

Software Application User Guide

Layout Designer

For Platinum™ Multiviewers

Edition F

175-000402-00

Publication Information

© 2014 Imagine Communications Corp. Proprietary and Confidential.

Imagine Communications considers this document and its contents to be proprietary and confidential. Except for making a reasonable number of copies for your own internal use, you may not reproduce this publication, or any part thereof, in any form, by any method, for any purpose, or in any language other than English without the written consent of Imagine Communications. All others uses are illegal.

This publication is designed to assist in the use of the product as it exists on the date of publication of this manual, and may not reflect the product at the current time or an unknown time in the future. This publication does not in any way warrant description accuracy or guarantee the use for the product to which it refers.

Imagine Communications reserves the right, without notice to make such changes in equipment, design, specifications, components, or documentation as progress may warrant to improve the performance of the product.

Trademarks

Platinum™ are trademarks of Imagine Communications or its subsidiaries. Microsoft® and Windows® are registered trademarks of Microsoft Corporation. HD-BNC is a trademark of Amphenol Corporation. Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are registered trademarks of Dolby Laboratories. All other trademarks and trade names are the property of their respective companies.

Contact Information

Imagine Communications has office locations around the world. For locations and contact information see: [http://www.imaginecommunications.com/contact us/](http://www.imaginecommunications.com/contact-us/)

Support Contact Information

For support contact information see:

- Support Contacts: <http://www.imaginecommunications.com/services/technical support/>
- eCustomer Portal: <http://support.imaginecommunications.com>

Contents

About the Documentation

Purpose	vii
Revision History	vii
Obtaining User Guides	vii
Writing Conventions	viii

Chapter 1: Getting Started with Layout Designer

Product Description	1
Layout Designer Features	2
Multiviewer System Configuration and Monitoring	2
Layout Creation and Design	3
Supported Hardware	3
Minimum System Requirements	3
Installing Layout Designer	4

Chapter 2: Layout Designer Workspace

Layout Designer Workspace	5
Application Menus	6
Layout Designer Application Toolbar	13
Tools Palette	14
Layout Canvas	15
Multiviewers Panel	16
Library Panel	18
Properties Pane	19
Layout Designer Context Menu	19
Customizing the Layout Designer Workspace	22
Setting Panels and Panes Viewing Options	22
Saving and Loading Configuration Files	23
Setting Your Layout Designer Preferences	24
Setting General Preferences	24
Setting Default Layout Properties	26
Setting Default Window Properties	28
Setting Default PiP Properties	30
Setting Default Label Properties	33
Closing Layout Designer	35
Using the Layout Designer Library Panel	35
Adding Layout Objects to the Library Panel	36

Chapter 3: Configuring Display Mode

Overview	37
When No Multiviewers are Connected	37
Adding Output Displays to the Device List	38
Device Manager Dialog Box	38
Output Module Advanced Configuration	40
Configuring Output Display Devices	41
Changing IP Address Settings	43
Platinum PT-RES Configuration	43
Setting Up External Devices	44
Getting Version Information	46
Configuring Network Time Protocol (NTP)	46
Enabling Alarm Logging	47

Chapter 4: Working with Layouts

About Layouts	49
Creating New Layouts	51
Layout Creation Workflows	51
Creating a New Layout Using the Layout Creation Wizard	52
Creating a New Layout from a Blank Layout	57
Locking and Unlocking Layouts	58
Saving Layouts	59
Viewing Layouts	60
Connecting Layout Designer to a Harris Multiviewer	61
Disconnecting Layout Designer from a Harris Multiviewer	62
Rebooting and Restarting a Connected Harris Multiviewer	62
Displaying and Publishing Layouts	62
Displaying and Opening Layouts Stored on the Multiviewer	63
Publishing Modified Layouts	64
Publishing Layouts From Layout Files	65
Layout Properties	65
Viewing Layout Properties	65
Modifying Layout Properties	66

Chapter 5: Working with Layout Objects

Layout Objects	69
Layout Object Properties	71
Adding Layout Objects to a Layout	71
Formatting Layout Objects in the Canvas	73
Copying and Pasting Layout Object Properties	74
Cloning Layout Objects	74
Resizing and Moving Layout Objects Using a Mouse	75
Working With Groups of Objects	76
Setting Like Objects' Properties	76
Remove Like Objects from Control for a group of windows	76
Aligning and Distributing Objects in a Layout	76
Creating Layout Windows	78
Creating New Windows	80

Breaking Apart a Window	81
Consolidating a Window	82
Modifying Window Properties Using the Properties Pane	82
Creating Scrolling Regions	84
Creating a Scrolling Region	84
Changing Details for a Scrolling Region	84
Assigning Sources to a Scrolling Region	85
Assigning a Motion Type to a Scrolling Region	86
Modifying a Scrolling Region's Background	86
Resizing and Moving Scrolling Regions	87
Adding a Scrolling Region to the Library	87
Modifying Border Properties	88
Selecting a Border for Modification Within a Window	88
Applying Borders Using the Properties Pane	88
Modifying Borders Using the Properties Pane	89
Creating New Border Styles	90

Chapter 6: Working with PiPs

About Picture-In-Pictures (PiPs)	93
Adding PiPs to a Layout	95
Modifying PiPs Using the Properties Pane	95
Test and Measurement	104
Test and Measurement Display Modes	104
Configuring the Test and Measurement Display Modes	108

Chapter 7: On-Screen Data Tools

About On-Screen Data Tools	111
Creating Audio Meters	112
Adding Audio Meters to a Layout	113
Mapping Audio Meters	114
Setting Audio Meter Appearance Properties	114
Setting Audio Meter Size and Position	115
Creating Tally Indicators	116
Adding Tally Indicators to a Layout	116
Modifying Tally Indicator Properties	116
About Labels	119
Setting the Label Text Source	120
Modifying Label Appearance Properties	122
Modifying Label Size and Position Properties	123
Activating and Modifying Scrolling Properties	123
About Layout Clocks	124
Adding Clocks to a Layout	124
Modifying Clock Properties	124
About Up/Down Counters	128
Adding Counters to a Layout	128
Modifying Counter Properties	129
Manually Controlling a Counter	130
Controlling a Counter Using SNMP or CCS (Navigator or NUCLEUS)	131

Chapter 8: Alarms and Info Panels

About Monitoring Tools	133
Using the Rules Menu	134
Using the Alarms Property Pane	135
Defining Alarms for a Layout Object	138
Setting Alarm Detector Threshold Values	141
Setting Alarm Actions	144
Alarm Templates	146
Testing an Alarm	150
Testing an Action	150
Configuring Global Alarms	150
Configuring Layout Events and Global Events	153
Deleting Events	155
Creating Info Panels	156
Adding Info Panels to a Layout	156
Modifying Info Panel Properties	156
Setting Metadata Display Options	163
Setting Info Panel Metadata Options	164
Configuring AFD and WSS Monitoring	165
Configuring Audio Monitoring	166
Configuring Dolby E Monitoring	166

Chapter 9: On-Screen Controls

On-Screen Menus	173
Remote Mouse Control	176
Controlling a VNC PiP	176
Controlling a Counter	177
Using the Multiviewer Web Interface	177
Starting the Multiviewer Web Interface	177
Controlling User Access to the Multiviewer Web Interface	179
Choosing a Layout	180
Changing PiP Sources in a Layout	180
Importing and Editing Label Text	181
Editing Label Text Manually	182

Appendix A: Frequently Asked Questions

How Do I Access the Components Within my PiP?	183
Can I Store and Recall PiP Properties?	183
Why Can't I Close All the Layouts?	183
What is the Behavior of the Undo Feature?	183

Index

Keywords	185
----------------	-----

About the Documentation

Purpose

Both the *User Guide* and *Online Help* describe in non-technical language how software administrators, station engineers, and operators can install and operate the Layout Designer software.

Revision History

Table P-1. Revision History

Edition	Date	Revision History
Edition A	February 2008	Initial release
Edition B	December 2008	Updates the manual to software version 3.3
Edition C	March 2009	Updates the manual to software version 3.5
Edition D	July 2009	Updates the manual to software version 3.6
Edition E	December 2009	Updates the manual to software version 3.7
Edition F	February 2010	Updates the manual to software version 3.8

Obtaining User Guides

The documentation for your product is included on the Installation CD as an Adobe Acrobat PDF file. The *Layout Designer Online Help* is an electronic document integrated into the software.

To obtain additional printed copies of these manuals, you have three options:

- Use the included Adobe Acrobat Reader software to open and print the consolidated Adobe PDF file of the user manuals included on the Installation CD.
- Download and print the consolidated Adobe PDF file from our website.

- Order a user manual in printed, spiral-bound form from your Customer Service representative. When you order user manuals, refer to the part number to ensure that you get the user manual you require.

Table P-2. User Guide Part Numbers


User Manual	Part Number
<i>Layout Designer Software Application User Guide</i>	175-000402-00

While working in the application, you can open the *Online Help* and print out individual topics.

Writing Conventions

This documentation adheres to the following writing conventions:

Table P-3. Conventions

Term or Convention	Description
Bold	Indicates dialog box, property sheet, field, button, check box, list box, combo box, menu, submenu, window, list, and selection names
<i>Italics</i>	Indicates email addresses, names of books and publications, and first instances of new terms and specialized words that need emphasis
CAPS	Indicates a specific key on the keyboard, such as ENTER, TAB, CTRL, ALT, DELETE
Code	Indicates variables or command-line entries, such as a DOS entry or something you type into a field
>	Indicates the direction of navigation through a hierarchy of menus and windows
hyperlink	Indicates a jump to another location in the document or elsewhere
Internet address	Indicates a jump to a Web site or URL
 Note	Indicates important information that helps to avoid or troubleshoot problems
[VersionNo.]	Placeholder for a software version number

Getting Started with Layout Designer

Product Description

Your Layout Designer software has two primary functions: to create and edit layouts for Harris multiviewers, and to configure Harris multiviewer hardware. Using Layout Designer, you can configure your multiviewer system settings, and add and configure on-screen input audio and video alarms and on-screen digital clocks.

Figure 1-1 provides a simple illustration of how Layout Designer works with your Harris multiviewer system.

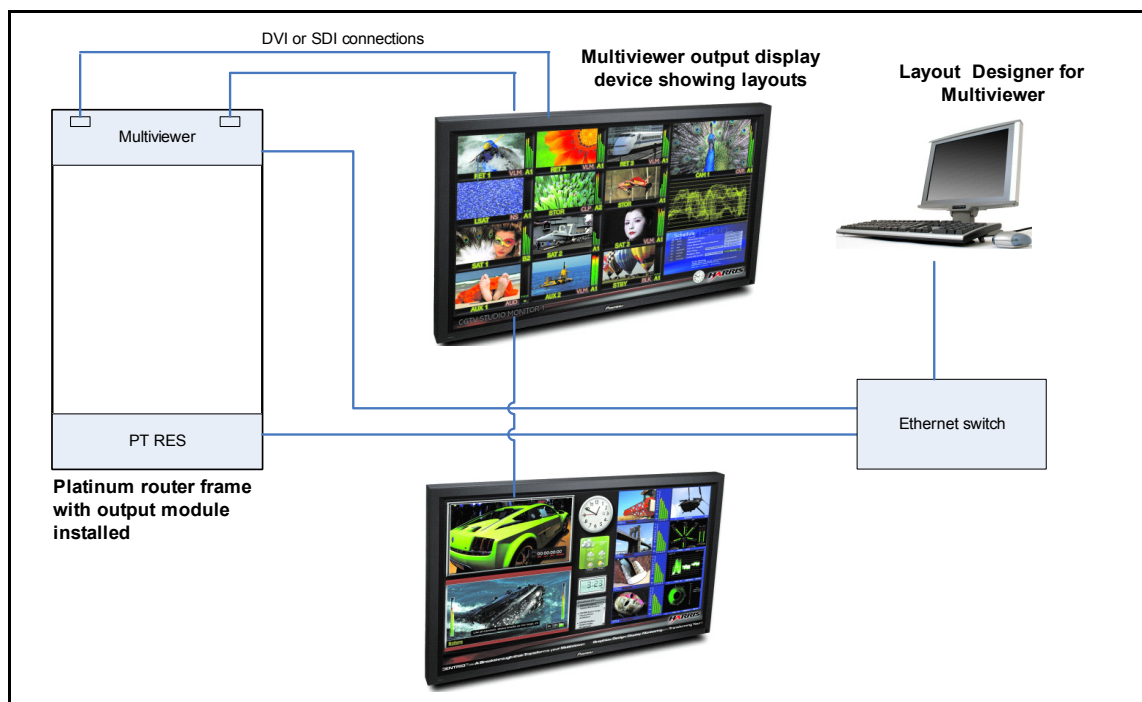


Figure 1-1. Layout Designer and Multiviewer Hardware

Layout Designer provides a number of hardware-related configuration, control, and monitoring capabilities, including the following:

- Access all router inputs in the multiviewer's routing matrix

- Configure multiviewer hardware and calibrate output display devices
- Assign router inputs to layouts, Picture-in-Pictures (PiPs), and audio meters
- Monitor input audio and video signals for user-defined alarm conditions
- Configure processing rules for specific system events and conditions

Layout Designer provides a number of layout design-related capabilities, including the following:

- Create new layouts from preset layout templates
- Create customized layout objects including PiPs, borders, and tally indicators
- Drag and drop layout objects onto layout canvas
- Store customized layout objects in a library for later use in layouts
- View and select layouts from multiple Harris multiviewer systems

You can create custom layouts for the Harris multiviewer, or you can edit existing layouts by modifying individual PiP layout settings to create custom display layouts. Once a layout is generated, you can use Layout Designer to upload (publish) it to your multiviewer, or save it to a local or network PC drive.

When it is installed on a PC, Layout Designer communicates directly with your multiviewer system over Ethernet. Layout Designer is supported with Online Help.

Layouts created with Layout Designer can be published on the multiviewer hardware using CCS Navigator, NUCLEUS, or on-screen control. For more information, see your *Harris Multiviewer Hardware Installation, Configuration, and Operation Manual*.

Layout Designer Features

Layout Designer features include but are not limited to the following:

- Harris multiviewer system configuration and monitoring
- Layout design and creation

Multiviewer System Configuration and Monitoring

Use Layout Designer for your Harris multiviewer's system configuration and monitoring features to:

- Complete configuration of system hardware
- Set up three different output display modes:
 - Redundant mode
 - Independent mode
 - Spanning mode
- Set up layouts
- Display title markers, V-Chip rating, closed captioning, AFD, WSS, aspect ratio markers, teletext data, and VITC, closed captioning, and teletext

- Configure and display input audio and video signal alarms, including audio under and over level alarms, and black and frozen video alarms
- Configure system processing rules that respond to specific hardware and alarm conditions and events
- Configure audio meters for up to 16 embedded audio, analog audio, Dolby E, and AES discrete audio channels for each PiP

Layout Creation and Design

Use Layout Designer's layout creation and design features to

- Create layouts from a blank layout
- Select from a variety of layout output resolutions and layout background colors
- Add layout objects, such as PiPs, borders, layout windows, labels, audio meters, and alarms to a layout using basic Windows skills
- Resize and position PiPs and other layout objects with pixel accuracy using direct-entry window coordinates
- Creating scrolling labels and scrolling regions
- Group layout objects into layout windows
- Create customized layout objects including PiPs, border styles, digital clocks, and audio meters
- Store custom layout objects in the Layout Designer object library
- Open and edit all layouts/files that are stored on connected multiviewer systems

Supported Hardware

You can use Layout Designer with multiviewer hardware. See your *Harris Multiviewer Hardware Installation and Operation Manual* or your product sales representative.

Minimum System Requirements



Note

Layout Designer does not work with 64-bit operating systems.

For best results, Layout Designer requires a PC with the following system specifications:

- Intel™ dual-core processor or higher
- 2.0 GB or more of physical memory (RAM)
-
- Microsoft™ Windows® XP, Windows Vista, or Windows 7

- Monitor with SXGA (1280 x 1024) or higher resolution

For best results, set the display font size to Normal (Control Panel > Display > Appearance > Font Size).

Installing Layout Designer

Install Layout Designer on a PC that meets the recommended system requirements. Your PC does not need to be connected to a Harris multiviewer system to install Layout Designer.



Note

You will need Microsoft .NET Framework 3.5. If this application has not already been installed on your system, download it or install it from the supplied CD.

If you have another version of Layout Designer installed on your system, remove it before installing the upgraded version. Do this by clicking **Explorer** on the Multiviewer Control Panel, and then using the Add/Remove Programs feature in the Windows Control Panel.

To install the Layout Designer software, close all other applications running on the PC, and then insert the Layout Designer installation CD into the PC CD-ROM drive. The setup program starts automatically. Follow the on-screen instructions to install the software.



Figure 1-2. Installing Layout Designer



Note

If the installation does not start automatically, double-click the Layout Designer-V*-Setup.exe file on the CD (where “*” is the version number).

Layout Designer Workspace

Layout Designer Workspace

When you start Layout Designer, the workspace appears similar to [Figure 2-1](#).

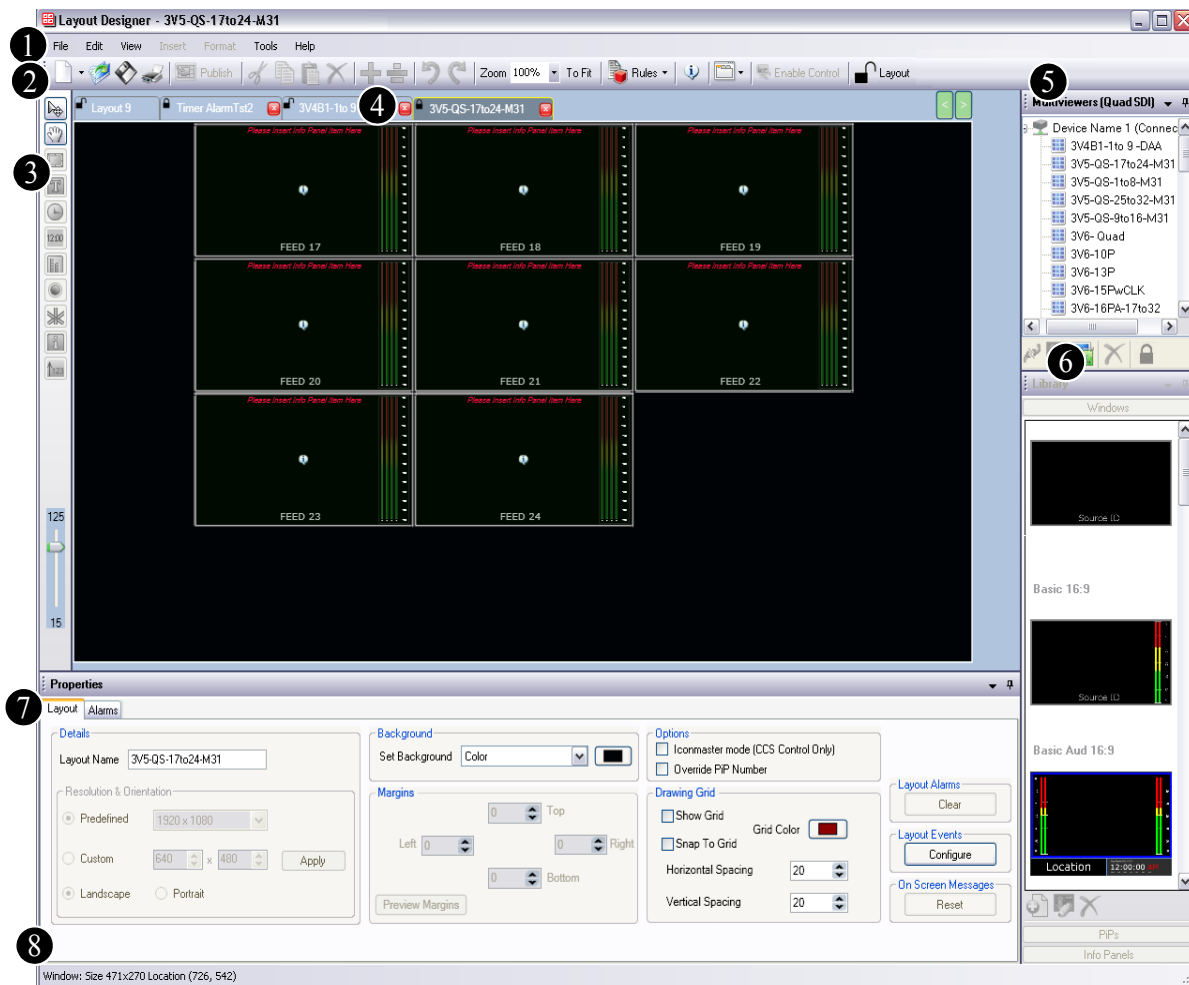


Figure 2-1. Layout Designer Workspace

The Layout Designer workspace is the area from which you open, publish, create, and modify multiviewer display layouts. The workspace has quick-access menus and palettes to help you create and modify layouts and PiPs, as well as to configure audio meters, alarms, and metadata. You can customize the Layout Designer workspace to suit the tasks you are performing.

Each workspace element is described below:

- ❶ **Application menu** - Provides access to Layout Designer's main commands and options. In addition, the menu provides access to the software preference settings. See [“Application Menus” on page 6](#).
- ❷ **Application toolbar** - Provides quick access to commonly-used commands and options. Some of these options also appear in the Application menu. See [“Application Menus” on page 6](#) and [“Layout Designer Application Toolbar” on page 13](#).
- ❸ **Tools palette** - Provides tools for adding and editing layout objects such as PiPs, labels, clocks, tally indicators, info panels, counters, and audio meters to the layout canvas. See [“Tools Palette” on page 14](#).
- ❹ **Layout canvas** - Displays the layout that is being created or edited when a Layout Designer tab is open. More than one layout can be open at one time, but only one layout is visible in the layout canvas. Each layout can be viewed using the layout tab at the top of the canvas. See [“Layout Canvas” on page 15](#).
- ❺ **Multiviewers panel** - Displays the multiviewer systems that are currently and previously connected to the Layout Designer. All systems that are displayed in the Multiviewers panel (connected and disconnected) have been configured by Layout Designer. For more information, see [“Multiviewers Panel” on page 16](#).
- ❻ **Library panel** - Provides access to stored layout objects (PiPs, windows, info panels). Where applicable, each library tab lists the specific name of the object and provides a preview of how the object will appear in a layout. For more information, see [“Using the Layout Designer Library Panel” on page 35](#).
- ❼ **Properties pane** - Provides access to user-configurable properties for the layout and layout objects currently displayed in the canvas. You can use the Properties pane to modify layout, window, and layout object properties. For information, see [“Layout Properties” on page 65](#) and [“Layout Object Properties” on page 71](#).
- ❽ **Application status bar** - Displays the current status of the Layout Designer application and other operation information.

Application Menus

In some cases, the application menus duplicate commands and options that are accessible from the application toolbar shortcuts (see [“Layout Designer Application Toolbar” on page 13](#)). Some advanced configuration options are only available using the menus.

Note the following menu information:

- Shortcut keystrokes are listed to the right of the menu item.
- Commands that are not relevant to the selected mode are unavailable.
- The Layout Designer context menu can be accessed by right-clicking items in the layout window.

The following tables describe each Layout Designer menu item and its options.

Table 2-1. File Menu Items and Options








Menu Item/Shortcut Key	Icon	Description
New	  	Layout Using the Layout Creation Wizard - Opens the Layout Creation Wizard dialog box, from which you can create a customized layout. See “Creating a New Layout Using the Layout Creation Wizard” on page 52. Blank Layout - Opens a blank layout. See “Creating a New Layout from a Blank Layout” on page 57. Configuration - Opens the Device Manager dialog box, which you can use to create a new multiviewer configuration or modify an existing configuration. See “Chapter 3: Configuring Display Mode” on page 37.
Open Ctrl+O		Opens the Open dialog box, from which you can open a layout file that is stored on a local or network drive. See “Viewing Layouts” on page 60.
Close		Closes the layout that is currently open.
Save Ctrl+S		Saves the layout as a .lay file to a previously specified file name and location. See “Saving Layouts” on page 59.
Save As		Opens the Save As dialog box, from which you can specify a file name (.lay file) and location for the layout file. See “Saving Layouts” on page 59.
Save All Ctrl+Shift+S		Saves all open layouts. See “Saving Layouts” on page 59.
Page Margin Setup		Opens the Page Margin Setup dialog box where you specify the margin widths for the print out of the layout when you click Print Layout on the toolbar.
Print Ctrl+P		Opens a Print dialog where you can choose a printer and print the selected layout.
Publish F12		Sends the currently displayed layout and any new changes to the selected multiviewer. See “Displaying and Publishing Layouts” on page 62.
Exit		Closes the Layout Designer application.

Table 2-2. Edit Menu Items and Options







Menu Item/Shortcut Key	Icon	Description
Undo Ctrl+Z		Cancels the last operation performed on the current layout. Layout Designer supports multiple levels of the Undo command.
Redo Ctrl+Y		Reinstates the last operation performed on the currently open layout when the Undo command has been used.
Delete		Deletes the selected layout object.
Copy Ctrl+C		Copies the selected layout object and places it on the clipboard, from which the object can be pasted to another location.
Cut Ctrl+X		Cuts the selected layout object from the current location and places it on the clipboard, from which the object can be pasted to another location.
Paste Ctrl+V		Pastes the last layout object placed on the clipboard by either a Cut or Copy command.
Select All Ctrl+A		Selects all objects in the layout.
Deselect Ctrl+D		Cancels the selection of objects in the layout.
Break Window		Breaks apart the objects contained in a window.
Create a Window		Creates a window from two or more selected layout objects.
Lock Window		Prevents accessing the properties of individual layout objects within a window.
Bring to Front		Brings the selected window to the top of the layout; also available as a right click option on objects (Order > Bring to Front).
Send to Back		Sends the selected window to the bottom of the layout; also available as a right click option (Order > Send to Back).
Multiviewer Configuration		Opens the Multiviewer Configuration dialog box that you use to modify your multiviewer configuration. See “Chapter 3: Configuring Display Mode” on page 37.
Preferences		Opens the Layout Designer Preferences dialog box, from which you can set your application preferences. See “Setting Your Layout Designer Preferences” on page 24.

Table 2-3. View Menu Items and Options





Menu Item	Icon	Description
Properties		Shows the Properties pane.
Multiviewers		Shows the Multiviewers panel.
Library		Shows the Layout Designer Library panel.
Restore All Panel Default States		Resets the Properties , Multiviewers , and Library panels to their default positions. You must restart Layout Designer for the change to take effect.
Zoom In Ctrl+Up		Magnifies the current display of the layout. Depending on the current view, each time you select Zoom In , the layout display is magnified by increments of 50% or 25%.
Zoom Out Ctrl+Down		Reduces the current display of the layout. Depending on the current view, each time you select Zoom Out , the layout display is reduced by increments of 50% or 25%.
Fit on Screen		Resizes the layout so that entire layout is displayed in the available screen space. The display size is limited by the size of the Properties pane.

Table 2-4. Insert Menu Items and Options






Menu Item	Icon	Description
PiP		Inserts a PiP into the current layout. Inserted PiPs have default properties (width, height, and aspect ratio) that can be modified using the Properties pane. See “About Picture-In-Pictures (PiPs)” on page 93 .
Label		Inserts a new label into the current layout. Inserted labels have default properties that can be modified using the Properties pane. See “About Labels” on page 119 .
Analog Clock		Inserts an analog clock into the current layout. Inserted clocks have a default properties that can be modified using the Properties pane. See “About Layout Clocks” on page 124 .
Digital Clock		Inserts a default digital clock into the current layout. Clocks have a default size and style that can be modified using the Properties pane. See “About Layout Clocks” on page 124 .
Tally		Inserts a default tally indicator into the current layout. Inserted tally indicators have default properties that can be modified using the Properties pane. See “About Monitoring Tools” on page 133 .

Table 2-4. Insert Menu Items and Options (*Continued*)





Menu Item	Icon	Description
Audio Meter		Inserts a default audio meter into the current layout. Inserted audio meters have default properties which can be modified using the Properties pane. See “Defining Alarms for a Layout Object” on page 138.
5.1 Audio Meter		Inserts a 5.1 stereo surround sound type audio meter into the current layout. Inserted audio meters have default properties which can be modified using the Properties pane. See “Defining Alarms for a Layout Object” on page 138.
Info Panel		Inserts an overlay that provides data from a source or PiP on the display. See “Creating Info Panels” on page 156.
Up/Down Counter		Inserts a counter that can be the target or trigger for alarms, and can count up or down. See “About Up/Down Counters” on page 128.
Add Object to Library		<ul style="list-style-type: none"> • PiP - Adds the selected PiP to the PiPs section of the Library panel • Window - Adds the selected window to the Windows section of the Library panel • Info Panel - Adds the selected info panel to the Info Panels section of the Library panel

Table 2-5. Format Menu Items and Options

Menu Item	Icon	Description
Copy Properties		Copies the properties from the selected object so that they can be pasted to other objects. See “Copying and Pasting Layout Object Properties” on page 74.
Paste Properties		Pastes all of the copied properties to the selected object. See “Copying and Pasting Layout Object Properties” on page 74.
Paste Selected Properties		Opens the Paste Category dialog box, from which you can select the properties you want to paste to the selected object. See “Copying and Pasting Layout Object Properties” on page 74.

Table 2-5. Format Menu Items and Options (*Continued*)









Menu Item	Icon	Description
Align	     	<p>Opens a drop-down menu, from which you can select the following alignment commands:</p> <ul style="list-style-type: none"> • Left - Aligns the selected layout objects along the left axis of the first object selected • Right - Aligns the selected layout objects along the right axis of the first object selected • Top - Aligns the selected layout objects along the top axis of the first objects selected • Bottom - Aligns the selected layout objects along the bottom axis of the first object selected • Center Vertical - Aligns the selected layout objects along a vertical axis that runs through the center of the layout window • Middle Horizontal - Aligns the selected layout objects along a horizontal axis that runs through the middle of the layout window <p>See “Aligning and Distributing Objects in a Layout” on page 76.</p>
Distribute	 	<p>Opens a drop-down menu, from which you can select the following distribute commands:</p> <ul style="list-style-type: none"> • Widths - Distributes the distance between the selected layout objects by width • Heights - Distributes the distance between the selected layout objects by height <p>See “Aligning and Distributing Objects in a Layout” on page 76.</p>

Table 2-6. Tools Menu Items and Options





Menu Item/ Shortcut Key	Icon	Description
Connect to Device		Connects Layout Designer to the selected multiviewer.
Disconnect From Device		Disconnects Layout Designer from the currently connected multiviewer.
Edit Device		Opens the Device Manager dialog box, from which you can edit the configuration of the selected multiviewer. See “Adding Output Displays to the Device List” on page 38 .
Delete Device		Deletes the selected multiviewer configuration from the folder.

Table 2-6. Tools Menu Items and Options (*Continued*)

Menu Item/ Shortcut Key	Icon	Description
Start Multiviewer		Triggers the selected multiviewer to load its layout.
Exit Multiviewer		Triggers the selected multiviewer to revert to its desktop.
Restart Multiviewer		Restarts the currently connected multiviewer.
Reboot Multiviewer		Reboots the currently connected multiviewer.
Shutdown Multiviewer		Powers down the selected multiviewer.
Shutdown all Multiviewers		Powers down all multiviewers simultaneously.
Advanced Configuration		Opens the Advanced Configuration dialog box, from which you can determine various hardware settings. See “Output Module Advanced Configuration” on page 40.
View System Logs		Provides access to logs by opening a web browser, and then connecting to the Logging Server.
COPY Configuration Files		Opens a browse dialog box where you can save files to be copied to the specified location. See “Saving and Loading Configuration Files” on page 23 for more information.
LOAD Configuration Files		Opens a browse dialog box, so you can load configuration files to Layout Designer See “Saving and Loading Configuration Files” on page 23 for more information.

Table 2-7. Layout Menu items and Options

Menu Item	Icon	Description
<Layouts>		There is an item in this menu for each layout that is open.

Table 2-8. Help Menu Items and Options

Menu Item/Shortcut Key	Description
Help F1	Opens the online help.
About Layout Designer	Opens the About Layout Designer dialog box, which displays the version of the software.

Layout Designer Application Toolbar

You can use the Layout Designer toolbar to access frequently-used commands and options. Some of these functions are also accessible using the Layout Designer application menu (descriptions of their functions are located in [“Application Menus” on page 6](#)).

Some options are only available from the Layout Designer application toolbar. The following table describes these application toolbar options:

Table 2-9. Application Toolbar Options







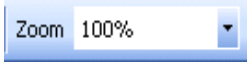





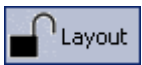
Option Name	Icon	Description
New		<p>Layout Using the Layout Creation Wizard - Opens the Layout Creation Wizard dialog box, from which you can create a customized layout. See “Creating a New Layout Using the Layout Creation Wizard” on page 52.</p> <p>Blank Layout - Opens a blank layout. See “Creating a New Layout from a Blank Layout” on page 57.</p> <p>Configuration - Opens the Device Manager dialog box, which you can use to create a new multiviewer configuration or modify an existing configuration. See “Chapter 3: Configuring Display Mode” on page 37.</p>
Open Ctrl+O		Opens the Open dialog box, from which you can open a layout file that is stored on a local or network drive. See “Viewing Layouts” on page 60 .
Save Ctrl+S		Saves the layout as a .lay file to a previously specified file name and location. See “Saving Layouts” on page 59 .
Print Ctrl+P		Opens a Print dialog where you can choose a printer and print the selected layout.
Clone a Component		Creates a control similar to the currently selected control, with the differences being unique number and name, video source, dynamic source PiP number, and UMD address, which are all incremented
Centralize Layout Components Horizontally and Vertically		Moves all objects within the layout so that they are aligned to the center of the layout. This tool does not alter the positional relationships between various items in the layout, but changes all items' position with respect to the canvas
Zoom		Increases or reduces the size of the current display of the layout. You can choose from zoom options ranging from 15% to 125% (in 1% increments), or you can fit the display on the screen.
Rules		Provides access to tools for creating and managing alarms and events through a drop-down menu. See “Using the Rules Menu” on page 134 for a list. For a complete explanation of events and alarms, see “Alarms and Info Panels” on page 133 .

Table 2-9. Application Toolbar Options (*Continued*)

Option Name	Icon	Description
Open/Close PiP Info Window		Opens or closes the PiP Info windows on all PiPs in the layout.
Layout Designer Panels		Highlights the selected panel (either Properties , Multiviewers , or Library).
Enable Control		Activates mouse control on the multiviewer's output module from Layout Designer. To deactivate the mouse control, press ALT + F7 on your keyboard. For more information, see “Remote Mouse Control” on page 176 .
Lock/Unlock Layout	 	This button has two states: Unlock Layout and Lock Layout. When the layout is unlocked, you can drag and drop items in the layout, in addition to adjusting the attributes of objects in the Properties panel. When a layout is locked, you can still use the Properties panel to adjust attributes of objects in the layout, but you cannot add, delete, or move objects in the layout. Context menus do not appear when you right click on a locked layout.

Tools Palette

Use the Tools palette to insert, select, move, and resize layout objects that are in the currently-displayed layout. Objects that are inserted into layouts using the palette's insert tools have default property settings. See [“Layout Objects” on page 69](#).

The following table describes each Tools palette option:

Table 2-10. Layout Editing Palette













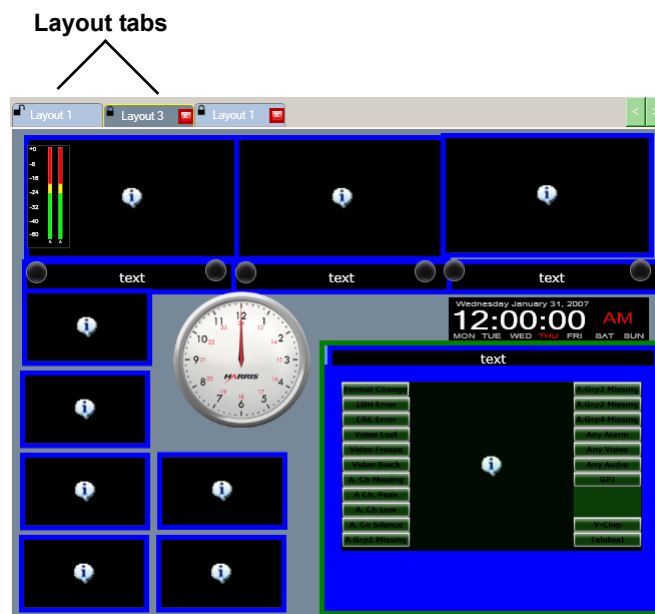
Icon	Tool	Description
	Select	Allows you to select, move, or resize individual or groups of objects in the layout. See “Copying and Pasting Layout Object Properties” on page 74 .
	Pan	Pans across the layout when the layout display is magnified.
	Insert PiP	Inserts a single default PiP into the current layout. See “About Picture-In-Pictures (PiPs)” on page 93 .
	Insert Label	Inserts a label into the current layout. See “About Labels” on page 119 .
	Insert Analog Clock	Inserts an analog clock into the current layout. See “About Layout Clocks” on page 124 .
	Insert Digital Clock	Insert a digital clock into the current layout. See “About Layout Clocks” on page 124 .

Table 2-10. Layout Editing Palette(*Continued*)

Icon	Tool	Description
	Insert Audio Meter	Inserts a multi-channel audio meter into the current layout. See “Defining Alarms for a Layout Object” on page 138.
	Insert Tally	Inserts a tally into the current layout. See “Creating Tally Indicators” on page 116.
	Insert 5.1 Audio Meter	Using this tool, you can choose to insert a six-channel audio meter for monitoring 5.1 channel surround sound audio. See “Defining Alarms for a Layout Object” on page 138.
	Insert Info Panel	Using this tool, you can insert an overlay that provides data from a source or PiP on the display. See “Creating Info Panels” on page 156.
	Insert Up/Down Counter	Using this tool, you can insert a unidirectional counter. See “About Up/Down Counters” on page 128.
Zoom		Slides up and down to increase and decrease the size of the current display of the layout. As you drag the slider, the zoom indicator displays the current size.

Layout Canvas

The layout canvas is the design space used to create and edit layouts.

**Figure 2-2.** Layout Canvas

When multiple layouts are open in Layout Designer, the layouts' names are listed on multiple tabs across the top of the canvas. Each tab also indicates the layout's locked or unlocked status.

You can use Layout Designer's editing tools to manipulate and modify PiPs and other layout objects. You can add objects to your layout by clicking them in the Tools palette, or by dragging the objects from the Library pane and dropping them onto the layout canvas.

Multiviewers Panel

The Multiviewers panel lists the multiviewer systems that are currently configured using Layout Designer. In most cases, the multiviewers listed in the panel have been previously configured with Layout Designer. This means that a unique configuration exists for the multiviewers listed in this Multiviewers panel.

Figure 2-3 shows the Multiviewers panel and its components.

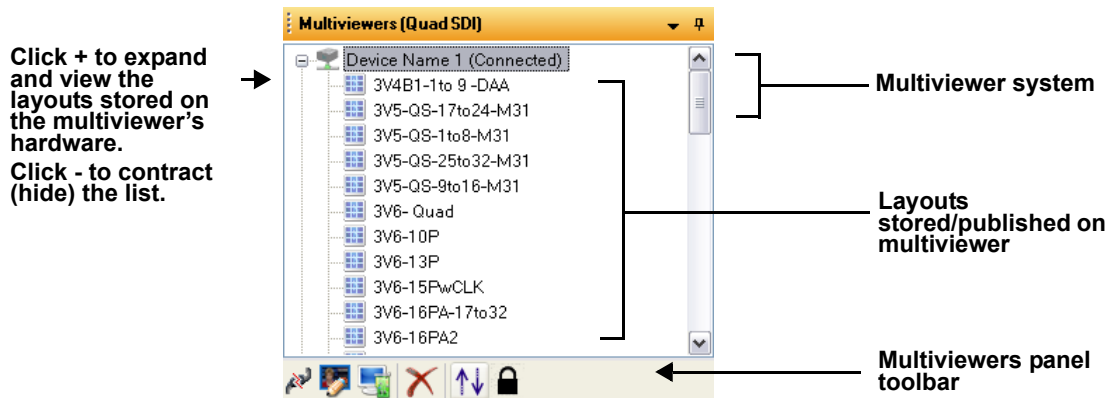


Figure 2-3. Multiviewers Panel

Expand the multiviewer system icon to display layouts that are currently stored on the multiviewer's hardware.

Use the Multiviewers panel menu or toolbar to connect to and disconnect from multiviewers, open the **Device Manager** dialog box to edit or create a new configuration, and delete a multiviewer from the Multiviewers panel.

If Layout Designer cannot detect a multiviewer that was previously connected to the software, **Disconnected** is displayed in the Multiviewers pane.

Double-click on any layout to open that layout in Layout Designer.









Using the Preferences dialog box, you can choose to have Layout Designer automatically connect to the last multiviewer that was connected to the software at startup, as well as automatically attempt to reconnect to a multiviewer when the previously established connection is lost. For more information, see [“Setting Your Layout Designer Preferences”](#) on page 24.

Multiviewers Panel Context Menu and Toolbar

Toolbar icons may not be available depending on the item that is selected. When you right-click on a multiviewer, a context menu appears.

[Table 2-11](#) describes each Multiviewers panel menu item.

Table 2-11. Multiviewers Panel Context Menu

Menu Item	Icon	Description
Connect to Device		Connects/disconnects Layout Designer to the selected multiviewer.
Disconnect Device		
Edit Device		Opens the Device Manager dialog box, from which you can edit the configuration of the selected multiviewer. See “Adding Output Displays to the Device List” on page 38 .
(New) No menu item available		Opens the Device Manager dialog box, from which you can create a new multiviewer configuration. See “Adding Output Displays to the Device List” on page 38 .
Delete Device		Deletes the selected multiviewer configuration from the library.
(Sort) No menu item available		Sorts the list of multiviewers from A–Z or Z–A.
Lock Device		Locks or unlocks the selected multiviewer display.
Unlock Device		
Start Multiviewer		Triggers the selected multiviewer to load a layout.
End Multiviewer		Triggers the selected multiviewer to revert to its desktop (only available when the device is connected).
Restart Multiviewer		Restarts the currently connected multiviewer (only available when the device is connected).
Reboot Multiviewer		Reboots the currently connected multiviewer.
Shutdown Multiviewer		Powers down the selected multiviewer (only available when the device is connected).
Advanced Configuration		Opens the Advanced Configuration dialog box, from which you can determine various hardware settings. See “Output Module Advanced Configuration” on page 40 .
View System Logs		Provides access to logs by opening a web browser, and then connecting to the Logging Server.
Shutdown All Multiviewers		Powers down all multiviewers simultaneously.

When you click a layout in the Multiviewers panel, different menu items appear. [Table 2-12](#) describes each layout menu item in the Multiviewers panel.

Table 2-12. Multiviewers panel Menu When You Click on a Layout

Menu Item	Description
Display this layout on Multiviewer	Displays the selected layout on the selected multiviewer
Recall this layout to Layout Designer	Loads the selected layout in Layout Designer
Delete this layout on Multiviewer	Deletes the selected layout on the multiviewer (Note: this option is not available when the current layout displayed on the multiviewer is selected)

Library Panel

The Library panel has the following sections: Windows, PiPs, and Info Panels. Objects in these sections can be dragged from the Library panel and dropped onto the currently displayed layout.

For information about using the Library panel toolbar to create, edit, or delete new library objects, see [“Using the Layout Designer Library Panel” on page 35](#).

The Library panel has a display option menu that you can use to customize how the panel is displayed in the layout workspace. For more information about customizing the Library panel, see [“Customizing the Layout Designer Workspace” on page 22](#).

The Library panel items include the following:

- **Windows** - You can select windows from the Library panel, and then drag and drop them onto the currently-open layout. If required, you can then use the Properties pane to modify how a window and its layout objects are displayed in the layout. The window must be ungrouped or “broken” if you want to modify any object. To ungroup objects inside a window, right-click on the window and select **Break Window**. For information about windows, see [“Creating Layout Windows” on page 78](#).
- **PiPs** - PiPs in the Library panel are organized according to their aspect ratio. You can select PiPs from the Library panel, and then drag and drop them onto the currently open layout. If required, you can then use the Properties pane to modify how the PiPs are displayed in the layout. For information about modifying PiP properties, see [“Layout Objects” on page 69](#).
- **Info Panels** - You can drag info panels from the **Info Panels** section and drop them onto PiPs that are displayed in the layout window, or drop them onto the layout background as standalone info panels. You can use the Properties pane to modify the contents of an info panel. For information about modifying info panel properties, see [“Modifying Info Panel Properties” on page 156](#).

Properties Pane

The **Properties** pane is located below the Layout canvas.

1. If the **Properties** pane is not currently displayed, select **View > Properties** from the application menu.

The **Properties** pane changes based on the object that is selected on the canvas.

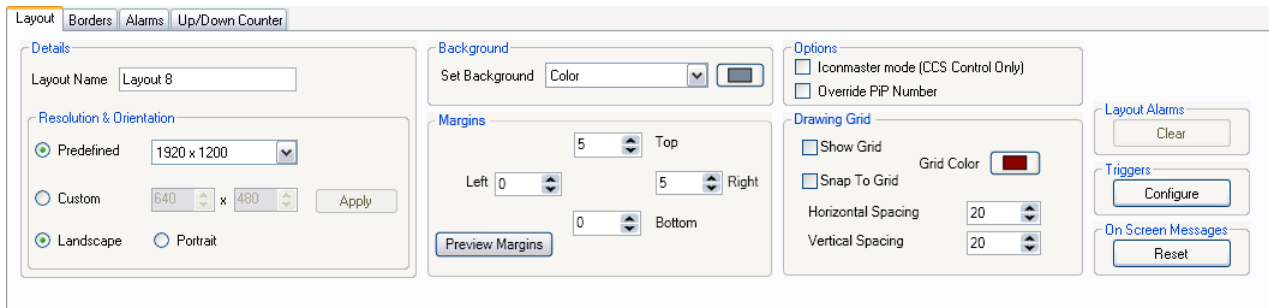


Figure 2-4. Properties Pane

You can modify properties that affect the way layout objects are displayed in the layout. Each group of layout objects has a tab with controls that allow you to adjust the layout object's properties, such as changing the layout output resolution or PiP label text color. You can also add elements (such as audio meters and audio and video alarms) to your layout.

Depending on what object is selected in the layout canvas, different tabs appear in the **Properties** pane. To access the **Properties** pane for a specific layout object, select the object in the layout canvas, and then click the appropriate property tab. The number of tabs that will appear on the Properties pane will vary depending on the selected object.

You can resize the **Properties** pane by dragging its sides with the cursor. Use the scroll bars to view the entire pane. The Properties pane is always on top of other panes in the Layout Designer interface. If a portion of the pane is obscured by the size of the pane, use the scroll bars to view the content.

Layout Designer Context Menu

The Layout Designer context menu provides quick access to some commands and options that are also available from the application menu.

To access the Layout Designer context menu, in the canvas, select a layout object, and then right-click. The context menu appears. The options available on the context menu depend on the layout object that is currently selected in the layout.

