Imagine COMMUNICATIONS™

Installation And Operation Manual

Platinum™ SX Hybrid

HView SX Pro Multiviewer
Platinum and IP3 Output Module

Edition E

175-100339-00

Publication Information

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.

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Contents

Preface

Manual Information

Purpose

This manual provides information on the features and applications for the HView SX Pro.

Audience

This manual is written for engineers, technicians, and operators responsible for installation, setup, maintenance, and/or operation of the product, and is useful to operations personnel for purposes of daily operation and reference.

Revision History

Table P-1 Revision History of Manual

Edition	Date	Comments
A	May 2012	Preliminary release
B	August 2012	Official product release
C	October 2012	Minor corrections to content
D	December 2012	IP3 support; coincides with release 1.1 of the HView Designer software.
E	July 2013	Coincides with release 2.0 of the HView Designer software

Writing Conventions

To enhance your understanding, the authors of this manual have adhered to the following text conventions:

Table P-2 Writing Conventions

Term or Convention	Description
Bold	Indicates dialog boxes, property sheets, fields, buttons, check boxes, list boxes, combo boxes, menus, submenus, windows, lists, and selection names
Italics	Indicates email addresses, the names of books or publications, and the first instances of new terms and specialized words that need emphasis

Table P-2 Writing Conventions

CAPS	Indicates a specific key on the keyboard, such as ENTER, TAB, CTRL, ALT, or 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 within the electronic document or elsewhere
Internet address	Indicates a jump to a website or URL
	Indicates important information that helps to avoid and troubleshoot problems

Obtaining Documents

Technical documents can be viewed or downloaded from our website. Alternatively, contact your Customer Service representative to request a document.

Unpacking/Shipping Information

Unpacking a Product

All products have been carefully inspected, tested, and calibrated before shipment to ensure years of stable and trouble-free service.

1. Check the equipment for any visible damage that may have occurred during transit.
2. Confirm that you have received all items listed on the packing list.
3. Contact your dealer if any item on the packing list is missing.
4. Contact the carrier if any item is damaged.
5. Remove all packaging material from the product and its associated components before you install the unit.

Returning a Product

In the unlikely event that a product fails to operate properly, please contact our Customer Service Department to obtain a Return Authorization (RA) number, then send the unit back for servicing.

Keep at least one set of original packaging in the event that a product needs to be returned for service. If the original package is not available, you can supply your own packaging as long as it meets the following criteria:

- The packaging must be able to withstand the product's weight.
- The product must be held rigid within the packaging.
- There must be at least 2 in. (5 cm) of space between the product and the container.
- The corners of the product must be protected.

If the product is still within the warranty period, we will return it to you by prepaid ground shipment after servicing.

Standards

There are three sets of standards used in the development of the HView SX Pro product line: product standards, compliance standards, and safety standards.

Product Standards

The following product standards apply to the HView SX Pro output module. Please reference the pertinent standard for more information.

Professional Video

SMPTE 259M
SMPTE Standard for Television - 10-Bit 4:2:2 Component and 4fsc Composite Digital Signals - Serial Digital Interface

SMPTE 292M
SMPTE Standard for Television - Bit-Serial Digital Interface for High Definition Television Systems

SMPTE 344M
SMPTE Standard for Television - 540 Mb/s Serial Digital Interface

DVB-ASI
Digital Video Broadcasting Interfaces for CATV/SMATV Headends and Similar Professional Equipment

SMPTE-170M
For Analog Video Signal quality

FCC 73.699
U.S. Federal guidelines for NTSC analog composite video

ITU-R.BT 470
Guidelines for PAL analog composite video

ITU-R BT601-4
For Serial Digital Video

SMPTE 296M
SMPTE Standard for Television - 1280x720 Progress Image Sample Structure - Analog and Digital Representation and Analog Interface

SMPTE 274M
SMPTE Standard for Television - 1920x1080 Image Sample Structure, Digital Representation and Digital Timing Reference Sequences for Multiple Picture Rates.

SMPTE 424M
SMPTE Standard for Television - 3 Gb/s Signal/Data Serial Interface

DVI 1.0
Digital Visual Interface 1.0, Digital Display Working Group (DDWG) (www.ddwg.org).

SMPTE 12M
SMPTE Standard for Television - Audio and Film - Time and Control Code

Digital Audio

AES3-2003
AES Recommended Practice for Digital Audio Engineering - Serial Transmission Format for Two-Channel Linearly Represented Digital Audio Data

AES3id-2001
AES Information Document for Digital Audio Engineering -Transmission of AES3 Formatted Data by Unbalanced Coaxial Cable

SMPTE 276M-1995
SMPTE Standard for Television - Transmission of AES-EBU Digital Audio Signals Over Coaxial Cable

PT-PS Power Supply

Safety
TUV approved to latest revision of UL 60950-1 and CSA 22.2 complete with CB Report with all country deviations[1]

CE Mark
EMC Compliance tested under EN 55103-1, 2 as a Class A Device in an E4 environment

NEBS
Level 3 Certification, Type 4 Environment, SBC Special Requirements, AT&T NEDS

Other Interfaces

IEEE 802.1 (Ethernet)
CSMA/CD Access Method

RS-232 (TIA-232-F)
Interface Between Data Terminal Equipment and Data Circuit-Terminating Equipment Employing Serial Binary Data Interchange

Compliance Standards

EMC Compliance Standards

The following EMC compliance standards apply:

- EN 50081-1
- EN 55022
- EN 50082-1
- IEC 1000-4-2 1995-01
- IEC 801-3 1984
- IEC 1000-4-4 1995-01
- Part 15 of the FCC Rules
- ICES-003 of the Canadian Department of Communications

1. A total of 8 PT-PS power supplies can be used in the Platinum frame. TUV will test for frame leakage currents using all 8 power supplies operating simultaneously to determine the total frame leakage current. This total frame leakage current value must meet EN60950 and CSA 22.2.

Restriction on Hazardous Substances (RoHS) Compliance

Directive 2002/95/EC—commonly known as the European Union (EU) Restriction on Hazardous Substances (RoHS)—sets limits on the use of certain substances found in electrical and electronic equipment. The intent of this legislation is to reduce the amount of hazardous chemicals that may leach out of landfill sites or otherwise contaminate the environment during end-of-life recycling. The Directive, which took effect on July 1, 2006, refers to the following hazardous substances:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent Chromium (Cr-V1)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE)

In accordance with this EU Directive, all products sold in the European Union will be fully RoHS-compliant and "lead-free." (See our website for more information.) Spare parts supplied for the repair and upgrade of equipment sold before July 1, 2006 are exempt from the legislation. Equipment that complies with the EU directive will be marked with a RoHS-compliant emblem, as shown in **Figure P-1**.

Figure P-1 RoHS Compliance Emblem

Waste from Electrical and Electronic Equipment (WEEE) Compliance

The European Union (EU) Directive 2002/96/EC on Waste from Electrical and Electronic Equipment (WEEE) deals with the collection, treatment, recovery, and recycling of electrical and electronic waste products. The objective of the WEEE Directive is to assign the responsibility for the disposal of associated hazardous waste to either the producers or users of these products. Effective August 13, 2005, producers or users will be required to recycle electrical and electronic equipment at end of its useful life, and may not dispose of the equipment in landfills or by using other unapproved methods. (Some EU member states may have different deadlines.)

In accordance with this EU Directive, companies selling electric or electronic devices in the EU will affix labels indicating that such products must be properly recycled. (See our website for more information.) Contact your local sales representative for information on returning these products for recycling. Equipment that complies with the EU directive will be marked with a WEEE-compliant emblem, as shown in **Figure P-2**.

