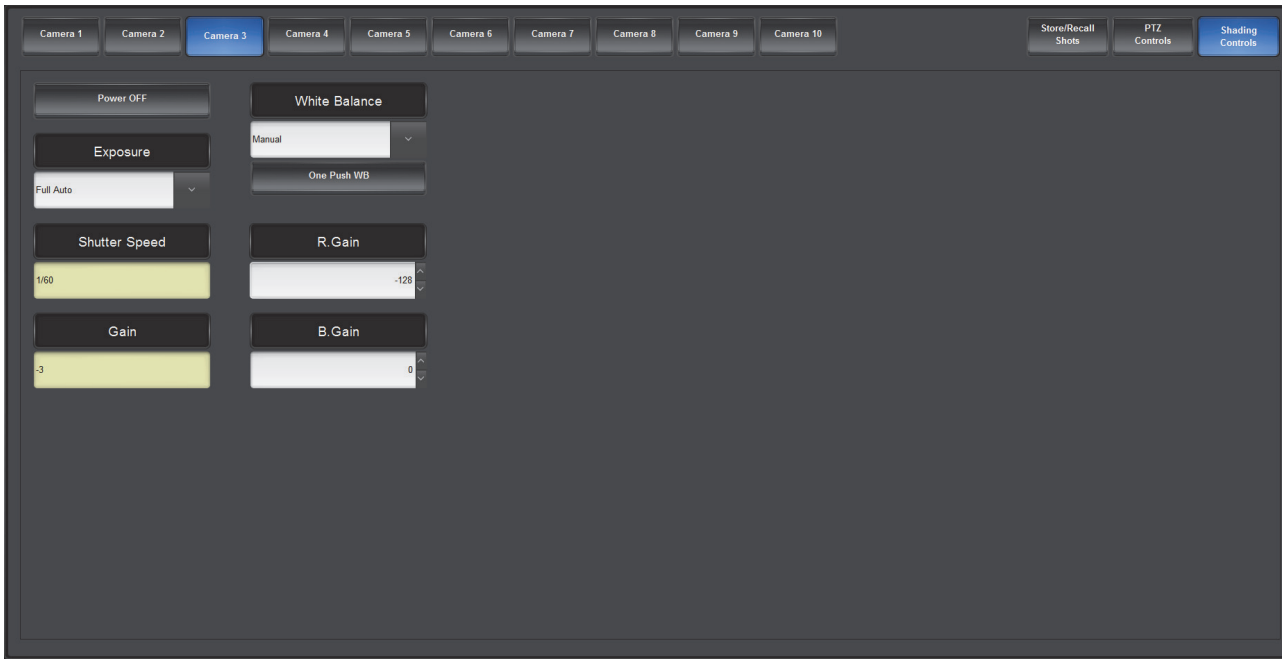


Figure 6.6 *Shading Controls Window*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **Shading Controls** window includes one button per camera. Tap a button to select which camera you want to adjust.
Power button	Turns the camera **ON** or **OFF**. The **Power** button shows the current state.
Exposure	Select 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	**White Balance** — Select a white balance mode: • **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. It also enables you to set red gain and blue gain values. **Tip:** When you save a shot, white balance mode is saved as part of the shot.
One Push WB	Performs a white balance operation if **White Balance** is set to **Auto** or to **One Push**.

Setting or Button	Description
R.Gain	Specify a red gain value (-128 to 127). **Tip:** Red gain is available only if **White Balance** is set to **Manual**. **Tip:** When you save a shot, red gain is saved as part of the shot.
B.Gain	Specify a blue gain value (-128 to 127). **Tip:** Blue gain is available only if **White Balance** is set to **Manual**. **Tip:** When you save a shot, blue gain is saved as part of the shot.

The Panasonic Control Panel

The Panasonic camera 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 Panasonic 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:

The section, "**User Interface Reference**" on page 7–7 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, CamBot). 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.

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 HE-120** 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.

Configuration

This section describes how to perform the following configuration tasks:

For more detailed information about specific configuration settings, see "**Camera Configuration Window**" on page 7–7.

Configuring Connectivity

You can configure settings that enable the camera control panel to communicate with cameras and the SmartShell Control Panel (joystick console), if equipped.