Context menus do not appear when you right click on a locked layout.

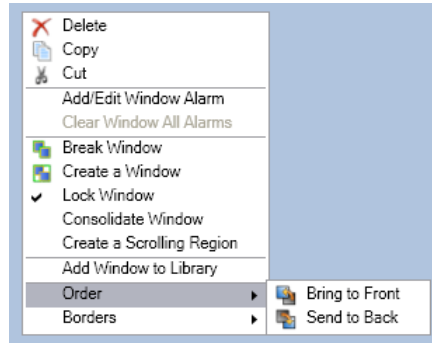


Figure 2-5. Layout Designer Context Menu

Table 2-13 describes each Layout Designer context menu item.

Table 2-13. Layout Designer Context Menu

Option Name	Description
Delete	Deletes the selected layout object from the layout currently displayed on the canvas.
Copy	Copies the selected layout object and places it on the clipboard, from which the object can be pasted to another location.
Cut	Cuts the selected layout object from the current location and places it on the clipboard, from which the object can be pasted to another location.
Copy Properties	Copies the properties from the selected layout object so that they can be pasted to another layout object (same type). For information about copying PiP properties, see “Formatting Layout Objects in the Canvas” on page 73 .
Paste	Pastes the last layout object that was placed on the clipboard by either a Cut or Copy command.
Paste Properties	Pastes all of the copied properties to the selected object. For information about pasting properties, see “Copying and Pasting Layout Object Properties” on page 74 .
Paste Selected Properties	Pastes selected categories of properties to the selected object.
Add/Edit Window Alarm	Opens the Rules editor for the window, so you can alter the alarm configuration for that window.
Clear Window all Alarms	Resets all alarms in the window.
Set Properties	This option is available when multiple windows are selected. A submenu offers all types of controls for all window controls within the selection. When you change the settings, all items of that type are altered to match.
Break Window	Breaks apart the objects contained in a window.

Table 2-13. Layout Designer Context Menu (*Continued*)

Option Name	Description
Remove Window Component	This option is available when multiple windows are selected. A submenu offers all types of controls for all window controls within the selection. The selected item is deleted.
Create a Window	Groups objects together to create a window.
Lock Window	Prevents accessing the properties of individual layout objects within a window.
Consolidate Window(s)	Adjusts the background size of the current window so that it is the minimum size to contain all the objects within the window.
Create a Scrolling Region	Converts the selected window to display a series of sources that move in a rolling or crawling motion.
Lock Scrolling Region	Prevents accessing the properties of individual layout objects within a scrolling region.
Add Scrolling Region to Library	Adds the selected scrolling region to the Windows section of the Library panel.
Add Window to Library	Adds the selected window to the Windows section of the Library panel.
Add PiP to Library	Adds the selected PiP to the PiPs section of the Library panel.
Order	<p>Opens a drop-down menu, from which you can select the following order commands:</p> <ul style="list-style-type: none"> • Bring to Front - Brings the selected layout object to the top of the object stacking order • Send to Back - Sends the selected layout object to the back of the object stacking order <p>For information about ordering layout objects, see “Formatting Layout Objects in the Canvas” on page 73.</p>
Info Panel	<p>Opens a drop-down menu, from which you can select the following commands:</p> <ul style="list-style-type: none"> • Remove - Removes the info panel from a PiP • Unlock Info Panel Items - Unlocks individual items from the Info Panel • Move Out - Allows info panel to move out of PiP • Add to Library - Adds the info panel to the library • Enable Resizing Info Panel - Allows you to drag the edges of the info panel to change its shape and size; this can ensure that the indicators do not fall on top of a PiP’s video (you can move the info panel off the PiP, for example). • Disable Resizing Info Panel - Turns off Enable Resizing Info Panel

Table 2-13. Layout Designer Context Menu (*Continued*)

Option Name	Description
Add Info Panel to Library	Adds the selected info panel to the Info Panels section of the library
Borders	Opens a drop-down menu, from which you can select from a list of all borders associated with an object (normally a window)

Customizing the Layout Designer Workspace

Layout Designer provides a number of different ways that you can customize the workspace to best suit your changing working environment. When you use Layout Designer to create new layouts and design custom layout objects, you can set up the workspace so that the Properties pane and the Library panel are easily accessible. When you are publishing layouts for display, you can hide (or auto hide) panels and the Properties pane to maximize your view of the canvas area on your computer's screen.

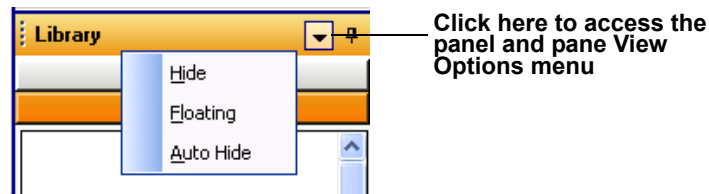
When you close Layout Designer, and then reopen it, any previous changes to the pane states are retained. To return Layout designer to its default state, select **View > Restore All Panel Default States** from the main menu.

You can also set default layout and PiP property options.

Setting Panels and Panes Viewing Options

Layout Designer has view options for the Properties pane and Multiviewers and Library panels that you can use to customize the Layout Designer workspace. For example, you can move these items to different locations in the workspace, or you can hide the items from the workspace view.

To access the Properties pane and the Multiviewers and Library panel view options, click the down-arrow icon located at the end of the item's title bar. The drop-down menu displays the view options.

**Figure 2-6.** Panel and Pane View Options Menu

Each menu option is described below:


- **Hide** Select this option to remove the panel or pane from the Layout Designer workspace. After the item has been hidden, select one of the following options to add the item back to the workspace:
 - **View > Properties**

- **View > Multiviewers**
- **View > Library**
- **Floating** - Select this option to undock the panel or pane from its stationary location in the Layout Designer workspace (bottom of the workspace for the Properties pane and the right side of the workspace for the Multiviewers and Library panels). You can then use the mouse to move the item to different locations in the workspace. Double-click the item to redock it.

When a workspace item is undocked, you can resize it by clicking then dragging the item's outer edge while holding down your mouse button. The mouse pointer will turn to a double-headed arrow to indicate that you have selected the workspace item's outer edge.

- **Auto Hide** - Select this option to collapse (temporarily hide) the menu item. When the **Auto-Hide** option is enabled, the collapsed items are stored either at the bottom (**Properties** pane) or to the right (**Multiviewers** library and Layout Designer **Library**) of the Layout Designer workspace. An auto-hidden workspace item is identified by a vertical or horizontal tab. To access the workspace item library, hold the pointer over the item's tab.

You can also activate or deactivate the **Auto Hide** option by clicking

the  icon from the workspace item title bar.

Saving and Loading Configuration Files

To save configuration files, follow these steps:

1. From the main menu, choose **Tools > COPY Configuration files**.
A **Browse** dialog box opens.
2. Choose a location to save the files.

To load configuration files, follow these steps:

1. From the main menu choose **Tools > LOAD Configuration Files**.
A **Browse** dialog box opens.
2. Choose a location to load the files from.

Files that are loaded and saved during this process include:

- Configuration.xml for the device and multi-viewer configuration
- Preference.dat for the Layout Designer application preference.
- dockManager.xml for the states of Multi-viewer panel, library panel and the property panel.
- Alarms.dat for the alarm template
- WindowCustomLibrary.xml for the customer-defined window library
- PiP16by9Library.xml for the customer-defined PiP library
- BorderStyles.xml for the custom-defined border style library

Setting Your Layout Designer Preferences

Using the **Layout Designer Preferences** dialog box, you can set the application's global preferences, including default settings for new layouts, windows, labels, and PiPs. You can also recall Layout Designer factory default settings.

To access the **Layout Designer Preferences** dialog box, from the Layout Designer application menu, select **Edit > Preferences**. There are five tabs on the **Layout Designer Preferences** dialog box. See the following topics:

- [“Setting General Preferences” on page 24](#)
- [“Setting Default Layout Properties” on page 26](#)
- [“Setting Default PiP Properties” on page 30](#)
- [“Setting Default Window Properties” on page 28](#)
- [“Setting Default Label Properties” on page 33](#)

After you finish setting your preferences, click **OK** to apply them. Your preference settings are automatically saved each time you exit Layout Designer.

Setting General Preferences

Use the **General** tab of the **Layout Designer Preferences** dialog box to set the number of levels for **Undo** and **Redo** commands, set auto connection options, and return to factory defaults.

Setting Undo and Redo Levels

You can set the number of undo and redo levels that can be applied to when the **Undo** and **Redo** commands are used after an editing operation.

To set the number of undo and redo levels:

- Under **Undo/Redo**, type a value in the **Undo/Redo** field.

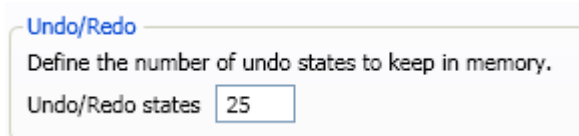


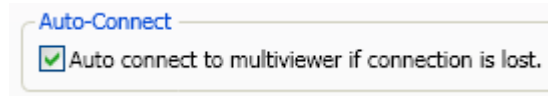
Figure 2-7. Setting Undo and Redo Levels

Setting Multiviewer Connection Preferences

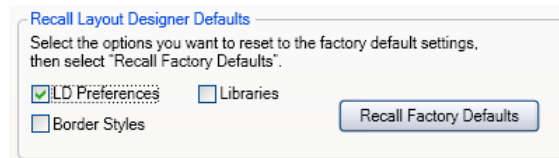
You can set up Layout Designer to automatically connect to the last connected multiviewer when a connection between the Layout Designer and the multiviewer is lost.

To select Layout Designer's auto connect option:

- Under **Autoconnect**, select **Auto connect to multiviewer if connection is lost** check box. If you clear this check box and a connection is lost, you can manually reconnect to the multiviewer using the **Multiviewers** panel menu.

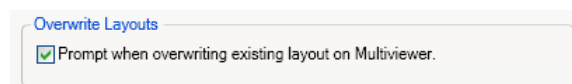
**Figure 2-8.** Autoconnect Option in General Preferences Dialog Box**Setting Factory Default Recall Preferences****To set factory recall preferences and recall factory defaults:**

1. Under **Recall Layout Designer Defaults**, select which options you want reset to factory default settings.

**Figure 2-9.** Recalling Factory Default Settings in General Preferences Dialog Box

You can select from the following options:

- **LD Preferences** - Resets all Layout Designer preferences that you can set using the **Layout Designer Preferences** dialog box (**General** and **Default Properties** tabs)
 - **Libraries** - Resets the Library panel to the default state. This means that custom layout objects and windows added to the Library panel will be removed (using **Add Layout Objects to Library** commands)
 - **Border Styles** - Resets all the available border styles available from the **Border** tab of the **Properties** pane factory default selection. This means that any created new borders added to the Border Styles selection are removed.
2. To recall the factory default options that you selected in step 1, click **Recall Factory Defaults**.

Overwriting Layouts**Figure 2-10.** Overwrite Option in General Preferences Dialog Box

If you want to be prompted before overwriting layouts on multiviewers, check this option. Otherwise, leave it blank.

Setting the Default View

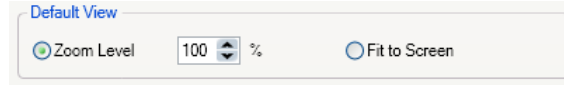


Figure 2-11. Default View Settings in General Preferences Dialog Box

Choose one of the following:

- **Zoom Level** - When a new layout is created, it is displayed at the percentage defined in the field to the right of the radio button. The range is from 15% to 125% in 1% increments.
- **Fit to Screen** - When a new layout is created, the entire layout is displayed in the available screen space. The display size is limited by the size of the Properties pane.

Determining Auto Placement

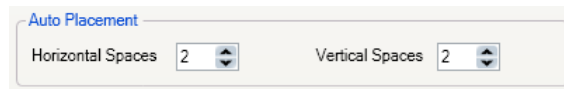


Figure 2-12. Auto Placement Settings in General Preferences Dialog Box

When you add items to the layout using the **Clone a Component** button on the toolbar, they are spaced from one another using the Auto Placement settings. Use the Horizontal Spaces and Vertical Spaces fields to increase or decrease this padding. The available range is from 0 to 200.

Setting Default Layout Properties

You can use the Layout tab of the **Layout Designer Preferences** dialog box to define the default properties for layouts and layout objects, and to configure email settings.

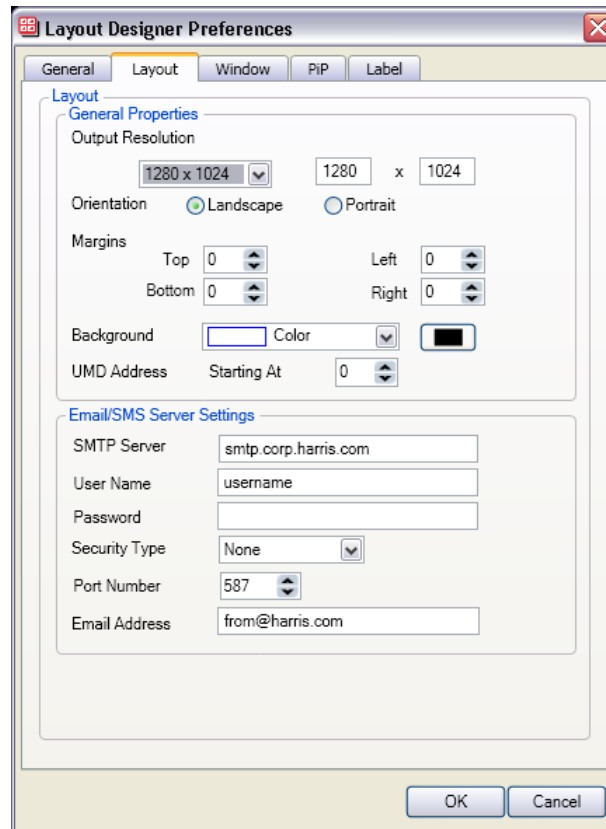
Configuring General Layout Properties

Layout default properties are used when Layouts are created from a blank layout (**File > New > Blank Layout**) or when using the Layout Creation Wizard (**File > New > Layout Using Layout Creation Wizard**). For more information, see [“Using a Blank Layout” on page 58](#).


To access these settings, from the Layout Designer application menu, select **Edit > Preferences**, and then click the **Layout** tab. After you finish setting your preferences, click **OK** to apply them.

To set default layout properties:

1. On the **Layout Designer Preferences** dialog box, select the **Default Properties** tab.

**Figure 2-13.** Setting Default Layout Properties

2. Under **Layout**, select a resolution from the **Output Resolution** drop-down list.
3. If you selected **Custom** from the **Output Resolution** list, type pixel values for the layout's width and height in the field provided (width first and height second).
4. Under **Margins**, enter the amount of padding you would like between the edge of the layout and where objects, including the background, appear in the layout.
 Layout margins determine the boundary of the layout area where objects, including the background, can be placed. The overall layout size is maintained, not cropped. The maximum size for margins varies depending on the resolution of the layout.
5. Beside **Background**, select either **Color** or a background image (**Background 1** to **Background 10**) from the drop-down list.

6. If you selected **Color** as your default background, click the  button to access the **Select a Color** dialog box, and then use the slider to select a color, and click **OK**.

For more information about using the **Select a Color** dialog box, see [“Setting Default Window Properties” on page 28](#).

7. Under **Orientation**, select either **Landscape** (wider than tall) or **Portrait** (taller than wide).
8. Under **UMD Address**, if you want fixed UMDs to start at a number other than 0, enter a number beside **Starting at**.

For information on changing a layout’s properties, see [“Modifying Layout Properties” on page 66](#)

Configuring E-Mail Settings

The email settings determine the SMTP server for sending email and SMS text message alarm actions. See [“Setting Alarm Actions” on page 144](#) for more information.

Table 2-14. Email Settings in General Preferences

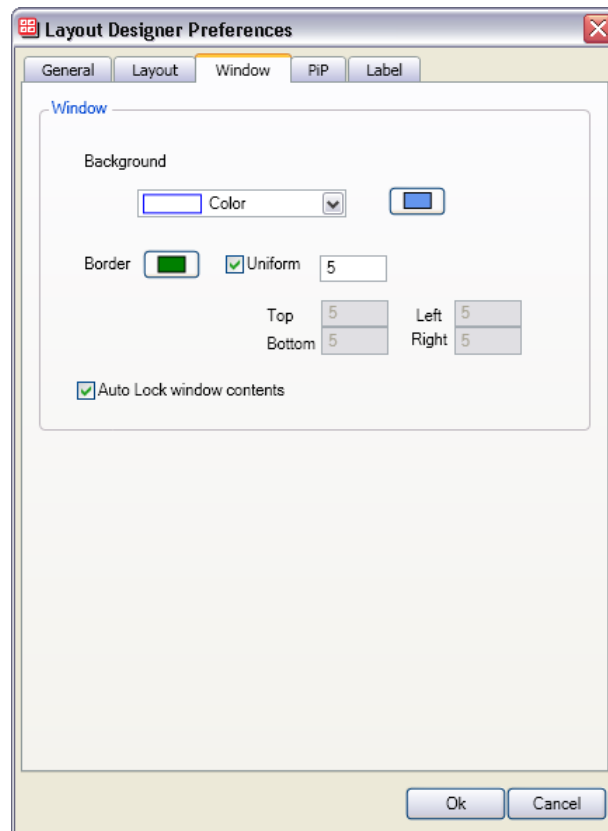
Parameter	Content
SMTP Server	Enter the address of the mail server.
User Name	Enter the account name.
Password	Enter the password, if required, to send mail from that address.
Security Type	Choose None or SSL.
Port Number	Enter the SSL service port for the sending email address. This is only required for SSL-type security settings.
Email Address	Enter the user email address on the server, not necessarily the target email address of the alarm action.


Setting Default Window Properties

You can set the default properties for windows that are created using the **Create Window** command from the Layout Designer context menu. For more information about windows, see [“Creating Layout Windows” on page 78](#).

To set default window properties:

1. From the **Layout Designer Preferences** dialog box, select the **Window** tab.
1. Under **Background**, select either **Color** or a background image (**Background 1** to **Background 10**) from the drop-down list.

**Figure 2-14.** Setting Default Window Properties

2. If you selected **Color** as your default background, click the  button to open the **Select a Color** dialog box.


To select a color, do either of the following:

- Use the slider to select a color.
- Enter the color values you want to use in one of the **ScRGB**, **sRGB**, or **Hexadecimal Notation** fields.

Your selected color is previewed below **Selected Color**.

3. Under **Border**, if you want a uniform border width around layout objects, select the **Uniform** check box.

If you do not want a uniform border width, clear the **Uniform** check box, and then type or select the values for the **Top**, **Bottom**, **Left**, and **Right** border widths.

To select the default border color, beside **Border Color**, click the  to open the **Select a Color** dialog box.

In the **Select a Color** dialog box, use the slider to select a color, and then click **OK**.

If required, use the **Opacity** slider to adjust the color's opacity value, and then click **OK**.

4. Select **Auto Lock window contents**, if you want the **Lock Objects in Window** to be enabled when a window is created.

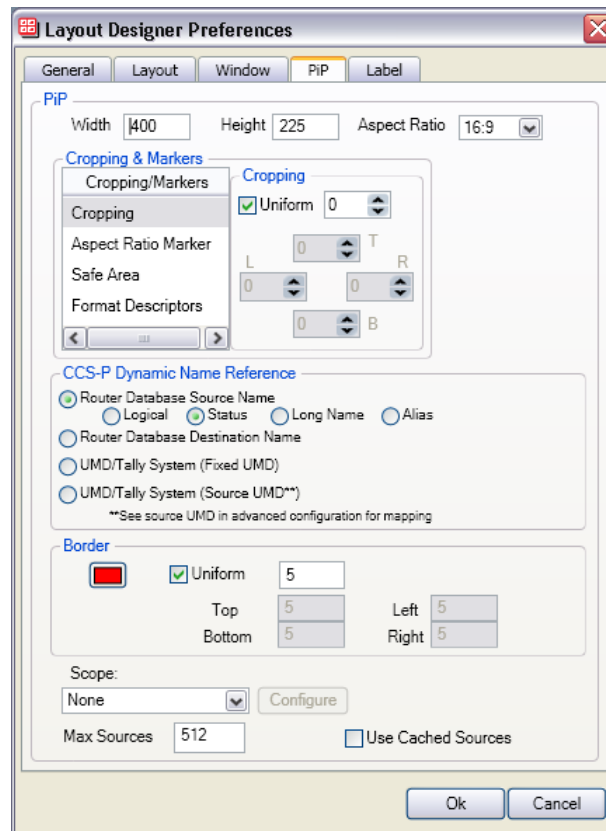
When a window is locked, you cannot move or modify the layout objects contained in the window until **Lock Window** is cleared. For more information, see [“Modifying Window Properties Using the Properties Pane” on page 82](#).

Setting Default PiP Properties

You can set the default properties for PiPs that are created using Layout Designer's Insert PiP commands. Default PiP properties are applied to PiPs that are created using **Insert > PiP** from the application window, and the Insert PiP tool from the **Tool** palette. For more information, see [“Adding PiPs to a Layout” on page 95](#).

To define default PiP values:

1. From the **Layout Designer Preferences** dialog box, select the **PiP** tab.

**Figure 2-15. Setting Default PiP Video Dimensions**

2. Type the values you want to use for the default PiP width and height in the **Width** and **Height** boxes.
3. Beside **Aspect Ratio**, select an aspect ratio from the drop-down list.
4. (Optional) Under **Cropping & Markers**, select **Cropping**, and then do either of the following:
 - If you want a uniform cropping area around the PiP, select the **Uniform** check box, and then select a value.
 - If you do not want a uniform cropping area, clear the **Uniform** check box, and then type or select the values for the **Top**, **Bottom**, **Left**, and **Right** cropping.

Cropping rescales the video on the Multiviewer; the lines will not show when you publish the layout.

5. (Optional) Add markers to your PiP.

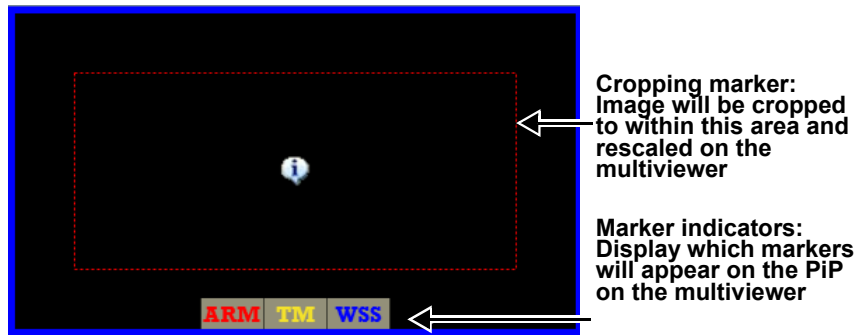


Figure 2-16. Markers on a PiP in Layout Designer

Under **Cropping & Markers**, you can choose the following options:

- **Aspect Ratio Markers**—An indicator of correct aspect ratio on the PiP to let you know whether the video is properly scaled when a source that is one aspect ratio is put on a PiP that has a different aspect ratio. The aspect ratio markers displays the area of an image with a 16:9 aspect ratio within a 4:3 coded frame, or an image with a 4:3 aspect ratio within a 16:9 coded frame.

Click **Enable** to activate a marker on the PiP. To determine the color of the marker, click **Color**, make a selection, and then click **OK**.

- **Safe Area**—adds a Title Marker indicator on the PiP to indicate the safe area for titles to be displayed (80% of the picture area).

Click **Title Marker** to activate a marker on the PiP. To determine the color of the marker, click **Color**, make a selection, and then click **OK**.

- **Active Format Description**—adds an indicator that displays the AFD description present on the incoming video. There are two options:
 - **AFD** - HD and SD video
 - **WSS** - SD 625 video only

Click **Enable** to activate a marker on the PiP. To determine the color of the marker, click **Color**, make a selection, and then click **OK**.


From the drop-down menu, there are two options:

- **Display** mode—(note, this option is always selected) markers on the multiviewer PiP indicate the active picture area indicated by the AFD or WSS code on the input.
- **Convert** mode—scales the video on the input source as indicated by the AFD or WSS code on the input.

6. In the CCS-P Dynamic Name Reference section of the screen, choose the source from which your PiPs will derive their names. See [“Defining PiP Names” on page 103](#) for more information.

7. Beside **Borders**, if you want a uniform border width around layout objects, select the **Uniform** check box.

If you do not want a uniform border width, clear the **Uniform** check box, and then type or select the values for the **Top**, **Bottom**, **Left**, and **Right** border widths.

To select the default border color, beside **Border Color**, click the  to open the **Select a Color** dialog box. In the **Select a Color** dialog box, use the slider to select a color, and then click **OK**.

8. If you want PiPs to have a default scope assigned to them (and you have the Test and Measurement option), under **Scope**, choose the scope to assign.
Click **Configure** to further define the scope.
9. Beside **Max Sources**, type the maximum number of inputs from the router.
10. Check **Use Cached Sources** if you want the multiviewer to use the source names from the last time it connected, when the multiviewer is disconnected at Layout Designer start-up.

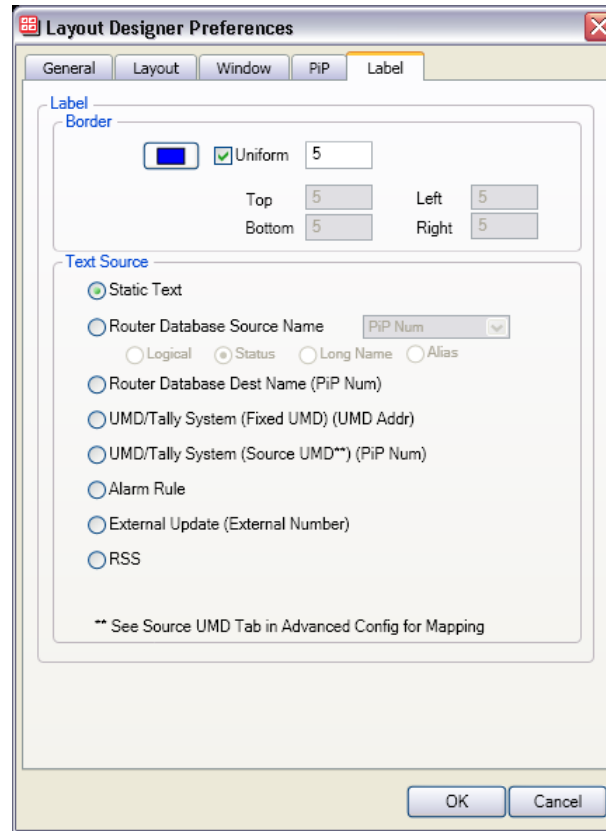
For information about altering an individual PiP's properties, see [“Modifying PiPs Using the Properties Pane” on page 95](#).

Setting Default Label Properties

You can set the default properties for labels that are created using Layout Designer's Insert Label commands. Default PiP properties are applied to labels that are created using **Insert > Label** from the application window, and the Insert Label tool from the **Tool** palette. For more information, see [“About Labels” on page 119](#).


To define default Label values:

1. From the **Layout Designer Preferences** dialog box, select the **Label** tab.

**Figure 2-17.** Setting Default Label Preferences

2. Beside **Borders**, if you want a uniform border width around layout objects, select the **Uniform** check box.

If you do not want a uniform border width, clear the **Uniform** check box, and then type or select the values for the **Top**, **Bottom**, **Left**, and **Right** border widths.

To select the default border color, beside **Border Color**, click the  to open the **Select a Color** dialog box. In the **Select a Color** dialog box, use the slider to select a color, and then click **OK**.

3. Under **Text Source**, choose an option.

All the options are described in [“Setting the Label Text Source” on page 120](#).

For information about altering an individual label’s properties, see [“About Labels” on page 119](#).

Closing Layout Designer

When you close Layout Designer, the following dialog box appears:

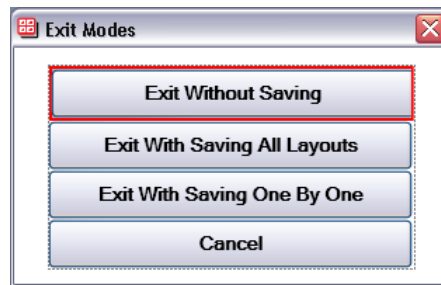


Figure 2-18. Exit Modes Dialog Box

Choose one of the following options:

- **Exit without saving** - closes all layouts, discarding changes or updates, and exits Layout Designer.
- **Exit with Saving All Layouts** - saves all changes to all open layouts, and then exits Layout Designer.
- **Exit With Saving One by One** - for each layout that has changes, asks if you do or do not want to save changes, or if you want to cancel out of closing the multiviewer. If you do not click **Cancel** at any time, Layout Designer closes.
- **Cancel** - does not save any layouts, does not close Layout Designer.

Layouts that have been changed since they were last saved have an asterisk (*) in the layout tab.

Using the Layout Designer Library Panel

The Layout Designer Library panel stores a collection of default and custom layout objects that can be dragged from the Library and dropped onto the currently-displayed layout. In the Library panel, layout objects are listed by name (which is indicated on each library tab) and a preview of the layout object. For information about adding new layout objects to the Library, see [“Adding Layout Objects to the Library Panel” on page 36](#).

The Library panel has view options that customize the way the panel is displayed in the Layout Designer workspace. For example, you can undock Library panel items and move them to different locations in the workspace, or you can hide the items from the workspace view. For more information about the Library view options, see [“Setting Panels and Panes Viewing Options” on page 22](#).



Note

Your layout must be in an **unlocked** state to use the Library panel. See [“Locking and Unlocking Layouts” on page 58](#).

Adding Layout Objects to the Library Panel

You can design custom layout objects and add them to the appropriate tab in the Library panel by right-clicking on the object.

You can delete any new object using **Delete** on the Library panel menu. You cannot delete the default items from a Library panel.



Note

If you delete a Library object, you cannot use the **Undo** command to restore the object to the Library.

Adding Layout Objects to the Library Panel From the Insert and Context Menus

To add a PiP, info panel, or window from a layout to the Library panel, from the layout, select the object you want to add to the Library panel and do one of the following:

- From the application menu, select **Insert > Add Object to Library**, and then, depending on the object you want to add, select **PiP**, **Info Panel**, or **Window**.
- Right-click, and then depending on the object you want add, select **Add PiP to Library**, **Add Info Panel to Library**, or **Add Window to Library**.



Note

You will only have the option to add an info panel to the Library panel if the info panel is not attached to a PiP or a window. However, if a window or PiP contains an info panel, the info panel will be added to the Library panel as part of that object.

When you add a PiP to the Library panel, it is automatically added to the tab for the corresponding aspect ratio.

Configuring Display Mode

Overview

Output modules can only be configured for operation using Layout Designer. Once an output module is configured, it is automatically added to the Layout Designer **Multiviewers** panel.

Before you can create a multiviewer system with Layout Designer, you must add the output module that you want to set up to the Devices list. After an output module is added the Devices list, Layout Designer software scans the multiviewer hardware to detect specific hardware settings. You may need to enter additional information about your output module to complete the set up.

The chapter contains the following sections:

- [“Adding Output Displays to the Device List” on page 38](#)
- [“Configuring Output Display Devices” on page 41](#)

For information about your multiviewer system hardware, see your Harris *Multiviewer Installation, Configuration, and Operation Manual*.

When No Multiviewers are Connected

When a computer running Layout Designer cannot discover any multiviewers on the network, the following functionality will not be available in Layout Designer:

- **Enable Control** button on toolbar
- **Global Alarms** and **Global Events** options in the **Rules** menu
- Start, Exit, Connect, Disconnect, Edit, Delete, Restart, Reboot, and Shutdown Multiviewer options in **Tools** menu
- On Screen Messages **Reset** and **Preview Margins** on **Layout** properties pane
- **Publish** option in **File** menu

You can enable these features by connecting to a multiviewer. See [“Device Manager Dialog Box” on page 38](#) for more information.

Adding Output Displays to the Device List

The first step in configuring your multiviewer is adding your output module to the Device list. After the output module is added to the Devices list, configure the connected output display.

There are two ways that you can add an output module to the Devices list. Both methods are performed using the **Device Manager** dialog box.

- Using the Discovery tool to scan the network for devices.
- Manually entering the IP address of the output module that you want to set up.

To open the Device Manager dialog box:

1. Select **Edit > Multiviewer Configuration** from the application menu.

Device Manager Dialog Box

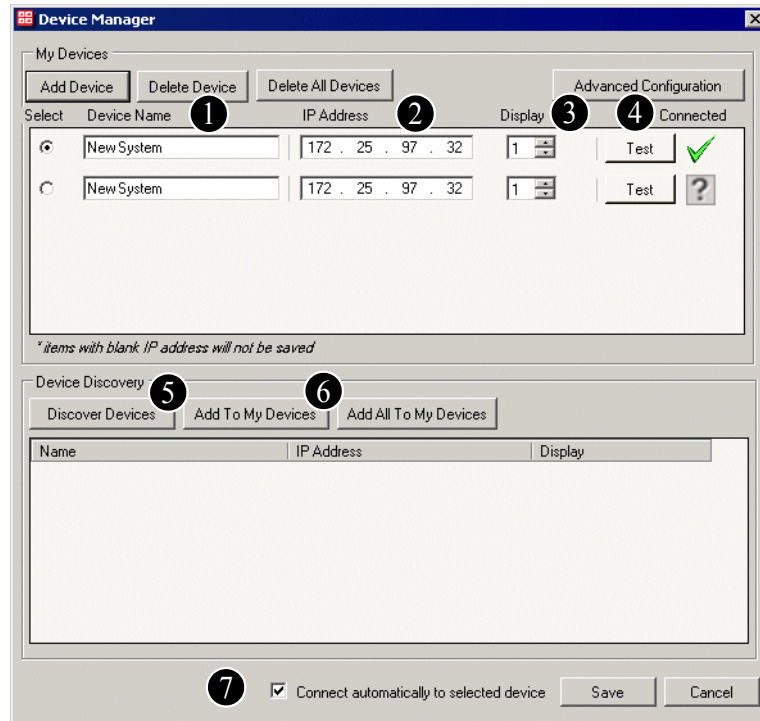



Figure 3-1. Device Manager Dialog Box

- ❶ Lists by name the output modules that have been added to the Devices list. You can add or edit the name of an output module at any time.
- ❷ Lists the IP address of output modules in the Devices list. You can add devices to the list manually by typing the IP address of an output module in the **IP Address** field.
- ❸ Displays the number of multiviewer systems or independent displays on an output module. The number of displays depends on the display mode; for example, Quad SDI mode has four displays, and Spanned mode has one.
- ❹ Tests the validity of the device connection by pinging the IP address. Invalid connections are indicated by the **X** icon. 
The Multiviewer application must be running to pass this test.
- ❺ Discovers devices on the network and displays discovered devices by name and IP address.
- ❻ Adds detected devices to the Devices list.
- ❼ When **Connect automatically to selected device** is selected, Layout Designer connects to the specified output module immediately once you click **Save** on the Device Manager dialog box.

Adding Devices by Scanning the Network

When you use the Discovery tool to add output modules to the device list, Layout Designer scans the network and reports all devices with an IP address. The amount of time that a discovery takes depends on the number of devices you have on your network. Layout Designer may discover devices that you do not want to add to the devices list.

To discover output modules:

1. Open the **Device Manager** dialog box.
2. Under **Device Discovery**, click **Discover Devices**.
3. When the discovery is complete, do either of the following:
 - Select the devices that you want to add to the Devices list, and then click **Add to My Devices**.
 - To add all of the discovered devices, click **Add All to My Devices**.

The selected devices appear in the Devices list.

4. Click **Save** to save the list and connection information.

You can now set up your output module using the Layout Designer's Layout Creation Wizard.

Adding Devices Manually

To add a output module manually, it must have a valid IP address and reside on the same subnet as the PC that is running Layout Designer.

To add a device manually:

1. Open the **Device Manager** dialog box.

2. Click **Add Device**.

A new device appears in the Device list.

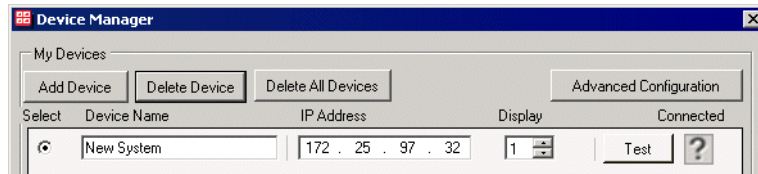


Figure 3-2. Adding Devices

3. Under **Device Name**, enter a new name for multiviewer's output module.
4. Under **IP Address**, type the IP address of the output module.
5. Under **Display**, type the number of the display on the output module.
6. To test the validity of the module's connection, click **Test**.

One of the following appears in the **Connection** column.



The connection has not been tested.



The connection is valid.



The connection is invalid.

7. Click **Save** to save the list and connection information.



Note

If your connection is reported as invalid, check the IP address of the device that you want to add, and then test the connection again. The Multiviewer application must be running for this test to pass.

Output Module Advanced Configuration

The **Advanced Configuration** dialog box allows you to define different aspects of your device, including its IP, communication options, and output display format.

To open the Advanced Configuration dialog box:

1. Do either of the following:
 - Click **Advanced Configuration** on the **Device Manager** dialog box.
 - Right-click on a multiviewer in the Multiviewers panel and select **Advanced Configuration**.

Configuring Output Display Devices

On the **Display** tab of the Advanced Configuration dialog box, you can select whether to output layouts to DVI or SDI output display devices. You cannot output layouts to both DVI and SDI outputs simultaneously. Using DVI, the Harris Multiviewer can output single or dual (or quad, with two Matrox TripleHead2Go devices), and output SDI in single, dual, or quad configuration.

For information about connecting monitors and other devices, see your *Harris Multiviewer Installation, Configuration, and Operation Manual*.

For the Video Output options, the following terminology is used:

- **Redundant** options display the same content on each screen.
- **Spanned** options display a single layout across multiple screens.
- **Quad** options display different layouts on four screens.
- **Dual** options display two different layouts on two or four screens.

To configure your output display devices:

1. Open the **Advanced Configuration** dialog box.
2. On the **Display** tab, choose **SDI** or **DVI**.
3. Choose the appropriate display format.

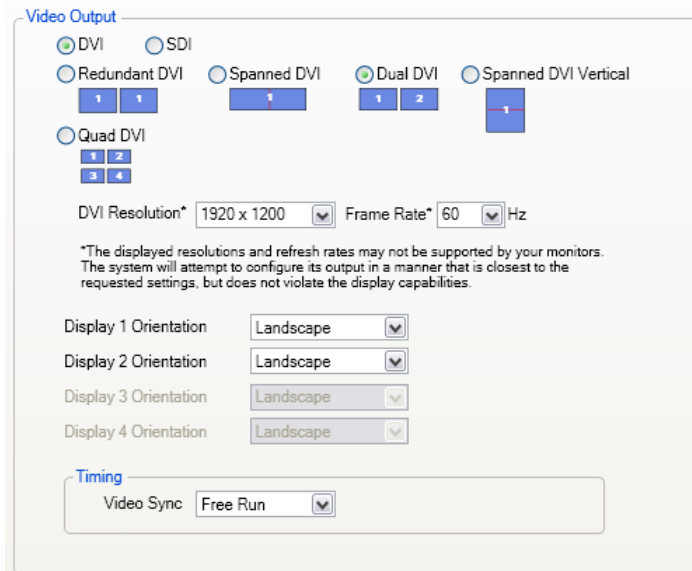


Figure 3-3. DVI Display Options (Dual DVI Selected)



Note

1080p output mode is available in two SDI output configurations, Dual 1080p and Redundant SDI. You need to be connected to the CENTRIO with 3G support to see the 3G configuration modes.

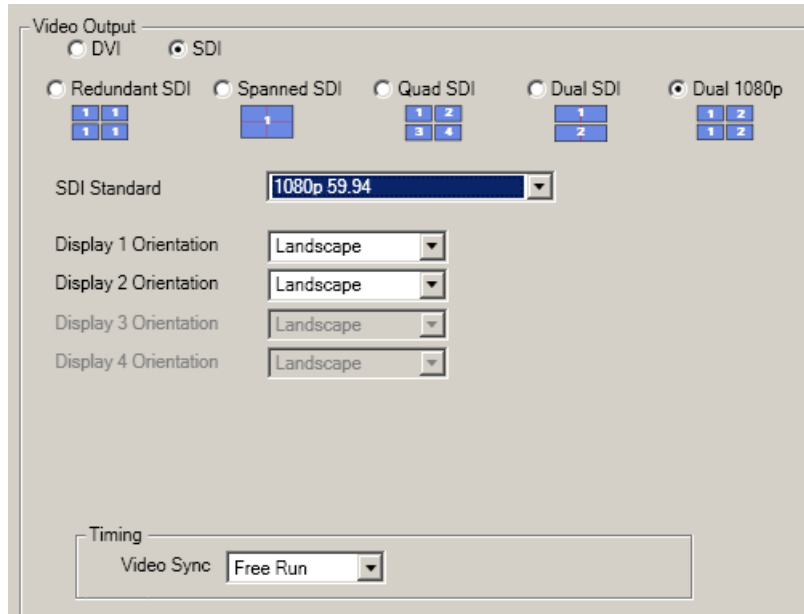


Figure 3-4. SDI Display Options (Including 3G Options)

4. Do either of the following:
 - If you selected a DVI video output setting, choose an output resolution from the **DVI Resolution** drop-down list, and set the frame rate, if necessary.
 - If you selected an SDI video output setting, choose an output resolution from the **SDI Standard** drop-down list.
5. To change the orientation of the output from landscape to portrait, select portrait in the **Display # Orientation** drop-down list.
6. Set the **Video Sync** (determines the video sync source for the entire multiviewer's system) values in the **Timing** area.
7. Click **Done**.

Changing IP Address Settings

Your output module is shipped with the default IP address, 192.168.100.250. You can use this IP address to connect your output module directly to Layout Designer or add the output module to your network.



Note

To change the IP address, your PC must be on the same subnet as the output module (192.168.100.xxx).

After you add the multiviewer to your network, you can change the IP address, if necessary. If you have more than one output module installed in your Platinum router, you must change the default IP address in order to configure each output module.

Output modules have two Ethernet connections: **Ethernet 1** and **Ethernet 2**. Only **Ethernet 1** is assigned the default IP address, so ensure that this port is used to connect your output module to the Ethernet port of your local PC or network connection or hub.

After you have connected the multiviewer's Ethernet connection to a local PC through an Ethernet switch, you can use Layout Designer to discover the module, and then change the IP address. If you have more than one multiviewer output module installed in your Platinum frame, you must go through the process of discovering and changing the IP address one output module at a time.

To change the IP address of an output module:

1. Open the **Advanced Configuration** dialog box.
2. Select the **IP Settings** tab.
3. Under **Ethernet 1**, delete the default in the IP address that appears in the **IP Address**, **Subnet Mask**, and **Gateway** fields, and then enter the IP Address and Subnet Mask that you want to use for the output module.
4. If you are using **Ethernet 2**, change the information that appears in the **IP Address**, **Subnet Mask**, and **Gateway** fields.

By default, **Ethernet 2** is set to DHCP.

5. Click **Save**.



Note

You can also use CCS Navigator to change the multiviewer output module's **Ethernet 1** IP address. For more information, see your Navigator documentation.

Platinum PT-RES Configuration



Note

The Platinum Core needs to be hooked up to successfully complete this procedure.

To alter how the output module communicates with its Platinum frame:

1. Open the **Advanced Configuration** dialog box.
2. Select the **IP Settings** tab.
3. If your multiviewer will communicate with the PT-RES module through the Platinum frame's internal bus, choose INET.
4. If it will communicate through external cabling, choose ENET, and then enter the IP address of the PT-RES card.

Setting Up External Devices

External devices for use with Harris multiviewers include the JLC Cooper Electronics eBOX™ Quad Serial to Ethernet Interface for GPI control and monitoring, and UMD devices.

Adding External Devices

1. Open the **Advanced Configuration** dialog box.
2. Select the **External Devices** tab.
3. In the **Device Name** list, select the multiviewer that the external device is going to communicate with.
4. Beside **Name**, enter a descriptive title for your device.
5. From the **Type** list, select **JL Cooper E-Box** for GPI control and monitoring, or one of the other options for UMD devices.
6. Beside **Port**, select the communication port that the device is using.
Devices can communicate through either COM Port (1, 2, 3, or 4) or TCP/IP.
7. Do either of the following:
 - If the device is communicating through TCP/IP, enter the device's IP address and port.
For the JL Cooper eBOX default IP address is 192.168.254.102, and its default port is 23.
 - If the device is communicating through COM Port, enter values for **Data Bits**, **Baud Rate**, **Parity**, and **Stop**.
These settings should match those of the unit to be communicated with.
8. Click **Add**.
A row is added to the list at the bottom of the dialog box.
9. Repeat steps 4 to 8 for each external device that you want to add.

Removing External Devices

If you are no longer using an external device to communicate with your multiviewer, remove it so that the multiviewer no longer accepts inputs from that source.

1. Open the **Advanced Configuration** dialog box.

2. Select the **External Devices** tab.
3. Select an item in the list near the bottom of the dialog box.
4. Click **Remove**.

The row is removed from the list.

Binding UMD Addresses to Input Sources

If you intend to use UMD devices for tally or dynamic labels, you must first bind the UMD address to an input source on the **Source UMD** tab.

1. Open the **Advanced Configuration** dialog box.
2. Select the **Source UMD** tab.

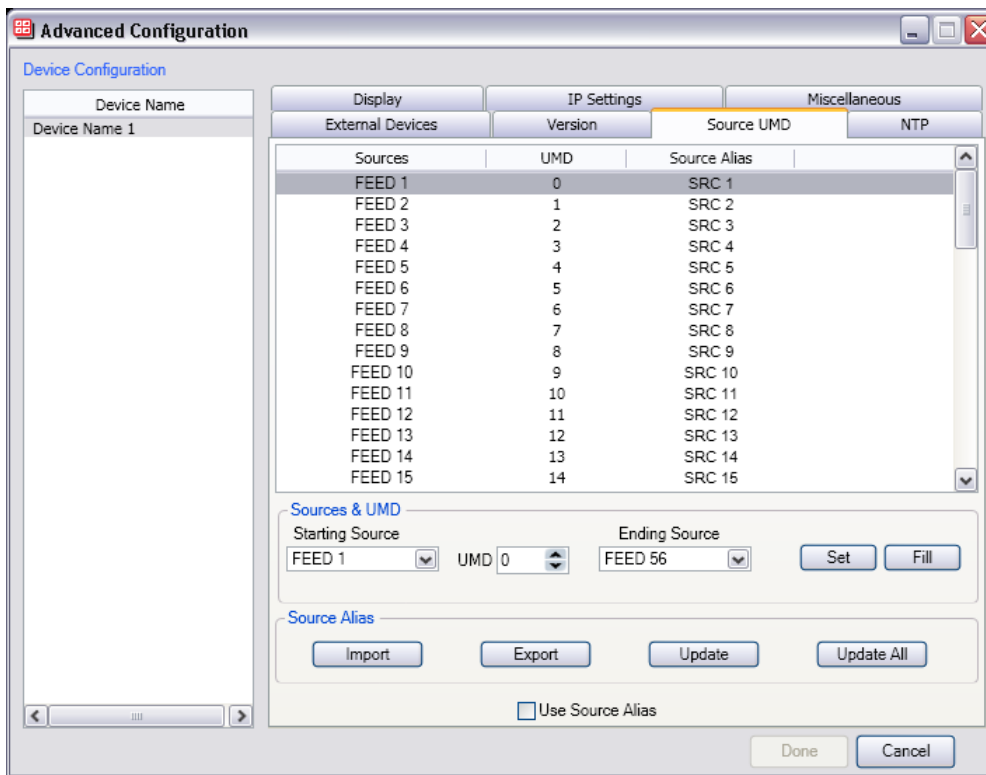


Figure 3-5. Source UMD Tab

3. Do one of the following:
 - To set the UMD address for each individual feed manually, select the corresponding UMD number once, and then click it again to enter the correct value.
 - To set the UMD address in increments of one, select the first feed, and then click **Set**. The UMD address values start with the value that is in the **UMD** field.
 - To set all of the UMD addresses to the same value, select the first feed, and then click **Fill**. All of the UMD addresses become the same value as that set in the **UMD** field.