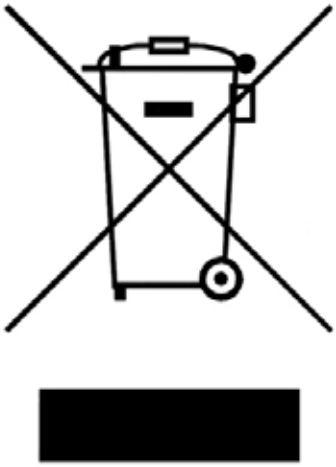


Figure P-2 WEEE Compliance Emblem

Safety Standards

The following safety standards apply:

- IEC-950
- UL 60950-1
- EN60950: 1992 + A1: 1993 + A2: 1993 +A3: 1995 A4: 1997 +A11: 1997 EMKO-TSE (74-SEC) 207/94
- UL1419
- CSA C22.2 No. 1

Safety

Carefully review all safety precautions to avoid injury and prevent damage to this product or any products connected to it. Any user-serviceable components (such as fuses or batteries) are only replaceable by those components listed in the manual.

IMPORTANT! Only qualified personnel should perform service procedures.

Safety Terms and Symbols in this Manual

WARNING

Statements identifying conditions or practices that may result in personal injury or loss of life. High voltage is present.

CAUTION

Statements identifying conditions or practices that can result in damage to the equipment or other property.

1 Introduction

Overview

The HView SX Pro multiviewer is designed for baseband applications. Integration with the router platform provides a single system solution to enable a more efficient use of space in today's complex broadcast and A/V monitoring environments.

The HView SX Pro hardware is installed in the output section of a Platinum or IP3 router frame. It takes inputs from the router where it is installed and combines those inputs on three or six different output displays. The size of the various options determines the number of outputs (three or six) and the number of inputs (8 to 64, with optional redundancy when installed in a 5RU, 9RU, or15RU frame).

Note: *HView SX Pro cannot be used in redundant mode in a Platinum 28RU frame, which does not have redundant crosspoints.*

All versions of the product have SDI output; depending on the option purchased, you also have fiber optic or HDMI outputs. HDMI versions can also output DVI, though the use of a HDMI to DVI adaptor. The HView SX Pro supports 1080p, 1080i, and 1920×1080 pixels at 50 and 59.94 Hz per output.

In addition to the multiviewer's outputs, connectors are optionally provided for Ethernet connections, LTC timecode in, and AES out for audio monitoring.

With the HView SX Pro fully-integrated into your routing network, it can display any of the Platinum or IP3 router input sources. These can be selected from a wide variety of input modules: auto-detecting 1080p (3G only when installed in a Platinum frame)/HD/SD video with embedded audio, analog video, and graphics input as well as discrete analog or AES audio.

Use HView SX Pro's HView Designer software to configure and control all audio and video signal characteristics through integrated alarms and audio metering. With HView Designer, you can create windows in the window editor, select preset layouts, and create custom layouts. For more information about HView Designer features, see ***HView Designer*** on page 4.

When connected to a CCS network, your HView SX Pro can be controlled by CCS control applications such as CCS Navigator or Magellan control panel.

Figure 1-1 illustrates a typical control and monitoring scenario.

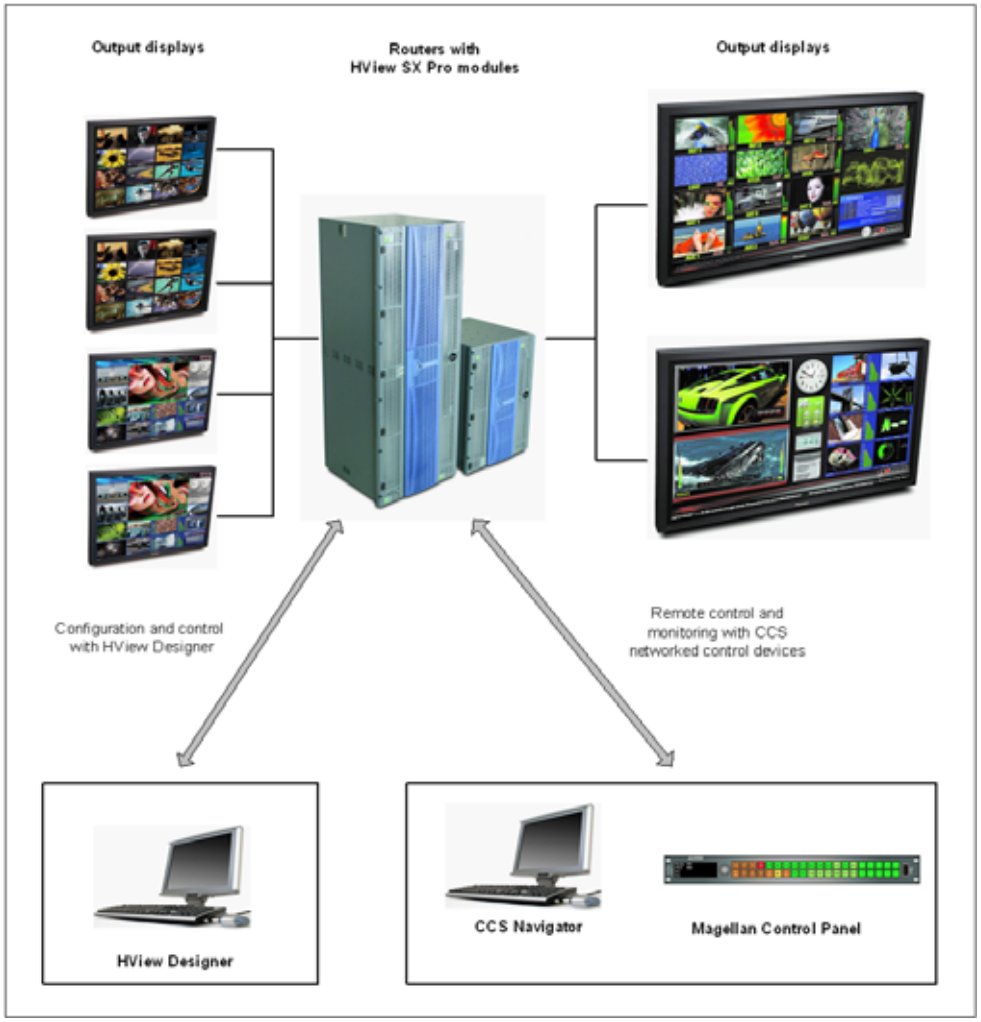


Figure 1-1 HView SX Pro Configurations and Control

Main Features

Audio and Video/Graphic Inputs

- 8/16/32/64 auto sensing inputs - SD(525/625), HD up to 3G SMPTE424M/425M Level A (3G only when installed in a Platinum frame)
- Full screen display for any single input
- Image zooming across multiple displays (subject to multiple scaler resources being used)
- Support for the following input video standards:
  - HD 1080i 50/59.94 Hz to SMPTE 292M
  - HD 1080p 50/59.94 Hz to SMPTE 424M Level A

Audio Support

- 16 embedded audio input channels per source monitored with bar graph displays
- Discrete audio monitor output on HView SX Pro-32 and HView SX Pro-64, and on all SFP-enabled versions of the product
- Stereo PCB audio embedded on HDMI outputs

Outputs

- 3 (HView SX Pro-16) or 6 (HView SX Pro-32 or HView SX Pro-64) HD-SDI or 3G-SDI outputs per card/slot (3G only when installed in a Platinum frame)
- One of the following:
  - 3 (1-slot versions) or 6 (2-slot and 4-slot versions) HD-SDI / 3G Fiber output via twin transmitter SFP modules (3G only when installed in a Platinum frame)
  - 3 (1-slot versions) or 6 (2-slot and 4-slot versions) HDMI outputs
- SMPTE 292M, SMPTE 424M on SDI and (optional) Fiber outputs
- HDMI outputs with DVI compatibility mode through use of external cable adaptor
- Support for the following output standards:
  - HD-SDI to 3G 1080p 50/59.94/60Hz Level A (3G only when installed in a Platinum frame)
  - HDMI output resolutions up to 1920 x 1080 @ 50Hz and 59.94Hz
  - DVI output mode to resolutions of 1920 x 1080 @ 50Hz and 59.94Hz

Note: *Three or six outputs are defined for each module. These outputs are duplicated on the two types of output available on that module, whether those outputs are SDI, HDMI or fiber. For example, for the HDMI output option, there are three unique outputs with three HD-SDI duplicates. Note that on 1920x1200, the HD-SDI output is disabled.*