To configure connectivity:

1. In the camera control panel, tap the **Config** button.
2. If you are using a **Panasonic AW-RP120** control console (joystick console), do the following:
   a. On the **General** tab, turn the **Panasonic Controller** option **ON**.
   b. In the **Controller IP** box, type the IP address of the **Panasonic AW-RP120** control console.

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

   Tip: When enabled, the Panasonic joystick control follows the selected camera. For example, if you select a camera in the camera control panel or LCS panel, the Panasonic joystick can immediately control it.
3. On the **Cameras** tab, tap the camera number to highlight the settings for that camera.

   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, CamBot), you must ensure that each camera in the system has a unique camera number. For example, if your system includes five Sony cameras and five CamBot cameras, you might number the Sony cameras as 1, 2, 3, 7, and 9, and number the CamBot cameras as 4, 5, 6, 8, and 10. The camera numbers you assign here must correspond with the **Camera Numbers** in the LCS panel configuration (**Config** interface, **Cameras** tab).
4. In the **Camera IP Address** box, type the IP address of the camera.
5. If any of the cameras are mounted in an inverted position, select the **Invert Horizontal Axis** and **Invert Vertical Axis** check boxes as required.

   Tip: Invert camera axes as required to make all cameras behave consistently when manipulated by any controls, including the SmartShell Control Panel (joystick console), camera control panels, and LCS panels.
6. Repeat **Steps 3 to 5** for each Panasonic camera in your system.
7. If your system includes a SmartShell Control Panel (joystick console), on the **Joystick** tab, check that joystick data is shown.

   The **Joystick** tab displays raw data from the SmartShell Control Panel (if equipped), for diagnostic purposes. The data is not configurable. If the tab does not show data, or says **No Connection**, then no connection to the joystick is detected.

Adjusting Camera Shading Controls

You can adjust camera shading controls (also known as paint controls). Shading controls are used to ensure consistent video quality from each camera.

To set camera shading controls:

1. In the camera control panel, tap the **Controls** button.
2. Tap the camera button for the camera you want to adjust.
3. 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**).
   - **Execute ABB** — Tap this button to perform a 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.
4. Repeat **Steps 2 to 3** for each Panasonic camera in your system.

Configuring Shot Store Mode

The camera control panel has three buttons related to storing and recalling shots: **Store Shot**, **Recall Shot**, and **Delete Shot**. By default, after you use the **Store Shot** button or the **Delete Shot** button, the **Recall Shot** button becomes the active button. If you then tap a shot button, the shot is recalled because the **Recall Shot** button is active. This helps protect you from overwriting or deleting shots if you accidentally tap a shot button without first tapping the **Recall Shot** button.

You can change the behavior of these buttons so that whichever button you tap remains active until you tap a different one.

To configure shot store mode:

1. In the camera control panel, tap the **Config** button.
2. In the **Store Mode** list, select one of the following options:
   - **1-Time** — After you store or delete a shot, the **Recall Shot** button becomes the active button.
   - **Hold** — Whichever button you tap (**Store Shot**, **Recall Shot**, or **Delete Shot**) remains active until you tap a different one.
3. Tap the **Save** button.

Setting Camera Recall Speed

You can change how quickly the cameras move when they recall presets.

To set the camera preset speed

1. In the camera control panel, tap the **Config** button.
2. On the **Recall Speed** tab, do one of the following to set the speed of each camera:
   - Tap and drag the speed slider. The speed is shown in a box to the right of the slider.
   - Type a number in the speed box to the right of the slider.
   - Tap the up and down arrows beside the speed box.

   Tip: Higher numbers represent faster speeds.

Renaming Presets (Shots)

Every preset, or shot, has a number. They also have names. You can change the shot names to make them more meaningful.

Shot names and numbers appear in the LCS panel.

To rename a preset:

1. In the camera control panel, tap the **Config** button.
2. On the **Preset Names** tab, tap the camera button corresponding to the camera for which you want to rename presets.
3. In the list of presets, find the preset you want to rename.
4. In the **Preset Names** box for the preset you want to rename, delete the old name, and then type a new one.
5. Rename other presets, as required.
6. When you are finished naming your presets, on the **General** tab, tap the **Send Camera Preset Names** button. This makes the names available to the LCS.