- To set the UMD address for a range of feeds, select a feed in the **Starting Source** field, and then select a feed in the **Ending Source** field. The UMD values, whether they are created by clicking **Set** or **Fill**, apply only to the range of feeds within your selection.
- To view the alias name on PiPs, rather than the external protocol name or the router database name, place a check beside **Use Source Alias**.

A Source Alias file can be edited in Microsoft Excel, and then saved as a *.csv (comma-separated file), using the following buttons:

- **Import**—Opens a Browse dialog box, where you can select a *.csv file to load.
- **Export**—Opens a Browse dialog box, where you can save the current source alias information as a *.csv file.
- **Update**—Updates the alias names on the currently selected multiviewer.
- **Update All**—Update the alias names on all connected multiviewers.

4. Click **Done** to accept the new values.

Getting Version Information

Select the **Version** tab to see version information about the hardware and software components and keys, which is for informational purposes only.

Configuring Network Time Protocol (NTP)

Use the Network Time Protocol (NTP) synchronizes the clocks of computer systems over internet connections.

1. Open the **Advanced Configuration** dialog box.
2. Select the **NTP** tab.

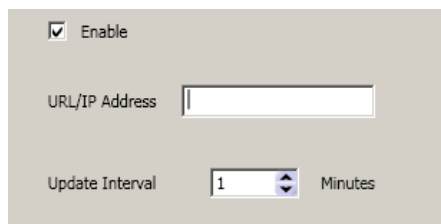


Figure 3-6. NTP Settings in the Advanced Configuration Dialog Box

3. Click **Enable**.
4. Enter the IP Address or URL of your NTP source.
5. Beside **Update Interval**, select the frequency with which the multiviewer will check for updates.
6. Click **OK**.

Enabling Alarm Logging

When alarm logging is enabled, alarms are added to the system log, when the Log Message alarm action is set for a particular alarm. See [“Setting Alarm Actions” on page 144](#).

1. Open the **Advanced Configuration** dialog box.
2. Select the **Miscellaneous** tab.
3. Click **Enable Alarm Logging**.

Working with Layouts

About Layouts

Layouts are made from an arrangement of windows, PiPs and other layout objects, including windows, PiPs, labels, tally indicators, clocks, up/down counters, and on-screen alarms. The largest single unit of a layout is a window. Windows are containers that are used to store a compilation or arrangement of layout objects, such as PiPs, audio meters, and tally indicators. PiPs, the main component of layouts, display video from the multiviewer's various input sources.

Layout Designer provides a number of different ways to create new layouts for display on your multiviewer system. After layouts are created, you can use the editing options to define how you want the layout to appear in output display devices.

Use the Layout Designer to modify the default assignment of video before displaying the layout in the output display devices.

Layout objects do not need to be part of a window to be displayed in a layout.

The following figure illustrates a layout comprised of windows and layout objects.

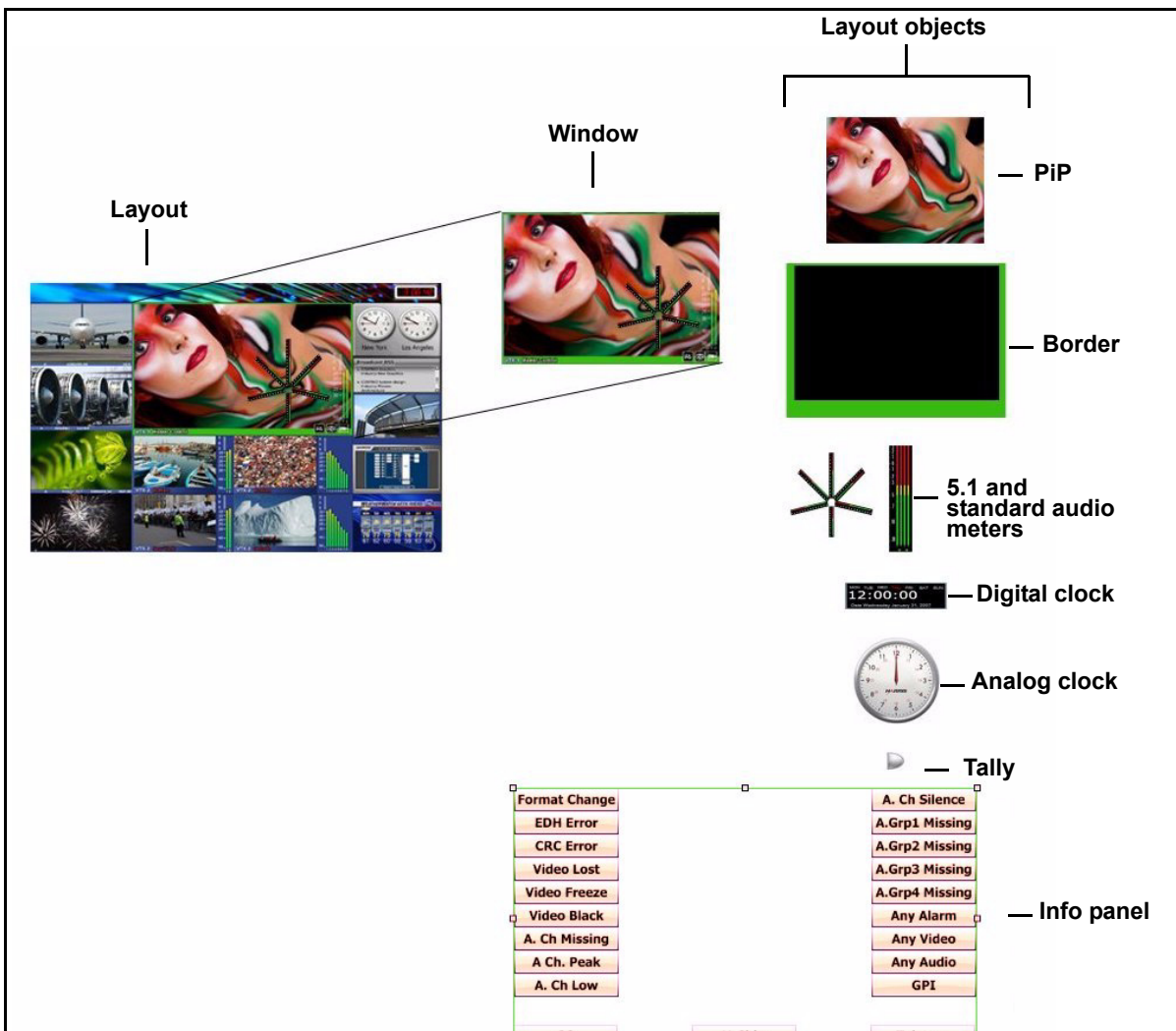


Figure 4-1. Layout, Windows, and Layout Objects

Windows are similar to grouped layout objects with the exception that windows have a set of distinct properties associated with them. You can apply properties, such as scrolling properties, to affect how the window looks and behaves in a layout. Grouped layout objects are defined by the individual object properties. For information about creating and editing windows, see [“Creating Layout Windows” on page 78](#).

The display characteristics of a layout are determined by layout objects including PiPs, alarms, and audio meters. In addition to these objects, PiPs are associated with attributes: borders and labels. In layouts, the position and appearance of layout objects and PiP attributes are determined by properties.

Creating New Layouts

It is important to know the native resolution of the display monitor before you create an optimized layout. The native resolution varies from manufacturer to manufacturer. Please refer to your display monitor's manual to find the native resolution.

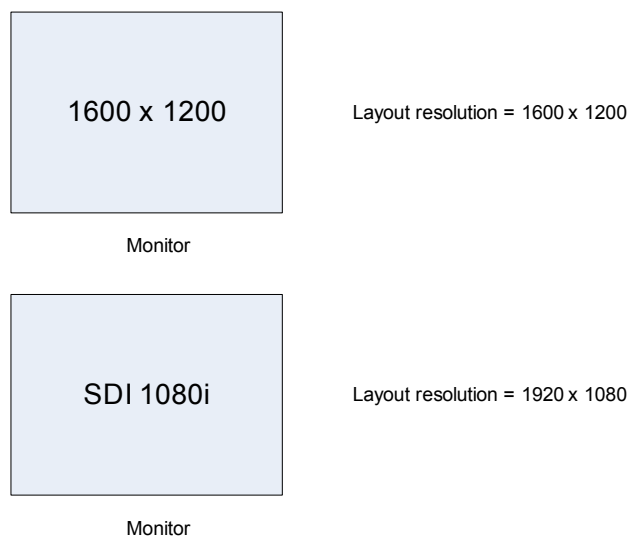


Figure 4-2. Sample Monitor Resolutions and Layout Designer Resolutions

There are two ways of creating layouts: online and offline.

New layouts can be created “online,” which means you can take a published layout, edit it in Layout Designer, and then re-publish it.

New layouts can be created “offline,” which means that you can use Layout Designer to create a layout, save it to a network or local drive, and then publish it to a connected multiviewer at a later time. You do not need to be connected to a Harris multiviewer to create and save new layouts. (You must be connected to a Harris Multiviewer to publish layouts to it.)

After you create your layout, save it to a layout (.lay) file. For information about saving layouts, see [“Saving Layouts” on page 59](#).

Layout Creation Workflows

There are a number of different ways or workflows that you can follow to create or edit existing layouts. These workflows depend on the level of customization and complexity that your new layout requires. You can modify layouts at any time by adding layout objects, such as audio meters, on-screen video alarms, or rules.

You can also drag layout objects from the Library panel and drop them on the layout that is currently in the canvas.

There are two main workflows that you can use to start creating your new layouts: using the Layout Creation Wizard, and using a blank layout.

Creating a New Layout Using the Layout Creation Wizard

Using the Layout Creation Wizard, you can create customized layouts by defining the layout's basic building blocks, including layout output resolution, the arrangement of PiPs (the number of PiPs across and the number of PiPs down) in the layout, as well as the style of the PiPs in the layout. The selection of PiP styles that you can choose are defined by the PiP styles listed in the **PiP** tab of the Layout Designer Library. The Layout Creation Wizard dialog box has a preview window that displays how your layout will appear in the Layout window.

After you have created the layout, you can add layout objects such as audio meters, tally indicators, and alarms. You can then save your custom layout to a layout (.lay) file.

The following figure illustrates the different options available when you create a new layout from the Layout Creation Wizard.

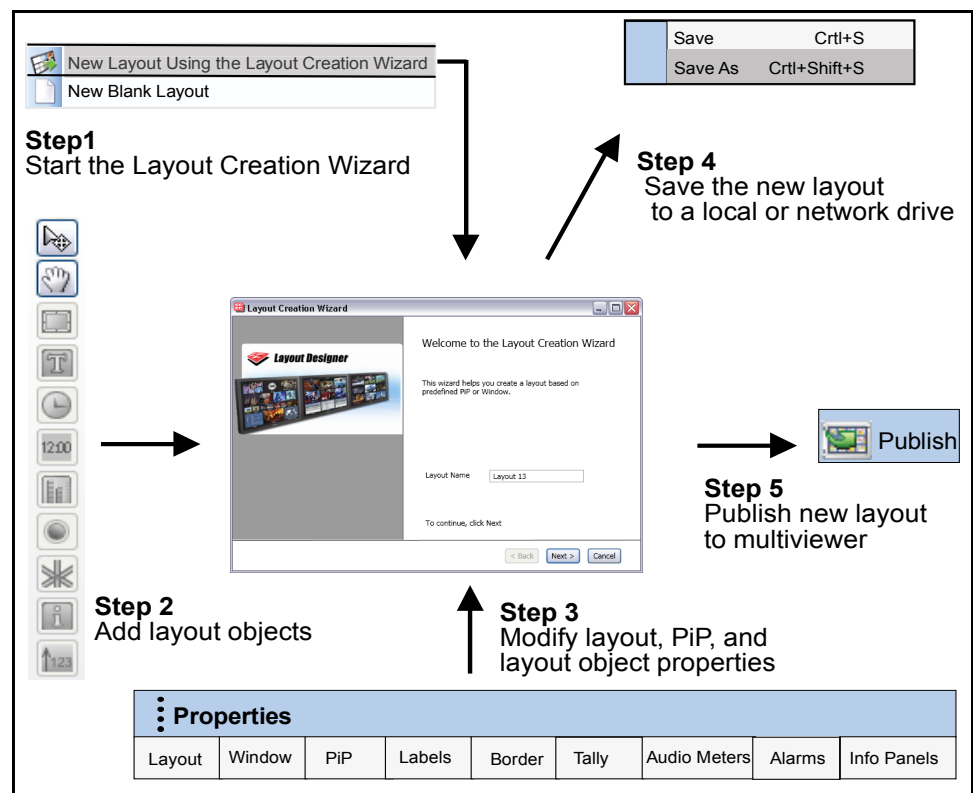


Figure 4-3. Creating a New Layout Using the Layout Creation Wizard



Note

Clicking on any layout object in the Tools palette creates that object on the design canvas. You cannot drag and drop objects to the canvas.

For more information about customized layouts, see [“Using the Layout Creation Wizard” on page 53](#).

Using the Layout Creation Wizard

Use the Layout Creation Wizard to create custom layouts that you can save, and then publish to your Harris multiviewer for display.



Note

Initial settings for many portions of the Layout Creation Wizard are derived from user preferences (**File > Edit > Preferences > Default Properties**).

1. To access the **Layout Creation Wizard**, select **File > New > Layout Using Layout Creation Wizard**.

The **Layout Creation Wizard** dialog box opens.

2. In the **Layout Name** field, enter a name for your new layout.

The layout name is used to identify the layout on the **Properties** pane and when the layout is published to your multiviewer hardware.

Click **Next**.

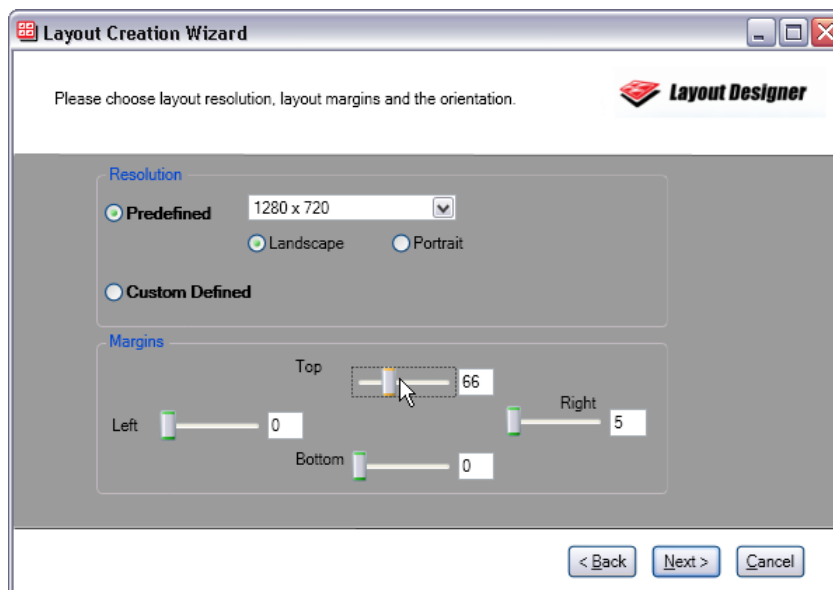


Figure 4-4. Wizard Page 2—Resolution and Margins

3. To select an output resolution, under **Resolution**, do either of the following:
 - For a standard output resolution, select **Predefined**, choose either **Landscape** or **Portrait**, and then make a selection from the **Output Resolution** list.
 - For a custom output resolution, select **Custom Defined**, and then type or select values for width and height.

For best results, select an output display resolution that matches the native resolution of your output display device.

4. Under **Margins**, enter the amount of the layout area you would like to have reserved, so that objects, including the background, cannot be placed there. The margin setting does not affect the size or resolution of the layout as a whole. The maximum size for margins will vary depending on the resolution of the layout.
5. Click **Next**.

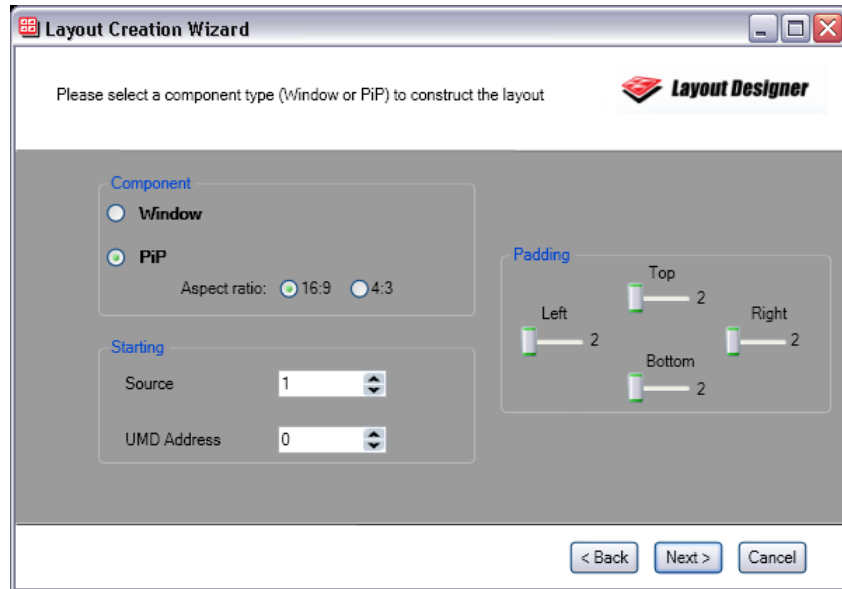


Figure 4-5. Wizard Page 3—Component Type

6. Under **Component**, select either **PiP** or **Window**.
The component type you choose here will be the basic item that will fill your layout.
If you choose **PiP**, select the an aspect ratio.
The aspect ratio you select determines the PiPs that are available when you select a style from the **Select PiP** tab. For example, if you want to select a style from the **16:9** tab of the **PiP** Library, select 16:9 from the **Aspect Ratio** list.
7. Beside **Source**, select a select a starting router source for your PiPs.
The Source PiP property of the first PiP will be set to the value of Starting Source, and following PiPs will use the next router sources in sequential order.
8. Beside **UMD Address**, enter the first number as output by your UMD device when using layouts with a fixed UMD address.
9. Under **Padding**, choose the amount of padding to add to the top, bottom, left, and right of components in the layout.
Padding is the distance between the components.

10. Click **Next**.

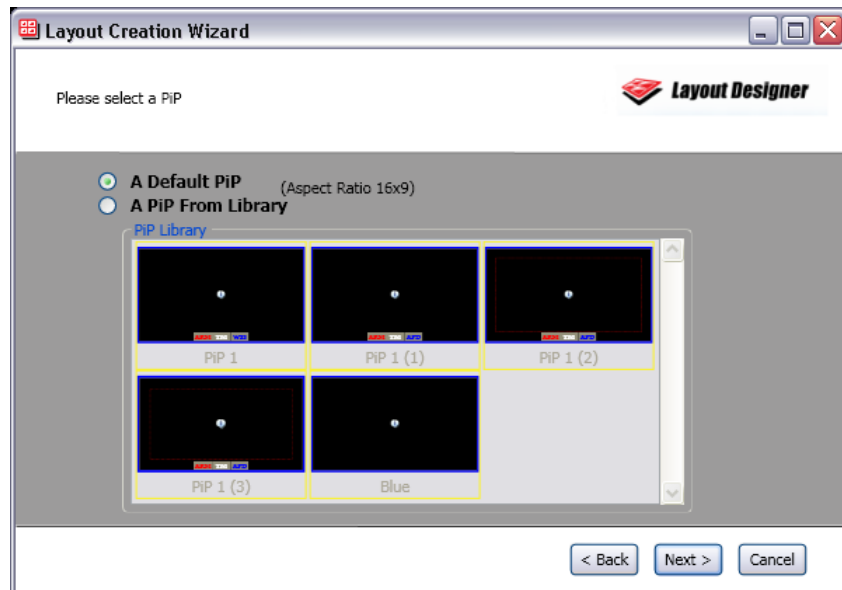


Figure 4-6. Wizard Page 4—Choose PiP or Window Format

11. Depending on whether you chose to populate your layout with PiPs or windows, do either of the following:

- If you chose PiPs on the previous page of the wizard, select the PiP style you want to use for your new layout.

Click **Default PiP**, in which case the PiP will match the settings as configured in the Default Properties tab of the Preferences window, or click **A PiP from Library**, and then choose a PiP from the **PiP Library** field. Only the page of the PiP library which has the aspect ratio you chose on the previous page will be available.

- If you chose windows (which includes PiPs and other layout objects) on the previous page of the wizard, select the window style you want to use for your new layout from the **Window Library**.

If the window you choose has alarms, you can select **Keep Alarms**, and the alarm settings, except those that point to controls outside the window, are retained and will appear in the new layout. When a window has no alarms, this option is unavailable.

12. Click **Next**.

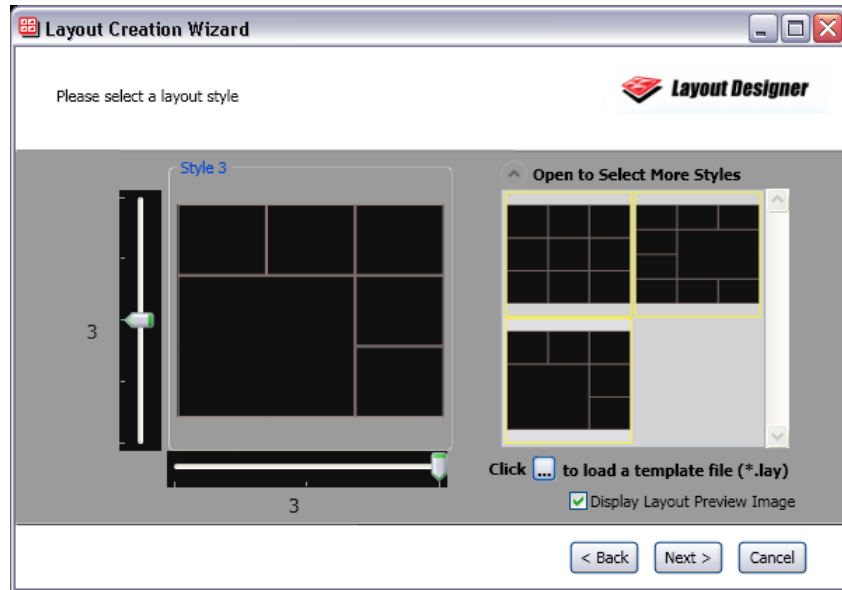


Figure 4-7. Wizard—Choosing a Layout Style

13. Use the tools on this page to assign a number of rows and columns of PiPs or windows on your layout.

Drag the slider to the left of the preview to change the number of rows of displays, and drag the slider below the preview to change the number of columns. The range these sliders can be dragged through depends on settings you made in previous pages of the wizard.

14. (Optional) To choose a non-uniform style of layout (where PiPs or windows may vary in size), click **Open to Select More Styles**, and then click on a style in the pane that appears. The additional styles will update as you move the sliders on the preview pane.

If you choose a previously stored layout for your layout style, click the **Browse** button, and then choose any *.lay file, and then Click **OK**.

When you click **Next**, if you have chosen a custom layout, these options appear:

Use selected PiP or Window (contains PiP) to:

- **Replace all windows that contain PiPs**—replaces all windows with the default window or PiP selected in the wizard.
- **Replace all PiPs that are not in the windows**—replaces all PiPs with the default window or PiP selected in the wizard.

If both options are selected, then all windows and PiPs are replaced with the default PiP or window.

If neither option is selected, then no PiPs or windows are replaced with the default PiP or window.

15. (Optional) Click **Display Layout Preview Image**.

16. Click **Next**.

The final screen of the wizard displays a preview of your layout, if you chose **Display Layout Preview Image** on the previous screen.

17. To complete the layout and exit the **Layout Creation Wizard**, click **Finish**.

Before you make changes to the layout or publish your new layout, save it as a layout file on a local or network drive. See [“Saving Layouts” on page 59](#).

You can add layout objects (such as clocks and tally indicators, audio meters, and on-screen alarms) to your layout before publishing the layout to your Harris multiviewer. You can also modify layout and layout object properties such as re-assigning input channels to PiPs. See the following sections for more information:

- [“Layout Properties” on page 65](#)
- [“Layout Object Properties” on page 71](#)
- [“Formatting Layout Objects in the Canvas” on page 73](#)
- [“About Monitoring Tools” on page 133](#)

Creating a New Layout from a Blank Layout

When you select a blank layout as the starting point, there is no pre-arrangement of PiPs or other layout objects in the layout canvas. You must add all of the layout objects, including PiPs, to your new layout by either dragging them from the Library panel or by inserting the objects using the Tool palette. You can also add layout objects by using the application menu’s insert commands.



Note

Layout Designer does not restrict you from positioning PiPs so that they overlap one another.

After you add PiPs and objects to your new layout, you can use Layout Designer’s formatting tools, such as Align and Distribute, to create custom PiP arrangements. You can also use the Properties pane to modify the layout, PiP, and object properties, as well as add audio meters and alarms. You can then save your custom layout to a layout (.lay) file.

The following figure illustrates the different options you can use to create a new layout from a blank layout.

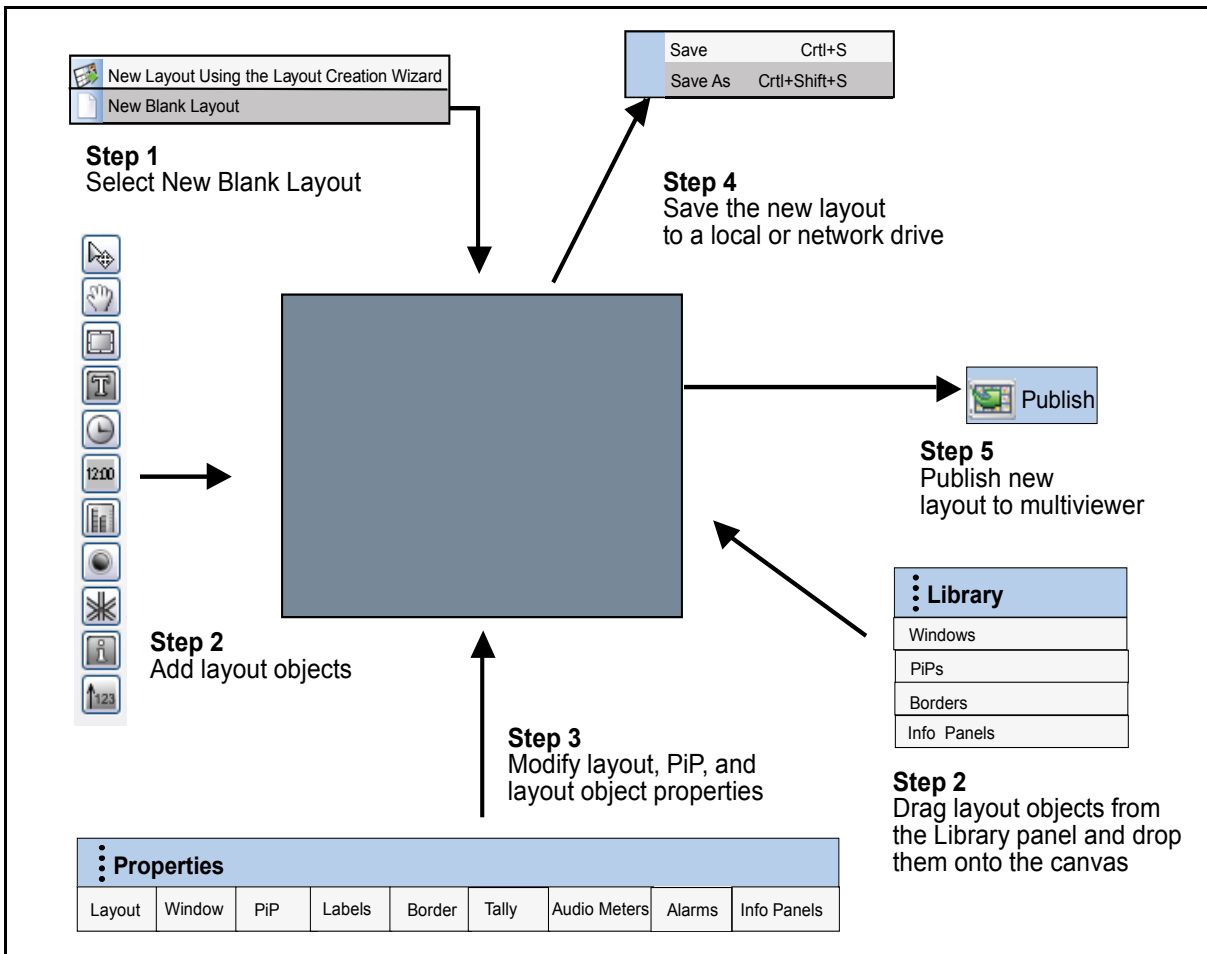


Figure 4-8. Creating a New Layout from a Blank Layout

Using a Blank Layout

You can create a layout by dragging layout objects from the Layout Designer Library onto a blank layout.

To create a layout from a blank layout:

1. Select **File > New > Blank Layout**.

The Layout window opens and displays a blank layout.

2. Set the layout properties using the **Properties** pane.

For information about viewing and setting layout properties, see [“Viewing Layout Properties”](#) and [“Modifying Layout Properties”](#) on page 66.

Locking and Unlocking Layouts

When a layout is locked, it displays a closed padlock icon in the top left corner of the layout tab. When it is unlocked, the padlock icon is open.

The Lock/Unlock Layout button is on the button bar at the top of the Layout Designer screen.

To lock a layout:

1. Click **Lock Layout**.

You can use the Properties panel to adjust attributes of objects in the layout, but you cannot add, delete, or move objects in the layout. Context menus do not appear when you right click on a locked layout.

To unlock a layout:

1. Click **Unlock Layout**.

You can drag and drop items in the layout, in addition to adjusting the attributes of objects in the Properties panel.

Saving Layouts

After creating a new layout using the Layout Creation Wizard or a blank layout, you can save your layout. Layouts saved as layout files are opened using Layout Designer's **Open Layout** command.

You can save your layout as layout (.lay) files to a local or network drive so that you can open the layout in Layout Designer at any time. Layouts that have been changed since they were last saved have an asterisk (*) in the layout tab.

To save your new layout as a layout file:

1. Select **File > Save As**.
2. Type a name for your new layout in the **Save As** dialog box, and then click **OK**.



Note

When you close Layout Designer, you are offered the opportunity to save layouts. For more information, see [“Closing Layout Designer” on page 35](#).

To save all open layouts, select **File > Save All**.

To overwrite the layout when you have already saved it, select **File > Save**.

Viewing Layouts

To display a layout on the layout canvas, you must connect Layout Designer to the Harris multiviewer, and then select the layout you want to display. You can open multiple layouts in the layout canvas; however, you can only view one layout at a time. You can toggle between the different layouts that are currently open in the layout canvas by clicking the tabs located at the top of the layout canvas (see [Figure 4-9](#)). When a layout is displayed in the canvas, you can modify its appearance and add new layout objects. You can create new layouts, edit existing layouts, and define audio and video alarms and rules.



Note

If you want to modify a layout, you may need to unlock it. See [“Locking and Unlocking Layouts”](#) on page 58.

For information about how to connect Layout Designer to a Harris multiviewer and select layouts for display on the layout canvas, see [“Connecting Layout Designer to a Harris Multiviewer”](#) on page 61 and [“Displaying and Publishing Layouts”](#) on page 62.

[Figure 4-9](#) illustrates an overview of Layout view options and controls.

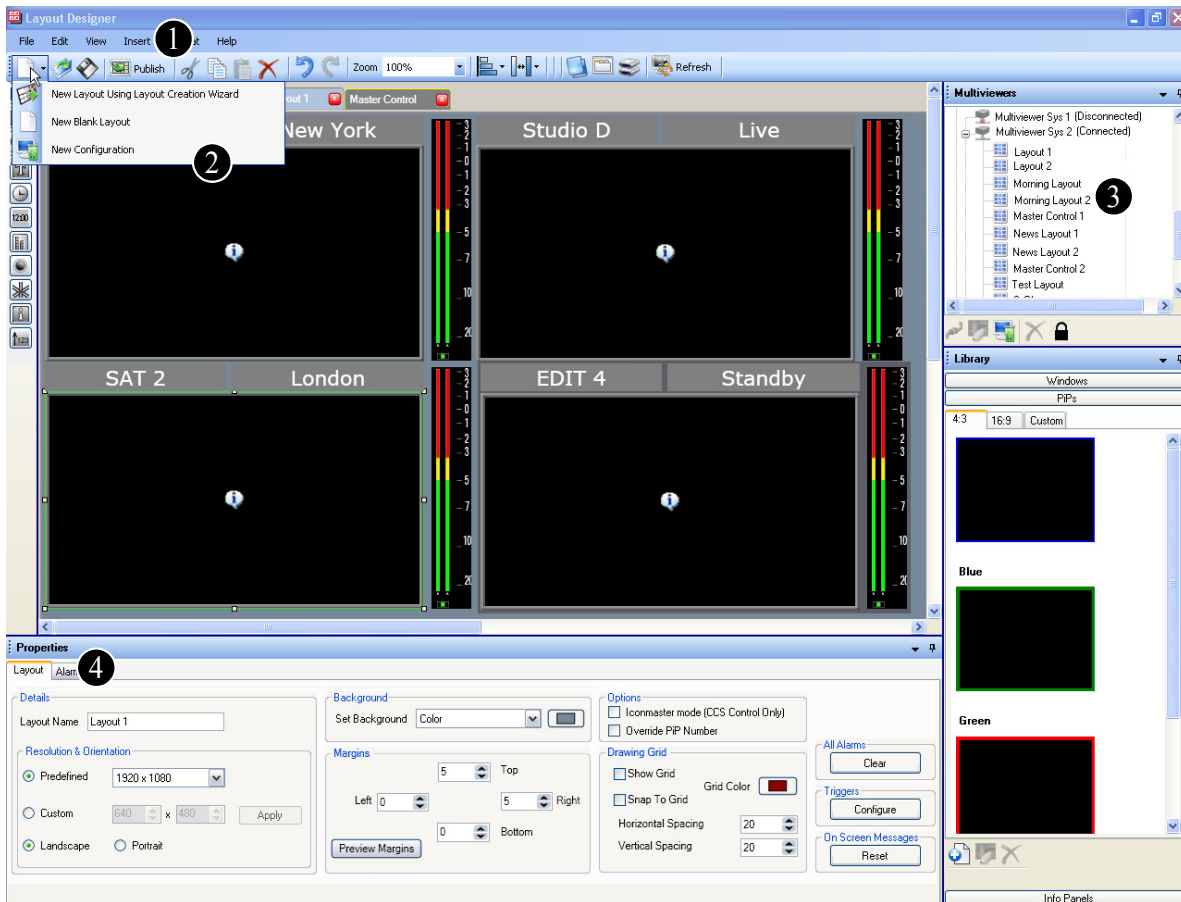


Figure 4-9. Using Layout Designer Controls and Options

- ❶ Publish layouts to the selected Harris multiviewer system or output module. For information, see [“Displaying and Publishing Layouts” on page 62](#).
- ❷ Create new layouts from a blank layout, or by using the Layout Creation wizard. For more information, see [“Creating New Layouts” on page 51](#).
- ❸ Select a layout stored on an output module for display or for editing. See [“Displaying and Opening Layouts Stored on the Multiviewer” on page 63](#).
- ❹ Modify layout properties, such as display output resolution and background color, using the Layout Properties pane. See [“Modifying Layout Properties” on page 66](#).

Connecting Layout Designer to a Harris Multiviewer

If Layout Designer is not currently connected to a Harris multiviewer, or if you want to connect to any of the multiviewers that are displayed in the **Multiviewers** library, use the **Connect** command. If Layout Designer cannot find a configuration for the selected multiviewer, you must create one using the Configuration Wizard. For information about configuring Harris multiviewers, see [“Chapter 3: Configuring Display Mode” on page 37](#).

To connect a Harris multiviewer to Layout Designer:

1. From the **Multiviewers** panel, select the multiviewer to which you want to connect.
2. Right-click the selected Harris multiviewer, and then select **Connect to Device** from the context menu.

It may take up to three seconds for Layout Designer to connect with the multiviewer. When connected, Layout Designer displays **(Connected)** after the multiviewer name. The layouts stored in the connected hardware are listed below the multiviewer name.

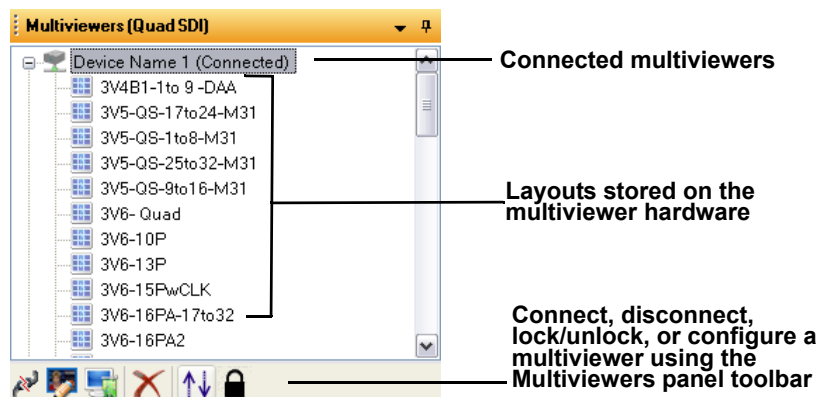


Figure 4-10. Connected Multiviewers

Disconnecting Layout Designer from a Harris Multiviewer

1. Right-click the selected multiviewer, and then select **Disconnect Device** from the context menu.

Rebooting and Restarting a Connected Harris Multiviewer

After you have connected to a multiviewer system, you can use the **Multiviewers panel** context menu to perform various hardware-related operations. In the **Multiviewers panel**, right-click the connected multiviewer, and then, from the context menu that appears, select from the following options:

- **Start Multiviewer** - Select this option to trigger the selected multiviewer to load a layout.
- **Exit Multiviewer** - Select this option to trigger the multiviewer to revert to its desktop.
- **Shut Down Multiviewer** - Turns off the selected multiviewer without restarting.
- **Restart Multiviewer** - Select this option to restart the multiviewer's On-Screen application. Restarting the multiviewer will disrupt the display of layouts on all output modules connected to the multiviewer.
- **Reboot Multiviewer** - Select this option to reboot the multiviewer hardware, including its central processing unit (CPU). Rebooting the multiviewer will disrupt the display of layouts on all output modules connected to the multiviewer.

Displaying and Publishing Layouts

After you have connected Layout Designer to a multiviewer, you can select layouts and display them on the multiviewer's output display devices. Using Layout Designer, you can choose to display layouts that are currently stored on the multiviewer or you can open layouts that are saved as layout files. You can then use the **Publish** command to display the layouts on the multiviewer's output display devices.

The following sections describe how to display layouts. For information about displaying new layouts, see [“Viewing Layouts” on page 60](#).

Displaying and Opening Layouts Stored on the Multiviewer

When Layout Designer is connected to a multiviewer, the layouts currently stored on the multiviewer hardware are shown in the **Multiviewers** panel. To view the layouts that are stored on a multiviewer, in the **Multiviewers panel**, click or expand the multiviewer's icon.

Click the + to view all the layouts on the multiviewer system.
Click - to hide them.

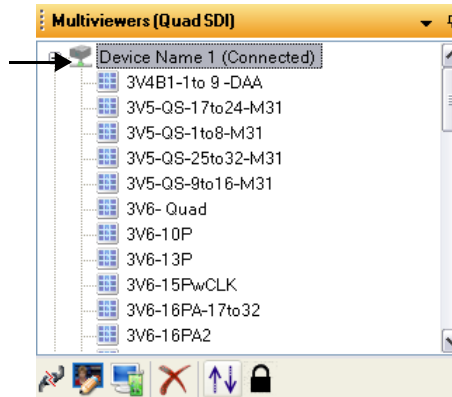


Figure 4-11. Multiviewers Panel

If you do not want to view or modify the layout, you can display the layout without opening it in Layout Designer. If you want to view, modify, or save the layout to a local or network drive, you must open it in Layout Designer. You can then use the **Publish** command to display the modified layout. For more information, see [“Publishing Modified Layouts” on page 64](#).

If Layout Designer is not connected to a multiviewer, see [“Connecting Layout Designer to a Harris Multiviewer” on page 61](#).

If you want to modify the layout, you may need to unlock it. See [“Locking and Unlocking Layouts” on page 58](#).

To display a layout:

1. On the Multiviewers panel, right-click the layout that you want to display on the multiviewer output module(s), and then select **Display this Layout on Multiviewer** from the context menu that appears.

The selected layout is now displayed in the output display device(s).

To open a layout in Layout Designer:

1. Do either of the following:
 - From the Multiviewers panel, select the layout that you want to open in Layout Designer, right-click, and then select **Recall this Layout to Layout Designer** from the context menu.
 - In the Multiviewers panel, double-click the layout that you want to open in Layout Designer.

The layout opens in Layout Designer.

You can use tools to modify the layout and objects as well as add objects to the layout, and then use the **Publish** command to display the layout on the output modules. For more information, see [“Modifying Layout Properties” on page 66](#) and [“Layout Object Properties” on page 71](#). For information about publishing a layout, see [“Publishing Modified Layouts” on page 64](#). You can also save the layout as a layout (.lay) file. For more information, see [“Saving Layouts” on page 59](#).

Publishing Modified Layouts

You can open a layout in Layout Designer, modify it by adding objects, such as audio meters or alarms, and then use the **Publish** command to display the modified layout on the output display devices. When the layout is published, the multiviewer is automatically updated with the modified layout.

The following section describes how to open a layout in Layout Designer, and then publish the layout to the multiviewer. For information about modifying layouts and adding layout objects, see [“Modifying Layout Properties” on page 66](#).

To publish a modified layout:

1. From the **Multiviewers** library, double-click the layout you want to modify.
The selected layout opens in the layout window.
2. Make the required modifications to the layout. For information about modifying a layout, see [“Modifying Layout Properties” on page 66](#).
3. To publish your modified layout to the multiviewer, click **Publish** on the Layout Designer application toolbar.

Publishing Layouts From Layout Files

You can select a layout file from a local or network drive, and then publish it to your multiviewer display. There is no limit to the number of layouts that you can store on your multiviewer hardware, as long as there is enough disk space.



Note

To ensure that you do not lose any of the layouts currently stored on the multiviewer hardware, open them in Layout Designer, and then save them to a local or network drive.

To publish a layout from a layout file that is stored on a local or network drive:

1. To open a layout (.lay) file, select **File > Open**.
2. In the **Open** dialog box, browse to the location of the layout file you want to open, and then click **OK**.

The layout file opens in the layout window. You can make modifications to the layout before you publish it to the multiviewer display. For information about modifying a layout, see [“Modifying Layout Properties” on page 66](#).

3. To publish the layout, click **Publish** from the Layout Designer application toolbar.

Layout Properties

Layout property settings define how the area of the layout window is displayed in the output display device(s) that are connected to the multiviewer. When you create new layouts, you need to select options for your layout properties. Layout properties can be modified any time layouts are open in the Layout Designer canvas. You can view and change layout properties using the Layout tab in the Properties pane.



Note

For best results, ensure that the Output Resolution and frequency settings match the resolution and refresh rate of the output display device(s) connected to your multiviewer.

Viewing Layout Properties

You can view and change layout properties using the Properties pane.

To access the Properties pane:

1. Select **View > Properties**.

The Layout Properties pane appears similar to the following:

The screenshot shows the Layout Properties Pane with the following sections:

- Details:** Layout Name: 3V7-1-25to32
- Resolution & Orientation:**
 - Predefined: 1920 x 1080
 - Custom: 640 x 480
 - Apply button
 - Landscape (selected) / Portrait
- Background:** Set Background: Color
- Margins:**
 - Top: 5
 - Left: 0
 - Right: 5
 - Bottom: 0
 - Preview Margins button
- Options:**
 - Iconmaster mode (CCS Control Only)
 - Override PIP Number
- Drawing Grid:**
 - Show Grid
 - Snap To Grid
 - Grid Color: Red
 - Horizontal Spacing: 20
 - Vertical Spacing: 20
- Layout Alarms:** Clear button
- Layout Events:** Configure button
- On Screen Messages:** Reset button

Figure 4-12. Layout Properties Pane

Modifying Layout Properties

You can modify the properties of a layout that is currently open in the Layout Designer canvas. This includes layouts that have been created using a blank layout or the Layout Creation Wizard. See the following sections:

- [“Modifying the Resolution” on page 66](#)
- [“Modifying the Background” on page 67](#)

Naming Layouts

A Layout’s name identifies it in various Layout Designer workspace dialog boxes and tabs including the following tabs:

- Multiviewers panel
- Properties pane

To modify the layout’s name:

1. Under **Properties**, type a name for your layout in the **Layout Name** field.

Modifying the Resolution

Layout Designer supports a number of standard predefined output resolutions. You can also define custom output resolutions. When selecting the orientation and resolution for your layout, ensure that your output display devices support your selections.

**Note**

Your layout must be in an **unlocked** state to change its resolution. See [“Locking and Unlocking Layouts” on page 58](#).

To modify the resolution:


1. Under **Resolution**, do one of the following:
 - To select a standard output resolution, click **Predefined**, and then select a resolution from the drop-down list.

- To select a custom output resolution, click **Custom**, and then type or select values for output width and height.
2. Click **Apply**.

Modifying the Background

You can select either a solid color or a predefined background image as your layout's background. There are 10 pre-defined background images.

To modify the background:

1. Under **Background**, from the **Set Background** list, select either **Color** or a background image (**Background 1** to **Background 10**) from the drop-down list.
2. If you selected Color as your default background, click the  button to access the **Select a Color** dialog box.
3. To select a color, do one of the following:
 - Use the slider to select a color.
 - Enter the color values you want to use in one of the **ScRGB**, **sRGB**, or **Hexadecimal Notation** fields.