Processing

- Adaptive de-interlacing on each interlaced video source prior to image resizing
- Frame delay through system of less than one frame for interlaced sources
- Multi tap ½ band interpolator to convert video read from DDR memory to 4:4:4
- Very high quality video scaler to ensure maximum detail is rendered with minimal re-sampling alias artifacts

Graphics

- 24-bit RGB graphics plus 8 bit alpha channel for transparency and anti aliasing on video
- Hardware mouse pointer with 2 bits of alpha and 2 bits of colour with 24 bit palette registers
- Graphics animation for analog clock
- Hardware Graphics Accelerator and video compositor with alpha channel

Graphical Adornments

- Two tally lamps per source
- Two dynamic UMDs per source
- In-picture status display of source including video standard, CC Present, VCHIP, audio and VBI information
- On-screen alarms
- CC rendering of 608 and 708 closed captions
- Rendering OP 47 and WST subtitles

- Audio bar rendering up to 16 amplitude bars per source with graticules
- Multiple analog and digital clocks and up and down timers
- Multiple text boxes with assignable text source and titles
- Logos and bit map insertion
- Mouse cursor
- On screen mouse control and menus

Alarms and Control

- On-screen alarms and SNMP notification for common fault conditions, including Loss of Sync, Frozen Video, Black picture, Closed Caption loss, and VCHIP ratings loss
- Control via CCS (Navigator or Magellan) and SNMP
- Complete control over local external 10/100 Ethernet interface including but not limited to tally protocols, audio ballistics from external audio processor, layout data, layout control, and system configuration
- Limited control to Platinum resource card including XY router control and router status
- UMD/Tally on Platinum through use of the LRC protocol and router database
- 3rd party UMD Tally controller and TSL, Image Video, Z-protocol, and Thomson protocols with scaleability to additional protocols with future software updates
- Control protocols include:
  - CCS-P (Resource card or Local Ethernet)
  - SNMP (Resource card or Local Ethernet)
  - FTP (Local Ethernet)
  - HView Designer Editor Protocol (Local Ethernet)
  - HTTP web server to load HVIEW Designer Silverlight application
  - Automation

HView Designer

HView Designer is the primary configuration and control application for HView SX Pro. It provides layout creation and design capabilities. HView Designer features include, but are not limited to:

- Standard and customized layout templates and windows
- On-screen clocks and counters that can be locked to an external timecode reference source
- Standard and custom UMD/Tally indicators, borders, and labels
- Audio meters and video signal monitoring

For more information, see ***Getting Started With HView Designer*** on page 34.

CCS Control with Navigator and Magellan

Using CCS Navigator control and monitoring software and Magellan control panel you can:

- Select layouts that are stored on the multiviewer hardware for display
- Monitor multiviewers for system diagnostic and audio and video signal alarms

For more information, see ***Remote Control using Navigator and SNMP*** on page 129.

Optional Components

- Serial interface support for tally systems is available through the use of a JLCooper eBOX.
- Should an application require interface to a serial source of UMD traffic and/or use an unsupported protocol, a third-party device such as the TSL TallyMan or ImageVideo TS-1000 can provide the transport and/or protocol translation required.

Applications

HView SX Pro systems can be used for, but are not limited to, the monitoring and control of the following broadcast facility environments.

- Live production control rooms
- Mobile production vehicles
- Network master control operations
- Satellite uplink stations
- Fixed sporting installations

Non-broadcast applications of HView SX Pro include

- Government installations
- Data monitoring facilities
- Security monitoring and surveillance for highways, public transportation systems, casinos, sports stadiums, etc.

Output Module

Only qualified service technicians should attempt to service HView SX Pro.

The HView SX Pro output module performs all of the system video input and output processing. Output modules can be installed singly or in two- or four-board sets in the output section of any Platinum or IP3 routing frame. The single slot version can take up to 16 baseband 3.0 Gbps video signals (8 in redundant or wideband mode or in a 28 RU frame) from the frame's crosspoint matrix module. The two-slot versions receive up to 32 baseband 3.0 Gbps video signals (16 in redundant mode or in a 28 RU frame), and four-slot versions receive up to 64 baseband 3.0 Gbps video signals (32 in redundant mode or in a 28 RU frame).

The multiviewer's back module, which is connected to the back of the routing frame, provides all of the connectors for output video signals, communication devices, and external devices. A single slot version can output three SDI video and three HDMI or fiber SDI output signals that drive the multiviewer output displays. Two- and four-slot versions can output six SDI video and six HDMI or fiber SDI output signals that drive the multiviewer output displays.

For information about the back module connectors, see ***Back Module Connectors*** on page 8.

Front Module

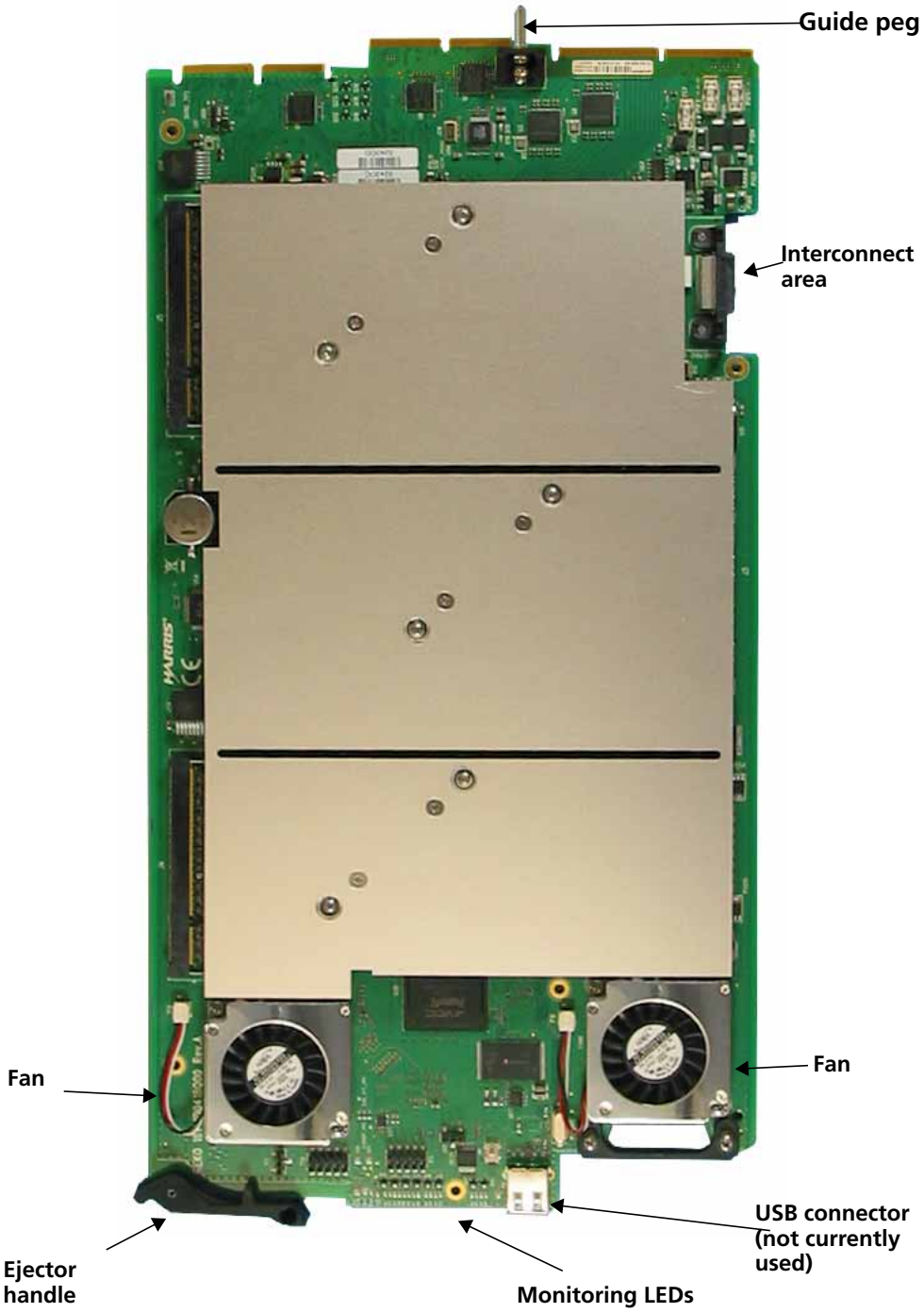


Figure 1-2 HView SX Pro Output Module Top View

Note: Two- and Four-slot HView SX Pro modules are connected together prior to installation in the routing frame. Modules should not be separated due to heat issues.