Saving and Loading Camera Data

You can save all camera data in a file, and later load that file back into your camera control panel. Camera data includes camera configuration data and preset (shot) data.

Note: When you load a camera data file, any unsaved changes you made are lost. If you want to save your current camera data, do so before you load a camera data file.

To save a camera data file:

1. In the camera control panel, tap the **Config** button.
2. Beside the **Camera Data** box, tap the **Save As** button.

   The **Save Camera Data** dialog box appears.
3. In the **Filename** box, type a new name for the camera data file.
4. Tap **Save As**.

   The camera data file is saved.

To load a camera data file:

1. In the camera control panel, tap the **Config** button.
2. Beside the **Camera Data** box, tap the **Load** button.

   The **Load Camera Data** dialog box appears.

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

   The camera data file loads.

Creating and Storing 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 4–20.

This section describes how to control a camera to move it into position, and how to store shots. It also describes how to recall and delete shots.

Controlling a Camera

This section describes how to use the camera control panel to control cameras. After you move a camera, you can save its position as a shot to be recalled later.

To position a camera:

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. Move the camera using either the SmartShell Control Panel (joystick console), or the Camera Control window:
   - To use the SmartShell Control Panel:
     - **Pan** — Push the right joystick right and left.
     - **Tilt** — Push the right joystick forward and backward.
     - **Zoom** — Rotate the right joystick.
     - **Focus** — Turn the **FOCUS** knob.
   - To use the Camera Control window, 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.

Storing, Recalling, and Deleting Shots

You can save a camera's position as a shot and recall it later. You can also delete shots.

After you create and store shots, you can save them in a camera data file. For more information, see "**Saving and Loading Camera Data**" on page 7–4.

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

To store a shot:

1. Move the camera to the position you want to store as a shot.

   For more information, see "**Controlling a Camera**" on page 7–5.

2. Tap the **Store/Recall Shots** button.
3. Tap the **Store Shot** button.
4. Do one of the following to store the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Store the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to store the shot.

     The shot button turns blue to indicate that it contains a shot.
5. Rename the shot, if necessary.

   For more information, see "**Renaming Presets (Shots)**" on page 7–4.

To recall a shot:

1. Tap the **Store/Recall Shots** button.
2. Tap the **Recall Shot** button.
3. Do one of the following to recall the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Recall the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to recall the shot.

     Tip: Only blue buttons contain shots.

To delete a shot:

1. Tap the **Store/Recall Shots** button.
2. Tap the **Delete Shot** button.
3. Do one of the following to delete the shot:
   - On the numeric keypad, type the shot number and then tap **Enter**.
   - Delete the shot graphically:
     › Tap a **Bank** button to select a shot bank.

     Tip: Each shot bank contains 100 shots. Bank 0 contains shots 0 to 99, bank 1 contains shots 100 to 199, and so on.

     › Tap a shot button to delete the shot.

     Tip: Only blue buttons contain shots.

Backing up LCS Data

When the LCS is completely configured and ready for use, you must back up all LCS files.

Follow the instructions in the section, "**Backing Up LCS Data**" on page 4–21.

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 7–7.
- **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 7–11.

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:

- "**General Tab**" on page 7–7
- "**Cameras Tab**" on page 7–8
- "**Recall Speed Tab**" on page 7–9
- "**Preset Names Tab**" on page 7–10
- "**Joystick Tab**" on page 7–10

General Tab

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

Setting or Button	Description
Debug	Debug mode collects information about camera control panel performance. Turn Debug mode on only if asked to do so by Ross Video Technical Support.
Panasonic Controller	If you are using a **Panasonic AW-RP120** control console (joystick console), turn the **Panasonic Controller** option **ON**. **Note:** A Panasonic joystick console is not required to use the Panasonic camera control panel.
Controller IP	Specify the IP address of the **Panasonic AW-RP120** control console (joystick console), if present. **Note:** A Panasonic joystick console is not required to use the Panasonic camera control panel. **Tip:** When enabled, the Panasonic joystick control follows the selected camera. For example, if you select a camera in the camera control panel or LCS panel, the Panasonic joystick can immediately control it.
Joystick Server	Shows the IP address of the computer running the Ross Video joystick server software. This is not configurable.