Your selected color is previewed below **Selected Color**.

4. If required, use the **Opacity** slider to adjust the color's opacity value, and then click **OK**.
5. Click **OK**.

Making Layout-Specific Settings

There are three layout-specific buttons, which control settings on a per-layout basis.

Under **Layout Alarms**, click **Clear** to clear all the component alarms on the active layout opened in LD.



Note

This does not affect the alarms on the display. To clear alarms on the display, republish the layout.

. This function coincides with the **Reset Alarms** on-screen option as described in [Table 9-1 on page 174](#).

Under **Layout Events**, click **Configure** to open the **Layout Event Configuration** dialog box. This option is also available from the toolbar by clicking **Rules** and selecting **Layout Events** from the menu that appears. For complete information about setting and using triggers, see [“Configuring Layout Events and Global Events” on page 153](#).

Under **On Screen Messages**, click **Reset** to acknowledge all messages displayed by alarm rule message box. This function coincides with the **Clear Messages** on-screen option as described in [Table 9-1 on page 174](#).

Margins

You can adjust the margins on the layout by entering numbers in the four Margins fields. The margin limits the size of the entire layout. The background is resized to fit the new area.

The available range for margins varies depending on the resolution of the layout, with an absolute maximum of 200 pixels on the higher resolutions.



Note

Your layout must be in an **unlocked** state to adjust the margins. See [“Locking and Unlocking Layouts” on page 58](#).

Drawing Grid

On the Layout Properties pane, you can activate a grid for the layout canvas. This grid is for layout purposes, and will not appear on the published layout.

Table 4-1. Drawing Grid Options

Option	Function
Show Grid	Displays a grid on the layout canvas
Snap to Grid	Whether the grid is displayed or not, when this is checked, items will snap to grid positions when dragged around the layout
Grid Color	Click the button to choose a color for the lines in the grid
Horizontal Spacing	Determines the distance (in pixels) of the lines that run from top to bottom on the grid; lines can be spaced from 5 to 40 pixels apart
Vertical Spacing	Determines the distance (in pixels) of the lines that run from left to right on the grid; lines can be spaced from 5 to 40 pixels apart

IconMaster Mode

Select this option if you will be using an IconMaster master control switcher with this layout. IconMaster can be configured to switch the Harris multiviewer’s displayed layout when the channel is switched. When in IconMaster mode, external protocol with tallies are disabled. Tallies update using CCS controls only.

OverRide PiP Number

When this option is disabled, each PiP is automatically assigned a PiP number, which is greyed out (but still displayed, for informational purposes) on the PiP’s Properties pane. When this option is enabled, you can alter the PiP number.

Within a layout, each PiP must have a unique number. If you attempt to assign a number to a PiP, and that number is already in use, the PiP number will automatically jump to the next available PiP number.

Working with Layout Objects

Layout Objects

Layout objects are the building blocks that provide the look and feel of a layout. Layout Designer includes a variety of layout objects that perform different types of functions, such as bordering a PiP and metering input audio signals. Layout objects include PiPs, labels, clocks, tally indicators, audio meters, and info panels.

New layouts created using the Layout Creation Wizard contain PiPs and windows, which can contain any layout objects. Ideally, when creating a layout you will use pre-defined windows which contain such objects as audio meters, tallies, labels, and info panels, so the input source for all the objects in the window will track together.

Additional layout objects, such as audio meters and tally indicators, can be added to a layout after the layout has been created. You can add objects to layouts by dragging them from the Library panel onto the layout canvas, or by using the insert commands from the Tool palette and application menu.

You can group Layout objects together so that they can be simultaneously moved and/or formatted in the layout canvas. You can also create an arrangement of layout objects, and then add them to a window. As part of a window, this group of layout objects can be manipulated as a single layout object that has a distinct set of window properties. Window properties include a background (which is different from the layout background color). Scrolling properties can be applied to a window. Windows and the arrangement of layout objects contained in the window can then be added to the Windows tab of the Library panel. The window can be added to other layouts in a single drag-and-drop action.

The display characteristics of layout objects are determined by their individual property settings. Layout object properties are modified in the same way, regardless of how they were added to the layout. For example, a PiP in layout created from the toolbar is modified in the same way as a PiP added to a layout from the Library panel. For information about layout object properties, see [“Layout Object Properties” on page 71](#).

The following figure illustrates a typical layout displaying layout objects.

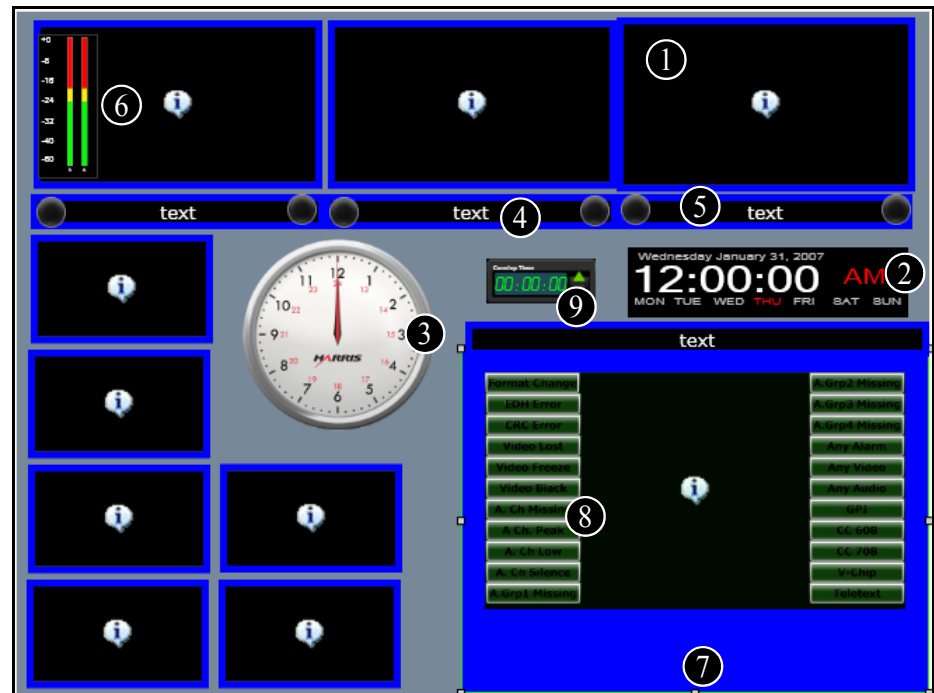


Figure 5-1. Typical Layout

Each layout object is described below:

- ① **PiP** - Displays the input video/graphics from a single input channel. An individual PiP's properties determine how it appears in the layout. Each PiP in a layout can have its own set of properties. For more information, see [“About Picture-In-Pictures \(PiPs\)” on page 93](#).
- ② **Digital Clock** - Displays time from NTP, internal, or linear time code reference source. The digital clock can be resized. For information, see [“Setting Digital Clock Format” on page 126](#).
- ③ **Analog Clock** - Displays the time from NTP, internal, or linear time code reference source. There are various styles of analog clocks. For more information, see [“Setting Analog Clock Format” on page 125](#).
- ④ **Label** - Three types of labels display text information, static, dynamic and alarm/rules. A Static label displays manually entered text. A Dynamic label can have UMD source from either the router database or external UMD protocol. A alarm/rule label can be configured using the rules editor to display text information upon an event. For more information, see [“About Labels” on page 119](#).
- ⑤ **Tally** - Displays monitoring status from external UMD protocol, GPI inputs, or an alarm/rule event. For more information, see [“Creating Tally Indicators” on page 116](#).

- ⑥ **Audio Meter** - Displays audio levels from embedded, analog, Dolby E, and AES input channels. Audio meters can be added to individual PiPs in a layout. You can display up to 16 channels from an audio input on a PiP. For more information, see [“Defining Alarms for a Layout Object” on page 138](#).
- ⑦ **Border** - Displays a user-defined graphic area around a PiP. Individual border properties determine how borders appear around the PiPs. Borders can display status from external UMD protocol, GPI inputs, or an alarm/rule event. For more information, see [“Modifying Border Properties” on page 88](#).
- ⑧ **Info Panel**—Provides such data as alarms, closed captioning, VITC, Dolby E program information, and teletext data. Info panels can be standalone or overlaid on a PiP. For more information, see [“Creating Info Panels” on page 156](#).
- ⑨ **Up/Down Counter**—Provides either a count up or count down timer that can be configured to be triggered by alarm rules, GPI, or SNMP, and can target alarm actions. For more information, see [“About Up/Down Counters” on page 128](#).

Using the Layout Designer Properties panel, you can modify layouts and PiP properties, and add audio meters and info panels to create customized layouts that can be displayed in the multiviewer’s output display device. Customized PiP attributes such as borders and labels, are stored as part of the PiP in the Library panel.

Layout Object Properties

Each layout object has a number of unique properties that determine and define how it is displayed and how it behaves in the layout. These properties are independently set; each layout object can have a different set of properties. These settings can be modified at any time. You can use the various tabs of the Properties pane to modify individual layout object properties. PiPs, windows, label text, clocks, and audio meters each have separate property tabs.

To access the Properties pane:

1. Select **View > Properties**.

Adding Layout Objects to a Layout

You can add objects by using the Library panel, the Tools palette, or the Insert menu.

- Drag selected layout objects from the Windows, PiPs, or Info Panel Library panel tab, and then drop them onto the layout canvas. When you use this method of adding layout objects, you can select from standard as well as any customized objects that have been previously created and added to the Library panel.
- Click an object on the Tools palette. The object appears on the layout canvas.

- Choose an object item from the Insert menu.

**Note**

Your layout must be in an **unlocked** state to add, move, or delete objects. See [“Locking and Unlocking Layouts” on page 58](#).

Objects inserted into layouts using the Tools palette or the Insert menu have default object properties. New items are automatically added “on top” of other items. To change the order of items in the layout, use the **Order > Bring to Front** and **Order > Send to Back** options in the context menu. Items are positioned on the canvas based on your auto placement preferences setting. See [“Determining Auto Placement” on page 26](#) for more information.

After you have inserted the objects into a layout, you can use the Properties pane to modify their properties.

To add layout objects using the Library panel:

1. If the Library panel is not currently visible in the Layout Designer workspace, select **View > Library**.
2. From the Library panel, click the tab of the layout objects that you want to add to your layout.



Figure 5-2. Adding Layout Objects Using the Library Panel

3. Select the layout object that you want to add, drag it to the canvas, and then drop it on to your layout.

To add layout objects using the Tools palette:

1. Click the icon of the layout object to insert.

For information about the options on the Tools palette, see [“Tools Palette” on page 14](#).

After you add objects to your layout, you can:

- Use your mouse to move the objects in the layout canvas
- Use Layout Designer’s formatting tools to accurately align and distribute the objects in the layout, as well as copy and paste PiP properties
- Modify layout objects using the Properties pane.

Before publishing your new layout, you can save it as a layout file on a local or network drive. For information about saving layouts, see [“Saving Layouts” on page 59](#).

See the following sections for information about modifying and formatting layout objects:

- [“Layout Properties” on page 65](#)
- [“Layout Object Properties” on page 71](#)
- [“Formatting Layout Objects in the Canvas” on page 73](#)
- [“About Monitoring Tools” on page 133](#)

Formatting Layout Objects in the Canvas

Layout Designer has a number of layout object formatting options that you can use to arrange and resize objects in a layout, as well as cut, copy, and paste properties. These options are especially useful for quickly formatting objects for layouts that are created using a blank layout. For example, if you have dragged a number of objects from the Library panel onto your layout, you can use **Align** and **Distribute** commands to position each object accurately in the layout.

To modify the properties of more than one like object, you can change the property setting on one object, use the **Copy Properties** to copy the modified object’s properties, and then use the **Paste Properties** option to paste those modified properties to each like object in the layout.

You can use the formatting options to arrange and format objects in all types of layouts.



Note

Your layout must be in an **unlocked** state to use the formatting options. See [“Locking and Unlocking Layouts” on page 58](#).

Copying and Pasting Layout Object Properties

Use the **Copy Properties** and **Paste Properties** options to copy and paste properties between like objects. This option is useful when you want to modify the properties of multiple PiPs. For example, if you want to modify the same property setting for all the PiPs in your layout, select the PiP from which you want to copy properties, use the **Copy PiP Properties** option to copy those properties, and then paste the properties to other PiPs in the layout using the **Paste PiP Properties** option.

To access Layout Designer's **Copy Properties** and **Paste Properties** options, select and then right-click on a PiP.



Note

Your layout must be in an **unlocked** state to copy or paste properties. See [“Locking and Unlocking Layouts” on page 58](#).

To copy the properties from a selected object and paste them to another, like object in the layout:

1. Right-click the object from which you want to copy properties.
2. From the context menu, select **Copy Properties**.
3. Right-click the like object to which you want to paste the copied properties.
4. Choose one of the following functions:
 - To paste all of the copied PiP properties, select **Paste Properties**.
 - To choose which properties to paste, select **Paste Selected Properties**.A Paste Category dialog appears.
5. Choose the categories of properties you want to paste by selecting one or more of the following options:
 - Size
 - Border
 - OthersSelecting All will select all three options.
6. Click **OK**.

Cloning Layout Objects

The cloning tool creates a control similar to the currently selected control, with the differences being unique number and name, video source, dynamic source PiP number, and UMD address, which are all incremented

1. Select the layout object to be cloned.
2. Click **Clone a Component** on the application toolbar.

The new object's position in the layout canvas is determined by your auto placement preference setting. See [“Determining Auto Placement” on page 26](#) for more information.

Resizing and Moving Layout Objects Using a Mouse



Note

Your layout must be in an **unlocked** state to resize or move objects. See [“Locking and Unlocking Layouts” on page 58](#).

You can use your mouse to resize and move selected objects in a layout. You can resize objects by clicking, and then dragging the resizing handles that are located around the outer edge of the object. To move an object, select it, and then hold down the mouse button while dragging the object to a different location in the layout. To make fine positional adjustments, after selecting an object in the layout, press the arrow keys on your keyboard to move the selected object.



Object resize handles

Figure 5-3. Resizing Layout Objects Using a Mouse



Note

If the Aspect Ratio property is set to **Custom**, when you resize a PiP, its width and height resizing are not constrained to the proportions of a set aspect ratio.

When you move an object into alignment with another object in a layout, red lines appear temporarily on the canvas so you can see when they are perfectly aligned.

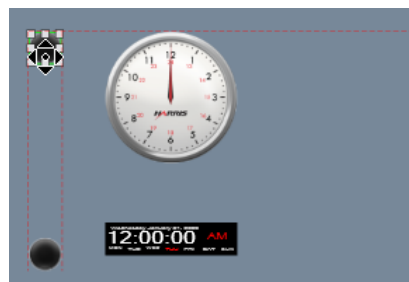


Figure 5-4. Temporary Alignment Guides

Working With Groups of Objects

It is sometimes useful to select a group of like objects and alter them all the same way -- for example, resize all PiPs within a group of windows.

To select more than one object, hold down the CTRL key on your keyboard while clicking the objects in the layout. To remove an object from the selection group, click on it again with the CTRL key held down.

Setting Like Objects' Properties

1. Right-click a group of objects, which can include one or more windows and select **Set properties**.
A submenu lists all the object types that are selected, including the non-border items in the windows. The sub-menu can contain PiPs, Tallies, Labels, Clocks (analog or digital), Info panels, etc.
2. Select one of the items in the sub-menu to open the properties pane for that type of object.

You can now make changes to all the selected like objects simultaneously.

Remove Like Objects from Control for a group of windows

1. If a selection contains a window and at least one other object, right click and select **Remove Window Component**.
A submenu lists all the object types that are selected, including the non-border items in the windows. The sub-menu can contain PiPs, Tallies, Labels, Clocks (analog or digital), Info panels, etc.
2. Select one of the items in the sub-menu to delete all instances of that type of object within the selection, for example all PiPs within the selection.
3. To resize the window to match the size of its contents, right-click and select **Consolidate Window**.

You cannot remove the first item in a window.

Aligning and Distributing Objects in a Layout

To align or distribute objects in a layout, you can use the **Align** and **Distribute** commands, which are located in the application menu or as right-click options when two or more items are selected. You can use the **Align** and **Distribute** commands to arrange objects in all types of layouts.



Note

Your layout must be in an **unlocked** state to align or distribute objects. See [“Locking and Unlocking Layouts” on page 58](#).

To access these commands, you must select multiple objects in your layout. To select multiple objects, hold down the CTRL key while selecting individual objects with your mouse. To deselect multiple objects, click on an empty space in the window. The following figure illustrates a layout with multiple selected PiPs.

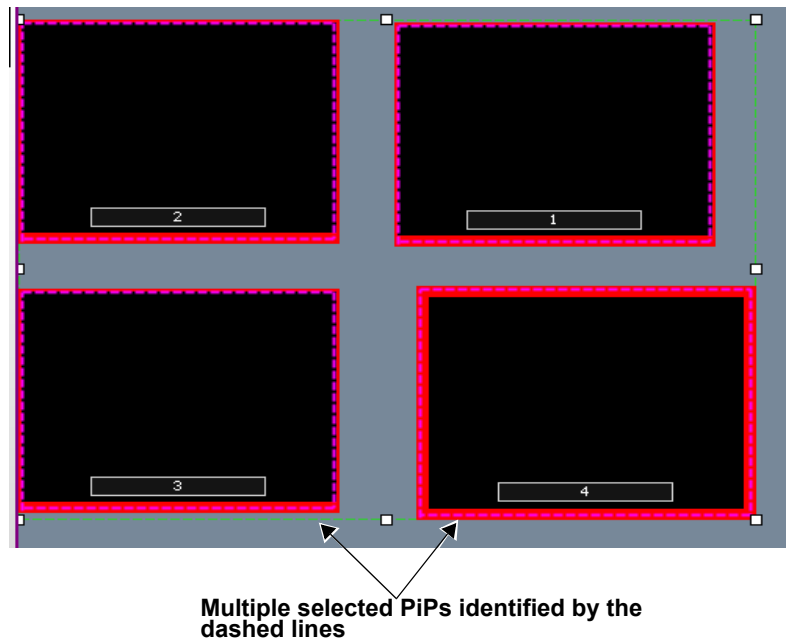


Figure 5-5. Multiple Selected PiPs

Table 5-1 lists the **Align** commands you can use to arrange objects in a layout.

Table 5-1. Align Commands









Menu Name	Toolbar Icon	Description
Left		Aligns two or more selected objects along the left axis of the first object selected
Right		Aligns two or more selected objects along the right axis of the first object selected
Top		Aligns two or more selected objects along the top axis of the first object selected
Bottom		Aligns two or more selected objects along the bottom axis of the first object selected
Center Vertical		Aligns two or more selected objects along a vertical axis that runs through the center of the canvas
Middle Horizontal		Aligns two or more selected objects along a horizontal axis that runs through the middle of the canvas

Table 5-2 lists the **Distribute** commands you can use to arrange objects in a layout.

Table 5-2. Distributing Commands

Menu Name	Toolbar Icon	Description
Widths		Distributes the width distance between two or more selected objects
Heights		Distributes the height distance between two or more selected objects

Creating Layout Windows

Windows allow you to create containers for layout object compositions or arrangements. Each window can be copied and pasted as a single object. A window can be created from a selection of PiPs, labels, info panels, borders, clocks, audio meters, up/down counters, and tally indicators. After you create a window, you can add it to the Library panel, so it is ready to be dragged onto other layouts.

When you select a window in a layout, you can view and modify all the alarms for all the objects within that window on the Alarms tab of the Properties pane.

You can make the window a scrolling region and set it to crawl (scroll in the horizontal direction) or roll (scroll in the vertical direction). Configuring windows with scrolling properties allows you to display more video inputs that are connected to your multiviewer system that would otherwise fit onto the output module.

You can use the Window Properties tab to modify window properties as well as to configure window rolling and crawling settings. Similar to layout objects, windows can be moved and resized in the layout canvas using a mouse. For more information see, [“Copying and Pasting Layout Object Properties” on page 74](#).



Note

Your layout must be in an **unlocked** state to create or break windows, or to modify their contents, position, or size. See [“Locking and Unlocking Layouts” on page 58](#).

The following figure illustrates window specific options and operations.

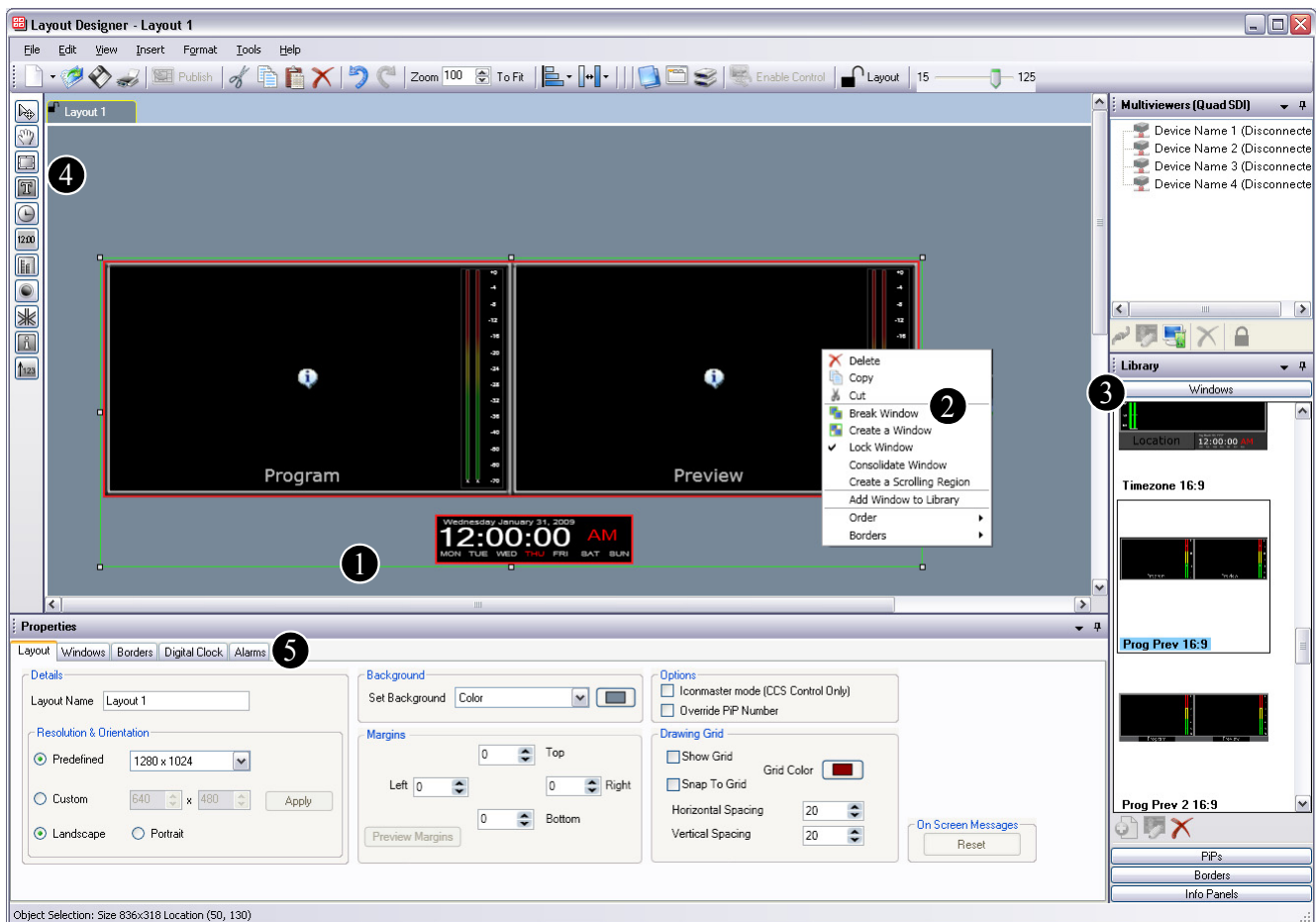


Figure 5-6. Windows Options and Operations

- ❶ Create a window by selecting the layout objects that you want to include, and then use the context-menu's Create a Window command. You can add your new window to the Library panel. See [“Creating New Windows” on page 80](#)
- ❷ Break apart a selected window. For information, see [“Breaking Apart a Window” on page 81](#).
- ❸ Drag a window from the Library panel and drop it on to the layout canvas. For information see, [“The animations are not displayed on the Layout Designer canvas, and can only be viewed once the layout is published to a display.” on page 92](#).
- ❹ Add PiPs and other layout objects for use as a window in your layout. [“Working With Groups of Objects” on page 76](#).
- ❺ Modify window properties and configure window settings using the Window Properties tab. [“Modifying Window Properties Using the Properties Pane” on page 82](#).

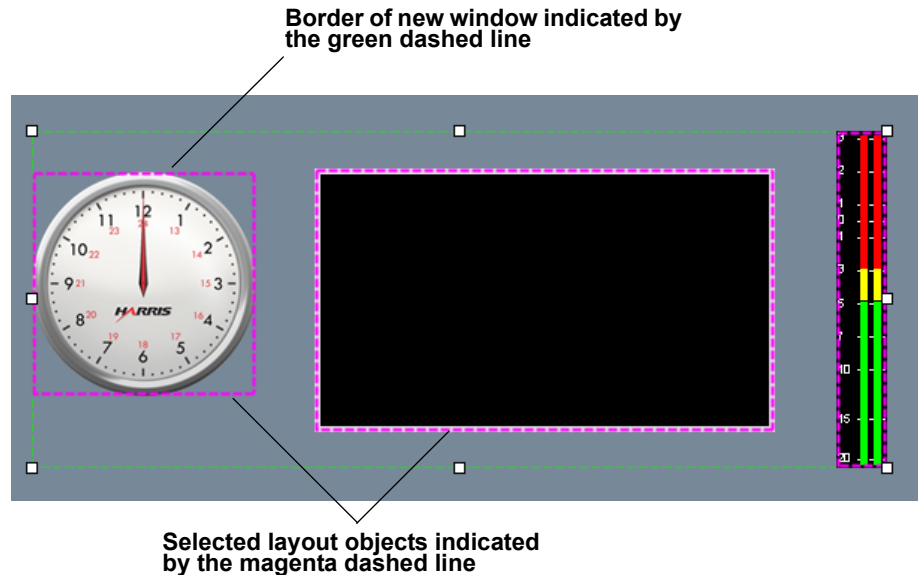
Creating New Windows

You can create a window from two or more selected layout objects in any combination, including other windows, to form a new window. When layout objects become part of a window, they maintain their position, order, and size. The window background and border are the lowest layer among the objects contained in the window. This means that layout objects that are part of the window cannot be positioned behind the window background.

The properties of individual Layout objects can be modified when they are contained within a window. However, you cannot resize or position objects beyond the borders of the window.

To create a window:

1. To select multiple layout objects you want to add to the new window, hold down the CTRL key while selecting individual objects with your mouse.

**Figure 5-7. Window Objects**

Selected objects are indicated by the magenta dashed line. The new window border is indicated by the green dashed line.

2. Right-click the objects, and then select **Create a Window** from the context menu.

After you create a new window, you can add it to the **Windows** tab of the Library panel by selecting **Add Window to Library**.

The layout objects are superimposed over the window background, and surrounded by a layout border. You can name the window and modify some window properties using the **Window Properties** tab. For more information, see [“Modifying Window Properties Using the Properties Pane” on page 82](#).

**Note**

To view your new window on output display devices, you must publish the current layout to the multiviewer hardware. For information, see [“Displaying and Publishing Layouts” on page 62](#).

Breaking Apart a Window

When a window is broken apart, the objects contained in the window maintain their order in the canvas.

To break a window apart:

1. Select the window you want to break apart.
2. Right-click, and then choose **Break Window** from the context window.

Consolidating a Window

If you have removed objects or changed their positions within a window, right click on the window and choose **Consolidate Window** to recreate the window.

If more than one window is selected and you select **Consolidate Windows**, this option consolidates all windows within the selection.

Modifying Window Properties Using the Properties Pane

You can use the **Windows Properties** tab to modify window properties such as window size and position. Window border size and color properties are modified using the **Borders** tab.



Note

To view your modifications on output display devices, you must publish the current layout to the multiviewer hardware. For information, see [“Displaying and Publishing Layouts” on page 62](#).

Viewing Window Properties

To access the Windows Properties tab:

1. In the canvas, select the window you want to modify.
2. If the Properties pane is not open below the layout canvas, select **View > Properties**.

Naming Windows

The name you give to a window identifies it when you add the window to the Library panel.

To name your new window:

1. In the **Windows Properties** tab, under **Details**, type a name into the **Name** field.

Modifying the Contents of a Window

To select the individual components in your window, the window must be unlocked.

To unlock the contents of the window:

1. Do either of the following:
 - In the **Windows Properties** tab, under **Details**, clear the **Lock Objects in Window** field.
 - Right-click on the window in the canvas and unselect **Lock Window**.

You can now change the properties of individual items within the window, including size, position, and other attributes.

To lock the contents of the window:

1. Do either of the following:


- In the **Windows** Properties tab, under **Details**, select the **Lock Objects in Window** field.
- Right-click on the window in the canvas and select **Lock Window**.

You can now click anywhere in the window, including any object contained within it, to move, resize, or adjust the attributes of the entire window.

Modifying a Window's Background

Windows are created with a user-defined default background color. You can select a color or a pre-defined graphic image as the background to your window.

To modify a window's background:

1. Under **Appearance**, select either **Color** or a predefined background image from the drop-down list.
2. If you selected **Color** from the **Set Background** list, click the  icon to open the **Select a Color** dialog box.
3. Select or enter a color value.

Your selected color is previewed below **Selected Color**.

4. If required, use the **Opacity** slider to adjust the color's opacity value.
5. Click **OK**.

Resizing and Moving Windows Using the Windows Properties Pane

Use the Windows tab on the Properties panel to resize and move windows. When you resize or move a window, the properties of the layout objects contained in the window are not modified. For example, if you resize a window, the layout objects remain anchored in their original position.

To resize a window:

1. Under **Position & Dimensions**, type or select values for the width and height in the **Width** and **Height** fields.

To move a window:

1. Under **Position & Dimensions**, type or select values for the window's horizontal position in the **Left** field and vertical position in the **Top** field.

The **Left** control positions the window horizontally using the left edge of the layout canvas as the point of reference. A value of **0** places the window along the left edge of the layout canvas. The **Top** control positions the window vertically using the top the of the layout canvas as the point of reference. A value of **0** places the window along the top edge of the layout canvas

Creating Scrolling Regions

A scrolling region is a special window that allows you to display more sources than your multiviewer hardware will normally show. Unlike other windows, a scrolling region cannot be broken. Nor can you create a window around it. Scrolling regions can be added to the window library.

Creating a Scrolling Region

To create a scrolling window:

1. Right click on a window in the Layout pane.
2. From the context menu that appears, choose **Create a Scrolling Region**.

A scrolling region appears initially as a green line around the window.

A **Scrolling Regions** tab appears in the **Properties** pane. Click on the scrolling region's background for the **Scrolling Region** pane to be available.

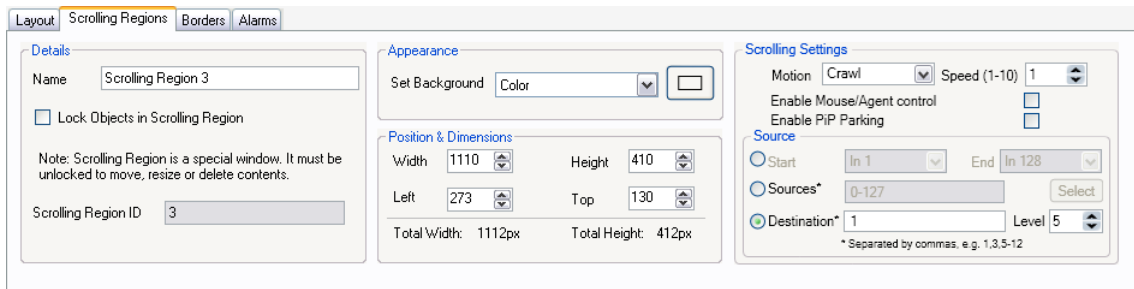


Figure 5-8. Scrolling Regions Tab in the Properties Pane

To replace a scrolling region with a new one, drag the new scrolling region on top of the old one. A text message flashes to indicate it has approached its boundary. The size of scrolling region is adjusted according to the new area.

You can also drag a window from the window library on top of a scrolling region to replace the scrolling region.

A scrolling region can only contain one PiP or window. When you publish the layout to a Harris multiviewer, the scrolling region will fill with PiPs or windows, based on the movement you choose. See [“Assigning a Motion Type to a Scrolling Region”](#) on page 86.

Changing Details for a Scrolling Region

The following options and information is provided in the **Details** section of the **Scrolling Regions** Properties pane.

- **Name:** Identifier for the region when configuring other objects to connect to it.

- **Lock Objects in Scrolling Region:** Locks the scrolling region so elements in it cannot be changed or moved. Alternately you can right click on a scrolling region and select **Lock Parent Window** or **Lock Scrolling Region**.

When created, scrolling regions are initially unlocked so you can revise the window control inside the scrolling region. For best results, when you are done configuring a scrolling region, lock it so it is not altered by accident.

- **Scrolling Region ID:** This is the ID, unique within this layout, that is automatically assigned to this scrolling region when the scrolling region is created. You cannot change the scrolling region ID, but may use it when with various rules connected with the scrolling region.

Assigning Sources to a Scrolling Region

Within a scrolling region, there is only one PiP or window. To select sources for the region, make one of the following selections:

- **Start and End**

From the **Start** and **End** menus, choose the starting source and the ending source. The starting source index should be smaller than the ending source index.

- **Sources**

When you initially choose this option, it is populated with the range selected by the **Start** and **End** lists. You can type source numbers in this field, separated by commas, or click **Select** to open a dialog box where you can choose specific sources from a list.

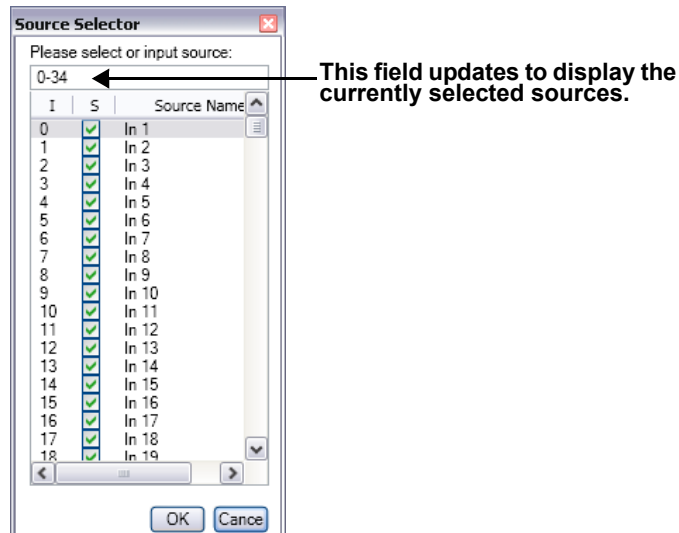


Figure 5-9. Source Selector Dialog Box for Scrolling PiPs

- **Destination**

When you initially choose this option, it is populated with the range selected by the **Start** and **End** lists. You can type destination numbers in this field, separated by commas.

From the **Level** menu, choose the router level for the PiP source.

Assigning a Motion Type to a Scrolling Region

You can alter a scrolling region's motion in the following ways:

Motion: Determines the direction of movement for the series of sources.

- **Crawl:** A sequence of sources progresses from right to left across the window.
- **Roll:** A sequence of sources progresses from the bottom to the top of the window.
- **Flip:** One PiP appears on the screen. It rotates on its center horizontal axis, and each time the image returns, it contains a different source.
- **Circle:** Three PiPs are on the screen at a time. One source appears in the center and the foreground, with the other two are behind and to the left and the right. The PiPs change position using video scaling so that the foreground PiP moves to the right background position, the left background position moves to the foreground, and a new source replaces the left background PiP.

Speed: Ranges from 1 (slowest) to 10 (fastest).


Enable mouse/agent control: Allows or disables mouse wheel control of the sources within the scrolling region from the Multiviewer itself after the layout is published to the Harris multiviewer. When enabled, the scrolling region will only move with mouse control.

Enable PiP Parking: When this is checked, a PiP that exhibits an alarm situation appears always “on top” of the scrolling region. If more than one PiP has alarms, then the PiP on top cycles through the PiPs with triggered alarm conditions.

Modifying a Scrolling Region's Background

Scrolling Regions are created with a user-defined default background color. You can select a color or a pre-defined graphic image as the background to your scrolling region.

To modify a scrolling region's background:

1. Under **Appearance**, select either **Color** or a predefined background image from the drop-down list.
2. If you selected **Color** from the **Set Background** list, click the  icon to open the **Select a Color** dialog box.
3. Select or enter a color value.

Your selected color is previewed below **Selected Color**.

4. If required, use the **Opacity** slider to adjust the color's opacity value.
5. Click **OK**.

Resizing and Moving Scrolling Regions

You can use the Scrolling Regions tab on the Properties panel to resize and move scrolling regions. When you resize or move a scrolling region, the properties of the layout objects contained in the scrolling region are not modified. For example, if you resize a scrolling region, the layout objects remain anchored in their original position.



Note

Resizing is not allowed when the scrolling region is locked.

To resize a scrolling region:

1. Under **Position & Dimensions**, type or select values for the width and height in the **Width** and **Height** fields.

To move a scrolling region:

1. Under **Position & Dimensions**, type or select values for the scrolling region's horizontal position in the **Left** field and vertical position in the **Top** field.

The **Left** control positions the scrolling region horizontally using the left edge of the layout canvas as the point of reference. A value of **0** places the scrolling region along the left edge of the layout canvas. The **Top** control positions the scrolling region vertically using the top of the layout canvas as the point of reference. A value of **0** places the scrolling region along the top edge of the layout canvas.



Note

You can also reposition a scrolling region by dragging it using the mouse, or by clicking the arrow keys on your keyboard (when the scrolling window is selected).

You can also resize a scrolling region by dragging its corners and sides. See [“Resizing and Moving Layout Objects Using a Mouse” on page 75](#).

Adding a Scrolling Region to the Library

If you intend to use your scrolling region to other layouts, you can add it to the library.

To add a scrolling region to the library pane:

1. Right-click on the scrolling region in the layout pane.
2. From the context menu that appears, choose **Add Scrolling Region to Library**.

The scrolling region is added to the **Windows** section of the library.

Modifying Border Properties

Borders display a user-defined graphic area around some layout objects, such as PiPs, windows, and labels. Like other layout objects, individual properties determine how the borders appear around supported layout objects. Border properties can only be modified using the **Borders** tab of the Properties pane. You cannot use your mouse to modify object borders directly in the canvas.



Note

Your layout must be in an **unlocked** state to change a border's properties. See [“Locking and Unlocking Layouts” on page 58](#).

Borders normally provide a graphic area around PiPs and windows. However, when a border is applied to a PiP, and that PiP is in an alarm state, the border can be used to signal an alarm condition. For example, you can create customized borders for Black Video and Frozen Video alarm conditions. See [“Alarms and Info Panels” on page 133](#) for more information.



Note

Default values for **Border** property settings are defined in the **Layout Designer Preferences** dialog box (see [“Setting Your Layout Designer Preferences” on page 24](#)).

Selecting a Border for Modification Within a Window

Multiple objects within a window can have border properties. In order to modify the border properties of a PiP or other object within a window, you must first select that object. By default, when you select a window and then select the **Borders** properties tab, you modify the border of the window itself.

To modify the border of an object within a window:

1. Right-click on the window.
2. Select **Borders > [Component] Border** where [Component] is the item with a border that you want to modify.
3. Make modifications on the **Borders** properties tab.

Within the Borders submenu, you can select the window itself and any sub-windows it may contain, as well as PiPs and labels.

Applying Borders Using the Properties Pane

To apply a border style from the Properties pane, you must first select a layout object that supports borders. This includes PiPs, info panels, and windows.

1. From the **Properties** pane, click the **Borders** tab to display the selected layout object's border properties.
2. Click an item in the **Border Styles** field, and then click **Apply**.

Modifying Borders Using the Properties Pane

To modify a border style, click **Edit Style**. The tools are the same as those used in creating a border style. See [“Creating New Border Styles” on page 90](#) for more information.

1. From the **Properties** pane, click the **Borders** tab to display the selected layout object's border properties.

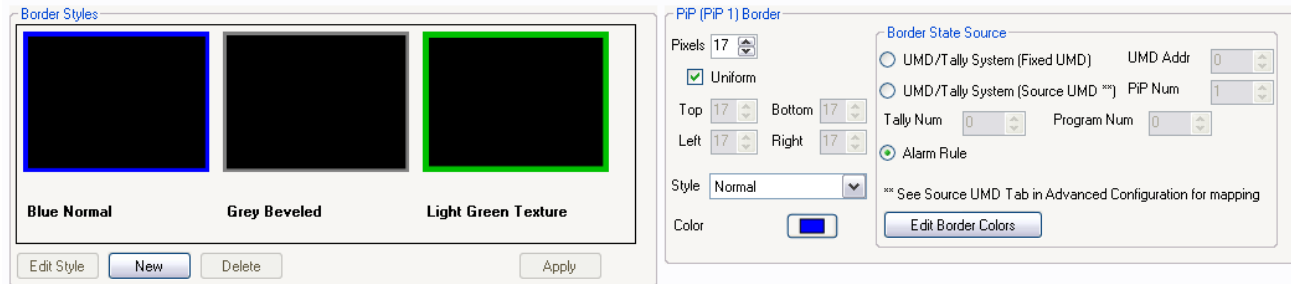


Figure 5-10. Modifying Border Properties

2. To set the width, do one of the following:
 - To set a uniform border width around the layout object, under **Border**, select **Uniform**, and then type or select a border weight in pixels.
 - To set different values for the top, bottom, left, and right border weights, clear **Uniform**, and then type or select border weight values in the **Top**, **Bottom**, **Left**, and **Right** boxes.
3. To select a new border color:
 - a. Click **Edit Border Colors** to open the **Border Colors** dialog box.
 - b. On the **Normal** tab, click beside **Primary Color** to set the color of the border before an alarm or tally is triggered.
 - c. Click **OK**.
4. From the **Style** drop down box, select from the following outline styles and effects:
 - **Normal** - Border outline has color characteristics only
 - **Rounded** - Border outline has four rounded corners, instead of square corners
 - **Beveled** - Border outline has a beveled edge effect
 - **Texture** - Border fill is textured. You can select from three texture styles

You can also select combinations of outline styles and effects (**Rounded Texture 1**).

For information on filling out the Color Selector dialog box, see [“Setting Default Window Properties” on page 28](#).

Creating New Border Styles

Using the Properties pane, you can create new border styles which can be applied to layout objects such as PiPs, windows, and labels. After you create a border style, it appears in the **Borders** Properties tab under **Border Styles**. The border you create or modify is displayed in the **Border Styles** dialog box under **Preview**.

Setting new border style details:

1. In the current layout, select an object that has an associated border.
2. Under **Border Styles**, select **New**.

The **Border Styles** dialog box appears.

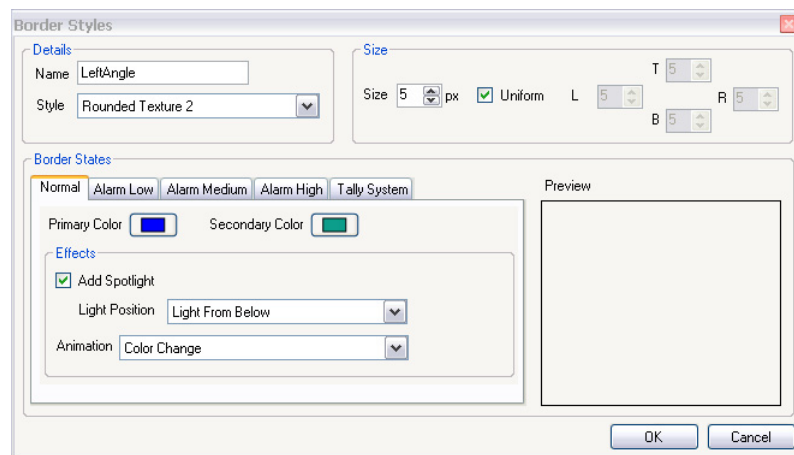


Figure 5-11. Border Styles Dialog Box

3. Under **Details**, type a name for your new label style in the **Name** field. This name is used to identify the style in **Border Styles** section of the **Borders** Properties tab.
4. From the **Style** drop down box, select from the following outline styles and effects:
 - **Normal** - Border outline has color characteristics only
 - **Rounded** - Border outline has four rounded corners, instead of square corners
 - **Beveled** - Border outline has a beveled edge effect
 - **Texture** - Border fill is textured. You can select from three texture styles

You can also select combinations of outline styles and effects (**Rounded Texture 1**).

Setting Border Size

Do one of the following:

- To set a uniform border width, under **Size**, select **Uniform**, and then type or select a border weight in pixels in the **Size** box.

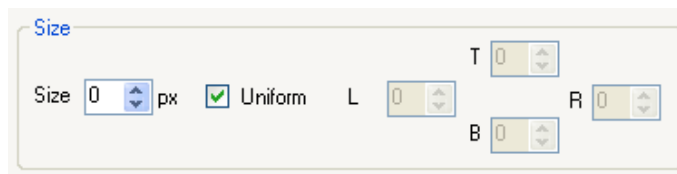


Figure 5-12. Setting Border Size

- To set different values for the top, bottom, left, and right border weights, clear **Uniform**, and then type or select border weight values in the **T**, **B**, **L**, and **R** boxes.

Setting the Border State Source

In the Border State Source area, there are three options:

Table 5-3. Border State Source Options

Border State Source Option	Configuration Options	
UMD/Tally System (Fixed UMD Addr)	Select the UMD address that will be the input source for the border.	<p>When you use either of the UMD/Tally System options, you must set the following items:</p> <ul style="list-style-type: none">• Tally Number—the number of the tally within the UMD address that is monitored.• Program Number—Enter the correct number in this field if you are using Ross Protocol. If you are using another protocol, the data in this field will be ignored.
UMD/Tally System (Source UMD) (Under Monitor Display)	Select the PiP Number that will be the input source for the border. See the Source UMD tab in the Advanced Configuration dialog box for mapping. For more information, see “Binding UMD Addresses to Input Sources” on page 45 .	
Alarm Rule	Select this option if you want the border to be the target for an alarm, and then follow these steps to define the alarm source: <ol style="list-style-type: none">1. With the border selected in the layout, select the Alarms tab in the Properties pane.2. Following the instructions in “Defining Alarms for a Layout Object” on page 138, configure the Detectors and Actions pages of the Rules dialog box. On the Actions page, choose Set Tally Alarm State, and complete the Action Parameters section for that action.	

Setting Border Colors

You can set primary and secondary colors, and add animation and lighting effects to the border.

1. On the Border Properties pane, click **Edit Border Colors**.

The **Border Colors** dialog box opens.