The multiviewer's main components are:

- **Ejector handle**—The output module front has the ejector/locking mechanism and provides access to the multiviewer's serviceable components (see **Figure 1-3** on page 7).

- **Interconnect area**—Provides connectivity between HView SX Pro-32 and HView SX Pro-64 modules.
- **USB Connector—**Not currently used
- **Monitoring LEDs—**Monitoring LEDs are located on the front of the output module. **Table 1-1** on page 7 describes the meaning of each LED.
- **Guide Peg**—Provides stability when inserting the output module into the frame.

The module's front provides access to LEDs and alarm indicators.

Figure 1-3 LEDs on HView SX Pro

Table 1-1 LED Status Indicators

LED	Description
ACT CTRL	Control system acknowledgment. ■ **Red** (steady) — Module is being initialized. ■ **Green** (steady) — The FPGA has configured and the control system is communicating with the module. ■ **Green** (flashing) — There is an alarm condition on this module.
ACT	Crosspoints are routed to the module
24 V	Indicates the +24 V power rails are operational.
5 VL	Indicates the 5 VL power rail is operational.
IN 1 ■ ■ IN 16	Indicates signal presence on the specified input.

Back Module Connectors

The output module back connectors provide all of the connectors for network communication, LTC input, AES audio, and output video signals.

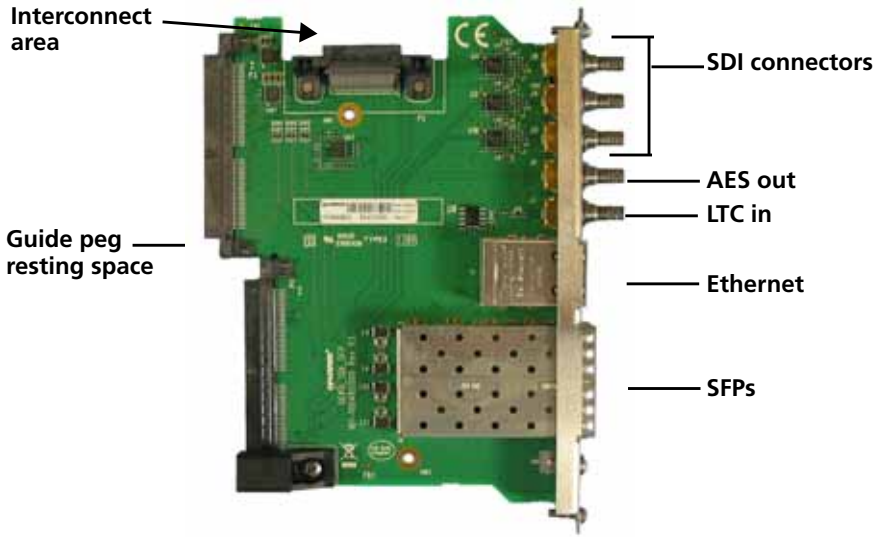


Figure 1-4 HV-SPX-16x3-O Back Module

- **Interconnect area**—Provides connectivity between HView SX Pro-64 modules.
- **Guide peg resting space**—When the front module is inserted into the frame (after the back module has been installed), the guide peg rests on the back module to align it correctly.

HView SX Pro16

Figure 1-5 HV-SXP-16x3 or HV-SXP-8x3-FR28 Back Module

Figure 1-6 HV-SXP-16x3-O or HV-SXP-8x3-O-FR28 Back Module

HView SX Pro32

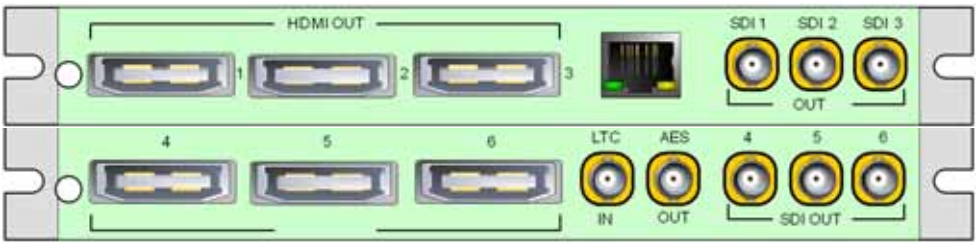


Figure 1-7 HV-SXP-32x6 or HV-SXP-16x6-FR28 Back Module

Figure 1-8 HV-SXP-32x6-O or HV-SXP-16x6-O-FR28 Back Module

HView SX Pro64

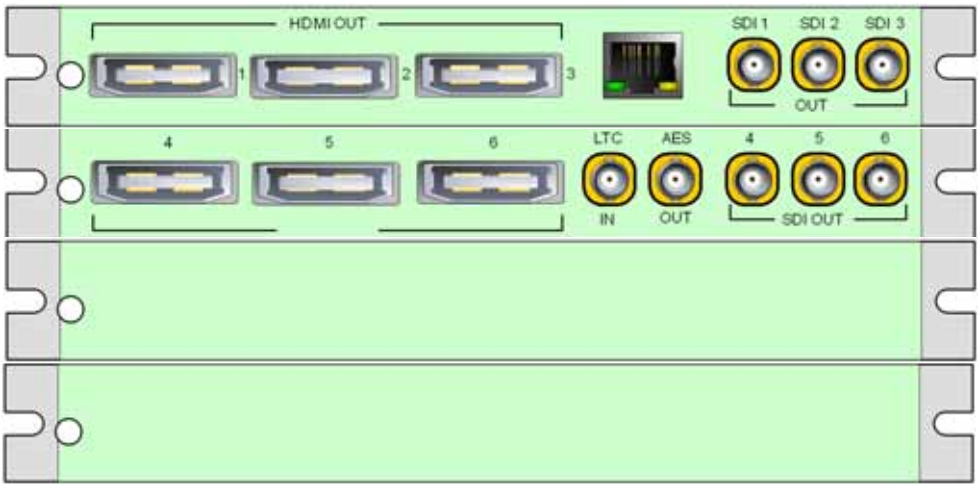


Figure 1-9 HV-SXP-64x6 or HV-SXP-32x6-FR28 Back Module

Figure 1-10 HV-SXP-64x6-O or HV-SXP-32x6-O-FR28 Back Module

- **SDI outputs**—These SDI/HDISDI/3G SDI outputs are capable of driving 3G/HD/SD-SDI display devices. (3G only when installed in a Platinum frame.) The SDI outputs duplicate the contents of the other outputs on the same back module -- either HDMI or fiber SDI outputs. For information about connecting SDI outputs, see ***Making SDI Device Connections*** on page 20.
- **HDMI outputs**—The HDMI outputs are capable of displaying a number of video standards and resolutions. The signals are primary RGB. The HDMI outputs duplicate the contents of the SDI outputs. For information about connecting HDMI outputs, see ***Making HDMI Device Connections*** on page 20.
- **AES3 audio output**—An AES discrete audio output facilitates connection with external audio monitoring devices. See ***Connecting Output Audio Monitoring Devices*** on page 24.
- **LTC IN**—This connector is used for clock timing.
- **SFP modules**—The Fiber SDI outputs are capable of displaying a number of video standards and resolutions. They duplicate the contents of the SDI outputs. For information about connecting fiber SDI outputs, see ***Making SFP Device Connections*** on page 20 and ***Close the Platinum frame front panel.*** on page 152.
- **10/100/1000 Ethernet**—An Ethernet port provides connectivity with HView Designer and CCS control systems, such as CCS Navigator and Magellan control panel. In addition, the Gbps Ethernet connections can be used to connect the multiviewer to the following:
  - External GPI hardware interface
  - Mouse (for pointer functions on graphics features)
  - Keyboard (to update text on titles, etc.)