Setting or Button	Description
Store Mode	By default, after you use the **Store Shot** button or the **Delete Shot** button, the **Recall Shot** button becomes the active button. If you then tap a shot button, the shot is recalled because the **Recall Shot** button is active. This helps protect you from overwriting or deleting shots if you accidentally tap a shot button without first tapping the **Recall Shot** button. The Store Mode feature enables you to change the behavior of these buttons so that whichever button you tap remains active until you tap a different one. The options are as follows: • **1-Time** — After you store or delete a shot, the **Recall Shot** button becomes the active button. • **Hold** — Whichever button you tap (**Store Shot**, **Recall Shot**, or **Delete Shot**) remains active until you tap a different one.
Camera Data	Shows the name of the current camera data file. Camera data includes camera configuration data and preset (shot) data.
Load button	Enables you to load a camera data file.
Save As button	Enables you to save a camera data file.
Send Camera Preset Names	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. **Tip:** Preset names are defined on the Preset Names tab.
Save	Saves changes made on the **General** tab. If you do not save your changes, they may be lost.

Cameras Tab

Figure 7.1 shows the **Cameras** tab.

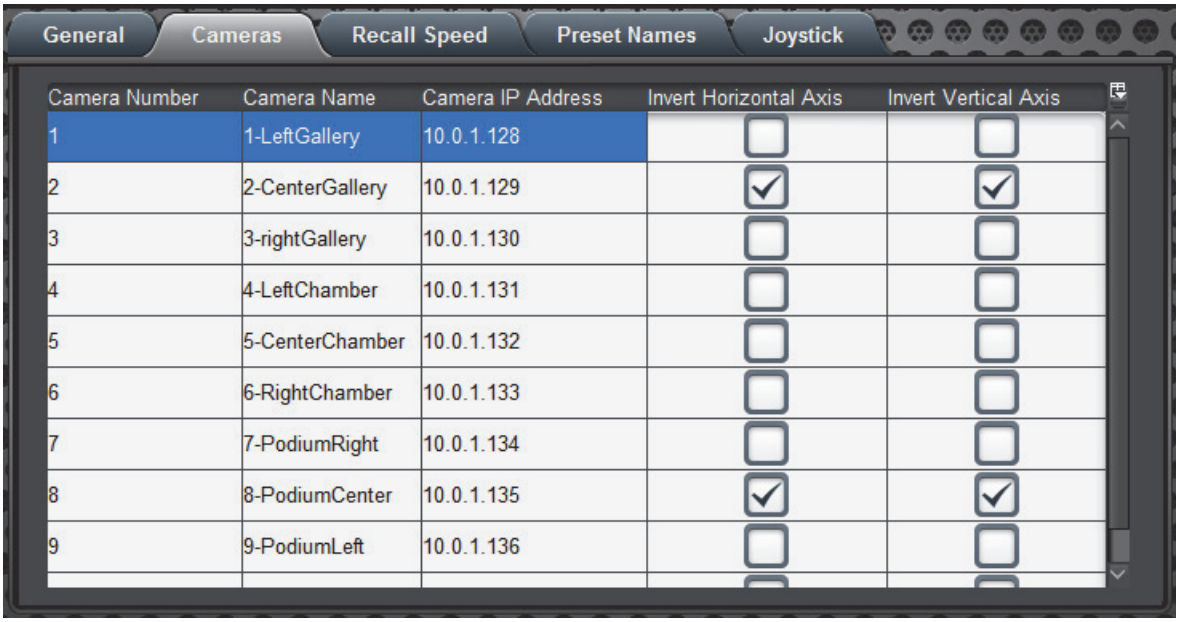


Figure 7.1 *Cameras Tab*

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

Setting or Button	Description
Camera Number	The number of the camera being controlled. This is not editable. Each row in the table represents one camera. **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, CamBot), 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 CamBot cameras, you might number the Panasonic cameras as 1, 2, 3, 7, and 9, and number the CamBot cameras as 4, 5, 6, 8, and 10. The camera numbers you assign here must correspond with the **Camera Key** numbers in the LCS panel configuration (**Config** interface, **Cameras** tab).
Camera Name	Specify a meaningful name for the camera.
Camera IP Address	Specify the IP address of the camera. Every camera must have a unique IP address. **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, CamBot), you must ensure that all camera IP addresses in the system are unique.
Invert Horizontal Axis	Reverses the direction the camera pans when manipulated by a joystick or the Camera Control window. Use this option if the camera is mounted in an inverted position.
Invert Vertical Axis	Reverses the direction the camera tilts when manipulated by a joystick or the Camera Control window. Use this option if the camera is mounted in an inverted position.