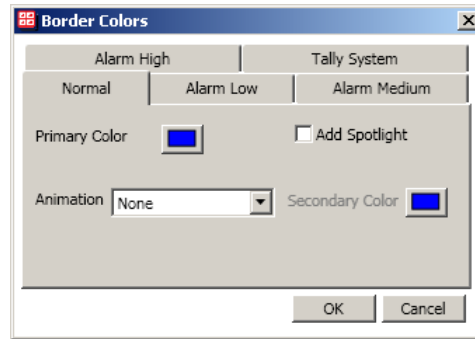


Figure 5-13. Setting Border State Properties

2. Select the tab that identifies the state that you want to edit.
For a static border, select **Normal**.
3. To create or modify a border for a tally or alarm, you can select colors that identify the border's primary and secondary states. Layout Designer provides **Custom**, **Web**, and **System** color palettes. To select your new border color, make the following selections:
 - Click beside **Primary Color** to set the color of the border before an alarm or tally is triggered. You can choose colors from a menu.
 - Click beside **Secondary Color** to set the color of the border after an alarm or tally is triggered.
4. To add a spotlight effect to your border, select **Add Spotlight**, and then choose the angle from which the light appears from the **Light Position** menu.



Note

The spotlight effect is only available when the border style is Beveled or Rounded Beveled.

5. To apply animation effects to the border state, select one of the following from the **Animation** drop-down list:
 - **Color Change**—Applies a primary to secondary color change to the border
 - **Moving Light**—A moving light travels around the border perimeter.
 - **Flashing/Transition**—The lighting flashes and changes to different colors.

The animations are not displayed on the Layout Designer canvas, and can only be viewed once the layout is published to a display.

Working with PiPs

About Picture-In-Pictures (PiPs)

PiPs display the input video from a single input channel. You can input video channels to PiPs for display on multiviewer output display devices. Each PiP has a number of properties that determine how it is displayed in the layout. PiP properties are independently set; each PiP in a layout can have a different set of PiP properties. All properties associated with a PiP can be modified using the Properties pane. You can also select a PiP in the layout and use your mouse to resize and move a PiP in a layout as well as format groups of PiPs using the align and distribute commands.

Layouts made from the Layout Creation Wizard are preconfigured with a predetermined number of PiPs and predefined PiP properties.

For information about adding PiPs from the Layout Object library, see [“Adding Layout Objects to a Layout” on page 71](#).

You can modify all PiPs, regardless of how they were created.



Note

Your layout must be in an **unlocked** state to add, move, or delete objects. You can adjust properties of objects on a locked layout. See [“Locking and Unlocking Layouts” on page 58](#).

The following figure illustrates the various PiP operations.

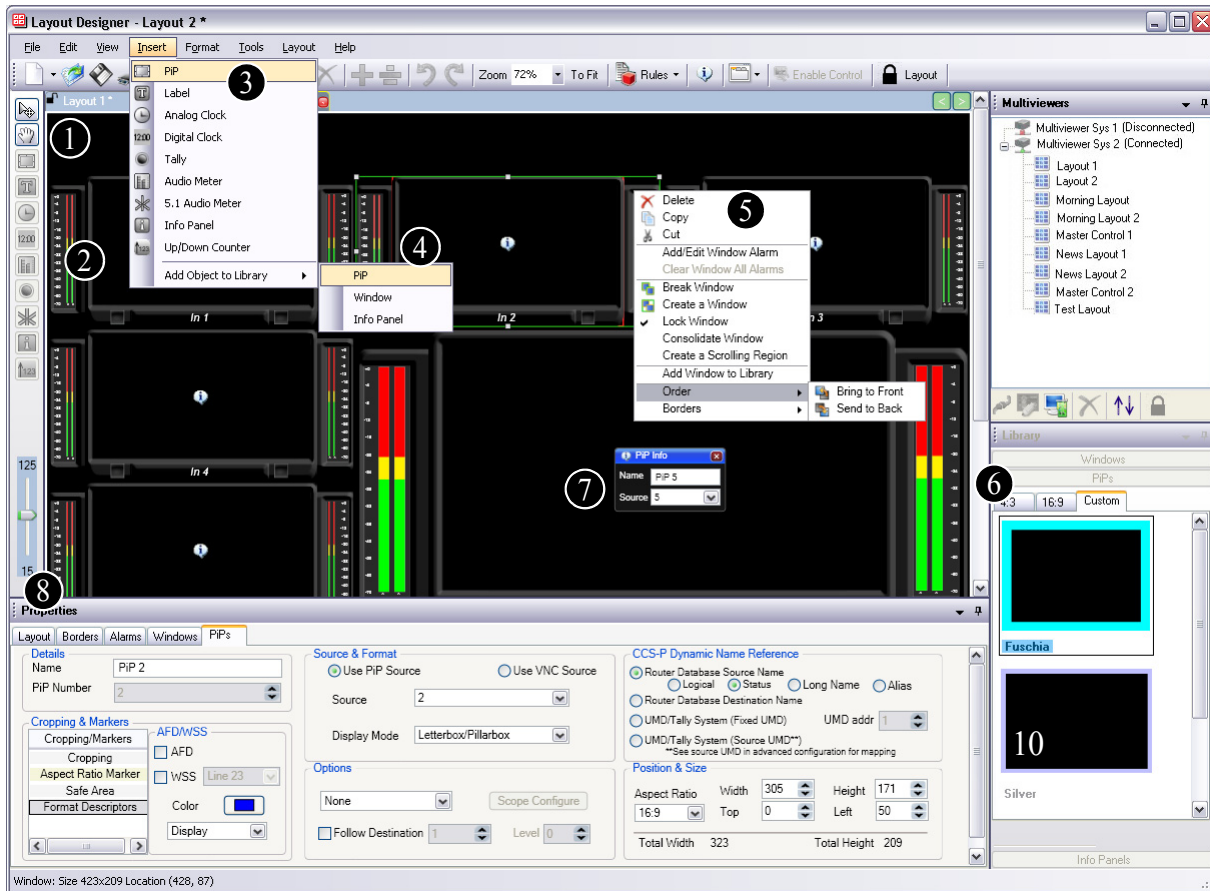



Figure 6-1. PiP Operations

- ❶ Insert a PiP into a layout using the tool palette. See [“Adding PiPs to a Layout”](#) on page 95.
- ❷ Move and resize PiPs using your mouse. See [“Resizing and Moving Layout Objects Using a Mouse”](#) on page 75.
- ❸ Insert a PiP into a layout using the **Insert > PiP** command. See [“Adding PiPs to a Layout”](#) on page 95.
- ❹ Add PiPs to the Library panel. See [“Adding Layout Objects to the Library Panel”](#) on page 36.
- ❺ Copy and paste PiP properties from one PiP to one or more other PiPs. See [“Copying and Pasting Layout Object Properties”](#) on page 74.
- ❻ Drag PiPs from the Layout Designer Library and drop them onto a layout. See [“Adding PiPs to a Layout”](#) on page 95.
- ❼ Obtain PiP information and select PiP input source by clicking the  icon. See [“Selecting a PiP’s Input Source”](#) on page 98
- ❽ Modify PiP properties using the PiP Properties pane. See [“Modifying PiPs Using the Properties Pane”](#) on page 95.

Adding PiPs to a Layout

You can use the canvas Tool palette and the application menus to add PiPs. You can also drag PiPs from the Library panel, and then drop them onto the canvas. For information about using the Layout Designer library, see [“Adding Layout Objects to a Layout” on page 71](#).

PiPs added to the layout canvas have default properties. See [“Setting Default Layout Properties” on page 26](#).

To add PiPs to a your layout:

1. Select **Insert > PiP**.

Modifying PiPs Using the Properties Pane

Layout Designer provides a numbers of way to modify the appearance, size, and position of a PiP in a layout. You can use the PiP properties tab to modify a selected PiP by adjusting PiP property values such as width and height, and by selecting or changing the input channel you want the PiP to display in a layout. After completing the required modifications, you can copy the properties from the modified PiP, and then paste them to other PiPs in the same layout (see [“Copying and Pasting Layout Object Properties” on page 74](#)).

To access the Properties pane:

1. Select **View > Properties**.

This is used by NUCLEUS control panels to switch between video sources on a PiP.

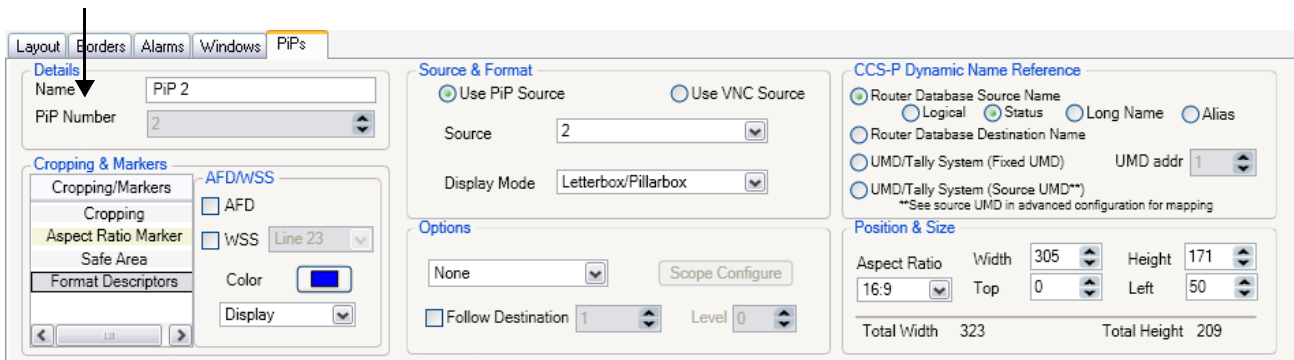


Figure 6-2. PiP Properties Pane

See the following sections for additional PiP related modifications:

- [“Applying Borders Using the Properties Pane” on page 88](#)
- [“Creating New Border Styles” on page 90](#)
- [“Copying and Pasting Layout Object Properties” on page 74](#)
- [“Resizing and Moving Layout Objects Using a Mouse” on page 75](#)
- [“Aligning and Distributing Objects in a Layout” on page 76](#)

Modifying PiP Size and Aspect Ratio

PiP width and height sizes do not include border size. The minimum PiP size for 4:3 and custom aspect ratios is 113×85 pixels. The minimum PiP size for 16:9 aspect ratio is 114×64 pixels. Maximum PiP size depends on the video standard of the input channel. When PiPs are resized, the width and height proportions are constrained by the aspect ratio. When you select a custom aspect ratio, the width and height sizes are not constrained.



Note

You can set the default PiP width value in the **Default Preferences** tab of the **Layout Designer Preferences** dialog box. For more information, see [“Setting Default Layout Properties” on page 26](#).

To modify PiP size and aspect ratio using the Properties pane:

1. In the layout, select the PiP you want to modify, and then select the **PiPs** tab from the **Properties** pane.
2. Under **Video/Graphics Dimensions**, select the aspect ratio that you want to use from the **Aspect Ratio** list.

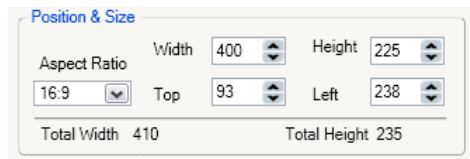


Figure 6-3. Setting PiP Size and Aspect Ratio

3. To set the PiP width and height, type or select in the **Width** and **Height** boxes.

If you selected **4:3** or **16:9** as your aspect ratio, the aspect ratio is maintained when you select a value for width and height.

4. (Optional) Add markers to your PiP.

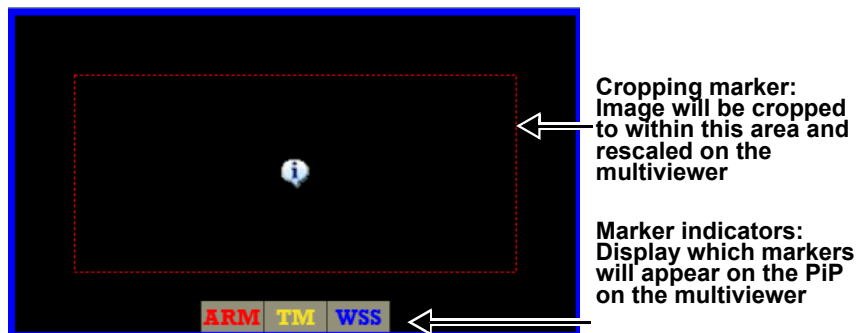


Figure 6-4. Markers on a PiP in Layout Designer

Under **Cropping & Markers**, you can choose the following options:

- **Aspect Ratio Markers**—An indicator of correct aspect ratio on the PiP to let you know whether the video is properly scaled when a source that is one aspect ratio is put on a PiP that has a different aspect ratio. The aspect ratio marker displays the area of a 4:3 coded frame on a 16:9 frame, or a 16:9 coded frame within a 4:3 frame.

Click **Enable** to activate a marker on the PiP. To determine the color of the marker, click **Color**, make a selection, and then click **OK**.

- **Safe Area**—adds a Title Marker indicator on the PiP to indicate the safe area for titles to be displayed (80% of the picture area).

Click **Title Marker** to activate a marker on the PiP. To determine the color of the marker, click **Color**, make a selection, and then click **OK**.

- **Active Format Description**—adds an indicator that displays the AFD description present in the incoming video. There are two options:

- **AFD** - HD and SD video
- **WSS** - SD 625 video only (with this option, choose the line to read WSS data from in the video stream)

To determine the color of the marker, click **Color**, make a selection, and then click **OK**.

From the drop-down menu, there are two options:

- **Display** mode— markers on the multiviewer PiP indicate the active picture area indicated by the AFD code or WSS code on the input.
- **Convert** mode—scales the video on the input source as indicated by the AFD code or WSS code on the input.

The Total Width and Total Height indicators describe the size of the PiP including the border. See [“Modifying Border Properties” on page 88](#) for more information.

Setting PiP Cropping Values

You can use Layout Designer’s cropping tool to crop the top, bottom, left, and right edges of a selected PiP. All cropping values are in pixels. When cropping a PiP, in canvas, the cropping area you set is indicated by a red dotted line.

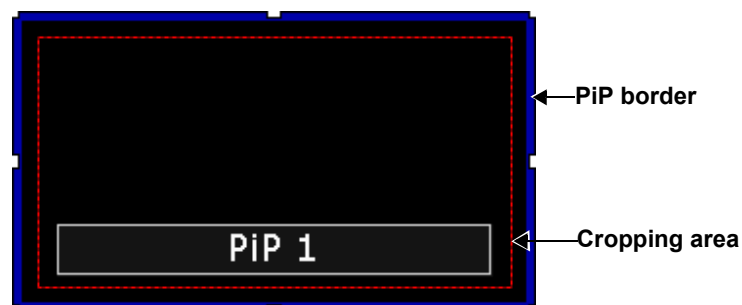


Figure 6-5. PiP Cropping Area

Be aware of the following:

- Switching video input standards on a PiP may affect how the current cropping values are applied to the input video.
- When publishing default layouts stored on the multiviewer hardware, ensure that the cropping area (indicated by the red dotted lines on the PiP in the window) are properly set.

To crop a selected PiP:

1. Under **Cropping & Markers**, select **Cropping**.
2. Do one of the following:
 - To set a uniform cropping area around the PiP, under **Cropping**, type or select a cropping width in the **Pixels** box, and then select the **Uniform** check box.
 - To set different values for the top, bottom, left, and right cropping, clear the **Uniform** check box, and then type or select a cropping width in the **Top**, **Bottom**, **Left**, and **Right** boxes.

Selecting a PiP's Input Source

Use the PiP Properties tab to modify the input source of selected PiPs. You can select from any of the video channels that are input to the multiviewer from the router network and design them as a PiP's input source. If the router inputs do not have unique names (for example, from a UMD or routing matrix), Layout Designer sequentially numbers the inputs from 1 to 64.

You can also choose a VNC server as the input source for a PiP. The PC connected to a VNC PiP can be controlled using Harris multiviewer on-screen controls. When you choose a VNC server as the source for a PiP, many of the PiP controls in the PiP Properties pane are disabled (for example, Cropping & Markers, Scope options, and CCS-P Dynamic Name Reference).

To select a PiP input source for the selected PiP:

1. Under **Source & Format**, click **Use PiP Source**.
2. Do one of the following:
 - Select a video input source from the **Source** drop-down list on the PiP Property pane.

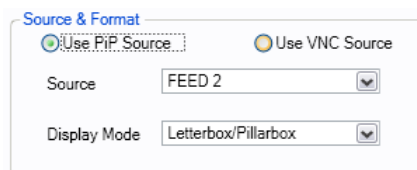


Figure 6-6. Selecting PiP Input Source

- Click on the icon in the middle of the PiP on the layout canvas (see [Figure 6-7](#)), and then make a selection from the **Source** drop-down list.

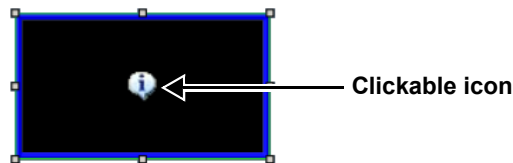


Figure 6-7. Clickable PiP Icon

To select a VNC source for the selected PiP:

- Under **Source & Format**, click **Use VNC Source**.
- Enter the IP address or host name, port number, and the password for the VNC server.

Figure 6-8. Selecting VNC Input Source

When choosing VNC PiPs, keep in mind the following:

- If one or more VNC PiPs have an inaccessible or invalid IP address, the multiviewer will wait for that/those PiPs to time out before loading the rest of the VNC PiPs.
- Some VNC servers terminate the connection after a period of inactivity.
- Some VNC servers lose connection when a user access control pops up, or when the computer is locked.

- The more frequently a VNC server's desktop updates, the worse the appearance will be. A plain web browser will usually look better than a video clip.

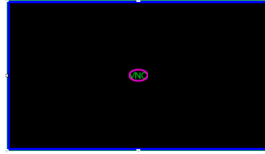


Figure 6-9. VNC PiP (Icon is Not Clickable)



Note

For best results, use UltraVNC, or another VNC server that uses server-side scaling. Harris multiviewers do not support NT Logon authentication or VNC encryption.

For information on controlling VNC PiPs, see [“Controlling a VNC PiP” on page 176](#).

Choosing a PiP Display Mode



Note

When a 16:9 source is displayed on a 16:9 PiP, or when a 4:3 Source is displayed on a 4:3 PiP, no display mode processing is required.

There are three display options.

- **Letterbox/Pillarbox** mode displays all of the video image of a source, even if the source aspect ratio of the source and the pip do not match while maintaining source aspect ratio

However, when a 16:9 source is displayed on a 4:3 PiP, Letterbox formatting is applied (top and bottom bars), as in [Figure 6-10](#).

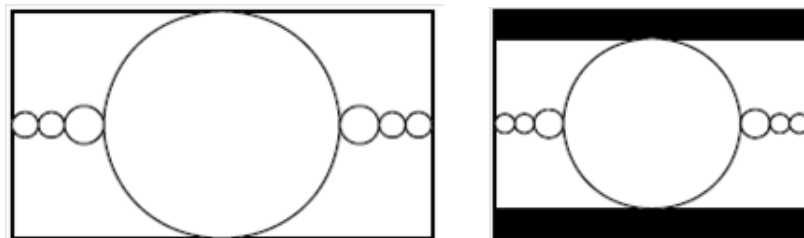


Figure 6-10. 16:9 Input (Left) Displayed on a 4:3 PiP (Right) With Letterboxing

When a 4:3 source displayed on a 16:9 PiP, Pillarbox formatting is applied (left and right bars) as in [Figure 6-11](#).

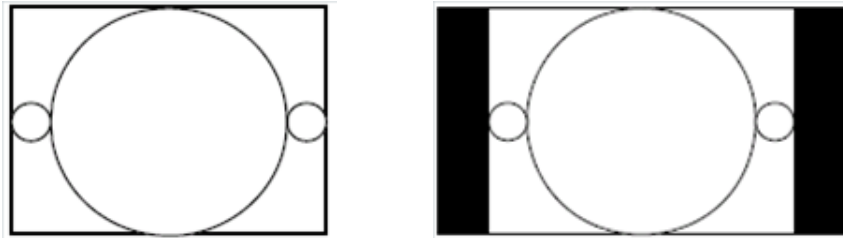


Figure 6-11. 4:3 Input (Left) Displayed on a 16:9 PiP (Right) With Pillaring

- **Fullscreen** mode stretches or clips the video image to fill the extents of the PiP if necessary, while maintaining the pixel aspect ratio.

When a 16:9 source is displayed on a 4:3 PiP, the left and right bands of the video are clipped, as in [Figure 6-12](#).

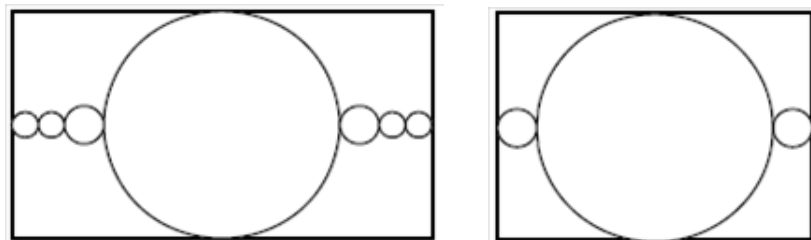


Figure 6-12. 16:9 Input (Left) Displayed on a 4:3 PiP (Right) With Clipping

When a 4:3 source is displayed on a 16:9 PiP, the top and bottom bands of the video are clipped, as in [Figure 6-13](#).

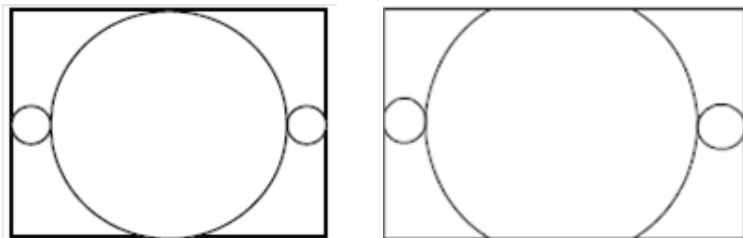


Figure 6-13. 4:3 Input (Left) Displayed on a 16:9 PiP (Right) With Clipping

- **Stretch** mode stretches the video to fit in the PiP container without respecting pixel aspect ratio.

When a 16:9 source is displayed on a 4:3 PiP, the top and bottom of the video are stretched, as in [Figure 6-14](#).

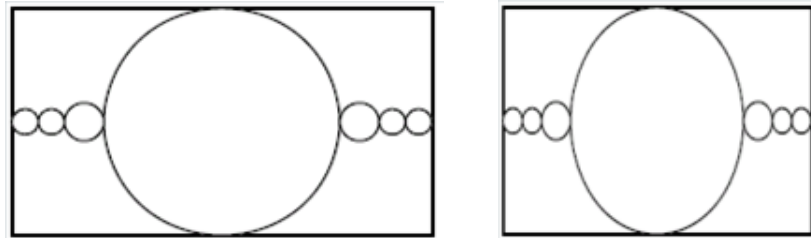


Figure 6-14. 16:9 Input (Left) Displayed on a 4:3 PiP (Right) With Clipping

When a 4:3 source is displayed on a 16:9 PiP, the left and right sides of the video are stretched, as in [Figure 6-15](#).

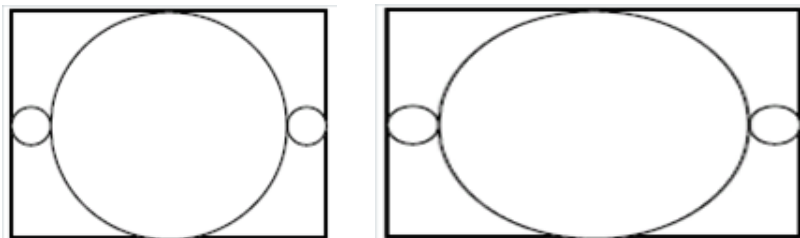


Figure 6-15. 4:3 Input (Left) Displayed on a 16:9 PiP (Right) With Pillaring

Moving a PiP Using the Properties Pane

You can use the PiP Properties tab to resize/reposition PiP(s) in a layout. Using the **Top Position** and **Left Position** controls, you can position a PiP by setting the number of pixels from the top edge and left edge of the layout.

To move a PiP using the Properties pane:

1. In the layout, select the PiP you want to modify, and then select the PIPs tab from the **Properties** pane.
2. Under **Position & Size**, in the **Left** and **Top** boxes, type or select a new left and top position for the selected PiP.

You can also use your mouse to modify PiP width, height, left position, and top position. For information, see [“Resizing and Moving Layout Objects Using a Mouse” on page 75](#).

Configuring Router Follow

1. In the layout, select the PiP you want to modify, and then select the **PIPs** tab from the **Properties** pane.

- Under **Options**, check **Follow Destination**.

Figure 6-16. Router Follow Configuration in PiP Properties

- To the right of the **Follow Destination** checkbox, type the number of the destination.
- In the **Level** field, enter the router level for the PiP to follow.

Defining PiP Names

In the **Name** field, you can change the title that designates the PiP in the Alarms Properties pane, etc.

The dynamic name for the PiP will appear in Navigator control windows and NUCLEUS Control Panels. Change the PiP's dynamic name in the **CCS-P Dynamic Name Reference** section of the dialog box:

Figure 6-17. Dynamic Name Reference Dialog Box

Table 6-1. Dynamic Name Reference Options

Tally State Source Option	Description
Router Database Source Name	The PiP name will update the router source (as defined in the router database) that is associated with the specified PiP number . If a switch on the router causes a change in the PiP input source, the PiP source will follow. Choose which name in the router database to display (Logical , Status , Long Name , or Alias)
Router Database Destination Name	The dynamic name is acquired from the router database's Destination column.
UMD/Tally System (Fixed UMD)	Select the UMD address that will be the source of the UMD name.
UMD/Tally System (Source UMD) (Under Monitor Display)	See the Source UMD tab in the Advanced Configuration dialog box for mapping. For more information, see “Binding UMD Addresses to Input Sources” on page 45 .

Test and Measurement

Test and Measurement can be used to validate the video signal or to help troubleshoot problems.



Note

To use Test and Measurement, you must have the NVIDIA Quadro® FX 3700 graphics board (or higher) installed on your system.

After you publish a layout, you can access the Test and Measurement options by right-clicking within the appropriate PiP, and choosing **Display Scope** on the menu that appears. (For more information about on-screen controls, see [“Chapter 9: On-Screen Controls” on page 173.](#))

The options are:

- None
- Waveform
- Waveform Parade
- Line
- Line Parade
- Vector
- Quad Display

When you choose an option, the selected PiP changes to that Test and Measurement mode. You can run Test and Measurement on only one PiP at a time per multiviewer. If you select another PiP for testing, the previous PiP reverts back to its original mode. Alternatively, you can test different sources on the same PiP by changing the source value of the PiP.

You can display the results in monochrome or color by right-clicking within the PiP, and then choosing **Color Source**.

- **Monochrome** displays the results in black and white.
- **From Video** displays the results in the color of the pixel that is being sampled. If there are a lot of black or dark pixels in a signal, the results may be difficult to see in color mode.

Test and Measurement Display Modes

The following describes the Test and Measurement modes that are available under Display Scope. For information about changing how each mode is displayed, see [“Configuring the Test and Measurement Display Modes” on page 108.](#)

None: The Test and Measurement feature is not active.

Waveform: Displays a horizontal sweep of the Y luminance channel.

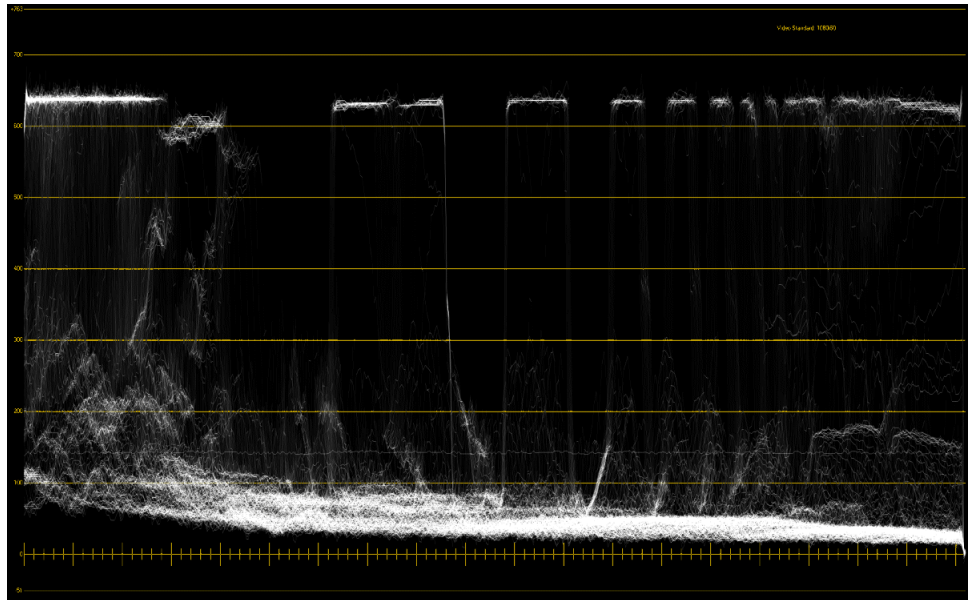


Figure 6-18. Waveform Mode in Monochrome

Waveform Parade: Displays a horizontal sweep of the luminance and color-difference channels next to one another in YCbCr format.

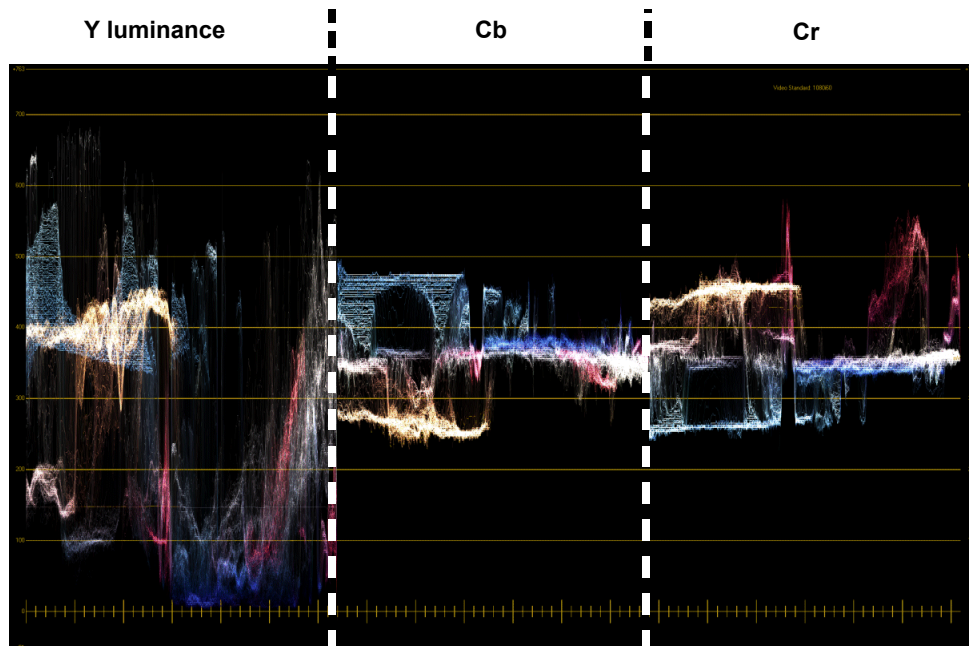


Figure 6-19. Waveform Parade Mode in Color

Line: Displays the Y luminance component of the selected line of video.

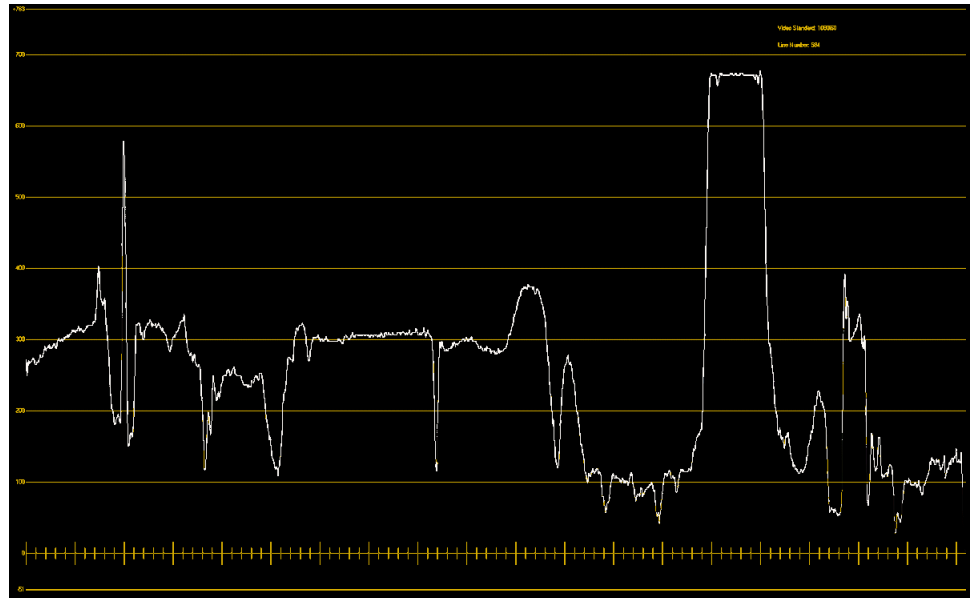


Figure 6-20. Line Mode

Line Parade: Displays the luminance and color-difference channels of the selected line of video next to one another in YCbCr format.

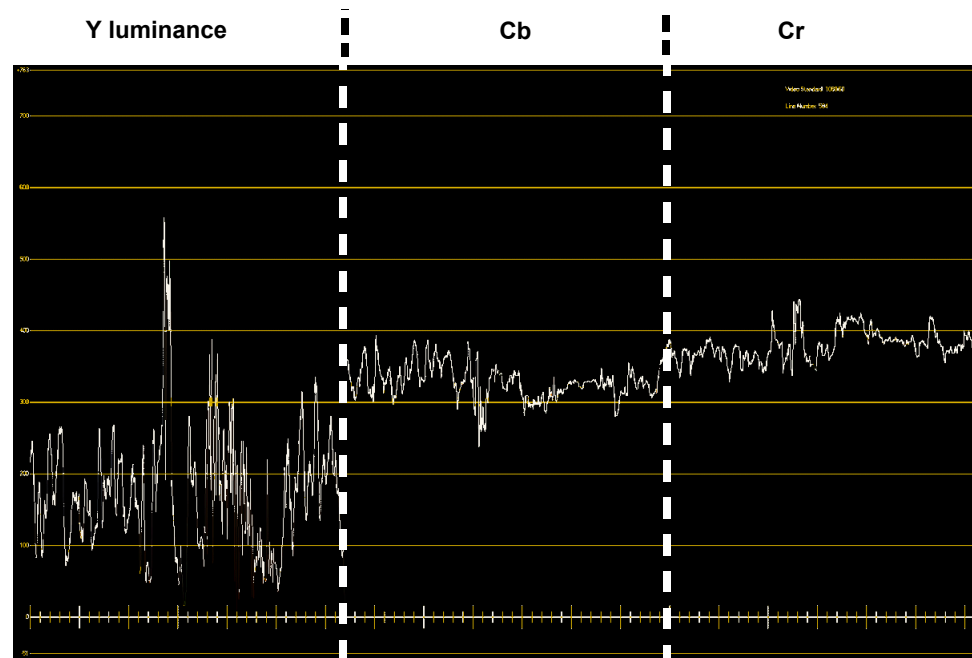


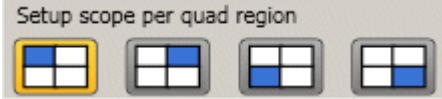
Figure 6-21. Line Parade Mode



Configuring the Test and Measurement Display Modes

In Layout Designer, define how the different Test and Measurement display modes will appear on a PiP-by-PiP basis, or globally. [Table 6-2](#) describes the options that can be defined, depending on which mode you selected.

Table 6-2. Test and Measurement Display Mode Options

Option	Description
Color	<p>Set the default color display to From Video (color) or Monochrome (black and white).</p> <p>If the you find that there are too many dark colors to see the display clearly when you view the results on the output module, you can right-click within the PiP and select Color Source > Monochrome.</p> <p>Note If you change the color output when you are in Quad Display mode on the output module, all of the quadrants reset to that color output regardless of what default values were defined in Layout Designer.</p>
Line	Select which line of the active video to display for each video format. For interlacing formats, select a line in the Odd or Even range.
Pixel Range	Define the range of pixels to display within a line.
Setup scope per quad region	<p>For Quad Display mode, define what is displayed in each quadrant. The blue rectangle in each sample indicates which quadrant you are defining. When you click on a sample, the border appears yellow.</p> 

Defining Display Modes for a PiP

1. Select a PiP.
2. Select the **PiPs** tab of the **Properties Panel**.
3. In the **Scope Configuration** area, select a display mode from the drop-down list, and then click **Scope Configure**.
The **Scope Configuration** dialog box appears. Certain options are available, depending on which display mode you selected. See [Table 6-2 on page 108](#).
4. Change all of the appropriate options for that display mode, and then click **OK**.
5. Repeat steps 3 and 4 for each mode.

Defining Display Modes Globally

When you define the options globally, you set the default values for all PiPs. However, you can redefine the options for individual PiPs when you create a new layout.

1. Select a PiP.
2. Select **Edit > Preferences**.

The **Layout Designer Preferences** dialog box appears.

3. Select the **Default Properties** tab.
4. In the **PiP** area, select a display mode from the **Scope** drop-down list, and then click **Configure**.

The **Scope Configuration** dialog box appears. Certain options are available, depending on which display mode you selected. See [Table 6-2 on page 108](#).

5. Change all of the appropriate options for that display mode, and then click **OK**.
6. Repeat steps 4 and 5 for each mode.

Chapter 7

On-Screen Data Tools

About On-Screen Data Tools

Layout Designer provides on-screen tools that you can add to layouts to provide data, feedback, and other information. You can create customized audio meters, tally indicators, labels, and clocks for each layout.

Use Layout Designer's on-screen data tools to monitor your system input signals and set up automatic responses to alarm conditions and operational events. The following figure illustrates Layout Designer's on-screen data tools in a layout.

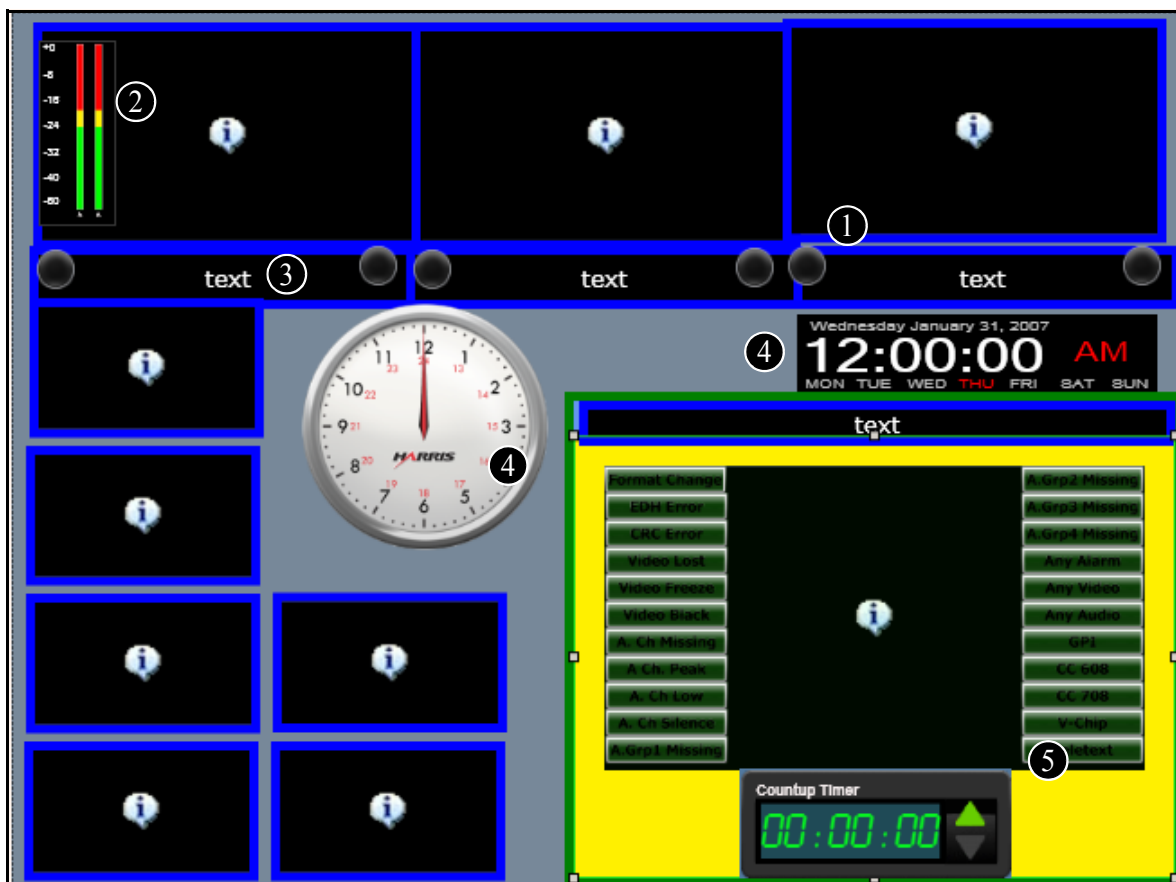


Figure 7-1. Layout Displaying On-Screen Monitoring Tools

- ❶ **Tally indicators** display the monitoring status from UMD protocol, GPI inputs, or alarms/rules. You can apply various colors and behaviors to each tally indicator individually. See [“Creating Tally Indicators” on page 116](#).
- ❷ **Audio meters** display the audio levels from Dolby E, embedded, or discrete audio input sources. You can assign up to 16 audio meters to each PiP in a layout. See [“Creating Audio Meters” on page 112](#).
- ❸ **Labels** can display static or dynamic information, or display text using alarms/rules. See [“About Labels” on page 119](#).
- ❹ **Clocks** can be either analog or digital, and can display various time zones. See [“About Layout Clocks” on page 124](#).
- ❺ **Up/down counters** are unidirectional. See [“About Up/Down Counters” on page 128](#).

Creating Audio Meters

You can associate up to 16 individual audio channels (or 8 channel pairs) to each PiP for audio metering purposes. Audio meters for each of these assigned channels can be positioned anywhere in the canvas, including superimposed on their associated PiPs. A typical arrangement will have two groups of four bar meters on each side, although you can choose any number of channels to monitor (to a maximum of 16).

Alternatively, you can add 5.1 audio meters that display the audio in a surround-sound configuration.



Note

Your layout must be in an **unlocked** state to add, move, or delete objects. You can adjust properties of objects on a locked layout. See [“Locking and Unlocking Layouts” on page 58](#).

Audio meters are associated with PiPs by mapping the audio source channels to a source PiP. You can map audio to PiPs, and change other audio meter-related properties using the Audio Meters tab of the Properties pane.

Creating audio meters for layouts can be divided into these tasks:

- Mapping audio meters
- Changing the appearance of audio meters
- Changing the size and position of the audio meters.

The following illustrates the controls available from the **Audio Meter** tab of the Properties pane that are used to perform these tasks.

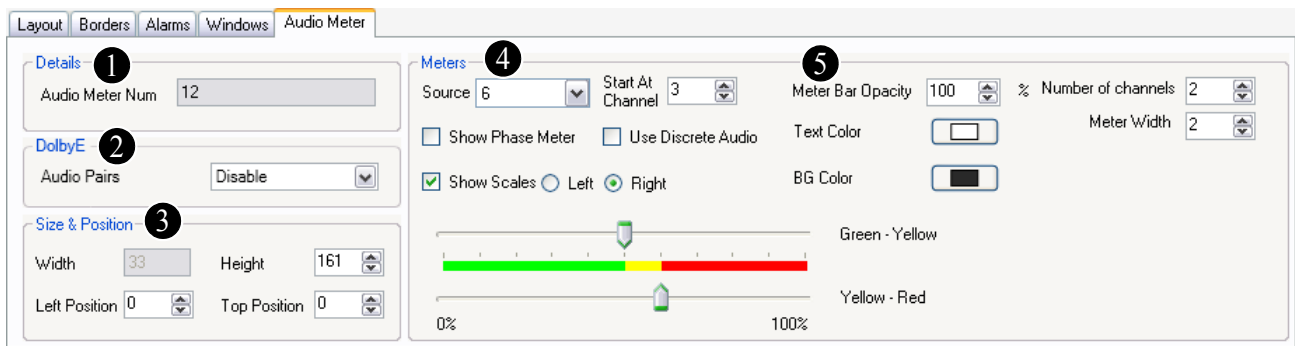


Figure 7-2. Audio Meter Properties

- ❶ **Audio Meter Number** - Auto-assigns each audio meter an unique number
- ❷ **DolbyE** - Use this menu to select the Dolby E audio pair to be displayed and monitored. See [“Configuring Dolby E Monitoring” on page 166](#).
- ❸ **Setting audio meter size and position** - Use these controls to set the width and height of your meter and set the meters position in the layout. See [“Setting Audio Meter Size and Position” on page 115](#).
- ❹ **Mapping audio meters** - Use these controls to assign audio source channels to meters as associated meters to source PiPs. See [“Mapping Audio Meters” on page 114](#).
- ❺ **Setting audio meter appearance properties** - Use these controls to set the meter scale, color transition points, and number of channels from the audio source you want to meter. You can also set background and text color. See [“Setting Audio Meter Appearance Properties” on page 114](#).

You can:

- Resize and move audio meters using your mouse. See [“Formatting Layout Objects in the Canvas” on page 73](#).
- Add audio meters to a window. For more information, see [“Creating Layout Windows” on page 78](#).

Adding Audio Meters to a Layout

Audio meters that are added to a layout using the Tool palette appear as the default audio meter type.

To add an audio meter:

1. Select **Insert > Audio Meter** or **Insert > 5.1 Audio Meter**.

Mapping Audio Meters

Audio mapping is the process of selecting the audio source and audio channels that you want to see metered on the selected PiP. Use the **Audio Meters** tab of the **Properties** pane to map audio channels to source PiPs.

To map audio meters:

1. Select the audio meter that you want to map.
2. Select the **Audio Meter** tab on the **Properties** pane.
3. In the **Source** list, select a router source that you initially associate the selected audio meter.



Note

If the router source of the PiP is changed later, the router source of the associated audio meter will NOT change unless the PiP and audio meter are grouped as a window. For more information, see [“Creating Layout Windows” on page 78](#).

4. In the **Start At Channel** field, select the first audio channel of the audio source that you want to meter.
5. (Optional) Place a check beside **Discrete Audio** to use non-embedded audio.

Discrete audio needs to be configured in CCS Navigator. See your *Harris Multiviewer Installation, Configuration, and Operation Manual* for more information.

You can configure info panels to indicate the audio channels that are being monitored. For more information, see [“Configuring Audio Monitoring” on page 166](#).

Setting Audio Meter Appearance Properties

After you have mapped the audio channels that you want to meter, set the audio meter appearance properties.

Selecting Meter Scale Properties

Choose whether you want to display a scale on your audio meters and select on which side of the meter you want to position the scale.