  For more information, see ***Network Connections*** on page 20.

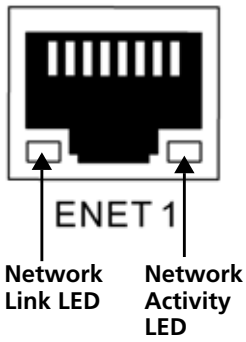


Figure 1-11 Ethernet Port LEDs

Table 1-2 Ethernet Ports LED Status Indicators

LED	Color Indication	Description
ENET 1 Network Link LED	Solid, green	A valid connection is present on Ethernet port 1.
ENET 1 Network Activity LED	Flashing, yellow	There is network activity on Ethernet port 1.

Signal Flow

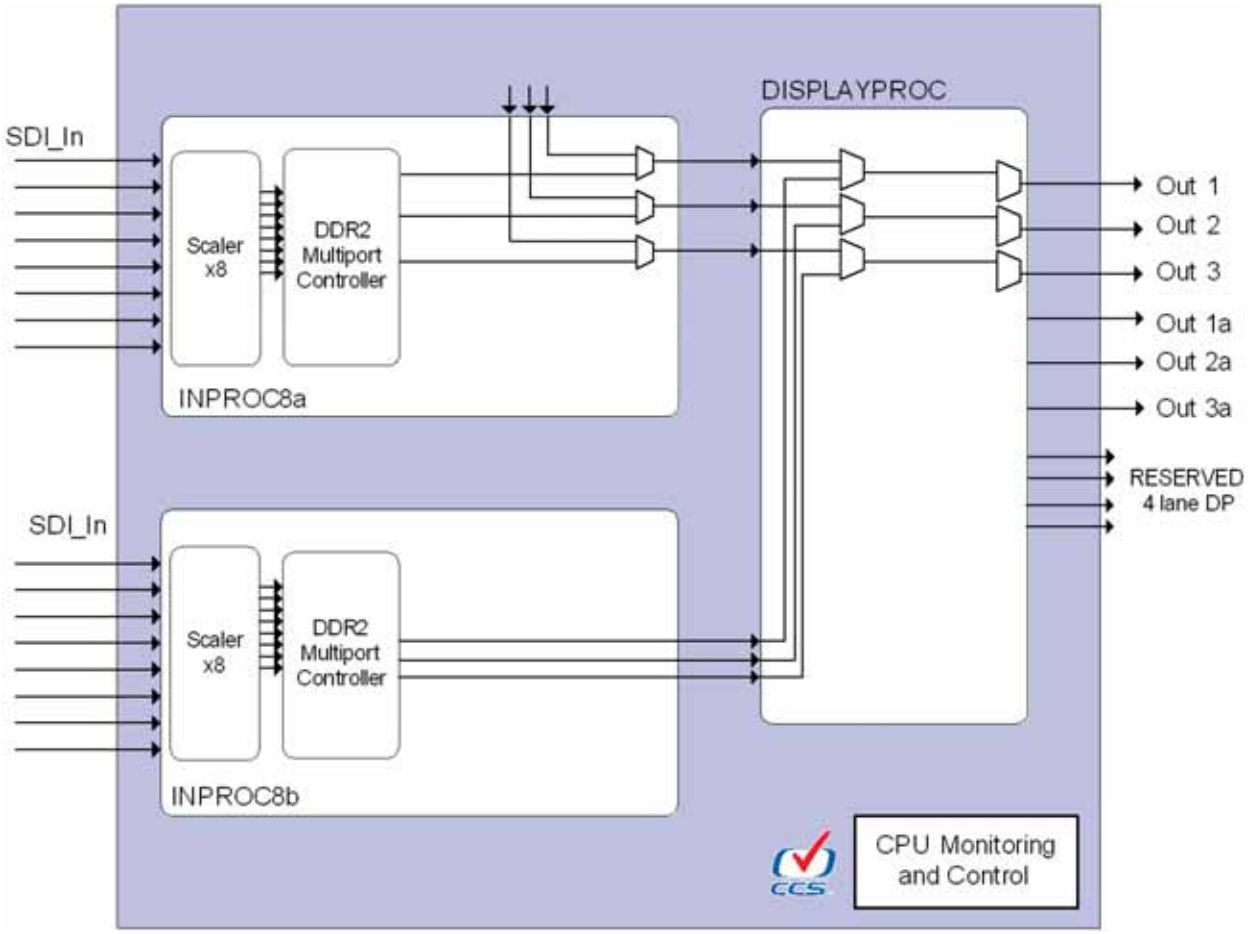


Figure 1-12 16-Input HView SX Pro

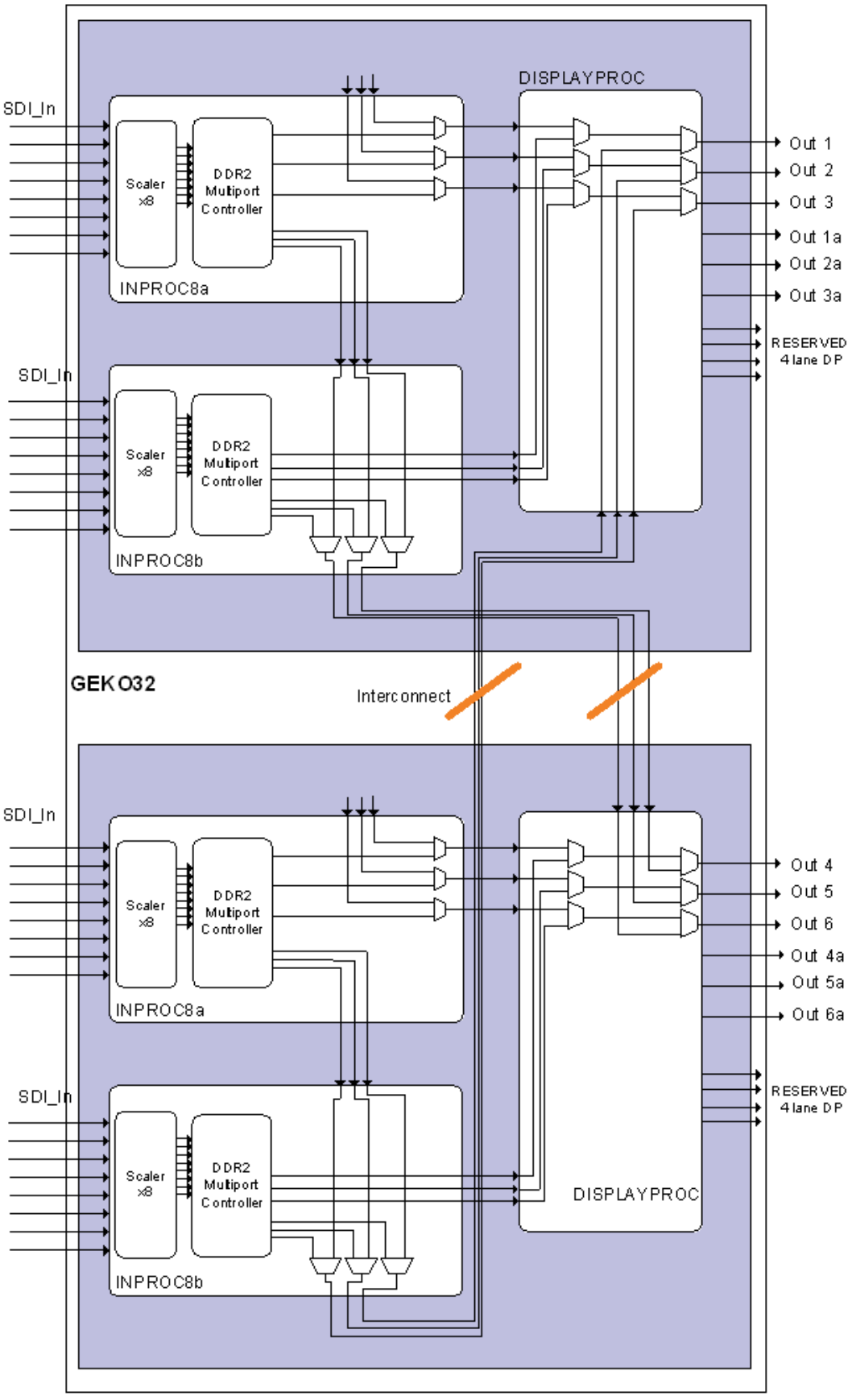


Figure 1-13 32-input HView SX Pro

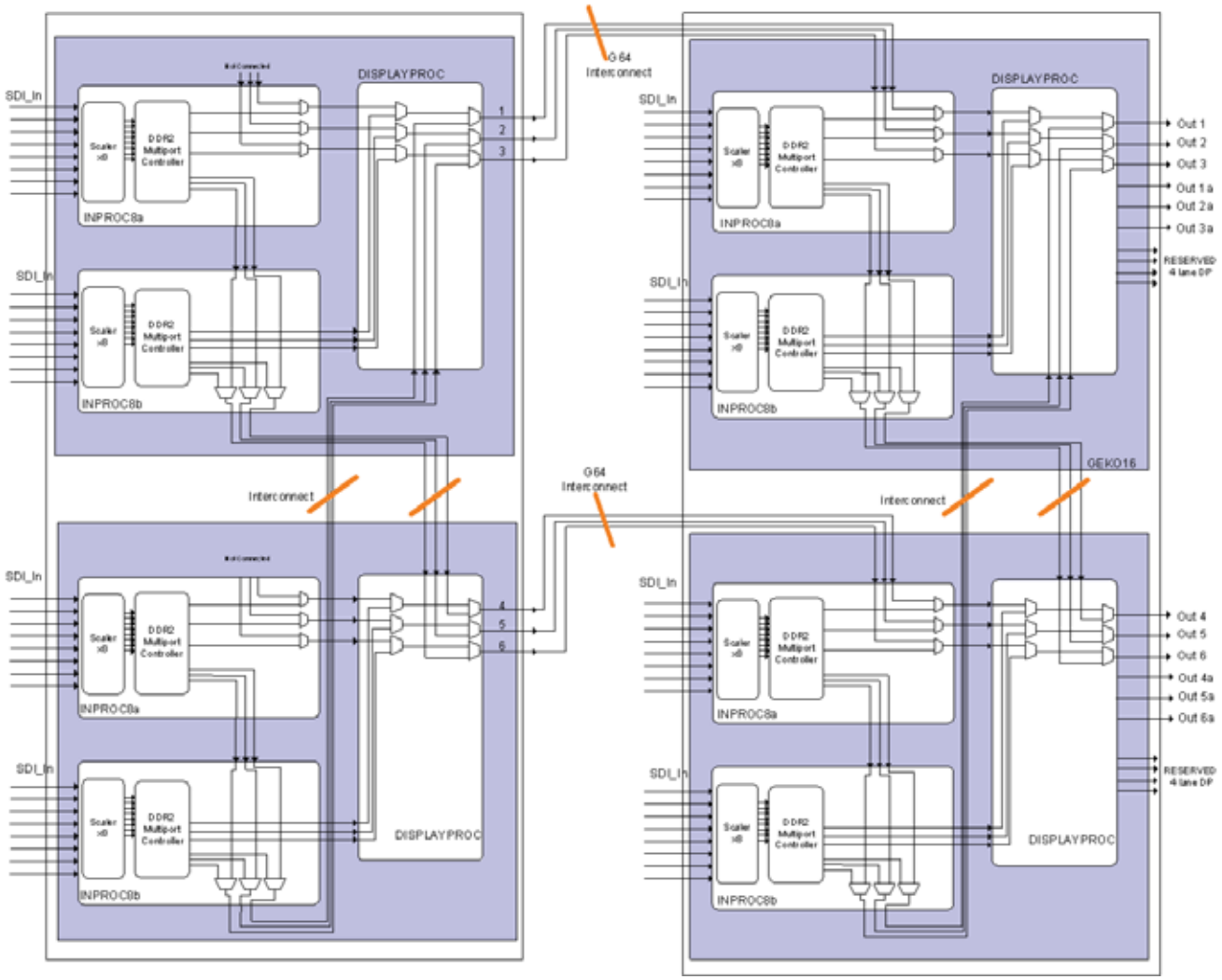


Figure 1-14 64-Inputs HView SX Pro

2 Hardware Installation

Overview

HView SX Pro modules are installed in the output section of Platinum or IP3 router frames. Each module occupying one, two, or four contiguous slots. Video inputs are routed from the router's crosspoint modules to the inputs of the output module. The slots you select to install the multiviewer may affect how efficiently you can populate other output slots in the router. HView SX Pro modules are hot-swappable.

This manual assumes you are familiar with your Platinum or IP3 frame. See your router's manual for more information.

Potentially lethal voltages are present within the router frame during normal operation. Disconnect all power cords from the frame before you remove the top panel. Do not apply power to the frame while the top is open unless the unit is being serviced by properly trained personnel.

For best results, test your system before its final installation. Verify its configuration, cabling, and proper system operation. Observe proper anti-static and grounding procedures while handling loose boards and servicing equipment.

Your sales representative can tell you whether you have sufficient power supplies installed in the frame to power the installed modules.

Modules and Options

A complete HView SX Pro product package includes both hardware and software components, as described in the following tables.

Table 2-1 Available HView SX Pro Part Numbers and Components

Part Number	Function and Uses
HV-SXP-16×3	Single-slot HView SX Pro with 16 input channels, three HDMI outputs, and three SDI outputs
HV-SXP-16×3-O	Single-slot HView SX Pro with 16 input channels, three SDI outputs, and three (fiber) optical SDI outputs