Recall Speed Tab

Figure 7.3 shows the **Recall Speed** tab.

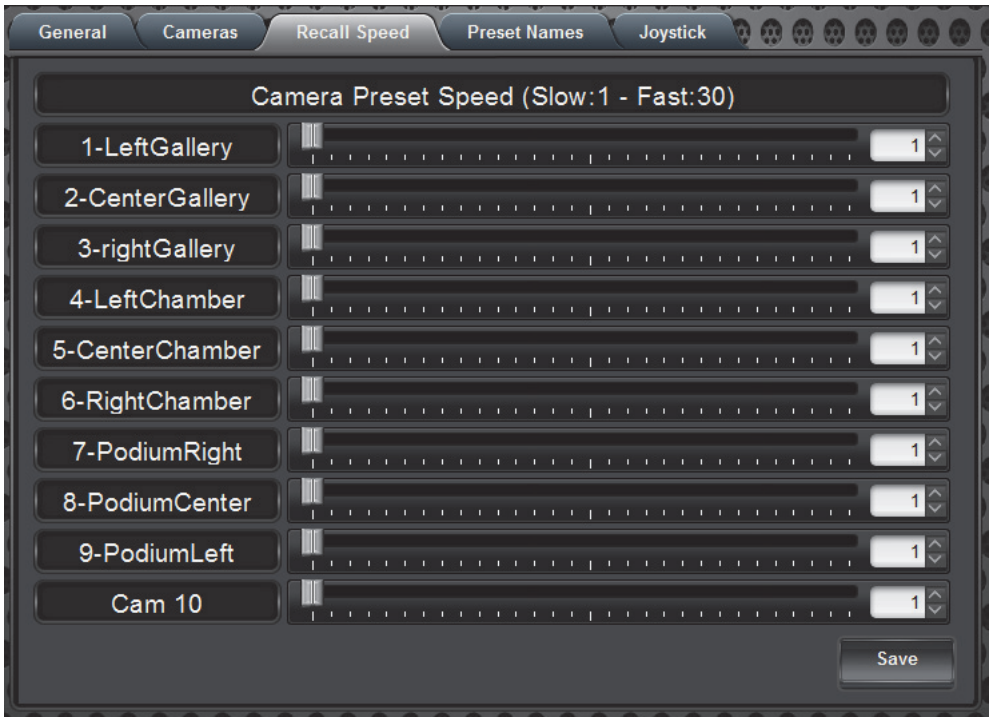


***Figure 7.2** Recall Speed Tab*

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

Setting or Button	Description
Camera preset speeds	Do one of the following to set the speed of each camera: • Tap and drag the speed slider. The speed is shown in a box to the right of the slider. • Type a number in the speed box to the right of the slider. • Tap the up and down arrows beside the speed box. **Tip:** Higher numbers represent faster speeds
Save	Saves changes made on the **Save** tab. If you do not save your changes, they may be lost.

Preset Names Tab

Figure 7.3 shows the **Preset Names** tab.