To set meter scale properties:

1. Select the **Audio Meter** tab on the **Properties** pane.
2. To show or hide the meter scales, select or clear **Show Scales**.
3. If you selected **Show Scales**, select either **Left** or **Right** as the position of the meter’s scales. (This setting is not available on 5.1 audio meters.)
4. To select the number of channels you want to meter, enter a value from the **Number of channels** list. (This setting is not available on 5.1 audio meters.)

5. To show or hide the phase meter, select or clear **Show Phase Meter**.
Regardless of the type of meter, phase meters appear in the lower portion of the area taken up by the audio meters.
When a phase meter is enabled, the meter fully to the right side in the green zone indicates a phase difference of 0 degrees. The meter fully to the left side of the red zone indicates a phase difference of 180 degrees. A properly phased stereo pair produces a phase meter that moves within the green zone, and a reversed channel produces a pointer that moves within the red zone.
6. To modify the opacity of the audio meter, beside **Meter Bar Opacity**, type or select a percent opacity value for the selected meter(s).
7. Do either of the following:
 - To select the label text color, click **Text Color**.
 - To select the background color, click **BG Color**.The **Select Color** dialog box appears.
8. Select a color value.
9. Use the **Opacity** slider to adjust the color's opacity value.
10. Click **OK** to save your color changes.

Setting Meter Transition Points

Each audio meter type has default red-yellow and yellow-green transition points. These transition points can be modified to suit your audio sources. For example, you can customize the transition point, in percentage of the overall meter height, of where the yellow portion of the meter turns to red.

To set meter color transition points:

1. Select the **Audio Meter** tab on the **Properties** pane.
2. On the **Color Transition Point** drop-down list, select the metering transition point style that you want to use.
Each transition point style in the list corresponds to a standard audio meter type.
3. Use the sliders to do either of the following:
 - Use the **Green-Yellow** slider to adjust the transition point, in percentage of the overall meter height, where the green portion of the meter turns to yellow.
 - Use the **Yellow-Red** slider to adjust the transition point, in percentage of the overall meter height, where the yellow portion of the meter turns to red. Typically, the red-yellow transition corresponds with 0 dB on analog audio scales.

Setting Audio Meter Size and Position

There are four control settings that you can use to specify the size and position of the audio meters:

- Width

- Height
- Left Position
- Top Position

To set the audio meter size and position:

1. Select the **Audio Meter** tab on the **Properties** pane.
2. In the **Size & Position** area, enter the value for height in the **Height** field.
The width cannot be changed.
3. To move the selected audio meters, enter the left and top position values (in pixels) in the **Left Position** and **Top Position** fields.

The **Left Position** value is the number of pixels from the left edge of the layout. The **Top Position** value is the number of pixels from the top edge of the layout.

**Note**

You can also use your mouse to resize and move audio meters in the layout canvas. For more information, see [“Formatting Layout Objects in the Canvas” on page 73](#).

Creating Tally Indicators

Add on-screen tally indicators to your layout to indicate alarm conditions or other operational instances such as rule conditions. Use the Tally tab of the Properties pane to change a tally’s shape, color, and behavior during an alarm state so that you can make each tally’s appearance unique and easy to identify.

**Note**

Your layout must be in an **unlocked** state to add, move, or delete objects. You can adjust properties of objects on a locked layout. See [“Locking and Unlocking Layouts” on page 58](#).

Adding Tally Indicators to a Layout

Tally indicators that are added to a layout appear in the default tally style. Once you have added a tally, you can change its appearance.

To add a tally indicator to a your layout:

1. Select **Insert > Tally**.

Modifying Tally Indicator Properties

Each tally that you add to your layout has a set of individual properties that determine its appearance, its behavior, and the alarm or processing rule it indicates in the layout.

To view a tally's properties, in the layout canvas, select the tally indicator that you want to modify, and then select the **Tally** tab of the **Properties** pane.

The screenshot shows the 'Properties' pane for a tally indicator. It is divided into several sections:

- Properties:**
 - Name: Tally 1
 - Tally Style: Round (dropdown menu)
 - Tally ID: 1
- Position & Values:**
 - Width: 50
 - Height: 50
 - Left Position: 169
 - Top Position: 314
- Tally State Source:**
 - ☐ UMD/Tally System (Fixed UMD Addr) UMD Addr: 0
 - ☒ UMD/Tally System (Source UMD **) PiP Num: 1
 - Tally Num: 0
 - Program Num: 0
 - ☐ Alarm Rule
 - ** See Source UMD Tab in Advanced Config for mapping
- States:**
 - Edit Tally Colors

Figure 7-3. Tally Properties Pane

Naming the Tally Indicator

You can give your new tally indicator a unique name that identifies it in the layout when it is associated with GPIO devices.

To name a tally:

1. Select a tally indicator in the layout.
2. Select the **Tally** tab on the **Properties** pane.
3. In the **Properties** area, type a name for the tally indicator in the **Name** field.

Selecting a Tally Indicator Shape

You can change the shape of a tally indicator at any time by choosing a new shape from the **Tally Style** list.

To select a new tally indicator shape:

1. Select a tally indicator in the layout.
2. Select the **Tally** tab on the **Properties** pane.
3. In the **Properties** area, select a new shape from the **Tally Style** list.

Resizing and Moving a Tally Indicator

Use the **Position & Values** controls to resize and move your tally.

To modify tally size and position:

1. Select a tally indicator in the layout.
2. Select the **Tally** tab on the **Properties** pane.
3. In the **Position & Value**, do either of the following:
 - To resize the selected tally indicator, enter the width and height values (in pixels) in the **Width** and **Height** fields.
 - To move the selected tally, enter the left and top position values (in pixels) in the **Left Position** and **Top Position** fields.

The **Left Position** value is the number of pixels from the left edge of the layout. The **Top Position** value is the number of pixels from the top edge of the layout.



Note

You can also use your mouse to resize and move tally indicators in the layout canvas. For more information, see [“Formatting Layout Objects in the Canvas” on page 73](#).

Setting Tally States

You can assign different colors, behaviors, and alarm conditions to each tally indicator. There is one Normal state, three Alarm states (Normal, Alarm Low, Alarm Medium, and Alarm High), and the Tally state. You create the following settings for each state:

- Primary color** The primary color represents the tally color in its primary/initial state. You can set the primary color to Off, Green, Yellow, Amber, or Red. The primary color of the Low level alarm is the tally color On state from an external UMD tally protocol.
- Secondary color** The secondary color represents the tally color in its secondary state, when it is flashing in animation mode. You can select from Off, Green, Yellow, Amber, and Red for secondary color.
- Animation** Apply animations to create the tally behavior. You can select None (solid color indicator) or Flashing.

To set a tally indicator states:

1. Select a tally indicator in the layout.
2. Select the **Tally** tab on the **Properties** pane.
3. In the **States** area, click **Edit Tally Colors**.

The **Layout Editor - Tally States** dialog box appears.

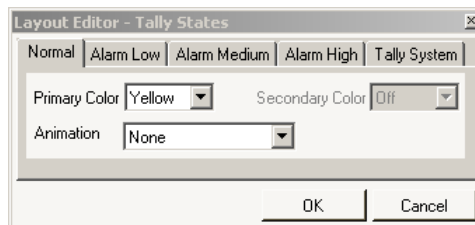


Figure 7-4. Tally States Dialog Box

4. For each state that you want to create for the selected tally indicator, do the following:
 - a. From the **Primary Color** list, select a color for the tally indicator's initial state.

- b. From the **Secondary Color** list, select a color or the tally indicator's secondary state.
- c. From the **Animation** list, select a behavior for the tally.

Setting the Tally State Source

In the Tally State Source area, there are three options:

Table 7-1. Tally State Source Options

Tally State Source Option	Configuration Options	
UMD/Tally System (Fixed UMD Addr)	Select the UMD address that will be the input source for the tally.	When you use either of the UMD/Tally System options, you must set the following items: <ul style="list-style-type: none">• Tally Number—the number of the tally within the UMD address that is monitored• Program Number—Enter the correct number in this field if you are using Ross Protocol. If you are using another protocol, the data in this field will be ignored.
UMD/Tally System (Source UMD) (Under Monitor Display)	Select the PiP Number that will be the input source for the tally. See the Source UMD tab in the Advanced Configuration dialog box for mapping. For more information, see “ Binding UMD Addresses to Input Sources ” on page 45.	
Alarm Rule	Select this option if you want the tally indicator to be the target for an alarm, and then follow these steps to define the alarm source: <ol style="list-style-type: none">1. With the tally selected in the layout, select the Alarms tab in the Properties pane.2. Following the instructions in “Defining Alarms for a Layout Object” on page 138, configure the Detectors and Actions pages of the Rules dialog box. On the Actions page, choose Set Tally Alarm State, and complete the Action Parameters section for that action.	

About Labels

Labels can be used to display text on your layout. If a layout does not have labels, they can be added to a layout using the Tool palette or by using the **Insert > Label** command from the application menu.



Note

Your layout must be in an **unlocked** state to add, move, or delete objects. You can adjust properties of objects on a locked layout. See [“Locking and Unlocking Layouts” on page 58](#).

Labels can be static, dynamic, or alarms/rules based, depending on the label's text source.

- **Static** labels have text that is typed directly into the label area when the layout is open on the canvas.

- **Dynamic** labels have source text generated from a router or a UMD device. When Dynamic is selected, PiP label text and tally information is determined by router destinations or sources via a router or UMD controller.
- **Alarm/rule** labels are triggered or generated by an alarm.

Scrolling properties can be added to both types of labels. On the Label tab of the Properties pane, you can activate and define the scrolling speed of the label text. Label text is set to scroll from right to left and within the defined label area, which is set using the label width and height properties. You can have multiple labels on a layout, each with unique properties.

Labels are modified on the Labels properties pane.

Figure 7-5. Labels Properties Pane

Each label has a unique identifier for the layout, its Label ID. The label ID cannot be modified. All other controls on the Labels properties pane can be edited.

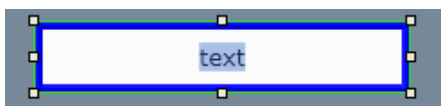
When you modify label properties, the changes only apply to the selected label(s). If you want to make the same property changes to multiple labels, you can use the **Copy** and **Paste** commands from the Layout Designer context menu. For more information, see [“Copying and Pasting Layout Object Properties” on page 74](#).

Setting the Label Text Source

Figure 7-6. Label Text Source Options

If your label is a dynamic label, do not type text in the label area.

Table 7-2. Label Text Source Options

Label Text Source	Configuration
Static Text	<p>When a label's source is static, default text appears in the label area. To edit static label text:</p> <ol style="list-style-type: none"> 1. In the layout canvas, double-click the label you want to modify. 2. Hold down your left mouse button, and then select the default (or previously entered) label text.  <ol style="list-style-type: none"> 3. Type your new label text into the label area.
Router Database Source Name	<p>The label will update the router source (as defined in the router database) that is associated with the specified PiP number or Audio Source Number (as chosen from the drop-down menu).</p> <p>If a switch on the router causes a change in the PiP input source, the label associated with the PiP source will follow.</p> <p>You can choose one of the following router source names to track: Logical, Source, Long Name, or Alias.</p>
Router Database Dest Name	<p>The label will update the router destination that is associated with the specified PiP number. (This is normally used with Router Follow. See “Configuring Router Follow” on page 102 for more information.)</p> <p>If a switch on the router causes a change in the PiP output destination, the label associated with the PiP source will follow.</p>
UMD/Tally System (Fixed UMD) (UMD addr)	Select a UMD address for the label.
UMD/Tally System (Source UMD***) (PiP Num)	<p>Select the PiP number of the input source for the label.</p> <p>See the Source UMD tab in the Advanced Configuration dialog box for mapping.</p>
Alarm Rule	If your label is connected to an alarm or rule, it will be triggered at a specific event.
External Update (External Number)	Allows label text to be updated from the Multiviewer Web interface (see “Using the Multiviewer Web Interface” on page 177
RSS Update Interval (Min.)	Uses an RSS feed as the source for the label text. Enter the URL to receive data from, and the frequency with which you would like the label to check for updates.

Modifying Label Appearance Properties

Label appearance properties can be applied to static and dynamic labels. You can select multiple labels, and then apply the same appearance properties changes to the selected labels.

To modify label text properties:

1. In the layout canvas, select label(s) you want to modify.
To select multiple labels, hold down the **CTRL** key as you select each label.
2. On the **Properties** pane, click the **Labels** tab.
3. Under **Appearance**, select a font for your label text from the **Font** drop-down list.

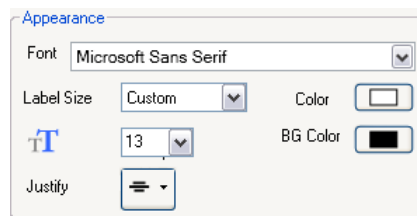





Figure 7-7. Modifying Label Text Properties

4. Beside the  icon, select a font size from the drop-down list.
5. To select the label text color, click the  icon to open the **Select a Color** dialog box.
6. To select a color, do one of the following:
 - Use the slider to select a color.
 - Enter the color values you want to use in one of the **ScRGB**, **sRGB**, or **Hexadecimal Notation** fields.

Your selected color is previewed below **Selected Color**. If required, use the **Opacity** slider to adjust the color's opacity value.

For more information on completing the Color Selector dialog box, see [“Setting Default Window Properties” on page 28](#).

7. Beside **Justify**, select the justification style for your label text from the drop-down list.
8. Beside **Label Size**, make one of the following selections:
 - **Custom** - Select this option to set the label width and height defined by the **Width** and **Height** controls (see [“Modifying Label Size and Position Properties” on page 123](#)).
 - **Text Size Width** - Select this option to set the label size to the total width of the text contained in the label area.
9. To select the label background color, click the  icon to open the **Select a Color** dialog box. For more information on completing the Color Selector dialog box, see [“Setting Default Window Properties” on page 28](#).

Modifying Label Size and Position Properties

You can select multiple labels, and apply the same size and position properties to the selected labels. You can also use your mouse to move and re-size labels in the layout canvas. For more information, see [“Resizing and Moving Layout Objects Using a Mouse” on page 75](#).

To modify the label size and position properties

1. Under **Size & Position**, select or type values for label width and height in the **Width** and **Height** fields.

The screenshot shows a 'Size & Position' panel with four input fields: Width (217), Height (67), Left (256), and Top (376). Each field has a small up/down arrow icon. Below the input fields, it displays 'Total Width: 226.7 px' and 'Total Height: 77 px'.

Figure 7-8. Modifying Label Size and Position Properties

The displayed **Total Width** and **Total Height** values include the label width and height as well as the label's border width.

2. To set the label position, select or type values in the **Left** and **Top** fields.

The **Left** value is the number of pixels from the left edge of the canvas, and **Top** is the value is the number of pixels from the top edge of the canvas.

You can also drag and move the label on the canvas. The position indicators will update as you do this.

Activating and Modifying Scrolling Properties

You can activate scrolling properties on static and dynamic labels. You can set the speed the label text scrolls from left to right in the area defined by the label **Width** property. You can select multiple labels, and then apply the same scrolling properties to the selected labels.

To enable and set label scrolling properties:

1. Under **Scrolling Content**, to enabling scrolling of label text, select **Allow Scrolling**.

The screenshot shows a 'Scrolling Content' panel. It has a checkbox labeled 'Allow Scrolling' which is checked. To its right is a 'Speed (1-10)' field with a value of 1. Below these is a 'Pause (0-10 sec)' field with a value of 0.0.

Figure 7-9. Setting Label Scrolling Properties

2. Beside **Speed** select or type a speed value (in seconds) for scrolling speed. A value of **1** provides the slowest and **10** the fastest scrolling speed.

3. If you want the label text to pause during scrolling, select the **Pause** check box, and then select or type the duration of the pause (in seconds).
The pause will occur before the scroll repeats itself.

About Layout Clocks

You can add clocks to a layout as layout objects, and then define how the time and date information is displayed. Clocks are driven by either an internal software time source or by an external time reference source that is input to the output module using an LTC input. There are several styles and formats of digital and analog clocks. There is no restriction on the number of clocks that you can add to a layout, but clocks have minimum size properties (135×135 pixels for analog and 160×40 for digital).



Note



Your layout must be in an **unlocked** state to add, move, or delete objects. You can adjust properties of objects on a locked layout. See [“Locking and Unlocking Layouts” on page 58](#).

Clock properties, such as time zone settings, size, and position, are modified on the Clock tab of the Properties pane. You can also use your mouse to resize and move clocks in the layout canvas. For more information, see [“Formatting Layout Objects in the Canvas” on page 73](#).

Adding Clocks to a Layout

To add a clock to your layout:

1. Do one of the following:

- To add an analog clock, from the Tool palette, click the  icon.
- To add a digital clock, from the Tool palette, click the  icon.

Use the **Analog Clock** and **Digital Clock** tabs of the **Properties** pane to change the clock style, resize and move the clock, and set clock time properties. For more information see [“Modifying Clock Properties” on page 124](#).

Modifying Clock Properties

Each clock in a layout has a set of individual properties that determine the appearance, size and position, and time properties such as its time reference source and time zone settings. You can display clocks that show time from different time zones in the same layout. Some clock properties, such as **Time and Offset** and **Size & Position** properties, are set the same way for both analog and digital clocks.











To view a clock’s properties, select the clock you want to modify, and then click the **Analog Clock** or **Digital Clock** tab of the **Properties** pane.

Setting Analog Clock Format

After you have added an analog clock to a layout, you can change the clock's appearance and motion type by selecting a new clock style from the **Format** section of the **Analog Clock** properties tab.

[Table 7-3](#) displays the different clock style types that you can choose from the **Format** list.

Table 7-3. Analog Clock Formats

Clock Format	Style	Clock Format	Style
Format 1 (default format)		Format 6	
Format 2		Format 7	
Format 3		Format 8	
Format 4		Format 9	
Format 5		Format 10	

To set the selected clock's format:

1. Under **Format**, select a clock style.
2. Under **Type**, select **Analog** or **Hybrid**.
Hybrid adds a digital clock on the analog clock's face.
3. To change the clock's motion setting, from the **Motion** list, select one of the following:

- **Sweep**—Select this option for a sweep clock hand motion.
- **Quartz**—Select this option for a clock hand motion that pulses in one-second intervals.
- **Rolex**—Select this option for a smooth clock hand motion
- **Harris**—Select this option for a sweep-stop (in one second intervals) clock hand motion

Setting Digital Clock Format

1. Under **Format**, select a clock layout from the list.



Figure 7-10. Digital Clock Options

2. To customize your selected clock format, make the following selections:
 - **12 or 24** - Sets the clock display to 12 hour format
 - **AM/PM** - Indicates PM or AM in the clock display (does not apply to 24-hour clocks)
 - **Show Seconds** - Displays the second count in the clock display
 - **Show Date** - Displays the date in the clock display (select a date format from the drop-down list)
 - **Show Week** - Displays the days of the week in the clock display

Customizing Digital Clock Appearance Properties

You can change a digital clock's text font and color. Analog clock appearances cannot be customized.

To customize the appearance of your digital clock:

1. Under **Time Font**, select a font that will be used for the time (mostly number) text.
2. Under **Date Font**, select a font that will be used for the date (mostly alphabet, usually smaller) text.
3. Choose the colors for each of the following areas on the digital clock:
 - **Time Color** - The numeric time text in the clock display
 - **Date Color** - The rest of the text on the screen, excluding the day of the week if you have chosen the Show Week display

- **Active Date** - The current day if you have chosen the Show Week display
- **Background** - The area inside the border of the digital clock display

Setting Clock Time Reference Source and Time Zone

You can use either an internal or an external time reference source, such as a linear timecode input (LTC) to drive your on-screen clocks. The controls and method used to set the time reference source is the same for analog and digital clocks. Each clock in a layout can be configured with a different time reference source.

To set the clock time reference source:

1. Under **Time and Offset**, select one of the following:

- **Internal** - Select this option to use the multiviewer's internal time as a reference source for the selected clock.

Select an appropriate time zone from the **Time Zone Offset** drop-down list.

To configure Network Time Protocol, see [“Configuring Network Time Protocol \(NTP\)” on page 46](#).

- **External LTC** - Select this option to use an external source as the clock reference source such as the LTC input as your clock source.

To configure a time offset for the external time, type or select an offset value in the **Hours** and **Minutes** fields.

To offset a time that is earlier than the current time, select **Negative**.

See your *Harris Multiviewer Hardware Installation, Configuration, and Operation Manual* for more information on setting up the type of external LTC format.

- **VITC** - Select this option to use time information based on timecode information from a video signal.

Select the video source from which the clock data will be derived from the **Source** menu.

Select the type of timecode to use from that source from the **Type** menu. Options include LTC, VITC1, and VITC2 from a DVITC source.

From the **Service Option** menu, choose the line on which that timecode appears. Options are lines 6-23.

Resizing and Moving Clocks

The controls for resizing and moving analog and digital clocks are the same.

To resize and move the selected clock:

1. Under **Size & Position**, type or select values for the width and height in the **Width** and **Height** fields.
2. To move the selected clock, type or select left and top position values (in pixels) in the **Left Position** and **Top Position** fields.

The **Left Position** value is the number of pixels from the left edge of the layout. The **Top Position** value is the number of pixels from the top edge of the layout.

You can also use your mouse to resize and move clocks in the layout canvas. For more information, see [“Formatting Layout Objects in the Canvas” on page 73](#).

About Up/Down Counters

The up/down counter displays time on your Layout, with accuracy down to a second. You can use a counter as an alarm detector to trigger other events when it completes its count down or count up, or when the counter hits a blink or alert point (see [“Defining Alarms for a Layout Object” on page 138](#) for more information). When the end time is reached on that particular counter, an event is triggered. The counter can be the recipient of an alarm action, which can reset, start, or stop the counter.


During normal operation the timer behaves as follows:

1. The counter starts, counting up or down with green font.
2. When it reaches a pre-defined alert time, the counter’s font turns red.
3. When it reaches a pre-defined blink time, the font remains red but then the red down arrow (or up arrow for a count down timer) turns off and on at .5s intervals for the remainder of the count time.
4. When the counter reaches a pre-defined end time (time has expired), the timer remains at the last time value (00:00:00 for a down timer) with a red font until it is reset or a new timer session is started.

Adding Counters to a Layout

To add a Counter to your layout:

1. Do one of the following:

- From the Tool palette, click the  icon.
- From the main menu, select **Insert > Up/Down Counter**.

Use the **Up/Down Counter** tab of the **Properties** pane to change the properties. For more information see [“Modifying Counter Properties” on page 129](#).

Modifying Counter Properties

Each counter in a layout has a set of individual properties that determine the appearance, size, position, and time properties. Each counter has a unique counter number. You can configure four different times per counter.

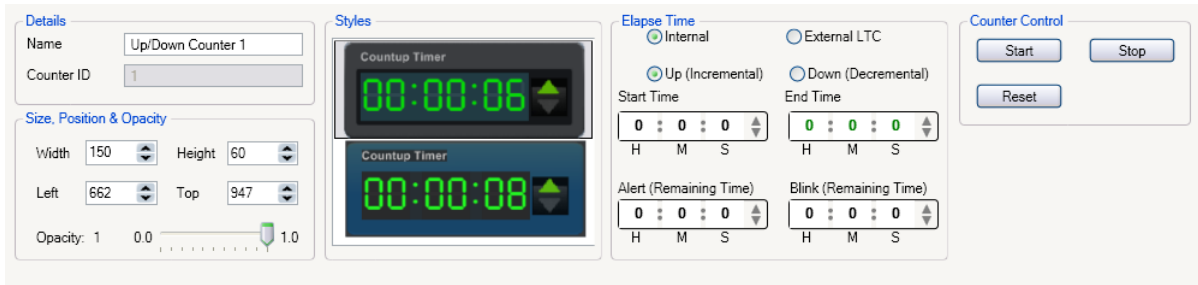


Figure 7-11. Up/Down Counter Properties Pane

Naming the Counter

A counter's unique name identifies it in the layout. This is the name the counter is identified by when creating alarm detectors and actions.

To name a counter:

1. Select a counter in the layout.
2. Select the **Counter** tab on the **Properties** pane.
3. In the **Properties** area, type a name for the counter in the **Name** field.

Modifying Counter Size and Position Properties

You can select multiple counters, and apply the same size and position properties to the selected counters. You can also use your mouse to move and re-size counters in the layout canvas. For more information, see [“Resizing and Moving Layout Objects Using a Mouse” on page 75](#).

To modify the counter size and position properties

1. Under **Size, Position & Opacity**, select or type values for counter width and height in the **Width** and **Height** fields.

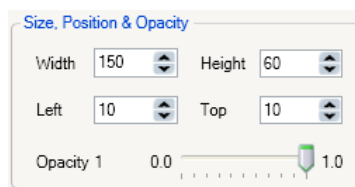


Figure 7-12. Modifying Counter Size, Position, and Opacity Properties

The displayed **Total Width** and **Total Height** values include the counter width and height as well as the counter's border width.

2. To set the counter position, select or type values in the **Left** and **Top** fields. The **Left** value is the number of pixels from the left edge of the canvas, and **Top** is the value is the number of pixels from the top edge of the canvas. You can also drag and move the counter on the canvas. The position indicators will update as you do this.
3. Drag the **Opacity** slider to the right to make the counter more transparent, or left to make the counter more solid.

Choosing a Counter Style

Click an option in the Styles section of the Up/Down Counter Properties pane to choose a counter appearance.

Configuring Counter Functionality

1. Select Internal or External LTC for the counter's source.
 - **Internal** - calibrates the counter rate from the multiviewer's internal time.
 - **External LTC** - calibrates the counter rate from linear timecode on the output module's LTC input.
2. Select a counter direction.
 - **Up (incremental)** - the counter increases in value as it counts.
 - **Down (decremental)** - The counter decreases in value as it counts.The counter indicates its direction in the layout with an up arrow or a down arrow.
3. Configure times as follows:
 - Beside **Start Time**, enter the initial value that is displayed by the counter.
 - Beside **Stop Time**, enter a final value to be displayed by the counter.
 - When used as a detector to trigger a rule, the stop time will trigger the rule to fire. After firing the time is displayed as red.
 - Beside **Alert Time**, enter the time when the text on the counter will change from green to red (prior to the countdown completing).
 - Beside **Blink Time**, enter the time when the direction indicator will begin to blink.

The maximum number of hours is 99, and the maximum number of minutes and seconds are 59.

Manually Controlling a Counter

When a layout is uploaded to a Harris multiviewer, you can operate the counter from Layout Designer, an onscreen menu that is accessible via the mouse through onscreen menu interactions.

To control the counter from Layout Designer, follow these steps:

1. If Layout Designer does not have control of the Harris multiviewer, click **Enable Control**.
2. Select a counter in the layout.
3. Select the **Counter** tab on the **Properties** pane.
4. Use the following controls:

Start - updates the counter to proceed with the linear countdown

Stop - stops and reports the current countdown time until further notice

Reset - re-initializes the counter using the original start, stop, blink, and alert times. Any rules that were active in the layout will still trigger the counter the same way as before.

In the Rules engine, the counter can act as an alarm by configuring a rule to fire on a Stop Counter event, when the counter reaches its end time. See [“Defining Alarms for a Layout Object” on page 138](#). The counter can act as a target through the Reset Counter, Start Counter, and Stop Counter actions. See [“Setting Alarm Actions” on page 144](#).

Controlling a Counter Using SNMP or CCS (Navigator or NUCLEUS)

The time parameter is global and updates every published timer. Neither CCS nor SNMP is aware of any of the published timers. The only link is through virtual triggers set up with alarms in the layout.

To start a timer, follow these steps:

1. Set the **Initial Counter Time** parameter.

The time does not update the counter until a start is triggered. When you set the duration, there is no visual feedback on the display. It retains the original setting of the published layout.

2. Set the trigger that starts the specific counter.

When you start the countdown timer, the display updates to the value set using SNMP or CCS and starts to decrement or increment.

If the time is not set to zero, any time a start occurs, the counter uses the time as set by CCS Navigator, NUCLEUS, or SNMP.

Alarms and Info Panels

About Monitoring Tools

Use Layout Designer's on-screen monitoring tools to monitor your system input signals and set up automatic responses to alarm conditions and operational events. The following figure illustrates Layout Designer's on-screen monitoring tools in a layout.

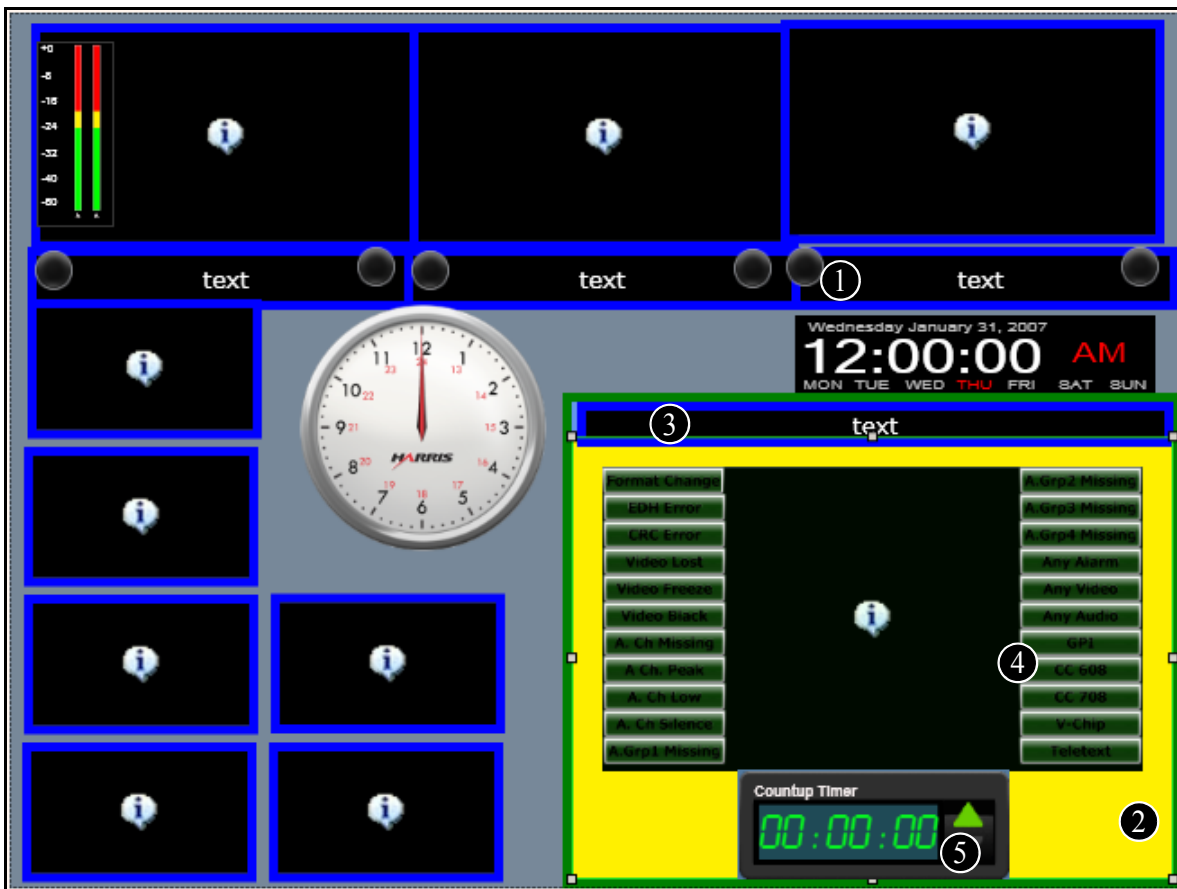


Figure 8-1. Layout Displaying On-Screen Monitoring Tools

- ❶ **Tally indicators** can display alarm conditions if configured to do so. See [“Creating Tally Indicators” on page 116](#).
- ❷ **Borders** (on PiPs and windows) can display three different alarm states and a tally state, in addition to their normal state. See [“Modifying Border Properties” on page 88](#).
- ❸ **Dynamic labels** can be configured to display specific text based on various alarm conditions. For more information, see [“About Layout Clocks” on page 124](#).
- ❹ **Info Panels** can include alarms. For more information, see [“Creating Info Panels” on page 156](#).
- ❺ **Up/Down Counters** can trigger and be the target of alarms. For more information, see [“About Up/Down Counters” on page 128](#).

Other alarm monitoring options include:

- E-mails
- Log entries
- Text messages
- Changes to the PiP, such as making it full-screen or switching it to display a waveform

Alarms can be assigned to an item within a layout, to a layout, or globally, to the multiviewer device itself.

Using the Rules Menu

As part of the Layout Designer application toolbar, the **Rules** menu provides the following options:

- **Global Alarms** - Opens the **Global Alarms Editor** so you can review and configure alarms that are device-specific and will stay active when triggered even when the layout changes. See [“Configuring Global Alarms” on page 150](#).
- **Global Events** - Opens the **Events Editor** so you can review and configure events that trigger actions and are device-specific, and will stay active when triggered even when the layout changes. See [“Configuring Layout Events and Global Events” on page 153](#).
- **Enable/Disable Global Event** - Lists a sub-menu of all global events, so that you can select a specific event to enable or disable.
- **Enable/Disable All Global Events** - Provides a list of two options that affect all defined global events: **Enable** or **Disable**.
- **Layout Events** - Opens the **Events Editor** so you can review and configure events for a specific layout.
- **Clear Layout Alarms** - Deletes all alarms for a specific layout.
- **Component [Component’s name] Alarms** - Opens the **Rules Editor** so you can review and configure alarms assigned to the selected item. [“Defining Alarms for a Layout Object” on page 138](#).

- **Clear Component [Component's name] Alarms** - Deletes all alarms assigned to the selected item.



Note

Global and Layout alarms and events are only available when Layout Designer is connected to a Harris Multiviewer.

Using the Alarms Property Pane

If you can assign alarm detectors to an object in a layout, when you select that object and then go to the alarms tab of the Properties panel, you can view the alarms assigned to that object. Each alarm consists of two parts:

- Detectors - Conditions that trigger the alarm
- Actions - Notifications that an alarm condition exists

Alarms are defined on the Alarms tab of the Properties pane.



Figure 8-2. Alarms Properties

- 1 **Alarms** lists each sub-item that make up the selected object (including PiPs, counters, info panels, etc.). Sub-entries list the alarms applied to each specific object. See [“Defining Alarms for a Layout Object” on page 138](#).
- 2 Data field updates when you select an item in the **Alarms** field, so you can edit thresholds and conditions for the selected alarm or alarm detector. See [“Setting Alarm Detector Threshold Values” on page 141](#).
- 3 **Actions List** displays the actions that will occur when the selected alarm is triggered.
 - Roll the mouse over an action to view tooltips showing details of action parameters.
 - Right click for **Edit/Add Action**, **Remove Action**, and **Remove All Actions** options.

For more information, see [“Setting Alarm Actions” on page 144](#).
- 4 **Available Alarm Templates** allows you to manage your alarm templates and apply them to the selected layout object. See [“Alarm Templates” on page 146](#).

There are default alarms that you can activate and modify. Each alarm condition has detectors. When the input signals meet or exceed threshold values of the detector, the alarm actions are triggered.

Each alarm is described below in [Table 8-1](#).

Table 8-1. Alarm Detectors

Detector	Description
Video	
Format Change	Indicates that the video input format has deviated from its defined standard
SD EDH Error	Reports recurring EDH errors in the standard definition video signal
HD CRC Error	Indicates that the internally calculated CRC value is different from the received CRC value
Loss of Video	Indicates that the multiviewer hardware can no longer detect a video signal from the video channel
Video Freeze	Indicates that the input video image is frozen (static) according to user-defined frozen picture delay (duration), percent of frozen video in the frame, and amount difference between pixels percent tolerance
Video Black	Indicates that the input video image is considered a black picture according to user-defined percentage non-black picture, delay (duration), and black level threshold values
Audio	
Audio Channel Missing	Indicates that the audio channel is not present in the signal
Audio Channel Peak	Indicates that the input audio level of the audio channel is at or above the set upper threshold dB values for the user-defined period of time
Audio Channel Low	Indicates that the input audio level of the audio channel is at or below the set lower threshold dB values for the user-defined period of time
Audio Channel Silence	Indicates that the input audio level of the audio channel is at or below the set silence threshold dB value for the user-defined period of time
Audio Group (1–4) Missing	Indicates that the specified audio group is not present in the signal
Audio Format Change	Indicates that the audio format has switched from Dolby D, Dolby E, or PCM, or indicates any format change
Dolby E Program Change	Indicates that the Dolby program format has deviated from the one specified

Table 8-1. Alarm Detectors (Continued)

Detector	Description
Metadata	
CC Missing	Indicates that closed captioning (can be HD or SD) is not present in the incoming video stream
CC Not Updating	Indicates that closed captioning is not updating correctly in the incoming video stream
CC Not Valid	Indicates that the closed captioning data in the incoming video stream is not usable
VChip Data Missing	Indicates that there is no V-chip data in the incoming video stream
VChip Mismatch	Indicates that the V-chip data in the incoming video stream does not match the expected rating
Teletext Missing	Indicates that there is no teletext in the incoming video stream
Teletext Not Updating	Indicates that the teletext data in the incoming video stream is frozen
Teletext Not Valid	Indicates that the teletext data in the incoming video stream is not usable
VITC Missing	Indicates that there is no VITC in the incoming video stream
WSS Missing	Indicates that WSS is not present in the incoming video (should be present in SD625 only)
WSS Format Change	Indicates that the WSS information has changed from the selected format
AFD Missing	Indicates that AFD data is not present in the incoming video
AFD Format Change	Indicates that the AFD information has changed from the selected format
Timelines	
Counter Alert	Indicates that the specified counter has achieved its predefined alert time
Counter Blink	Indicates that the specified counter has achieved its predefined blink time
Counter End	Indicates that the specified counter has achieved its end time (this is when the counter stops)
Miscellaneous	
GPI	Indicates that a GPI input has been triggered
Specific Crosspoint	Indicates that a specific source has been switched to a specific crosspoint (requires a source, destination, and level to be defined)

Table 8-1. Alarm Detectors (Continued)

Detector	Description
Specific Source	Indicates that a PiP has been switched to a specific source
SNMP Virtual GPI	Indicates that a GPI trigger has been received through SNMP
Global	
Any Alarm Triggered	Indicates that any alarm connected to any other alarm has been triggered
Any Audio Alarm Triggered	Indicates that any of the alarms in the Audio section of the list (above) have been triggered
Any Video Alarm Triggered	Indicates that any of the alarms in the Video section of the list (above) have been triggered

For information about setting alarm threshold values, see [“Setting Alarm Detector Threshold Values” on page 141](#).

For information about setting video alarms, see [“Defining Alarms for a Layout Object” on page 138](#).

**Note**

Any changes you make to an alarm setup will not appear on the multiviewer until the layout is published.

Defining Alarms for a Layout Object

1. Select the appropriate layout object.

Objects that can take alarms include:

- Info panels
- PiPs
- Tallies
- Windows
- Up/Down Counters

- In the toolbar, click **Rules**, and then click **[Component] Alarms** (where [Component] is the selected object).

The **Rules Editor** dialog box opens with the **Select Detectors** panel displayed.

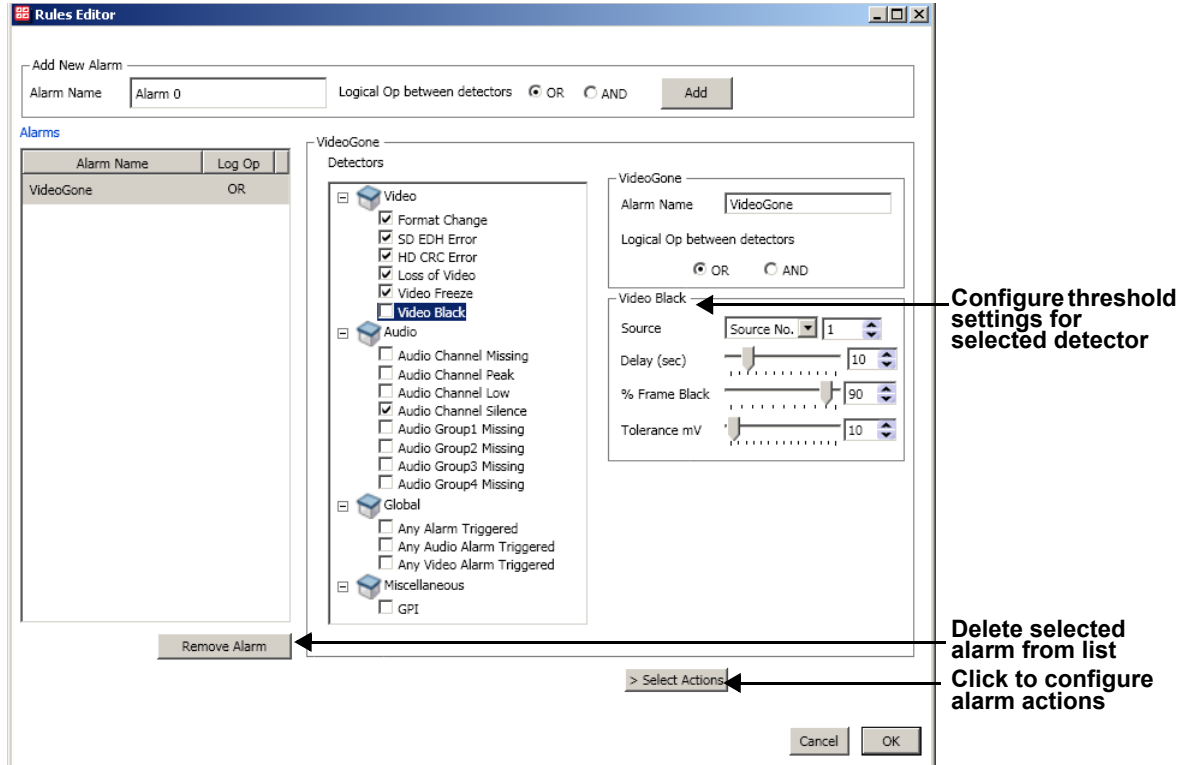


Figure 8-3. Selecting Alarm Detectors on the Rules Dialog Box

- In the **Alarm Name** field, enter a meaningful name that describes the alarm condition.
- Select an operator, either **And** or **Or**, and then click **Add**.
 - When **And** is selected, all conditions must be met to trigger an alarm.
 - When **Or** is selected, only one of the conditions must be met to trigger the alarm.

The alarm appears in the alarms table.

- In the **Detectors** list, place a check beside each alarm detector you want to have on this layout object.

Each detector is added with default thresholds and settings. Click on the text of a detector to view its threshold values.

- To adjust the threshold values for a detector, do one of the following:
 - Click in the value column and then type the new value for the threshold.
 - Drag the slider right and left to increase and decrease the threshold value.

- Click the incremental step buttons to increase or decrease the threshold value.

See “[Setting Alarm Detector Threshold Values](#)” on page 141 for more information.

7. Click **Select Actions**.

The **Rules Editor** dialog box displays its **Select Actions** panel.

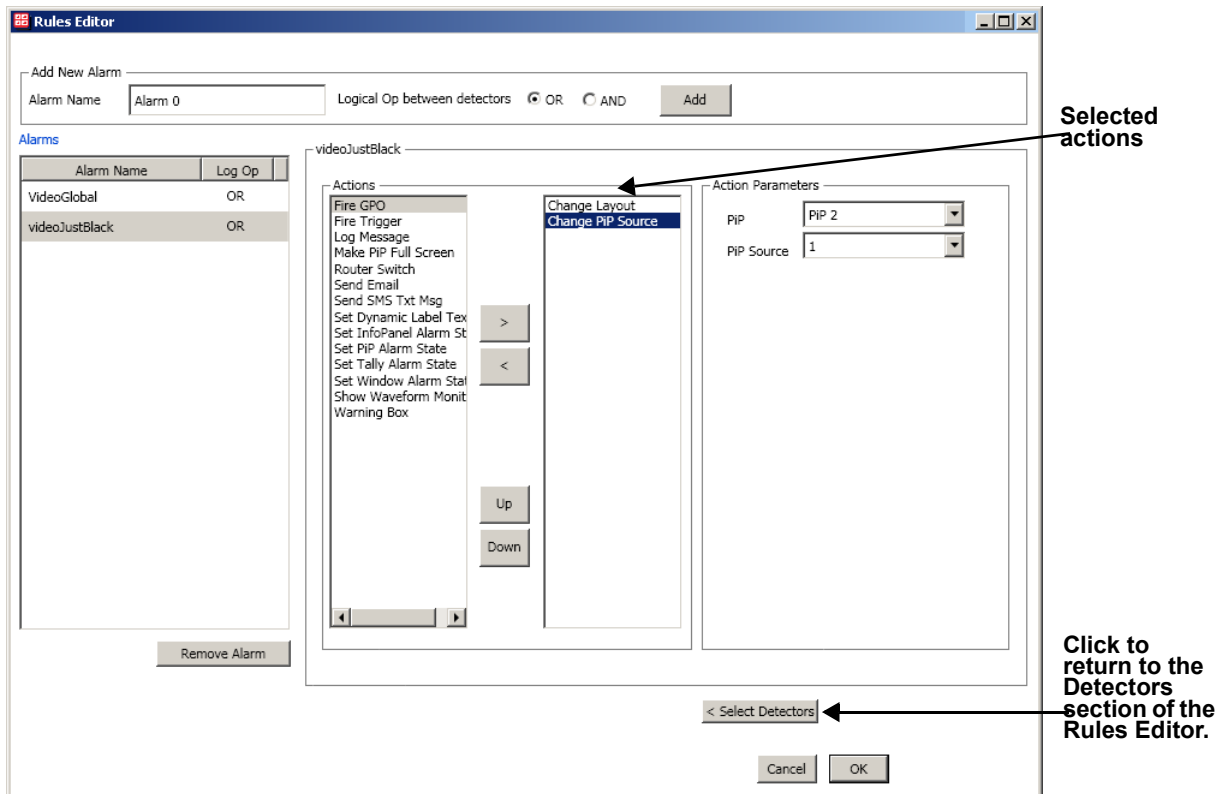


Figure 8-4. Select Actions Panel of Rules Editor Dialog Box

- Click on an alarm in the **Alarms** column.
- From the **Actions** list, choose one or more actions from the left panel and click > to move it to the right panel.

If a target is not available for the alarm action (for example, if you have chosen **Counter Reset** as your action and there is not a counter in the layout), you will see an error message.

To remove an item from the **Select Actions** list, click <.

You can move the selected item up in the list by clicking **Up**, or down in the list by clicking **Down**. Alarm actions will be executed in the order they appear on the list.

When an item is highlighted in the **Selected Actions** list, you can configure it by completing the **Action Parameters** specific to that action.

- Click **OK** to close the **Rules Editor** dialog box.

The **Alarms** field of the **Alarms** properties tab lists the alarms you have created. You can view the individual detectors that make up an alarm by clicking +, or hide them by clicking -.

Click on an alarm in the **Alarms** field to view and/or edit that alarm's name and operator in the space directly to the right of the **Alarms** list, and to view a list of actions for that alarm in the **Actions** field.