HV-SXP-8x3-FR28	Single-slot HView SX Pro with 8 input channels, three HDMI outputs, and three SDI outputs, for use in 28RU Platinum frames only
HV-SXP-8x3-O-FR28	Single-slot HView SX Pro with 8 input channels, three SDI outputs, and three (fiber) optical SDI outputs, for use in 28RU Platinum frames only

Table 2-1 Available HView SX Pro Part Numbers and Components *(Continued)*

Part Number	Function and Uses	
HV-SXP-32×6	Two-slot HView SX Pro with 32 input channels and HDMI outputs and six SDI outputs	
HV-SXP-32×6 -O	Two-slot HView SX Pro with 32 input channels, six SDI outputs, and six optical SDI outputs	
HV-SXP-16x6-FR28	Two-slot HView SX Pro with 16 input channels and HDMI outputs and six SDI outputs, for use in 28RU Platinum frames only	
HV-SXP-16x6-O-FR28	Two-slot HView SX Pro with16 input channels, six SDI outputs, and six optical SDI outputs, for use in 28RU Platinum frames only	
HV-SXP-64×6	Four-slot HView SX Pro with 64 input channels, six HDMI outputs, and six SDI outputs	
HV-SXP-64×6-O	Four-slot HView SX Pro with 32 input channels, six SDI outputs, and six (fiber) optical SDI outputs	
HV-SXP-32x6-FR28	Four-slot HView SX Pro with 32 input channels, six HDMI outputs, and six SDI outputs , for use in 28RU Platinum frames only	
HV-SXP-32x6-O-FR28	Four-slot HView SX Pro with 64 input channels, six SDI outputs, and six (fiber) optical SDI outputs , for use in 28RU Platinum frames only	
HV-GPIO-24E	GPIO over IP option	
OP+SFP+TT+13+13	Small Form Factor (SFP) dual transmitter with pathological support for baseband video for Harris Broadcast Fiber Optic Products.	1310nm and 1310nm wavelength
OP+SFP+TT+27+29		1270nm and 1290nm CWDM wavelength
OP+SFP+TT+31+33		1310nm and 1330nm CWDM wavelength
OP+SFP+TT+35+37		1350nm and 1370nm CWDM wavelength
OP+SFP+TT+43+45		1430nm and 1450nm CWDM wavelength
OP+SFP+TT+47+49		1470nm and 1490nm CWDM wavelength
OP+SFP+TT+51+53		1510nm and 1530nm CWDM wavelength
OP+SFP+TT+55+57		1550nm and 1570nm CWDM wavelength
OP+SFP+TT+59+61		1590nm and 1610nm CWDM wavelength
175-102010-00	Software/documentation DVD	

Table 2-2 Optional Hardware Components

Part Number	Function and Uses
131-100006Q00	Replacement fan See ***Replacing a Fan*** on page 151 for instructions on replacing a fan.