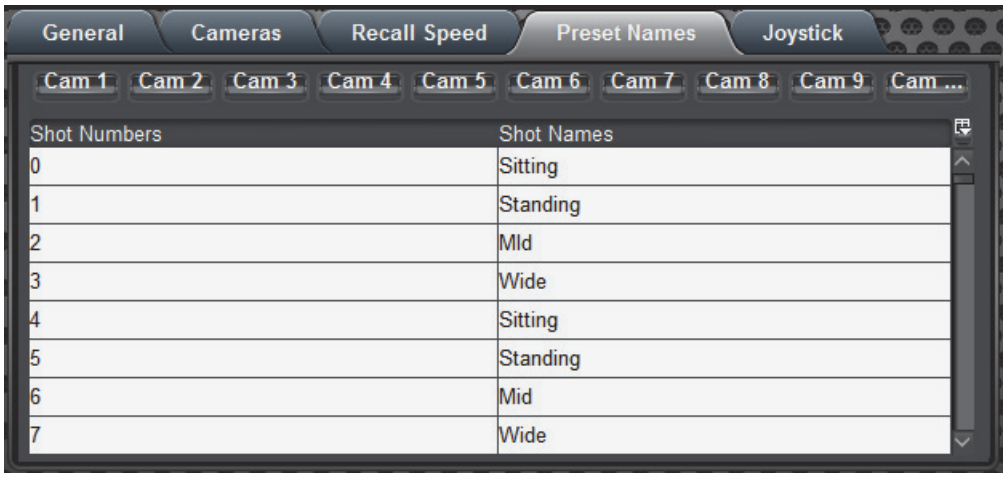


Figure 7.3 *Preset Names Tab*

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

Setting or Button	Description
Camera buttons	Each camera button 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.
Shot Numbers	Each preset on a given camera has a unique preset number, or shot number, to identify the preset. This is not configurable. Shot numbers appear in the LCS panel.
Shot Names	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”. Preset names, or shot names, appear in the LCS panel. After you define preset names, you must send them to the LCS panel by tapping the **Send Camera Preset Names** button on the **General** tab.

Joystick Tab

The **Joystick** tab displays raw data from the SmartShell Control Panel (joystick console), if equipped, for diagnostic purposes. The data is not configurable. If the tab does not show data, or says **No Connection**, then no connection to the joystick is detected.

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 7–11
- "**PTZ Controls Window**" on page 7–12
- "**Shading Controls Window**" on page 7–14

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 7.4 shows the **Store/Recall Shots** window.

Figure 7.4 *Store/Recall Shots Window*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **Store/Recall Shots** 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.
Store Shot button	Tap the button to switch to **Store Shot** mode. In **Store Shot** mode, you can save the current camera position as a shot for future recall.
Recall Shot button	Tap the button to switch to **Recall Shot** mode. In **Recall Shot** mode, you can recall saved shots for the current camera. **Recall Shot** mode is used for camera operation.
Delete Shot button	Tap the button to switch to **Delete Shot** mode. In **Delete Shot** mode, you can delete existing shots. **Tip:** Shot buttons that contain shots are blue.
Shot Selection keypad	Type a shot number and then press the **Enter** button on the keypad to store or recall a shot, depending on the current mode. Alternatively, you can type a number in the box above the keypad and then press the **Enter** button on the keypad.
Bank buttons	Tap a bank button to quickly access a group of shots. The camera control panel can only display 100 shot buttons at a time. Shot banks enable you to change which group of 100 shots is shown.
Shot buttons	Tap a **Shot** button to store, recall, or delete a shot, depending on the current mode. **Shot** buttons are used for camera operation. **Tip:** Be aware of the current mode (**Store Shot**, **Recall Shot**, or **Delete Shot**) before you tap a **Shot** button.

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.

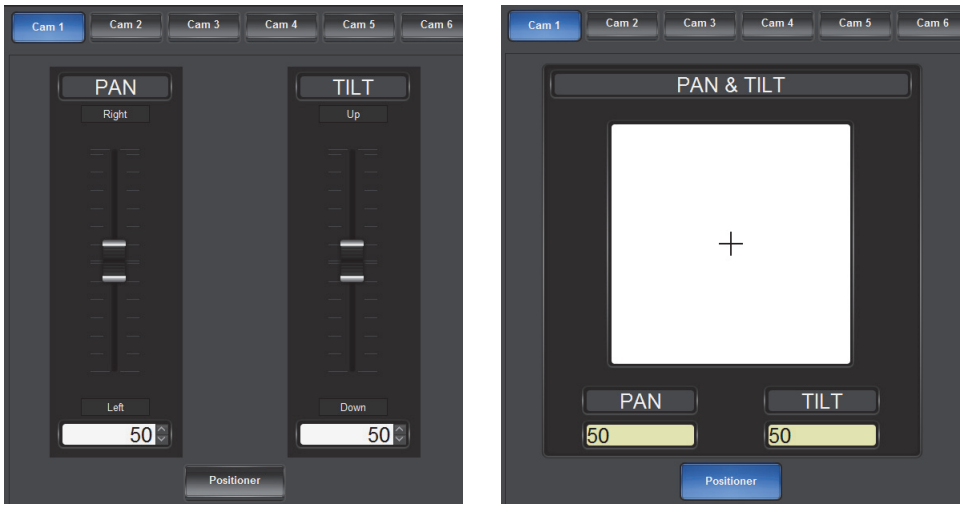
To access the PTZ Controls window:

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

Figure 7.5 shows the **PTZ Controls** window.

Figure 7.5 *PTZ Controls Window (showing Pan/Tilt positioner)*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **PTZ Controls** window includes one button per camera. Tap a button to select which camera you want to move.
Positioner button	Switches between interfaces for adjusting pan and tilt positions: • **PAN and TILT sliders** — enable you to adjust pan and tilt separately. • **PAN & TILT Positioner** — enables you to adjust pan and tilt simultaneously.  ***Figure 7.6*** *Pan/Tilt Sliders (left) and Pan/Tilt Positioner (Right)*

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

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 7.7 shows the **Shading Controls** window.

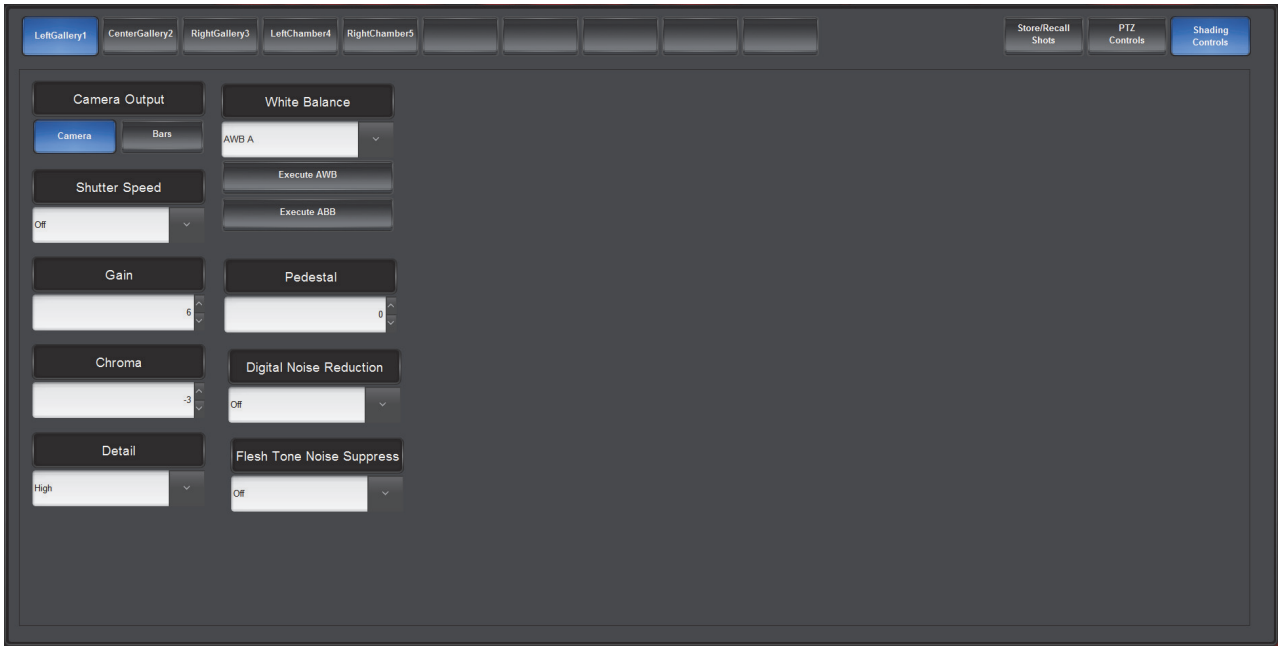


***Figure 7.7** Shading Controls Window*

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

Setting or Button	Description
Camera buttons	The row of ten buttons across the top of the **Shading Controls** window includes one button per camera. Tap a button to select which camera you want to adjust.
Camera Output	Switches between normal camera output and test bars.
Shutter Speed	Select a shutter speed from the list, or select **Off**. **Tip:** When this setting is **Off**, the shutter will not operate, even if the **Shutter** button on the camera is pressed.
Gain	Specify a gain value. The range is 0 to 30.
Chroma	Specify a chroma value. The range is -3 to 3.
Detail	Select a level of image detail (sharpness) from the list. The options are **High**, **Low**, or **Off**. **Tip:** If **Detail** is set to **High**, detail is enhanced.
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. **Note:** When you store a shot, white balance and other shading controls are not saved as part of the shot.
Execute AWB button	Tap this button to perform a white balance. If **AWB A** or **AWB B** are selected, tapping **Execute AWB** also stores the white balance level in the preset shown (**AWB A** or **AWB B**).

Setting or Button	Description
Execute ABB button	Tap this button to perform an Automatic Black Balance (**ABB**).
Pedestal	Specify a black pedestal level. The range is **-150** to **150**.
Digital Noise Reduction	Select a level of digital noise reduction. The options are **Off**, **Low**, and **High**.
Flesh Tone Noise Suppress	Select a level of flesh tone noise suppression. The options are **Off**, **Low**, and **High**.

Appendix A: XPression RossTalk Commands

XPression supports a number of RossTalk commands. The exact commands and how XPression reacts to the commands is outlined in **Table 8.1**.