Click a detector in the **Alarms** field to adjust the thresholds and settings for that detector.

Setting Alarm Detector Threshold Values

Alarm threshold values determine the point at which an input is in error and an alarm is triggered. On the **Alarms** tab of the **Properties** pane, you can set the threshold values for each detector used by the multiviewer to determine when an alarm condition exists.

The following describes each threshold value. The threshold value varies for each detector.

Table 8-2. Alarm Threshold Values

Threshold value	Definition	Range	Default
Source	Source number or PiP ID of the monitored source signal	Range is 0–512 if Source number was selected; text otherwise	(string)
HD Source	The HD CC source	Service (1-7) CC (1-4) T (1-4)	
SD Source	The SC CC source	CC (1-4) T (1-4)	
Service Option	The SD CC, V-Chip, VITC, WSS, AFD, or Teletext line	Line (6-23)	
Channel	Audio stream that is monitored for this alarm	Channel 1–Channel 16	1 - 4 enabled
Delay (sec)	Duration (in seconds) that the threshold(s) on an alarm can be met or exceeded in order to trigger the alarm condition	0–60	10
% Frame Frozen	Percent of frozen video within a video frame that will trigger an alarm	0–100	97
% Frame Black	Percentage of the video picture that must be black for the picture to be considered a black frame	0–100	10

Table 8-2. Alarm Threshold Values (*Continued*)

Threshold value	Definition	Range	Default
Tolerance (%)	Amount of difference between pixels at which a picture is considered to be frozen	0–25	10
Tolerance mV	Level at which a picture is considered a black picture	0–700	10
Level (dBFS)	Depending on the alarm, the level (peak, low, or silence) at which an alarm condition is triggered	-100–0	Peak: -3 Low: -40 Silence: 60
Expected Format	The expected format of the input signal		
	Video	<ul style="list-style-type: none"> • 1080i60 • 1080i50 • 1080psf24 • 720p60 • 720p50 • SD525 • SD625 • 1080p24 • 1080p25 • 1080p30 • Any format change 	1080i60
	Audio	<ul style="list-style-type: none"> • Dolby E • Dolby D • PCM • Any format change 	PCM
	WSS	<ul style="list-style-type: none"> • Full Frame 4:3 • 14:9 Center • 14:9 Top • 16:9 Center • 16:9 Top • > 16:9 • Full Alt 14:9 • 16:9 Anamorphic • Any Format Change 	Full Frame 4:3
	AFD	<ul style="list-style-type: none"> • > 16:9 • Full Frame • 4:3 Center • 16:9 Protected • 14:9 Center • 4:3 Alt 14:9 • 16:9 Alt 14:9 • 16:9 Alt 4:3 • Any Format Change 	Full Frame
Use Discrete Audio	Determines whether the alarm applies to embedded audio or discrete (separate) audio	Yes/No	No
DolbyE Pairs	The Dolby E audio pair that is displayed on the multiviewer	<ul style="list-style-type: none"> • Disable • 1/2 • 3/4 • 5/6 • 7/8 • 9/10 • 11/12 • 13/14 • 15/16 	Disable

Table 8-2. Alarm Threshold Values (*Continued*)

Threshold value	Definition	Range		Default
Audio Pairs	Selects the audio pair to be monitored	<ul style="list-style-type: none"> • 1/2 • 3/4 • 5/6 • 7/8 	<ul style="list-style-type: none"> • 9/10 • 11/12 • 13/14 • 15/16 	1/2
Expected Program	Determines the Dolby E program	<ul style="list-style-type: none"> • 5.1+2 • 5.1+2x • 4+4 • 4+2x2 • 4+2+2x1 • 4+4x1 • 4x2 • 3x2+2x1 • 2x2+4x1 • 2+6x1 • 8x1 • 5.1 	<ul style="list-style-type: none"> • 4+2 • 4+2x1 • 3x2 • 2x2+2x1 • 2+4x1 • 6x1 • 4 • 2+2 • 2+2x1 • 4x1 • 7.1 • 7.1 screen 	5.1+2
Rating	Determines the VChip option that is expected	<ul style="list-style-type: none"> • G • PG • PG-13 • R • NC-17 • X • TV-Y • TV-Y7 • TV-G • TV-PG 	<ul style="list-style-type: none"> • TV-14 • TV-MA • E • C • C8+ • 14+ • 18+ • 8 ans + • 13 ans + • 16 ans + • 18 ans + 	
Page	Determines the Teletext page that is expected to be displayed Note: the default is for OP-47 closed captioning.	• 0 to 999		801
Counter Name	Lists all the available counters in the layout	<ul style="list-style-type: none"> • Auto • <all counters in layout 		Auto
Router Source	Source the router switch should be on	1–512		1
Router Destination	Destination the router switch should be on	1–512		1
Level	Router level the switch should be on	0–100		0

Setting Alarm Actions

Alarm actions are used in the **Rules Editor** and the **Trigger Configuration** dialog box.

Table 8-3. Alarm Actions

Alarm Action	Purpose
Change Layout	Loads a layout.
Change PiP Source	Changes the input source of the PiP to the selected source. There must be a PiP in the current layout to choose this option.
Counter Reset	Sets the selected counter back to its start time.
Counter Start	Triggers the counter to start.
Counter Stop	Stops the counter.
Fire Global Event	Activates a global event. There must be a global event in the multiviewer system to choose this action. See “Configuring Layout Events and Global Events” on page 153 for more information.
Fire GPO	Activates a GPO.
Fire Layout Event	Activates a layout event (see “Configuring Layout Events and Global Events” on page 153 for more information). There must be a layout event in the current layout to choose this action.
Log Message	Adds a predefined message to the system log, which is located in the alarm section of the logging server. See “Enabling Alarm Logging” on page 47 to configure alarm logging.
Make PiP Full Screen	Expands the selected PiP to full-screen. There must be a PiP in the current layout to choose this action.
Router Switch	This action triggers an input’s switch to a specific router level and destination.
Send Email	Sends an email with pre-written text to a specific recipient.
Send SMS Txt Msg	Sends a text message to a phone.
Set InfoPanel Alarm State	Changes an background color of alarm indicators on an info panel. There must be an info panel in the current layout to choose this action.
Set Label Text	Changes the text of a label in the layout to pre-configured text. There must be an Alarm/Rule dynamic label in the current layout (a static label in the layout is not sufficient).
Set PiP Alarm State	Changes a PiP’s alarm state. There must be a PiP in the current layout to choose this action.
Set Tally Alarm State	Changes a tally’s alarm state. There must be a tally in the current layout to choose this action.

Table 8-3. Alarm Actions (Continued)

Alarm Action	Purpose
Set Window Alarm State	Sets the window border to a pre-defined state. There must be a Window in the current layout to choose this action.
Show Message Box	Displays a warning or an error on the screen (depending on your settings), and puts a pre-defined message in that box.
Show Waveform Monitor	Switches the display on the chosen PiP to show a waveform. There must be a PiP in the current layout to choose this action.

Table 8-4. Action Parameters

Parameter	Content
10 Digit Phone Number	Type the phone number to be dialed to send the text message.
Counter	Selects the specific counter to use as a trigger or target of the action.
Dynamic Label ID	Choose the ID number of the label to send text.
GPO Number	Type the number of the GPO to activate.
InfoPanel	Choose the info panel that will display the alarm state
Input	Enter the router's input number to switch.
Layout name	Type the name of the layout to load.
Level	Enter the router level number to switch.
Logging Priority	Determines the urgency of the message; choose from Info, Warning, Performance, Error, Critical, or Fatal.
Message	Enter the text of the message to be sent.
Message Body	Enter the text of the message to be sent.
Output	Enter the router's output number to switch.
PiP	Choose the PiP that will be the recipient of the action to from the drop-down menu. All PiPs in the current layout are available by name.
PiP Source	Choose a source from the drop-down menu.
Priority	Choose Low, Medium, or High. This affects the display color of tallies and info panels, and PiP and window alarm borders.
Recipient Address	Enter an email address to send alarm notifications to.
Show PiP Information	Displays a PiP information menu on a full-screen PiP.
Sticky	Choose Yes or No. Actions that are sticky must be acknowledged before they disappear.
Subject	Enter a subject for the email.
Tally	Choose the tally to apply the alarm to.

Table 8-4. Action Parameters (Continued)

Parameter	Content
Text	Enter the content the label will be updated with.
Trigger	Type the number of the trigger to activate.
Txt Msg Body	Enter the text of the message to be sent.
Type	Choose from Warning or Error. When the alarm is triggered, the pre-determined type of box will appear on the screen
Window Number	Choose the window to apply the alarm to.
Wireless Carrier	Choose your carrier from the drop-down menu. If your carrier does not appear on the list, you can enter a custom carrier. Choose Add custom from the bottom of the list. A window opens where you can type in your cell phone carrier's email suffix. Click OK . Your cell phone carrier appears at the top of the list.

Alarm Templates

Alarm templates are a fast way to apply the same group of alarms and detectors multiple times within the same layout, or within multiple layouts, without having to configure it each time. Once a template has been applied to a layout object, you can adjust the threshold values on that object specifically.

Creating an Alarm Template

When you create an alarm template, note the following:

- Each object in a layout can have only one template applied to it.
- A template may consist of many alarms, with many detectors.
- Alarms must have unique names. If you give an alarm an existing name, it will overwrite the previous condition.
- The source that is defined in an object overrides the source that is defined in an alarm.
- You can set default threshold settings for each detector within the template, and adjust those thresholds on an item-by-item basis throughout a layout. Making changes to the threshold values for each layout object does not change the threshold values in the template itself.

To create an alarm template:

1. Select the **Alarms** tab of the **Properties** pane.

- Under **Available Alarm Templates**, click **New**.
The **Alarm Template Editor** dialog box appears.

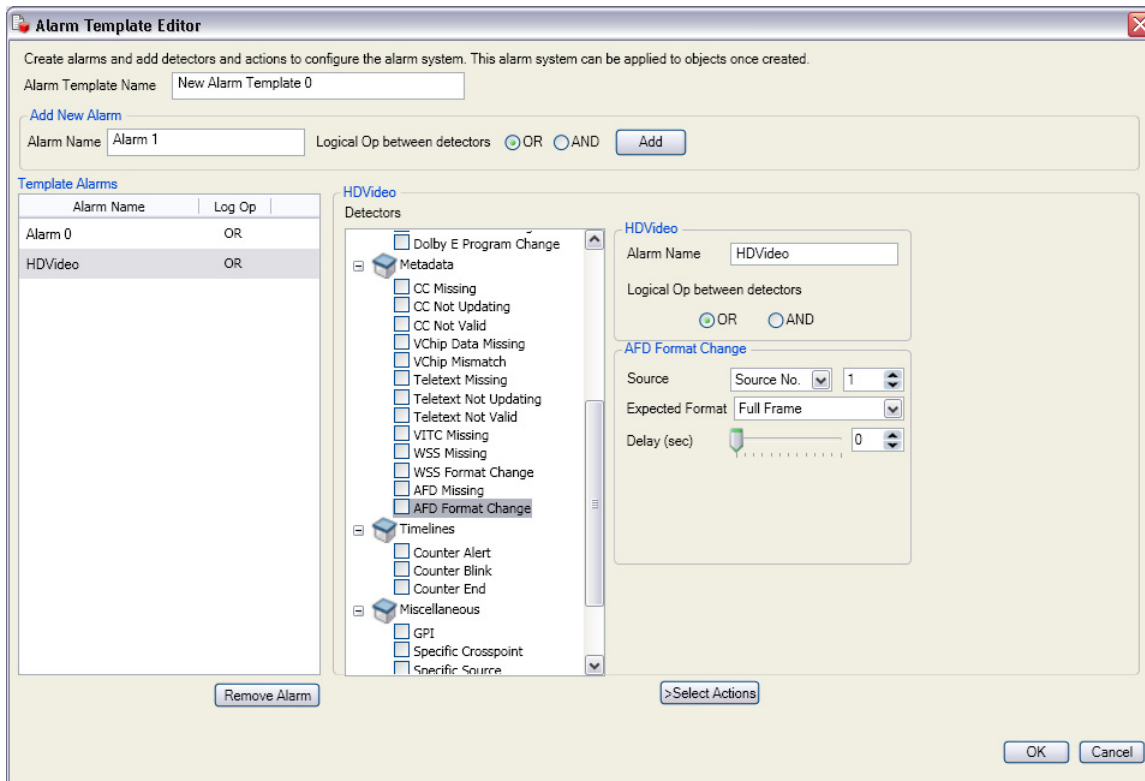


Figure 8-5. Alarm Template Editor Dialog Box

- In the **Alarm Template Name** field, enter a descriptive name for your template.
- In the **Alarm Name** field, enter a meaningful name that describes the alarm condition.
- Select an operator, either **And** or **Or**, and then click **Add**.
 - When **And** is selected, all conditions must be met to trigger an alarm.
 - When **Or** is selected, only one of the conditions must be met to trigger the alarm.

The alarm appears in the alarms table.

- In the **Detectors** list, choose each alarm detector you want to have on this layout object.
Each detector is added with its default thresholds and settings.
- Click on the text of each detector to view its threshold values, and then, to adjust its threshold values, select in the value column and type a new value.
See [“Setting Alarm Detector Threshold Values” on page 141](#) for more information.
- Repeat steps 4–7 to add other alarms to the alarm template.

9. Click **Select Actions**.

The **Alarm Template Editor** dialog box displays its **Select Actions** panel.

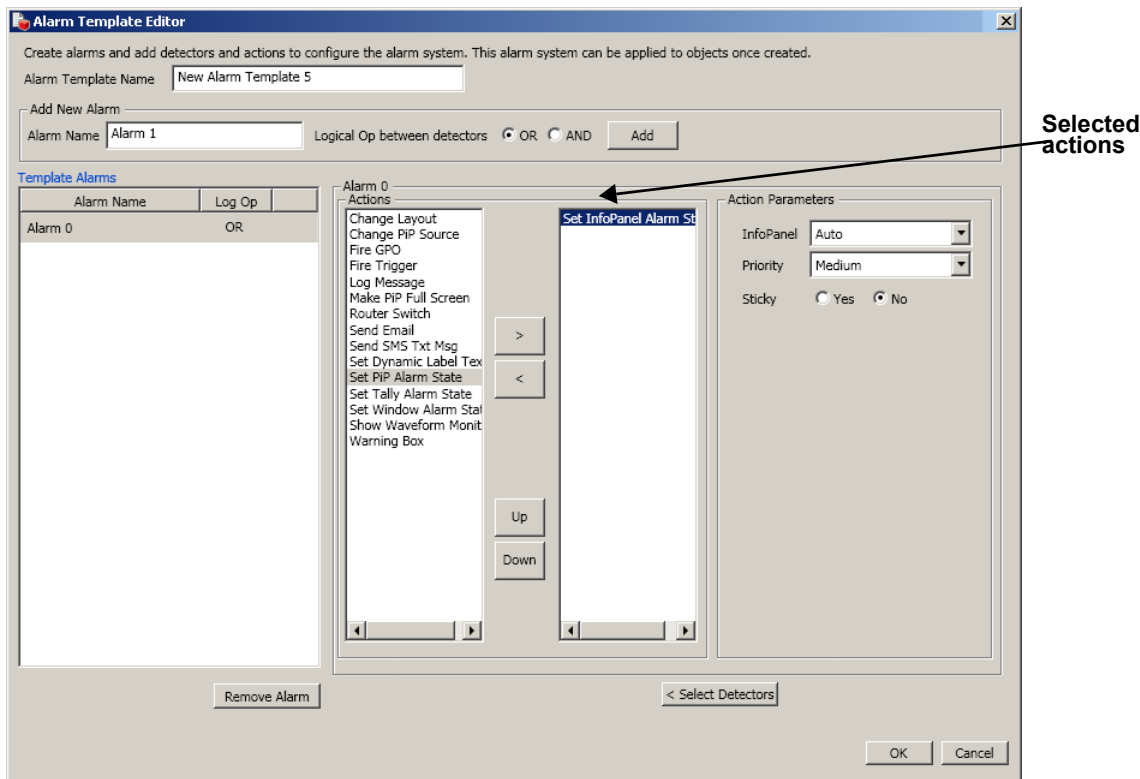


Figure 8-6. Select Actions Panel of Rules Editor Dialog Box

10. Click on an alarm in the **Alarms** column.11. From the **Actions** list, choose one or more actions from the left panel and click > to move it to the right panel.

To remove an item from the Select Actions list, click <.

You can move the selected item up in the list by clicking **Up**, or down in the list by clicking **Down**. Alarm actions are executed in the order they appear on the list.

When an item is highlighted in the **Selected Actions** list, you can configure it by completing the **Action Parameters** specific to that action.

12. Click **OK** to close the **Rules Editor** dialog box.13. Click **OK** to save the new template.

The Alarm Template Editor dialog box closes. The new alarm template appears in the **Available Alarm Templates** list.

Editing Alarm Templates

1. To edit an alarm template, select it in the **Available Alarm Templates** list, and then click **Edit**.

The **Alarm Template Editor** dialog box appears.

2. Do any of the following:
 - Change the name of the template.
 - Select an existing detector in the **Template Alarms** list, and then change any attribute of that detector.
 - Add or remove detectors.
 - Select an existing action in the **Template Actions** list, and then change any attribute of that action.
 - Add or remove actions on the Actions page.
3. Click **OK** to save your changes.

Applying an Alarm Template to a Layout Object

1. Select the layout object to which you want to apply alarm template.

You can select more than one object by holding down the CTRL key on the keyboard and clicking on each object that you want to include.
2. Select the **Alarms** tab on the **Properties** pane.
3. Select the appropriate template from the **Available Alarm Templates** list.

Click the + to expand each template to view the specific alarm conditions that are included in the template.
4. Do either of the following:
 - If you selected one layout object, click **Apply to Selected**.
 - If you selected more than one layout object, click **Apply to All**.

If objects already have alarms assigned to them when you apply an alarm template, the previously assigned alarm template is replaced.



Note

You can only apply entire templates to an object; however, you can remove any conditions once the template is applied.

5. In the **Alarms** list, you can:
 - Select an alarm to view the specific detectors that are included. In the area to the right of the Alarms list, you can change the alarm name and operator between detectors.
 - Select a detector and view or change its threshold values.
 - Add conditions and detectors.
 - Remove conditions and detectors (right click and choose **Remove** or **Remove All**).
 - View alarm actions.
 - Test alarm actions.
 - Add the alarm to the **Available Alarm Templates** list (this is a right-click option).

For more information about alarms and detectors, see “[Defining Alarms for a Layout Object](#)” on page 138.

Testing an Alarm

After a layout is published, you can test alarms by simulating a failed alarm.

1. Select the alarm that you want to test.



Note

Make sure that you select the alarm and not the detector.

2. Click and hold down the **Test Alarm** button.

The alarm response appears on the published layout object on the multiviewer’s output module as long as you hold the **Test Alarm** button down.

Testing an Action

After a layout is published, you can test alarm actions.

1. Select the alarm that you want to test.
2. Select the action you want to test.



Note

Make sure that you select the alarm and not the detector.

3. Click and hold down the **Test Action** button.

The alarm response appears on the published layout object on the multiviewer’s output module as long as you hold the **Test Action** button down.

Configuring Global Alarms

Global alarms allow a GPI or periodic trigger to cause an action that is not specific to any particular layout, and therefore stays present even when the multiviewer’s layout is changed. Layout Designer must be connected to a multiviewer to configure and view global alarms.



Note

Global alarms are only available when Layout Designer is connected to a Harris Multiviewer.

To configure global alarms, from the toolbar select **Rules > Global Alarms**.

This dialog box opens:

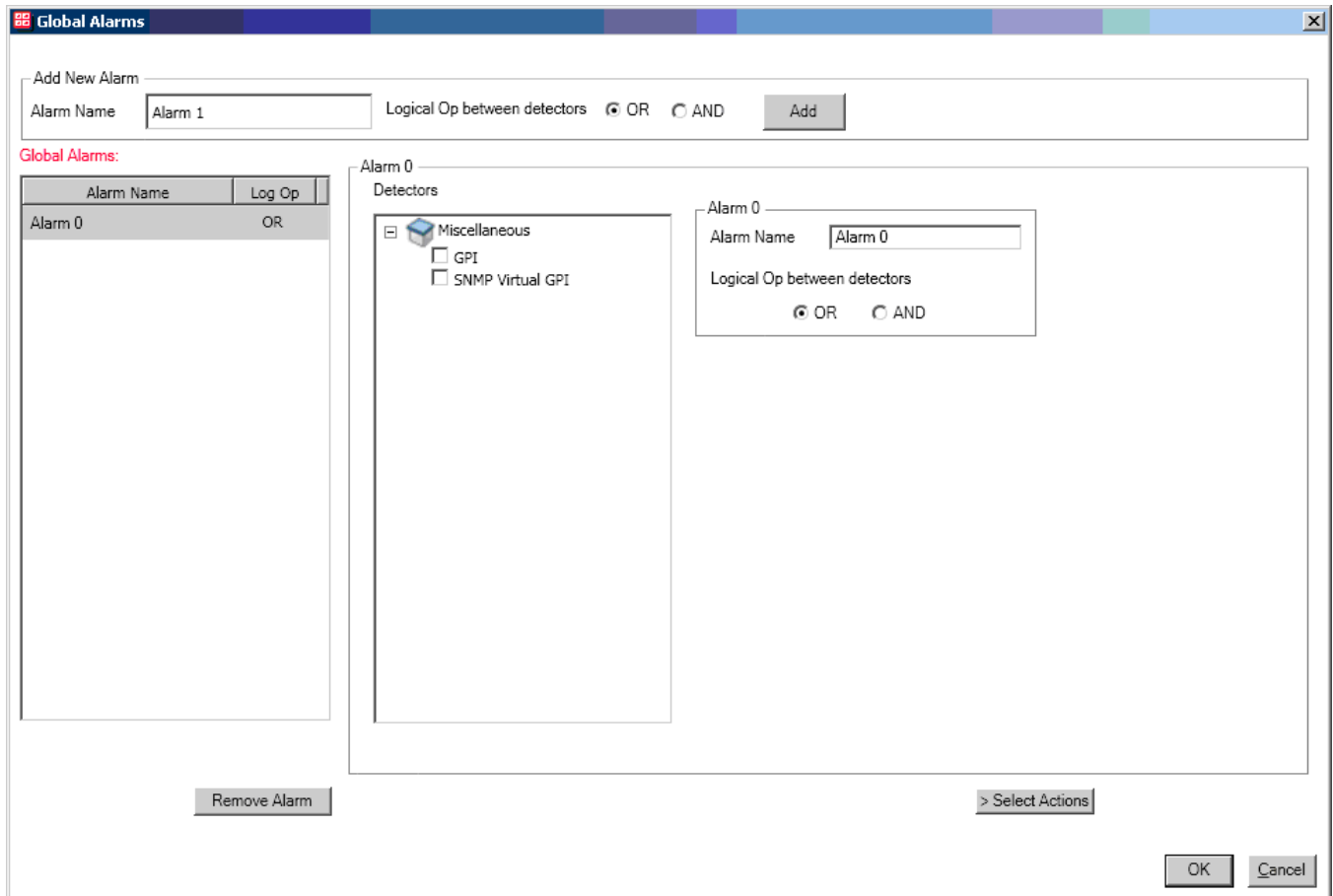


Figure 8-7. Global Alarm Detectors Dialog box

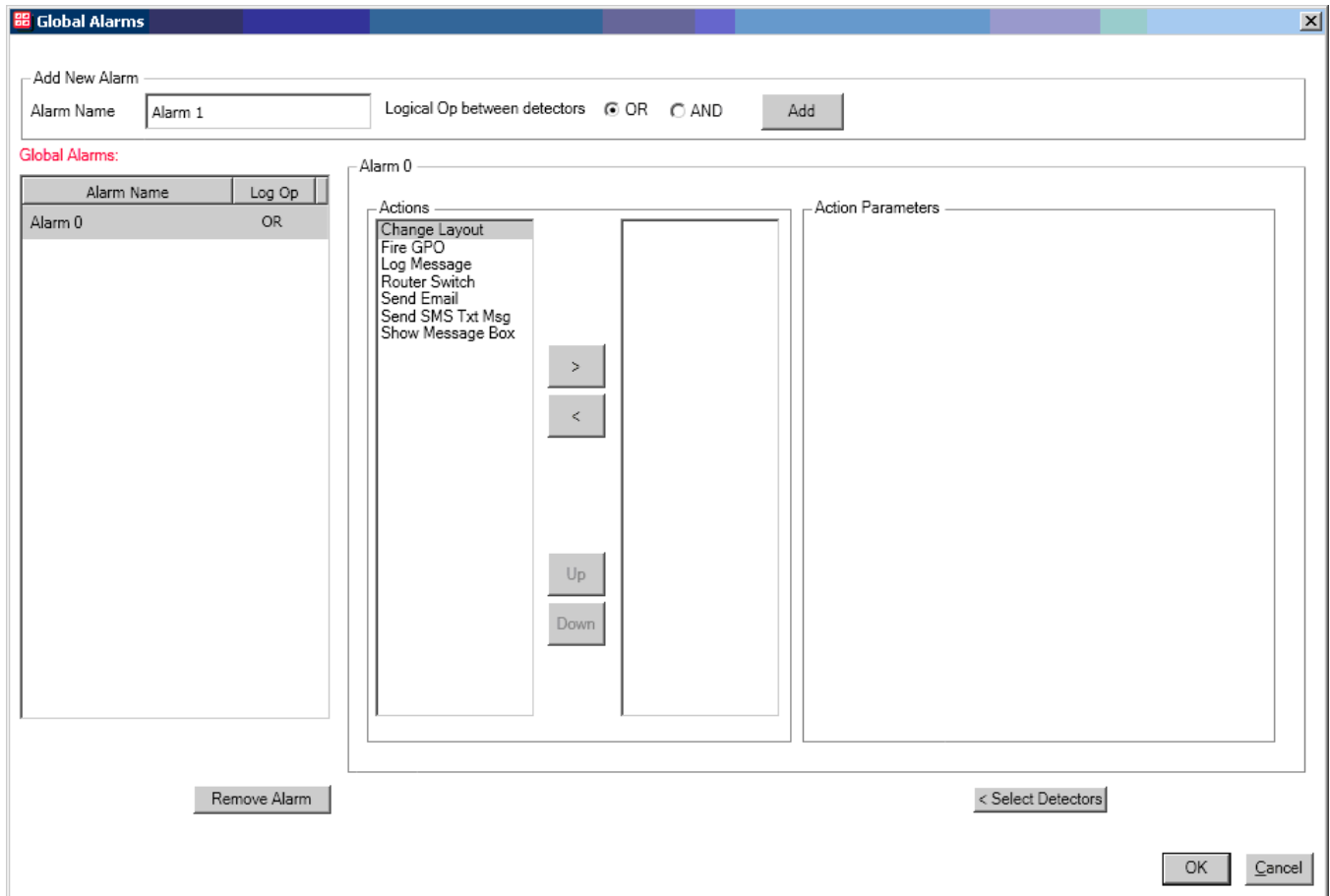
At any time, you can disable or enable an alarm, or delete the alarm from the system, using the buttons in the bottom left corner of the screen.

To create an alarm:

1. Enter a name in the **Alarm Name** field, and then choose **Or** or **And**, and click **Add**.
The alarm name appears in the **Alarm Name** listing.
2. Choose at least one alarm detector, and define the settings for that detector.

Table 8-5. Available Detectors for Global Alarms

Detector	Configurable Settings
GPI	Input number – The input on which the GPI is connected Delay – Time between the GPI data being received and the action being triggered
SNMP Virtual GPI	

3. Click **Select Actions**.**Figure 8-8.** Global Alarm Actions Dialog Box

4. Select at least one action to be triggered on this detector.

Table 8-6. Global Alarm Actions

Action	Description	Setting Options
Change layout	Switches the active layout on the multiviewer, while keeping any other alarms active.	Layout Name - Select the layout to change to.
Fire GPO	Activates a GPO.	GPO number - Choose the GPO that is activated
Log Message	Adds a predefined message to the system log, which is located in the alarm section of the logging server. See “Enabling Alarm Logging” on page 47 to configure alarm logging.	Message - a predefined message that is sent to the system log in the alarm section of the logging server Logging Priority - the level of the alarm -- info, warning, performance, error, critical, or fatal
Router Switch	Triggers an input's switch to a specific router level and destination.	Input - Specific input to be switched Output - Destination to be taken Level - Level to be taken

Table 8-6. Global Alarm Actions

Action	Description	Setting Options
Send email	Sends an Email with pre-written text to a specific recipient.	Recipient Address - email address that will receive a pre-defined email at this trigger Subject - Title of the mail to be sent Message Body - contents of the email to be sent
Send SMS Txt Msg	Sends a text message to a phone.	10 digit phone number - Phone that will receive automated text message at this trigger Wireless Carrier - Cell phone carrier's email address suffix Txt Msg Body - Contents of the text message to be sent
Show Message Box	Displays a warning or an error on the screen (depending on your settings), and puts a pre-defined message in that box. This message remains on the screen regardless of whether the layout changes.	Message - Contents of the message that will appear on a display at this trigger Type - Error or warning Display Number - The display that will receive the error or warning message

- Click **OK** to save the alarm and close the **Global Alarms** dialog box.
By default all global alarms are activated.

Configuring Layout Events and Global Events

Layout events and global events are not necessarily associated with an alarm action.

- A layout event is configured per layout. When it is created, it is available to the current layout only.
- A global event is configured per multiviewer. It is available to all layouts on the multiviewer.



Note

Global and layout events are only available when Layout Designer is connected to a Harris Multiviewer.

Creating an event:

1. From the toolbar, choose **Rules > Layout Events** or **Rules > Global Events**.

An **Event Configuration** dialog box opens.

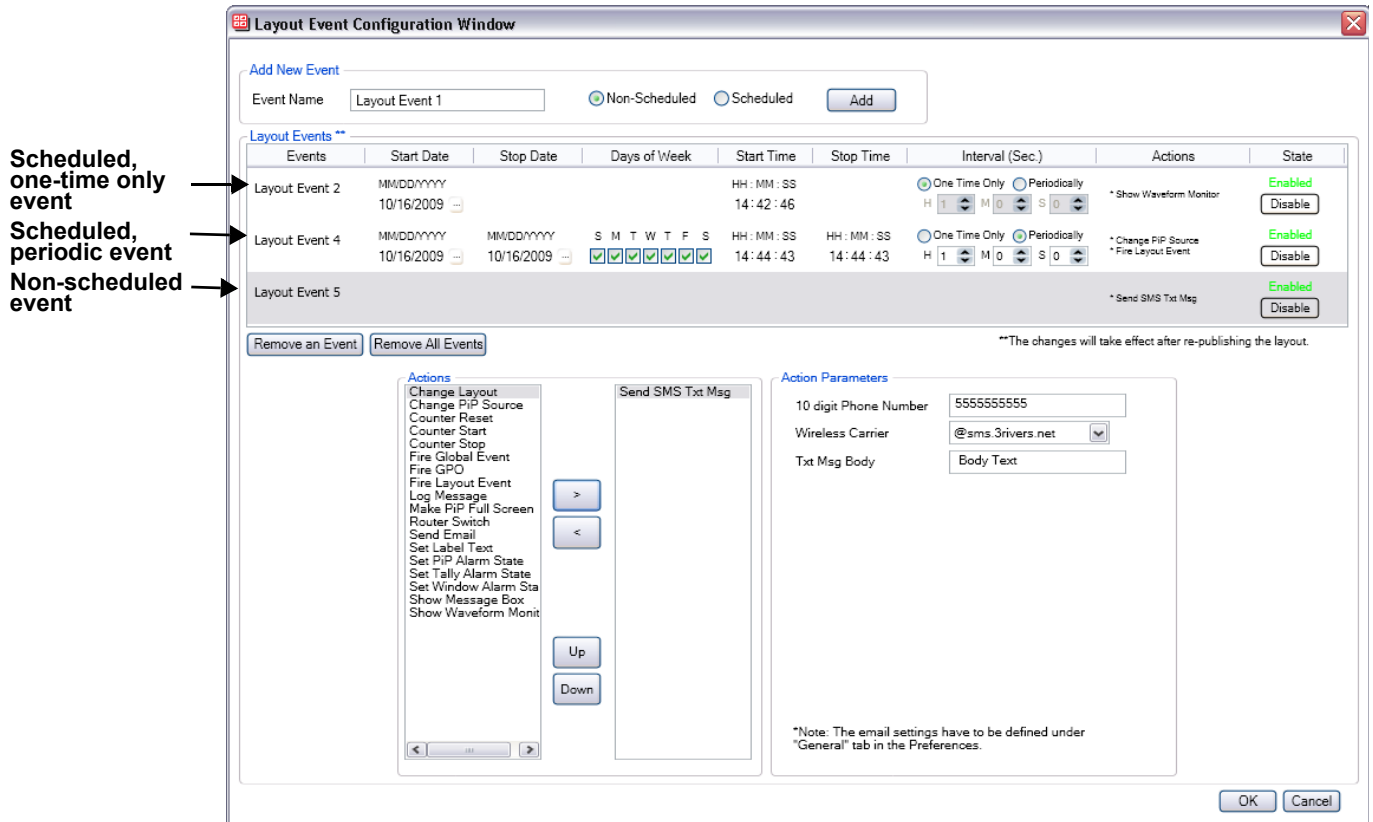


Figure 8-9. Events Configuration Dialog Box

**Note**

You can also open the **Layout Event Configuration** dialog box from the Layout property pane.

2. Enter a descriptive title for the event in the **Event Name** field, and then choose either **Non-Scheduled** or **Scheduled**.

You can use a **Non-scheduled** event as an action triggered by an event in an alarm.

Scheduled events can be configured to fire one time only or on a periodic basis.

3. Click **Add**.

The new event is added as a new row in the **Layout Events** or **Global Events** table.

4. Add the remaining necessary data in the new event's row in the **Layout Events** or **Global Events** table.

Depending on the type of event, the following data may be necessary:

- If your event is *non-scheduled*, no more data is necessary in the **Layout Events** section of the screen.
- If your event is *scheduled and one-time*, enter a date and time for the event to commence in the **Layout Events** table.
- If your event is *scheduled and periodic*, in addition to a start date and start time, enter an end date and an end time, and choose the days of the week for the event to take place on.

For *scheduled* events, beside **Time Zone Offset**, choose the time zone the change will take place in.

5. To add actions that will be triggered by the selected event, click on an action in the left field, and then click > to add actions to the event.

You can remove actions from the list on the right by clicking <.

If your event is a global event, in addition to the actions listed in “[Global Alarm Actions](#)” on page 152, the **Cycling Layouts** action is available. For this action, select the names of the layouts you want to include in the cycle. Select these layouts in the order you want them to appear. Selected items in the sequence display a number to indicate their position in the sequence. Also select the number of the display the layout will be cycled on.

If your event is a layout event, the action list contains all the alarms in “[Alarm Actions](#)” on page 144, except for the **Set InfoPanel Alarm State** action.

6. Complete the **Action Parameters** section for each action added.
See “[Setting Alarm Actions](#)” on page 144 for information on all the actions and their parameters.
7. Click **OK** to save the events and close the **Layout Event Configuration** dialog box.

Deleting Events

Deleting a Single Event

1. In the **Events Configuration** screen, select the row in the Layout Events table that represents the event you want to delete.
2. Click **Remove an Event**.

Deleting All Events from a Layout

1. In the **Events Configuration** screen, click **Remove all Events**.

Creating Info Panels

Add info panels to your layout to display data and/or alarms. Use the **Info Panel** tab of the **Properties** pane to define the data and the data source that will be provided on the info panel.



Note

Your layout must be in an **unlocked** state to add, move, or delete info panels. You can adjust properties of an info panel in a locked layout. See [“Locking and Unlocking Layouts” on page 58](#).

Info panels can be added to the Info Panels tab of the Library panel if they are free-standing. If an info panel is attached to a PiP or a window and that PiP or window is added to the Library panel, the info panel is added as part of that layout object.

Adding Info Panels to a Layout

Info panels that are added from the toolbar to a layout appear initially with no data. Once you have added an info panel, you can define the specific data to be included.

To add an info panel to a your layout:

1. Select **Insert > Info Panel**.

If a PiP is selected, the info panel will appear attached to the PiP. If no PiP is selected, the panel will float free. If the info panel is an independent layout object (not attached to a PiP), you can drag it on top of a PiP.

A **Snap to PiP x** message will appear if the info panel can be attached to the PiP. Each PiP can have one info panel. The **Snap to PiP x** message will not appear if a PiP already has an info panel attached to it. Nor will it appear if the info panel is not hovered over a PiP.

You can also add an info panel by dragging and dropping from the **Info Panels** library, or by dragging and dropping a window or PiP that contains an info panel from the **Windows** or **PiPs** library. Info panels added to a layout in this way bring any configuration with them.

Modifying Info Panel Properties

Each info panel has a set of individual properties that define its appearance and behavior, and which PiP it applies to in the layout.

To view an info panel's properties, select the info panel in the layout canvas, and then select the **Info Panel** tab of the **Properties** pane.

Figure 8-10. Info Panel Properties

Naming the Info Panel

Each info panel has a unique name that identifies it in the layout when it is associated with a PiP.

To name an info panel:

1. Select an info panel indicator in the layout.
2. Select the **Info Panel** tab on the **Properties** pane.
3. In the **Details** area, type a name for the info panel in the **Name** field.

Resizing and Moving an Info Panel

The **Position & Size** area of the Info Panel Properties is for information only.

To modify info panel size and position:

1. If the info panel is attached to a PiP or a window, right-click on the info panel and select **Info Panel > Enable Resizing Info Panel**.

If the info panel is not attached to a PiP or window, this step is neither available nor necessary.

2. Select and drag the info panel, or a corner or side of the info panel.
Info panels do not have to cover a portion of the PiP to maintain a relationship with the PiP.

**Note**

You can also drag a window or PiP that an info panel is part of. The info panel will move with any object it is attached to.

The **Left Position** value is the number of pixels from the left edge of the layout. The **Top Position** value is the number of pixels from the top edge of the layout.

If the info panel is free-floating (not connected to a PiP), as you drag it over a PiP a message **Snap to PiP x** will appear.

Only one info panel can be attached to a PiP. If the PiP already has an info panel attached, the **Snap to PiP x** message will not appear.

To move an info panel off a PiP:

1. Right-click the PiP that contains an info panel.
2. Select **Info Panel > Move Out**.
3. Click **Ok**.

You can now drag the info panel away from the PiP and drop it on another PiP, or treat it as an independent layout object.

To delete an info panel from a layout:

- If the info panel is attached to a PiP, right-click the PiP and select **Info panel > Remove**.
- If the info panel is part of a locked window, right click on the window and deselect **Lock Window**. Then right-click on the window again and select **Info panel > Remove**. Then right-click on the window again and select **Lock parent window**.
- If the info panel is free-standing, select the info panel and then press the **Delete** key.

Setting Info Panel States

You can assign different colors, behaviors, and alarm conditions to the indicators that are part of an info panel. The **Presence** info panel state determines the color of an indicator for CC, Teletext, and VChip rating. There are also three alarm states (**Alarm Low**, **Alarm Medium**, and **Alarm High**). You can create the following settings for each info panel state:

Primary color The primary color represents the color of the indicator for the level of the alarm.

To set info panel indicator states:

1. Select an info panel indicator in the layout.
2. Select the **Info Panel** tab on the **Properties** pane.

3. In the **States** area, click **Edit Info Panel Colors**.
The **Info Panel States** dialog box appears.

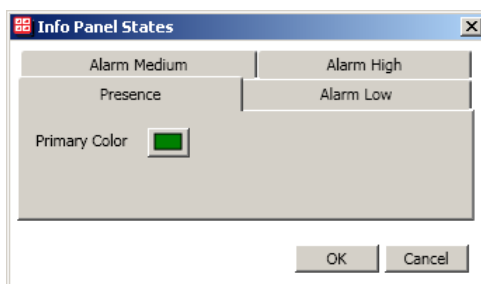



Figure 8-11. Info Panel States Dialog Box

4. To select the label text color, click the  icon to open the **Select a Color** dialog box.
5. To select a color, do one of the following:
 - Use the slider to select a color.
 - Enter the color values you want to use in one of the **ScRGB**, **sRGB**, or **Hexadecimal Notation** fields.

Your selected color is previewed below **Selected Color**. If required, use the **Opacity** slider to adjust the color's opacity value.

For more information on completing the Color Selector dialog box, see [“Setting Default Window Properties” on page 28](#).

6. Click **OK**.

Setting the Info Panel Source

In the Info Panel Source area, there are two options:

- | | |
|----------------------------|--|
| Use Source | Select this option if you want the info panel to always display the same source. |
| Track Source of PiP | <p>Select this option if the info panel is assigned to a PiP, and you want it to provide data for the info panel.</p> <p>By default, the PiP to which the info panel is snapped (if it is snapped to a PiP) will be the tracked source. To change the source PiP, enter a number in the field.</p> <p>Note: if you move out an info panel from a PiP and assign it to another PiP, the assigned source will automatically be the PiP the info panel is snapped to.</p> |

Setting Info Panel Indicators

In order for an alarm to appear for a PiP state, you need to do two things:

- Configure an alarm detector for that PiP in the PiP's **Alarms** Property page
- Configure a “Set InfoPanel Alarm State” action for that alarm

The Info Panel Indicators area contains the following options.

Table 8-7. Info Panel Indicators

Indicator	Type	Description
Format Change	Alarm	Indicates that the video input format has deviated from its defined standard
EDH Error	Alarm	Reports recurring EDH errors in the standard definition video signal
CRC Error	Alarm	Indicates that the internally calculated CRC value is different from the received CRC value
Video Lost	Alarm	Indicates that the multiviewer hardware can no longer detect a video signal from the video channel
Video Freeze	Alarm	Indicates that the input video image is frozen (static) according to user-defined frozen picture delay (duration), percent of frozen video in the frame, and amount difference between pixels percent tolerance
Video Black	Alarm	Indicates that the input video image is considered a black picture according to user-defined percentage non-black picture, delay (duration), and black level threshold values
A. Ch Missing	Alarm	Indicates that the audio channel is not present in the signal
A. Ch Peak	Alarm	Indicates that the input audio level of the audio channel is at or above the set upper threshold dB values for the user-defined period of time
A. Ch Low	Alarm	Indicates that the input audio level of the audio channel is at or below the set lower threshold dB values for the user-defined period of time
A. Ch Silence	Alarm	Indicates that the input audio level of the audio channel is at or below the set silence threshold dB value for the user-defined period of time
A. Grp (1–4) Missing	Alarm	Indicates that the specified audio group is not present in the signal
Audio Format	Alarm	Indicates that the audio format has switched from Dolby D, Dolby E, or PCM, or indicates any format change
Dolby E Program	Alarm	Indicates that the Dolby program format has deviated from the one specified
CC Missing	Alarm	Indicates that closed captioning (can be HD or SD) is not present in the incoming video stream
CC Update	Alarm	Indicates that closed captioning is not updating correctly in the incoming video stream
CC Invalid	Alarm	Indicates that the closed captioning data in the incoming video stream is not usable
VChip Missing	Alarm	Indicates that there is no V-chip data in the incoming video stream
VChip Mismatch	Alarm	Indicates that the V-chip data in the incoming video stream does not match the expected rating

Table 8-7. Info Panel Indicators *(Continued)*

Indicator	Type	Description
Teletext Missing	Alarm	Indicates that there is no teletext in the incoming video stream
Teletext Update	Alarm	Indicates that the teletext data in the incoming video stream is frozen
Teletext Invalid	Alarm	Indicates that the teletext data in the incoming video stream is not usable
VITC Missing	Alarm	Indicates that there is no VITC in the incoming video stream
WSS Missing	Alarm	Indicates that WSS is not present in the incoming video (should be present in SD625 only)
WSS Format	Alarm	Indicates that the WSS information has changed from the selected format
AFD Missing	Alarm	Indicates that AFD data is not present in the incoming video
AFD Format	Alarm	Indicates that the AFD information has changed from the selected format
GPI	Alarm	Indicates that a GPI input has been triggered
SNMP VGPI	Alarm	Indicates that a GPI trigger has been received through SNMP
Any Alarm	Alarm	Indicates that any tally connected to any other alarm has been triggered
Any Video	Alarm	Indicates that any of the alarms in the Video section of the list (above) have been triggered
Any Audio	Alarm	Indicates that any of the alarms in the Audio section of the list (above) have been triggered
CC	Indicator	Indicates that closed captioning is present
VChip	Indicator	Indicates the V Chip rating
Teletext	Indicator	Indicates that Teletext data is present
Audio Mon(1/2)	Indicator	Indicates which audio pair is being monitored. (Needs to be enabled in the info panel in order for it to be displayed when the audio monitor is enabled.)
Video Format	Indicator	Indicates the video format currently being input to the PiP.
Audio Type	Indicator	Shows the type of audio. Options include: <ul style="list-style-type: none"> • PCM • Dolby D • Dolby E • No audio
Last Alarm	Indicator	Shows the name of the last alarm that was triggered.
Alarm Time	Indicator	Shows the date (month/day) and time when the last alarm was triggered. It updates to show a different alarm if a different alarm is triggered, but if the same alarm is triggered more than once in sequence, then it shows the first time that alarm was triggered.

When you add indicators one at a time, they are added in the order you click them, from the top left corner on down, first filling the left side of the panel, and then starting again at the top right corner.

If the info panel is attached to a PiP when you add indicators, the indicators will always size themselves so that all indicators will fit within the boundaries of the PiP.

If the info panel is free-standing, the indicators will appear at the default size, and will fill first the left side of the info panel, then the right side. If the info panel is too small to fit all the indicators, the extras for which there is no space will pile on top of one another in the middle.



Figure 8-12. Info Panel Attached to a PiP in a Layout

If the info panel is free-standing, you can move indicators around by clicking on them and dragging within the borders of the info panel. If the info panel is connected to a PiP, right click on the PiP and choose **Info Panel > Unlock Info Panel Items**. You can now drag indicators within the boundaries of the info panel. Clicking outside the boundaries of the info panel locks the indicators in their new positions. When an info panel is unlocked, each info panel indicator can be resized individually.

When the layout is published to the multiviewer and an indicator is triggered, that indicator will appear on the layout. When no indicator is triggered, no indicators appear on the layout.

Setting Metadata Display Options

To adjust the options of a metadata element, click on that element in the Info Panel Metadata area of the Info Panel Properties pane.