Check the release notes for your devices to determine compatibility between diffferent hardware and software versions, in particular the HView SX Pro module and PT-RES (Platinum frame) or PX-RES (IP3 frame) module versions.

Installing HView SX Pro Modules

The following sections describe how to install back modules and output modules in a Platinum or IP3 router frame. Output modules can be installed without powering down your router frame.

Figure 2-1 illustrates two output modules installed in a 5RU Platinum router frame.

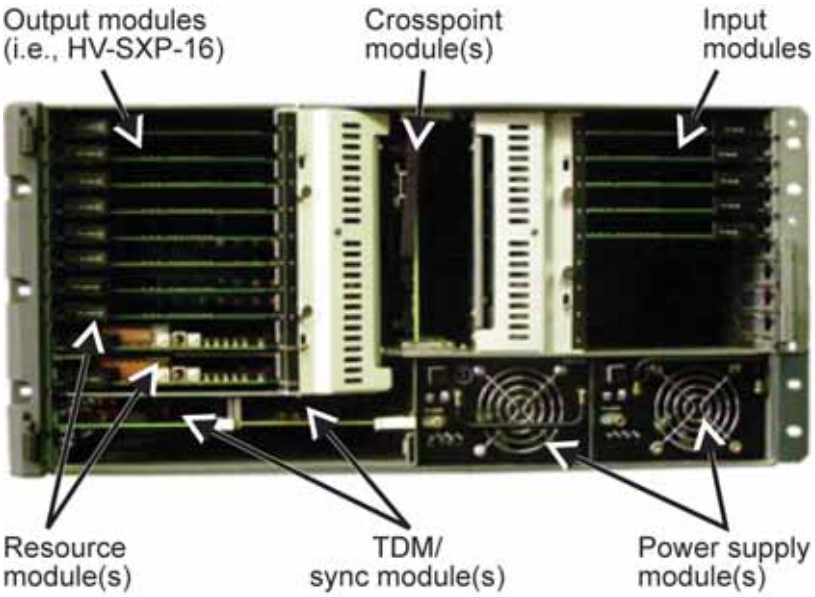


Figure 2-1 Platinum 5RU Router Frame with Output Modules (front view)

Each HView SX Pro can be one slot, two slots, or four slots tall. A module that is two or four slots tall requires two or four adjacent slots in your frame. Each HView SX Pro 64 requires 4 adjacent slots. If you are installing multiple HView SX Pro devices, they do not need to be installed adjacent to each other.

1. Remove any currently installed output back modules or blank covers from the appropriate slots on the rear of the frame (a #1 Phillips-head screwdriver is required).
2. Carefully align and then attach the back modules over the empty slots using the captive screws.

Do not tighten down the screws completely when installing the back module. First, install the output module, and then tighten the back module screws.

Before you install output modules, ensure you properly align each module with the appropriate guide notches in the router frame. Failure to do so may damage the pin connections between the back and output modules.

3. Open the I/O Guide door.

   The door must be fully open for modules to slide in and out correctly. An IP3 I/O door latches into the fan module when it is fully open.

4. If you have not done so already, remove any currently installed output modules from the appropriate slots where you want to install the HView SX Pro output module.
5. Align the left and right sides of the individual boards that make up the HView SX Pro output module with the guide notches of the appropriate slots in the frame (see **Figure 2-2**).

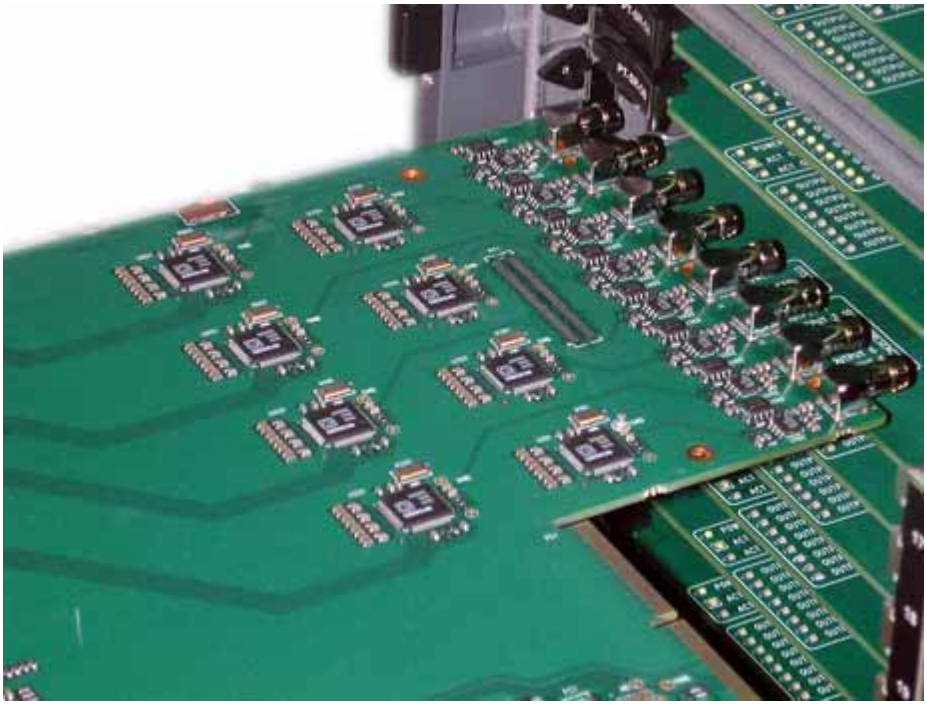


Figure 2-2 Aligning an Output Module with Frame Guide Notches

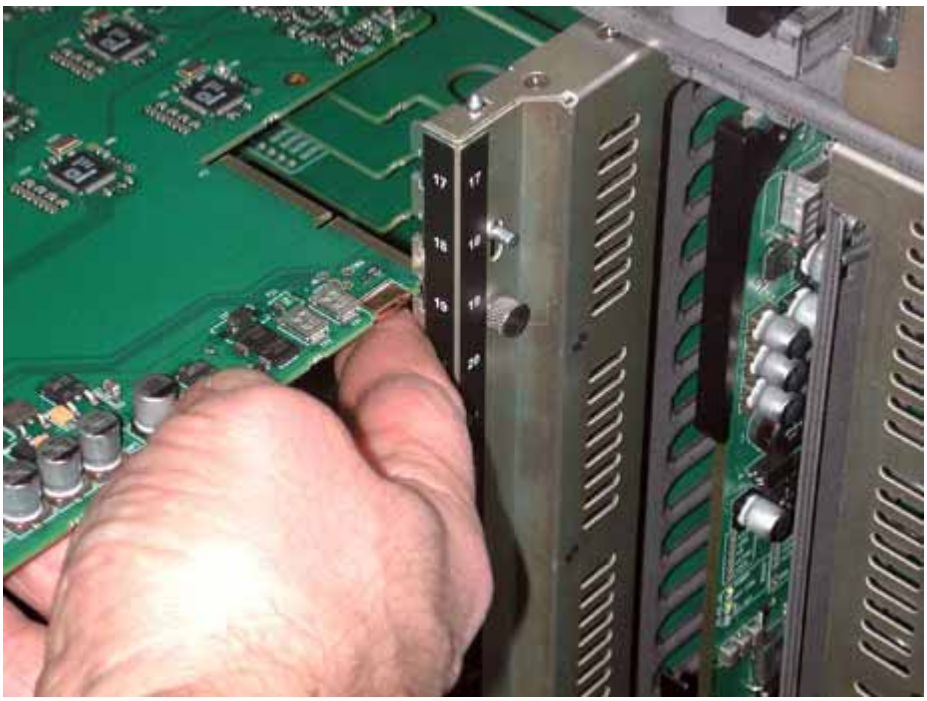


Figure 2-3 Aligning Module with Guide Door Guide Notches

6 Pull and hold the module's extractor handle, and then slide the module assembly into the frame until it is fully seated.