Note: All commands are case sensitive.

Note: The framebuffer numbering in RossTalk does not match the numbering in XPression. For example, to select framebuffer 1 in XPression you must enter framebuffer 0 in RossTalk. For framebuffer 2, enter 1, and so on.

Table 8.1 - XPression RossTalk Commands

Command	Description
CLFB buffer	Clears framebuffer number buffer. For example, CLFB 0000 clears framebuffer 1.
CLFB buffer:layer	Clears layer number layer in framebuffer number buffer. For example, CLFB 0000:2 clears layer 2 on framebuffer 1.
CLRA	Clears all framebuffers.
CUE takeid:buffer:layer	Prepares take item takeid to go to air next in framebuffer number buffer on layer number layer. The take item is not taken to air, but is prepared to be taken to air without any frame delay. For example, CUE 3:2:-5 prepares to load the take item 3 into the framebuffer 3 and onto layer -5.
DOWN	Move the current selection in the sequencer to the item below it in the list.
FOCUS takeid	Set the sequencer focus to the take item number takeid. For example, FOCUS 0005 set the focus to take item 0005.
GPI gpi	Trigger the simulated GPI input gpi. This is treated as if the GPI input were triggered externally. For example, GPI 5 triggers GPI input 5.
NEXT	Take the current take item in the sequencer to air and advance the current selection to the next item in the list.
READ	Take the current selection in the sequencer to air.
RESUME buffer	Resumes all layers in framebuffer number buffer. For example, RESUME 0000 resumes all layers in framebuffer 1.
RESUME buffer:layer	Resumes layer number layer in framebuffer number buffer. For example, RESUME 0000:2 resumes layer 2 in framebuffer 1.

Table 8.1 - XPression RossTalk Commands

SEQI takeid:layer	Loads the take item takeid to air on layer number layer to the output channel selected in the template. The Sequencer focus moves to this item. For example, SEQI 0005:7 loads the take item 0005 onto layer 7.
SEQO takeid	Takes the take item takeid off-air. For example, SEQO 0005 takes the template with TakeID 5 off-air.
SWAP buffer	Loads all the take items that are currently in the cued state to air in framebuffer number buffer. If a framebuffer is not specified, all cued take items in all framebuffers are taken to air. For example, SWAP 0 takes all the cued take items in framebuffer 1 to air.
TAKE takeid:buffer:layer	Loads take item takeid to air in framebuffer number buffer on layer number layer. The Sequencer focus does not move to this item. For example, TAKE 5:0:7 loads the template with TakeID 5 into framebuffer 1 and onto layer 7.
UP	Move the current selection in the sequencer to the item above it in the list.