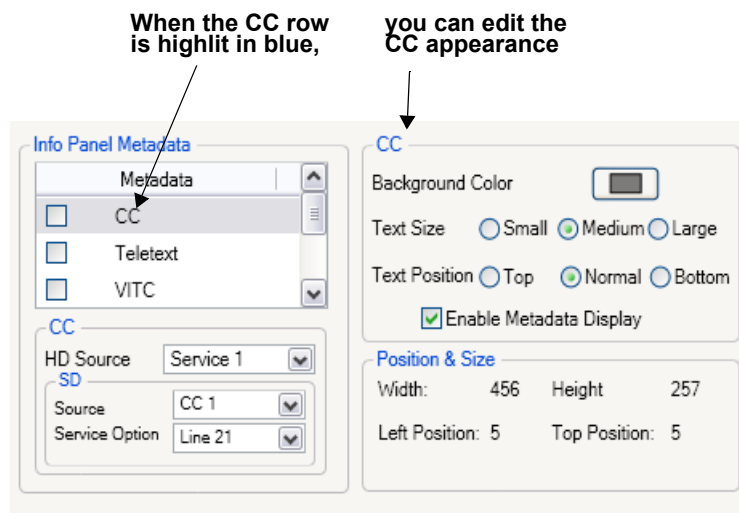


Figure 8-13. Info Panel Metadata Display Options

You can make the following metadata configurations for each Info Panel.

Table 8-8. Metadata Appearance Options

Control	Function
Background Color	The background color for the selected metadata element
Text Size	<ul style="list-style-type: none"> • Small • Medium • Large
Text Position	<ul style="list-style-type: none"> • Top - Places the metadata at the top of the screen, regardless of where it will actually appear when broadcast • Normal - (CC and Teletext only) Places the metadata as defined in the metadata to display it as it appears when broadcast • Middle - (VITC, DolbyE, WSS, and AFD only) Places the metadata in the middle of the screen, regardless of where it will actually appear when broadcast • Bottom - Places the metadata at the bottom of the screen, regardless of where it will actually appear when broadcast
Enable Metadata Display	When enabled, shows the actual metadata on the info panel display

Setting Info Panel Metadata Options

In the Info Panel Metadata area, there are several options, as described in [Table 8-9](#). To choose an option, click its check box. To configure the metadata information, click the option's text. Options appear below the Info Panel Metadata.

Table 8-9. Info Panel Metadata Options

Metadata Option	Function	Options
CC	Displays EIA608 and/or EIA708 closed captioning	HD Source: Service 1–7, CC 1–4, T 1–4 SD Level: CC 1–4, T 1–4 SD Service Option: Line 12, 21–22
Teletext	Displays WST or OP 47 teletext	Page: 000–999 Service Option: Line 6–22
VITC	Displays vertical interval timecode from SD sources and DVITC when embedded in the HD source	Type: LTC, VITC 1, VITC 2 Service Option: Line 6–22
Dolby E	Displays the select Dolby E's program information if Dolby E is present in the audio stream (Note: you cannot monitor Dolby E on the AES audio monitor)	Display Details: Low, Medium, High; see “Configuring Dolby E Monitoring” on page 166 Program: Select which program to monitor on the info panel (select from 1–8; you can only display two programs at a time) Audio Pairs: The pair that will be displayed; options are 1/2, 3/4, 5/6, 7/8, 9/10, 11/12, 13/14, 15/16, Disable (default) Use Discrete Audio: Determines whether the alarm applies to embedded audio or discrete (separate) audio
WSS	Displays the embedded WSS (Widescreen Signalling) format	Service Option: The line (ranges from 6-23) where WSS data should appear on your incoming video
AFD	Displays the embedded AFD (active format description) format	None

Check **Enable Metadata Indicators** when you need to adjust the position of metadata from its default location on the info panel. If the indicator is unchecked, the location of the repositioned indicator is lost since it is removed from the object. When checked, the multiviewer shows the indicators without losing the position of the indicators when they are enabled again.

Configuring AFD and WSS Monitoring

The following figure explains how Harris multiviewers display the various AFD and WSS options. WSS is relevant for SD625 only.

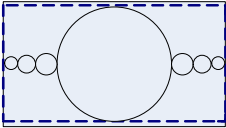
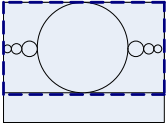
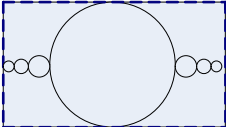
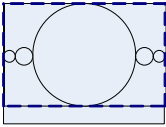
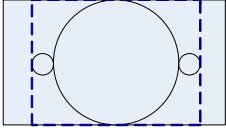
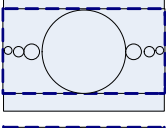
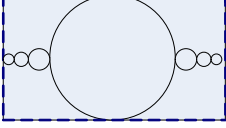
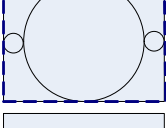
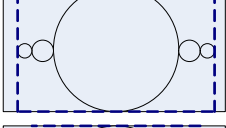
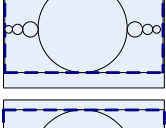
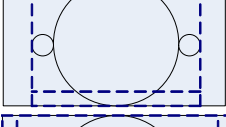
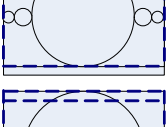
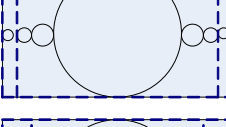
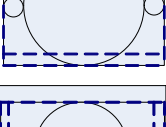
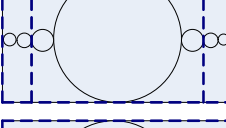
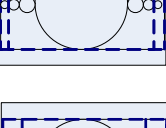
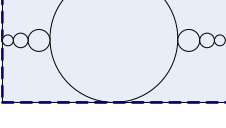
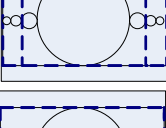
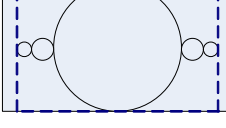
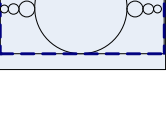
16:9 Frame	AFD	4:3 Frame	AFD	WSS
	>16:9		16:9 Top	16:9 Top
	Full Frame		14:9 Top	14:9 Top
	4:3 Center		>16:9	>16:9
	16:9 Protected		Full Frame	Full Frame 4:3
	14:9 Center		16:9 Protected	16:9 Center
	4:3 Alt 14:9		14:9 Center	14:9 Center
	16:9 Alt 14:9		4:3 Alt 14:9	Full Alt 14:9
	16:9 Alt 4:3		16:9 Alt 14:9	None
	16:9 Top		16:9 Alt 4:3	None
	14:9 Top		None	16:9 Anamorphic

Figure 8-14. AFD and WSS Display Options for 16:9 and 4:3

Configuring Audio Monitoring

There are two AES outputs on the Harris multiviewer for audio monitoring. The audio monitor needs to be enabled in the info panel in order for it to be displayed when the audio monitor is enabled.



Note

Dolby E cannot be monitored on the AES outputs.



Top indicator tells that AES monitor A1 is for AES 1 and is monitoring AES 1&2; bottom indicator tells that AES monitor A2 is for AES 1 and is monitoring AES 3&4.

Figure 8-15. Audio Monitoring on Info Panel

Configuring Dolby E Monitoring

Figure 8-16, Figure 8-17, and Figure 8-18 show the various displays available. Table 8-10 describes the items that appear in the different levels of Dolby E display.

```
Dolby E 8 Channels 5.1+2
[5.1] 3/2 LFE Dial=-31 dB
Bit=Voice Over LM=FilmS RF=FilmL
[2] 2/0 Dial=-1 dB
Bit=Music & Effects LM=MusicL RF=MusicS
```

Figure 8-16. Dolby E High Level Detail Display

```
Dolby E 8 Channels 5.1+2
[5.1] 3/2 LFE Dial=-31 dB
[2] 2/0 Dial=-1 dB
```

Figure 8-17. Dolby E Medium Level Detail Display

```
Dolby E 8 Channels 5.1+2
```

Figure 8-18. Dolby E Low Level Detail Display

Table 8-10. Dolby E Display Description Items and the Detail Levels They Appear In

Function	High	Medium	Low	Example Text
Program description text	Yes	Yes	Yes	Dolby E 8 channels
Program configuration	Yes	Yes	Yes	5.1+2
Channel designators	Yes	Yes	No	<ul style="list-style-type: none"> • [5.1] • [2]
Audio Coding mode	Yes	Yes	No	3/2 (See Table 8-12 on page 170)
Dialogue level	Yes	Yes	No	Dial=-31 dB
Bitstream mode	Yes	No	No	Bit=Voice Over (See Table 8-14 on page 171 for a complete list of supported options)
Low Frequency Effect mode	Yes	No	No	LFE (only displays when enabled)
Line mode profile	Yes	No	No	LM=FilmS (See Table 8-13 on page 170 for a complete list of supported options)
RF mode profile	Yes	No	No	RF=FilmS (See Table 8-13 on page 170 for a complete list of supported options)

Mapping a Dolby E Program to Audio Meters

[Table 8-11](#) outlines the Dolby Program options:

Table 8-11. Dolby E Program

Dolby E Program Configuration and Description		Mapping of Dolby Program to Audio Meter Channel							
5.1	One 5.1 channel program	Left Front	Right Front	Centre	LFE (Sub)	Left Surround	Right Surround		
Audio Meter Number		1	2	3	4	5	6		
5.1 + 2	One 5.1 channel and one stereo program	Left Front	Right Front	Centre	LFE (Sub)	Left Surround	Right Surround	Left Aux	Right Aux
Audio Meter Number		1	2	3	4	5	6	7	8
5.1 + 2 x 1	One 5.1 channel and two mono programs	Left Front	Right Front	Centre	LFE (Sub)	Left Surround	Right Surround	Mono 1	Mono 2
Audio Meter Number		1	2	3	4	5	6	7	8
4 + 4	Two four channel programs	Left	Right	Centre	Surround	Left 2	Right 2	Centre 2	Surround 2
Audio Meter Number		1	2	3	4	7	8	5	6

Table 8-11. Dolby E Program (Continued)

Dolby E Program Configuration and Description		Mapping of Dolby Program to Audio Meter Channel							
4 + 2 x 2	One four channel and two stereo programs	Left	Right	Centre	Surround	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2
Audio Meter Number		1	2	3	4	7	8	5	6
4 + 2 + 2 x 1	One four channel, one stereo and two mono programs	Left	Right	Centre	Surround	Left Ch 1	Right Ch 1	Mono 1	Mono 2
Audio Meter Number		1	2	3	4	7	8	5	6
4 + 4 x 1	One four channel and four mono programs	Left	Right	Centre	Surround	Mono 1	Mono 2	Mono 3	Mono 4
Audio Meter Number		1	2	3	4	7	8	5	6
4 x 2	Four stereo programs	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2	Left Ch 3	Right Ch 3	Left Ch 4	Right Ch 4
Audio Meter Number		1	2	7	8	3	4	5	6
3 x 2 + 2 x 1	Three stereo and two mono programs	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2	Left Ch 3	Right Ch 3	Mono 1	Mono 2
Audio Meter Number		1	2	7	8	3	4	5	6
2 x 2 + 4 x 1	Two stereo and four mono programs	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2	Mono 1	Mono 2	Mono 3	Mono 4
Audio Meter Number		1	2	7	8	7	8	5	6
2 + 6 x 1	One stereo and six mono channels	Left Ch 1	Right Ch 1	Mono 1	Mono 2	Mono 3	Mono 4	Mono 5	Mono 6
Audio Meter Number		1	2	7	8	5	6	3	4
8 x 1	Eight mono programs	Mono 1	Mono 2	Mono 3	Mono 4	Mono 5	Mono 6	Mono 7	Mono 8
Audio Meter Number		1	2	3	4	5	6	7	8
4 + 2	One four channel program and one two channel program	Left	Right	Centre	Surround	Left	Right		
Audio Meter Number		1	2	3	4	7	8		
4 + 2 x 1	One four channel and two mono programs	Left	Right	Centre	Surround	Mono 1	Mono 2		
Audio Meter Number		1	2	3	4	7	8		

Table 8-11. Dolby E Program (Continued)

Dolby E Program Configuration and Description		Mapping of Dolby Program to Audio Meter Channel							
3 x 2	Three stereo programs	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2	Left Ch 3	Right Ch 3		
Audio Meter Number		1	2	7	8	3	4		
2 x 2 + 2 x 1	Two stereo and two mono programs	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2	Mono 1	Mono 2		
Audio Meter Number		1	2	7	8	3	4		
2 + 4 x 1	One stereo and four mono programs	Left Ch 1	Right Ch 1	Mono 1	Mono 2	Mono 3	Mono 4		
Audio Meter Number		1	2	7	8	3	4		
6 x 1	Six mono channel program	Mono 1	Mono 2	Mono 3	Mono 4	Mono 5	Mono 6		
Audio Meter Number		1	2	7	8	3	4		
4	One four channel program	Left	Right	Centre	Surround				
Audio Meter Number		1	2	3	4				
2 + 2	Two stereo programs	Left Ch 1	Right Ch 1	Left Ch 2	Right Ch 2				
Audio Meter Number		1	2	7	8				
2 + 2 x 1	One stereo and two mono programs	Left Ch 1	Right Ch 1	Mono 1	Mono 2				
Audio Meter Number		1	2	7	8				
4 x 1	Four mono programs	Mono 1	Mono 2	Mono 3	Mono 4				
Audio Meter Number		1	2	3	4				
7.1	One 7.1 channel program	Left Front	Right Front	Centre	LFE (Sub)	Left Surround	Right Surround	Rear Left Surround	Rear Right Surround
Audio Meter Number		1	2	3	4	5	6	7	8
7.1 Screen	One 7.1 screen channel program	Left Front	Right Front	Centre	LFE (Sub)	Left Surround	Right Surround	Left extra	Right extra
Audio Meter Number		1	2	3	4	5	6	7	8

**Note**

If an info panel calls for a Dolby E program that does not exist on the input, the first Dolby E program information will be displayed instead. For example, if a layout calls for program number 3 and the input has a 2-program Dolby E program configuration of 5.1+2, the Harris multiviewer will display the first program information, program 1.

Dolby Audio Coding Modes

Table 8-12. Dolby Audio Coding Modes

Audio Coding Mode	Channel Ordering
1/0	C
2/0	L, R
3/0	L,C,R
2/1	L, R, S
3/1	L, C, R, S
2/2	L, R, Ls, Rs
3/2	L, C, R, Ls, Rs

Dolby Line Mode and RF Mode Options

Line mode and RF mode are two types of dynamic range control, which determine how the audio is decoded at the playback device.

- Line mode is typically used on decoders with six- or two-channel line-level outputs.
- RF mode is used on decoders that have an RF-remodulated output.

Both Line mode and RF mode have the options listed in [Table 8-13](#).

Table 8-13. Line Mode and RF Mode Options

Harris Multiviewer Display	Dolby Option
None	None
FilmS	Film, Standard mode
FilmL	Film, Light mode
MusicS	Music, Standard mode
MusicL	Music, Light mode
Speech	Speech

Bitstream Mode Options

Table 8-14. Bitstream Mode Options

Option	Function
Complete Main	Flags the bitstream as the main audio service for the program with all elements to form a complete audio program; may contain from one (mono) to six (5.1) channels
Music and Effects	Normally the main audio service for the program, minus a dialogue channel (different dialogue services associated with a single ME service can support multiple languages)
Visually Imp.	<ul style="list-style-type: none"> A single-channel containing a narrative description of the picture content to be decoded along with the main audio service or A complete mix of all program channels, comprising up to six channels
Hearing Imp.	<ul style="list-style-type: none"> A single-channel program containing audio that has been processed for increased intelligibility to be decoded along with the main audio service or A complete mix of all program channels, comprising up to six channels
Dialogue	<p>Provides a dialogue channel for a Music and Effects service</p> <ul style="list-style-type: none"> If the Music and Effects service contains more than two channels, the Dialogue service is limited to one channel if the Music and Effects service is two channels, the Dialogue service can be a stereo pair <p>The appropriate channels of each service are mixed together (requires special decoders)</p>
Commentary	An optional single-channel dialog program intended to convey additional commentary (may also be a complete mix of all program channels, comprising up to six channels)
Emergency	A single-channel service that is given priority in the decoder (the main service is muted when this service is present)
Voice Over	A single-channel service intended to be decoded and mixed to the Center channel (requires special decoders)
Karaoke	The Left and Right channels contain music, the Center channel has a guide melody, and the Left and Right Surround channels carry optional backing vocals

On-Screen Controls

On-Screen Menus

Once you have published your layouts to the multiviewer's output modules, each multiviewer provides you with the ability to access on-screen menus.

You can use a mouse connected to your multiviewer to access certain features using control menus on the output modules. For example, you can make a PiP go full screen, clear an alarm condition, or view PiP information. Alternatively, you can access the same control menus remotely from a computer that is running Layout Designer.

**Note**

You must have a mouse connected to your multiviewer to be able to use the on-screen menus. Alternatively, you can activate the remote mouse control from Layout Designer (for more information see [“Remote Mouse Control” on page 176](#)).

Use your mouse to right-click on an object or the background in the layout. A menu appears with different items, depending on where you have clicked. [Table 9-1](#) lists the various options that might appear.

**Note**

When you reach the end of a menu, it will restart again at the beginning.

Table 9-1. On-Screen Menu

Item	PIP	Audio Meters	Tally	Label or Empty Area of Canvas	Description
Select Video Source	X				Lists of all the possible PiP sources. This allows you to assign a different source to the selected PiP.
Full Screen	X				Causes the PiP to expand to the size of the screen. To turn off the full screen view, right-click the PiP, and then choose Revert to Layout .
PiP Information	X				<p>Lists attributes for the selected PiP, including</p> <ul style="list-style-type: none"> • Video standard • Aspect ratio • PiP source • PiP name • PiP number • Source number • PiP source name • PiP scale factor • Pixel aspect ratio • CRC or EDH error count • Stream ID • XViM board used to display the signal • XViM input channel being used to display the signal <p>This information can be useful for troubleshooting purposes.</p>
Monitor Audio	X				Choose the audio to monitor from a list of all the discrete and/or embedded audio options that are available for that window.
Disconnect VNC	X				PiP image reverts to a “no signal” picture (VNC PiPs only)
Connect VNC	X				Attempts to reconnect a PiP to a VNC server (VNC PiPs only)
Send CTRL+ALT+DEL	X				Opens the Windows Security dialog box on the VNC server, so you can lock the computer, restart, etc. (VNC PiPs only)
Display Scope	X				When Test and Measurement is available, this item displays a sub-menu that lists all the different modes that available for Test and Measurement. When you choose one, the PiP changes to display that option. If another PiP is currently displaying a scope, that PiP will revert to its previous mode. For more information, see “Test and Measurement” on page 104 .

Table 9-1. On-Screen Menu (*Continued*)

Item		PiP	Audio Meters	Tally	Label or Empty Area of Canvas	Description
Color Source		X				This item is appears on the on-screen display menu when Test and Measurement has been activated. Choose Monochrome to display the results in black and white, or From Video to display the results in the actual colors from the video.
Select Audio Source			X			Scroll and select from list of available audio sources
Audio Information			X			Displays source number and name, audio format type, and the audio channel that is being mapped to the audio meter
Reset Alarms		X		X		Clear an alarm state. (You can also clear alarms on the Layout property pane. See “Making Layout-Specific Settings” on page 67.)
Enable Alarms		X		X		When you choose this item, all of the alarm detectors that you defined for that PiP appear. You can select or clear (deselect) any detectors that appear in the list. If you did not define any alarm detectors for the selected PiP, none is listed. For more information about alarm detectors, see “About Monitoring Tools” on page 133.
Enable Alarm Conditions		X		X		When you choose this item, all of the alarm conditions that you defined for that PiP appear. You can select or clear (deselect) any conditions that appear in the list. If you did not define any alarm conditions for the selected PiP, none is listed. For more information about alarm conditions, see “Defining Alarms for a Layout Object” on page 138.
Recall Layout		X	X	X	X	Lists any layout that was published previously and allows you to select one to display on the output module.
Lock Display					X	Disables the display from accidental change of the layout. Recall Layout is not available when the display is locked.
Exit Multiviewer		X	X	X	X	Exits to the Multiviewer Control Panel.
Advanced	Reset layout	X	X	X	X	Disconnects all PiP sources for all displays and requires the user to recall all layouts
	Reset and Recall Layouts		X	X	X	Disconnects all PiP sources for all displays and recalls all layouts automatically
	Clear Messages		X	X	X	Acknowledges messages displayed by alarm rule message box. (You can also clear messages on the Layout property pane. See “Making Layout-Specific Settings” on page 67.)

Remote Mouse Control

If you do not have a mouse connected to your multiviewer, but you want to access the on-screen menus, you can activate remote mouse control from the computer that is running Layout Designer. (For more information about on-screen menus, see [“On-Screen Menus” on page 173.](#))

When this feature is activated, the mouse appears on the output module of the multiviewer that you have currently selected in Layout Designer. In addition, you cannot use the other features of Layout Designer until you deactivate the remote mouse control.

To activate remote mouse control:

1. In Layout Designer, click **Enable Control**.

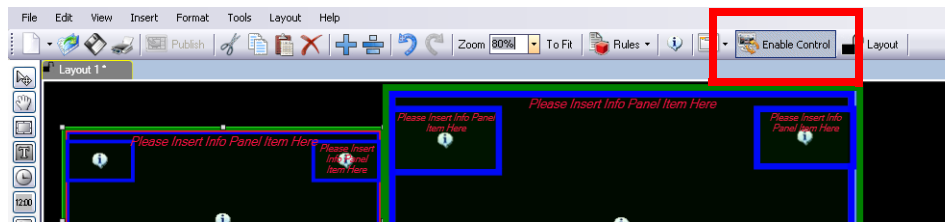


Figure 9-1. Location of the Enable Control Button

The mouse appears on the output module of the corresponding multiviewer. The other features of Layout Designer are unavailable.

To deactivate remote mouse control:

1. On the keyboard, press **ALT + F7**.

Controlling a VNC PiP

For information on creating VNC PiPs, see [“Selecting a PiP’s Input Source” on page 98.](#)

To take control of a VNC PiP:

1. Left-click inside the PiP.

To control a VNC clip from the multiviewer, your keyboard must be US English 101 key. Some special key sequences may not work.

To release control of a VNC PiP:

1. Do one of the following:
 - Hold down the left mouse button and then double-click the right mouse button.
 - On the keyboard, Press ALT+F7.

Controlling a Counter

To control a counter using on-screen controls on the Harris multiviewer, follow these steps:

1. Right-click on a counter.
2. Use the following controls:

Start - updates the counter to proceed with the linear countdown

Stop - stops and reports the current countdown time until further notice

Reset - re-initializes the counter using the original start, stop, blink, and alert times. Any rules that were active in the layout will still trigger the counter the same way as before.

To control the counter from Layout Designer, see “[Manually Controlling a Counter](#)” on page 130.

Using the Multiviewer Web Interface

You can use the Multiviewer Web interface to perform the following functions:

- Add users and control their access to aspects of the device
- Choose layouts on a display
- Change the source of PiPs in a layout
- Import and edit labels in a layout

If your browser does not have Silverlight installed, when you enter the IP address for the Harris Multiviewer, a page opens with a link to install Silverlight. Follow this link to download the installer, and then follow the instructions that appear on the screen.

If the PC does not have a valid Internet connection, download the installer from <http://silverlight.net/getstarted/silverlight3/>.

Starting the Multiviewer Web Interface

To start using the Multiviewer Web interface, follow these steps:

1. Type the Multiviewer’s IP address in your internet browsing software.
A **Login** dialog box appears.

2. Enter your login ID and password.

The default login ID is Admin, and there is no password associated with this login ID.

3. Click **OK**.

4. A screen similar to the following appears:

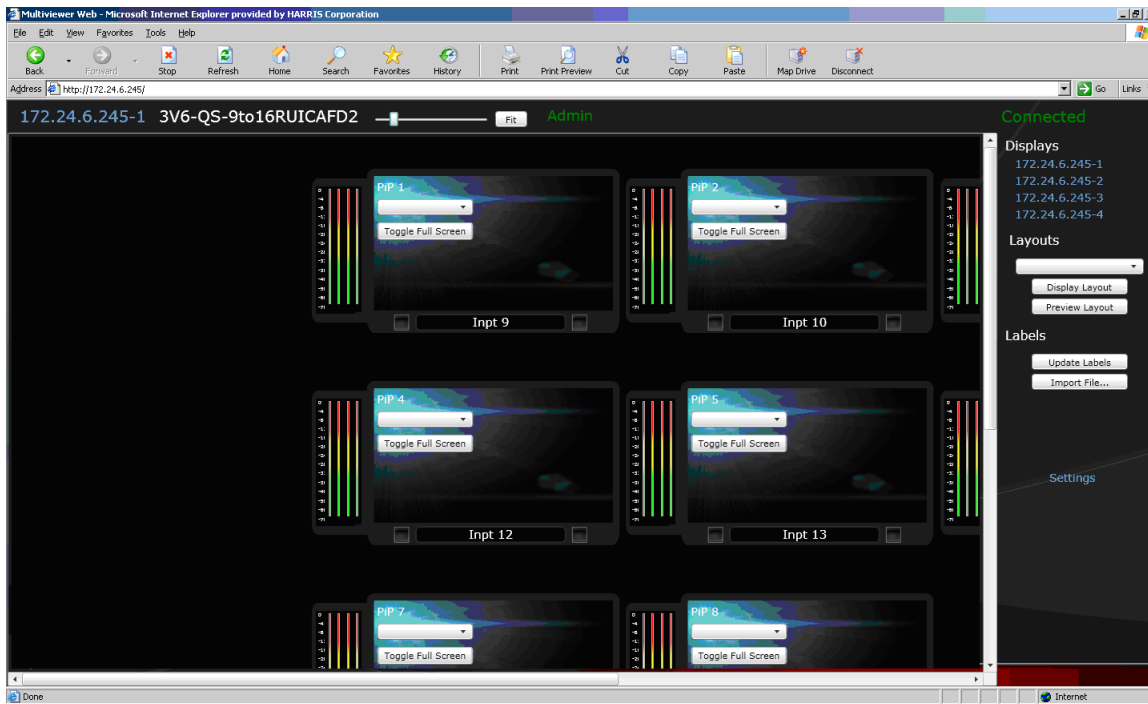


Figure 9-2. Multiviewer Web Interface

5. In the **Displays** section at the right of the screen, choose the display you would like to view.

The main portion of the screen updates to show the layout that is currently assigned to that screen.

At the top of the screen, drag the slider to the left and the right to make the layout larger and smaller, or click **Fit** to adjust the layout to the available screen area.



Note

You can view any PiP as full-screen on the Multiviewer by clicking **Toggle Full Screen**. Return to the normal layout display by clicking the same button again.

Controlling User Access to the Multiviewer Web Interface

1. Click **Settings**.

The **Settings Dialog** opens.

SettingsDialog

Settings

Display Names

Display 1 Name: 172.24.6.245-1

Display 2 Name: 172.24.6.245-2

Display 3 Name: 172.24.6.245-3

Display 4 Name: 172.24.6.245-4

User List

User Name	Password	Confirm Password	Display 1
Admin			<input checked="" type="checkbox"/>
Pat	<input checked="" type="checkbox"/>
NewUser 1			<input checked="" type="checkbox"/>

Figure 9-3. Multiviewer Web Interface Settings Dialog Box

2. Under **User List**, click **Add**.
A row is added in the **User List** table.
3. In the **User Name** field, enter a name.
4. In the **Password** field, enter a password for this user, and then enter the same password in the **Confirm Password** field.
5. For each display available at this IP address, place a check if you want this user to have access.
(Scroll to the right to see all the displays).
Two other options are also available on a per-user basis:

- **Enable Control**—Allows this user to control the selected displays. When unchecked, the user can view displays but not alter labels, PiP sources, etc.
 - **Allow Settings**—Gives this user administrative privileges.
6. Click **OK**.

Choosing a Layout

Under **Layouts** in the right of the screen, click the drop-down menu to choose a layout.

Display Layout—Sends the layout to the Multiviewer.

Preview Layout—displays a preview of the layout on the Multiviewer Web interface screen.

Changing PiP Sources in a Layout

You can change the source for any PiP by right-clicking on that PiP in a layout and choosing a new source from the menu that appears.

Importing and Editing Label Text

When you select the **Label** properties pane option **External Update (External Number)** for a label, the label can receive data from the Multiviewer Web interface. See [“Setting the Label Text Source” on page 120](#).

1. On the Multiviewer Web interface, click **Import File**.

The **Label Updates** dialog box appears.

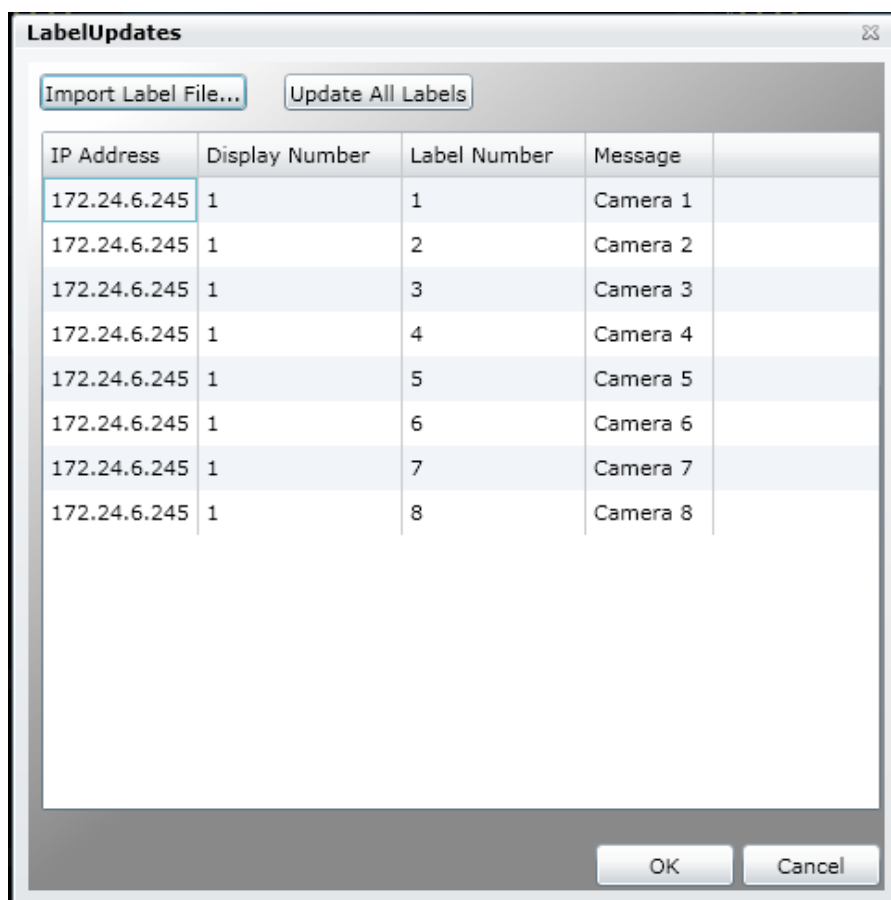


Figure 9-4. Label Updates Dialog Box

2. Click **Import Label File**, and then browse to the location of the *.csv file.
*.csv files can be created in Microsoft Excel. Your Excel file will normally have four columns, with contents to match the above figure, and a row for each label.

3. Click **OK** to import the label file.

The table updates to display all label text.

To make any necessary changes to the content of the label file, you can click in a field and then type new data.

Data in the table needs to be in the following format:

Table 9-2. Label Update Contents

Column	Contents
IP address	The IP address of the Multiviewer
Display Number	The number of display that the label is displayed on
Label Number	The number set by the label properties
Message	The text that appears in the label

If you build the data in another program, columns of data should be separated by commas, and each row of data should end in a carriage return.

4. Click **Update All Labels** to update the layout as it is displayed on the Multiviewer Web interface.
5. Click **OK** to close the **Label Updates** dialog box.
6. On the main Multiviewer Web interface, click **Update Labels** to send the changes to the Multiviewer display.

Editing Label Text Manually

1. On the main Multiviewer Web interface screen, click a label.
2. Enter text using a standard keyboard.
3. Click **Update Labels** to send the changes to the Multiviewer display.

Frequently Asked Questions

How Do I Access the Components Within my PiP?

If you cannot edit or alter the components within a PiP, this is usually because the components are locked.

To unlock the window, do one of the following:

- Right-click on the window and clear **Lock Window**.
- In the **Windows** tab of the **Properties** pane, clear **Lock Objects in Window**.

Can I Store and Recall PiP Properties?

If you spend a lot of time creating a PiP, you can use it for other PiP windows.

1. After you have created a window, right-click on the window, and then select **Add Window to Library**.

It will appear at the bottom of the **Library** panel under the **Windows** section.

2. Rename a window in the Library by double-clicking on the label under its preview image.
3. To populate more of these windows onto your layout, simply drag and drop them onto the layout page.
4. Set the input source by clicking on the “I” icon in the middle of the window.

Why Can't I Close All the Layouts?

You cannot close the first layout that opens when Layout Designer starts; it always stays open in Layout Designer.

What is the Behavior of the Undo Feature?

You cannot undo the following functions:

- Saving a layout
- Publishing a layout

- Downloading a layout
- Closing a layout
- Deleting a layout
- Unlocking a window
- Locking and restoring factory default for PiPs, windows, borders, and border styles

All other functions can be undone.

Index

A

- Add Harris multiviewer 39
- Add object to library button 10
- Adding multiviewers 38
- Advanced Configuration dialog box
 - description 41–45
 - opening 12, 17
- AFD
 - alarm detectors 137
 - alarm thresholds 141
 - display options 165
 - info panel indicators 161
 - marker on PiP 32, 97
 - metadata options 164
- Alarm conditions
 - enable 175
- Alarm notifications, email 28
- Alarm states on borders 92
- Alarm templates
 - creating 146
 - editing 148
- Alarms
 - detectors
 - description 136
 - reset 175
 - threshold values, description 141
- Alarms, global 150–153
- Align options 11
- Align tool 78
- Aligning PiPs in a layout 76–78
- Analog clock button 9, 14
- Animated borders 92
- Application menu 5, 6, 11
- Application status bar 5, 6
- Application toolbar 5, 6
- Aspect ratio
 - default 31
 - marker on PiP 32, 97
 - PiP 96
- Audio
 - on-screen information 175
 - source select 175

- Audio alarm detectors 136
- Audio meter button 10
- Audio meters 15
 - adding to a layout 113
 - appearance properties 114
 - color 114
 - creating 112–116
 - elements in a window 78–83
 - left/right 114
 - mapping 114
 - number of channels 114
 - on-screen context menu options 174–175
 - position 115
 - scale 114
 - setting appearance 115
 - show scales 114
 - size 115
 - transition points 115
- Audio phase 115
- Auto hide 23
- Auto Hide Library and Properties panes 23
- Auto lock window contents (default setting) 30
- Autoconnect to multiviewer 24

B

- Background, default 28, 30
- Blank layout 57
 - adding objects 71
 - button 7, 13
- Borders
 - colors, primary and secondary 92
 - default style settings 25
 - default width 30, 33, 34
 - effects configuration 90
 - elements in a window 78–83
 - properties 88–92
 - states, configuring 92
- Break window tool 8, 20
- Buttons
 - 5.1 audio meter 15
 - add object to library 10
 - audio meter 10

- blank layout 7, 13
- clock 9
- close 7
- connect to device 17
- copy 8
- cut 8
- delete 8
- delete device 17
- digital clock 9
- disconnect device 17
- edit device 17
- exit 7
- insert audio meter 15
- insert clock 14
- insert label 14
- insert PiP 9
- insert tally 9, 15
- library 9
- multiviewers 9
- open 7, 13
- pan 14
- paste 8
- properties 9
- publish 7
- redo 8
- undo 8
- zoom 13

C

- Clocks 9
 - 12-hour 126
 - 24-hour 126
 - adding to layouts 124–128
 - analog motion 125
 - color 126
 - elements in a window 78–83
 - font 126
 - hybrid 125
 - inserting 14, 73
 - position 128
 - reference source 127
 - resizing 128
 - time zone 127
- Clone object tool 13, 74
- Close button 7
- Closed captioning
 - alarm detectors 137
 - alarm thresholds 141
 - info panel indicators 161
 - metadata options 164
- Closing Layout Designer 7
- Color, border 89

- Configuration dialog box 7, 13
- Configuring multiviewers
 - Setup tab 38
- Connect to device button 17
- Context menus 7
 - canvas 19–22
 - controlling a counter 177
 - Multiviewers panel 17
 - on-screen controls 174–175
- Convert mode, AFD/WSS 32, 97
- Copy button 8
- Copy properties 10, 74
- Copyright information ii
- Counters 128–131
 - elements in a window 78–83
 - on-screen controls 177
 - tool 10
- Create a Window context menu item 81
- Creating
 - new layouts 51–58
 - new layouts using a blank layout 58
 - using Layout Creation Wizard 53–57
- Cropping PiPs 97
- Cropping, default settings for 31
- Customizing
 - layouts 65–67
- Cut button 8

D

- Default Layout Designer settings 25
- Default PiP properties 26–28
- Default properties for windows 28
- Default states, returning panels to 9
- Delete button 8
- Delete device button 17
- Description 1
- Deselect option 8
- Detectors. See Alarms.
- Device Configuration dialog box 38
- Device connection 38
- Digital clock button 9, 14
- Disconnect device button 17
- Disconnected message 16
- Discovery 39
 - Harris multiviewer 39
- Display devices 38
- Display mode, AFD/WSS 32, 97
- Displaying layouts 62–65
- Distribute objects tool 78
- Distribute options in layout 11
- Distributing PiPs in a layout 76–78
- Dolby E

- alarm detectors 136
- alarm thresholds 142
- audio meters 112, 113
- coding modes 170
- info panel indicators 160
- line mode options 170
- metadata options 164
- monitoring 166–171
- program codes 167
- RF mode options 170
- Down counter, configuring 130
- Drag object 71
- Dual display 41–45
- DVI output configuration 41–45

E

- Edit device button 17
- Edit menu 8
- email alarm notifications 28, 144
- Events
 - global 153–155
 - layout 153–155
- Exit button 7
- External device configuration 44
- External LTC
 - clock reference 127
 - counter reference 130
- External update, label 181

F

- Factory recall 25
- Features 1
- File menu 7
- Fit to screen 9, 26
- Flashing border 92
- Float Library and Properties panes 22, 23
- Float windows 23
- Font, label 122
- Format menu 10, 12

G

- Global alarm detectors 138
- Global alarms 150–153
- GPI
 - alarm detector 137
 - info panel indicator 161

H

- Hardware requirements 3
- Height, default (PiP) 31

- Hide Library and Properties panes 22, 23
- Hide options 22

I

- Info panels 50, 156–165
 - add to library 10, 18, 36
 - adding to layout 156
 - alarm actions 145
 - alarm target 138, 144
 - as part of a window 78
 - assigning states 158
 - audio monitoring 114
 - border styles 88
 - button in tool palette 15
 - context menu options 21
 - Dolby E display 166
 - elements in a window 78–83
 - in layout 71
 - indicators 159–162
 - properties 76
 - tool icon 10
- Input source
 - binding to UMD address 45
 - PiP 98
- Insert audio meter 15
- Insert clock button 14
- Insert label button 14
- Insert menu 9
- Insert object to layout 73
- Insert PiP button 14
- Insert tally button 15
- Installing Layout Designer 4, 4
- Internal clock reference 127
- IP address 38
 - changing using Navigator 43
 - configuration 43

J

- JLCooper eBOX configuration 44

L

- Label Button 9
- Label properties 181
- Labels
 - elements in a window 78–83
 - font 122
 - inserting 14, 73
 - modifying properties 119
 - on-screen context menu options 174–175
 - position 123, 129
 - scrolling properties 123

- scrolling speed 123
- size 123, 129
- text color 122, 159
- track PiP source 121
- UMD text 121
- Layout
 - recall 175
- Layout canvas 5, 6, 15
- Layout Creation Wizard 53–57
 - opening 7, 13
- Layout objects 50, 69–71
 - adding to a blank layout 71
 - defining order of 21
 - definition 69
 - properties 71
- Layout properties 65–67
 - modifying 66
 - viewing 65
- Layouts 65–67
 - adding object 69–73
 - creating new 51–58
 - creation work flows 51–58
 - displaying and publishing 62–65
 - properties 65–67
 - saving as layout files 59
 - specifying margins for printing 7
 - switching on multiviewer 180
 - typical layout 50, 69–71
- Libraries 5, 6, 35–36
 - adding new objects 36
 - adding objects from 71
 - adding objects to canvas from 72
 - default settings 25
 - library button 9
 - multiviewers 17
 - setting view options 22–23
- Lock display 175
- Lock objects in window 30
- M**
- Margins, specifying for printing 7
- Maximum number of inputs, default 31
- Memory requirements 3
- Menus
 - application 12
 - context 19–22
 - Edit 8
 - File 7
 - Format 10, 12
 - Insert 9
 - Multiviewers panel 17
 - View 9
- Metadata
 - alarm detectors 137
 - display options 163
 - enable indicators 164
 - info panel options 164
- Microsoft .Net framework 4
- Microsoft Windows Vista 3
- Microsoft Windows XP 3
- Minimum system requirements 3
- Monitor audio
 - on-screen options 174
- Monitor, SXGA 4
- Mouse
 - activating remote control 176
 - manipulation of objects 75
- Moving light border 92
- Multiviewer configuration
 - dialog box 38
 - opening 8, 17
- Multiviewers
 - device connection 38
 - displaying and publishing layouts 62–65
 - library 17
 - panel 16–17
 - rebooting 17
 - restarting 17
 - shutting down 17
 - supported hardware 3
- Multiviewers button 9
- Multiviewers panel 5, 6, 16–18
 - toolbar 16
- N**
- Navigator
 - changing IP addresses 43
 - controlling counters 131
 - PiP naming in 103
 - publishing layouts 2
- Network Time Protocol (NTP) 46
- NUCLEUS
 - PiP names in 103
 - publishing layouts 2
 - switching video sources 95
- O**
- Object properties 71
 - copying and pasting 20, 74
 - setting as a group 76
- Objects
 - deselect 8
 - group properties 76
 - removing like objects from a group 76

- select all 8
- On-screen control
 - activating remote mouse control 176
 - on-screen menus 173
- On-screen menus 173
- Opening a layout 7, 13
- Operating system 3
- Order context menu options 21
- Output display devices 41–45
- Output resolution, default 30
- Overview 1

P

- Pan button 14
- Panels
 - Library 18
 - multiviewers 16–17
- Paste button 8
- Paste properties 10, 74
- Paste selected properties 10
- Phase meters 114, 115
- PiP properties 71–102
 - copying and pasting 74
 - default 30
 - modifying 95–102
 - setting default 26–28
- PiPs
 - adding to library 21, 36
 - aligning and distributing 76–78
 - aspect ratio 96
 - choosing sources 180
 - cropping 97
 - elements in a window 78–83
 - formatting in a layout 73–78
 - input source, selecting 98
 - insert PiP button 9
 - inserting 14, 73
 - modifying 95–102
 - on-screen context menu options 174–175
 - on-screen info 174
 - positioning 102
 - properties 71–102
 - resizing and moving 102
 - size 96
 - VNC. See VNC PiPs.
- PiPs library 18
- Position, labels 123, 129
- Positioning PiPs in canvas 102
- Preferences
 - factory recall 25
 - general 24–25
 - returning panes to defaults 9

- software 24–34
- window, opening 8
- Printing, specifying margins 7
- Processor requirements 3
- Product description 1
- Properties 71
 - borders 88–92
 - default PiP 26–28
 - info panels 156
 - layout 65–67
 - pane 19
 - paste 10
 - PiP 71–102
 - selected 10
- Properties button 9
- Properties pane 5, 6, 19, 19
 - setting view options 22–23
- Properties, copy 10
- Publish button 7
- Publishing layouts 62–65
 - from layout files 65
 - from multiviewer hardware 63
- Purchasing user guides vii

Q

- Quad display 41–45

R

- RAM requirements 3
- Reboot multiviewer 17
- Recall layout 175
- Redo button 8
- Redo levels 24
- Remote mouse control 176
- Requirements, system 3
- Resizing and moving PiPs 102
- Resizing layout objects 75
- Resolution, monitor 4
- Restart multiviewer 17
- Revision history, user guide vii
- RSS feed 121

S

- Safe area (marker on PiP) 32, 97
- Saving 59
 - layouts as layout files 59
 - overwrite preferences 25, 26
- Scopes
 - configuration 104–109
 - display 174
- Scrolling properties on labels 123

- SDI configuration 41–45
- Select all option 8
- Selected properties, paste 10
- Selection tool 14
- Setting default PiP properties 26–28
- Setting general preferences 24–25
- Setup tab 38
- Shortcut keys 7
- Show phase meter 115
- Size, labels 123, 129
- SNMP control of counters 131
- SNMP virtual GPI trigger 138
- Software 4
 - installation 4
 - preferences 24–34
- Software installation 4
- Spotlight effect 92
- Supported hardware 3
- Supported operating system 3
- Sync signal calibration 42
- Synchronizing time 46
- System requirements 3

T

- Tally indicators
 - assigning states 118
 - creating 116–119
 - elements in a window 78–83
 - insert button 9, 15
 - modifying 116, 156
 - moving 117
 - naming 117
 - on-screen context menu options 174–175
 - resizing 117
 - setting the source 91, 119, 159
 - shape 117
- Teletext
 - alarm detectors 137
 - alarm thresholds 141
 - info panel indicators 161
 - metadata options 164
- Test and Measurement
 - color source select 175
 - configuring
 - global settings 109
 - individual PiPs 108
 - description 104–107
 - display mode options 108
- Test multiviewer connection 39
- Text, importing 181
- Threshold values description 141
- Time synchronization 46

- Time zone 127
- Timing signal calibration 42
- Tool palette 124, 129
- Tools palette 14
 - adding objects from 73
- Tools pane 5, 6
- Trademarks and copyrights ii
- Transition border 92
- Triggers
 - for counters 144
 - with counters 131

U

- UMD address
 - binding to input source 45
 - labels 121
- Undo button 8
- Undo levels 24
- Uninstalling Layout Designer 4
- Up/down counter tool 10
- Up/down counters 128–131
- User access, web interface 179
- User guide vii
 - purchasing vii
 - revision history vii

V

- V-chip
 - alarm detectors 137
 - alarm thresholds 141
 - info panel indicators 161
 - rating indicator 143
- Vectorscopes
 - configuration 104–109
 - display 174
- Version information 46
- Video alarm detectors 136
- Video source
 - selecting 174
- View menu 9
- View options 22
- Virtual GPI
 - info panel indicator 161
- Virtual GPI alarm detector 138
- VITC
 - alarm detectors 137
 - alarm thresholds 141
 - clock reference 127
 - info panel indicators 161
 - metadata options 164
- VNC PiPs
 - on-screen controls 176

selecting a source 99

W

Warranty information ii

Waveforms

configuration 104–109

display 174

Web interface 177–182

Width, default (PiP) 31

Window library 18

Windows 78–83

adding to library 21, 36, 81

background color/graphic 83, 86

break 80, 81

bring to front 8

create 8, 21, 80, 81

defaults 28

drag 80

lock 8, 21

lock objects 82

modifying properties 80, 82

naming 82

positioning 83

resizing 83

unlock objects 82

Windows Vista 3

Windows XP 3

Windows, break 8

Wizard, layout creation 7, 13, 52

Workspace 6–36

customizing 22–23

WSS

alarm detectors 137

alarm thresholds 141

display options 165

info panel indicators 161

marker on PiP 32, 97

metadata options 164

Z

Zoom button 9, 13