7 Let go of the extractor handle and push it into the locking position.

8 Close the I/O Guide door.

Making System Connections

The following sections provide information about making output module connections, including the following:

Securing Your Device Cabling

When making connections from external devices to the multiviewer, it is important to properly secure the cables to your equipment rack. Use cable ties to secure the various device cables to your equipment rack so that the rack supports the weight of the cables. Failure to do so will cause excessive weight on the back module and breakout module connections and connector pins, which may permanently damage your system.

Making Network Connections

Each HView SX Pro has an Ethernet connection that allows you to connect directly to a local or networked PC, so you can configure and monitor the multiviewer using HView Designer. When the multiviewer is connected to a CCS network, you can use CCS control options such as CCS Navigator and Magellan.

All control and monitoring communication with the multiviewer occurs through HView SX Pro's Ethernet port. With the exception of adding the multiviewer to a router system database, no control of the multiviewer is possible from the Platinum frame Ethernet connections. You cannot add a multiviewer to a router system database from Platinum, but you can add it through a PC connected via Ethernet to a Platinum router.

LRC needs to be enabled on the PT-RES before HView SX Pro can communicate with it. See ***Enabling LRC Protocol*** on page 31 *for more information.*

Connecting LTC In

All SFP-enabled versions of the product, and HView SX Pro-32 and HView SX Pro-64 have LTC input capability.

The LTC input connector takes in SMPTE-12M linear time code. For best results, connect the SMPTE-12 M differential LTC signal to the single-ended HDBNC by connecitng the + side of the LTC to the center pin of the HDBNC, and the shield to the shield of the HDBNC, leaving the - side of the LTC unconnected. The input circuit is designed to work across the legal range of levels specified in the SMPTE-12M when connected in this way.

You can also use System time or use Network Time Protocol (NTP) on the Ethernet interface within HView SX Pro.

Supported output resolutions are subject to the capabilities of the connected display. Support cannot be guaranteed for displays with non-standard timing.

Making SDI Device Connections

The Multiviewer's back module provides three or six 3G/HD/SD-SDI output connections. (3G is only available when installed in a Platinum frame)

All monitors need to be configured to the same resolution and frame rate, and all outputs are synchronized with each other.

Making SFP Device Connections

HView SX Pro product packages can be identified as having SFP capability if their product name ends in -O. For example, HView SX Pro 16-O. For SFPs that are approved for use with HView SX Pro, see **Table 2-1** on page 15.

Making HDMI Device Connections

HView SX Pro-16, HView SX Pro-32 and HView SX Pro-64 product packages have HDMI output capability. The maximum cable length is 3 meters.

All monitors need to be configured to the same resolution and frame rate, and all outputs are synchronized with each other.

Making DVI Display Device Connections

If your module has HDMI connectors, you can connect to a DVI display using an external adapter. When an HDMI output is sent to a DVI monitor, embedded audio is not supported.

Depending on your output display device and the type of DVI output you are using, use the following DVI cabling guides:

- **Standard DVI-I digital/analog cable** - Use this cable when outputting to a PC digital (DVI) and analog (VGA) video monitor. This cable has a 29-pin DVI/VGA combined receptacle connector.
- **Standard DVI-D digital-only cable** - Use this cable when outputting digital (DVI) video signals only. This cable has a 19-pin DVI-D digital-only receptacle connector (no key slot on left side of connector)

Connecting Output Audio Monitoring Devices

HView SX Pro-32, HView SX Pro-64, and all SFP-enabled versions of the product have AES audio monitoring capability. Audio output is also available via HDMI.

Use the back module's AES audio monitoring output to connect a compliant audio monitoring device, for driving speakers or headphones. This allows audible monitoring of audio sources for any program signal currently being monitored by the multiviewer. Channels to monitor can be chosen from a single stereo pair, or any two mono channels associated with the specific program signal.

For audible monitoring, the program signals must be routed to one of the displays associated with the multiviewer. You can use CCS Navigator, HView Designer, or a Magellan Control Panel to route these signals. See ***Remote Control using Navigator and SNMP*** on page 129 for more information.

The audio source that will be output must be synchronized with the sync source. Otherwise you will hear audio pops.

Connecting JLCooper eBOX Devices

HView SX Pro systems are designed to work with JLCooper eBOX Quad Serial to Ethernet Interface. You can control up to 24 GPI input and 24 GPI output devices per eBOX. The multiviewer communicates with eBOXes when both the multiviewer and JLCooper eBOXes are on the same network. See ***Configuring Multiviewers in a Local Area Network*** on page 35 for more information.

Extra serial ports available:

- 4x 9-Pin D Sub Serial Connectors
- 2x 25 Pin D Sub GPI Connectors

The GPI In connector has 24 TTL/CMOS compatible inputs with internal pull-ups to +5 volts. The GPI Out connector has 24 TTL/CMOS compatible outputs. On both connectors, pin 1 is the ground reference and pins 2-25 are GPI signals 1-24. The eBOX also has an • RJ-45 Ethernet Connector for LAN, WAN or Internet Control.

The eBOX must be set as a server only. A multiviewer can be connected to up to six eBOXes. The master/slave function allows UMD-tally data to go through the master multiviewer without external wiring.

Configuring an eBOX

To configure an eBOX, follow these steps:

1. Set SW8 to the ON position, and then re-power to access the Configuration Web Server for the eBOX.
2. Set SW1, SW2, and SW3 to the DOWN position, and then re-power.
3. Using an external PC (on the same sub-network), launch a Web Browser and type the IP Address of the eBOX.

Do not use Internet Explorer 7 or Firefox web browser to change he network settings on the eBOX. Internet Explorer 6 is the only authorized application for getting into the built-in Web Server to change the network settings.

The eBOX's default IP address is 192.168.254.102.

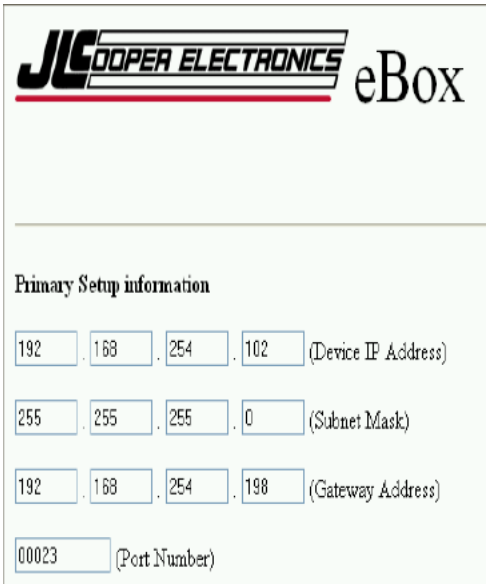


Figure 2-4 eBOX Web Interface

4 Make the necessary Network changes and setup Port # 23.
If you are configuring more than one eBOX, all eBOXes are set to the same port number.

5 Remove any Password, and then press the SUBMIT button.

6 Set SW1, SW2, SW3, and SW6 to the ON position, and set SW7 and SW8 to the OFF position.

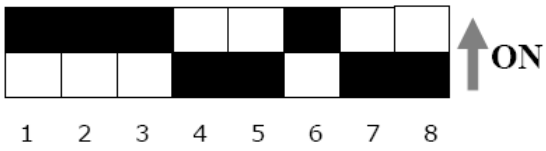


Figure 2-5 eBOX Dip Switch Settings for Operation

7 Re-power the unit.

8 Ping to confirm the new Network setting.
For information about configuring your e-BOX, see your JLCooper eBOX documentation.

For information about configuring GPIs in HView Designer, see ***Configuring Hardware*** on page 36. On the **Hardware Config** tab, **GPI 1** to **GPI 6** under the **GPI** heading refer to the eBOX devices themselves. The **GPIO port** is the same for all eBOXes, and is normally **Port 23**. The **GPIO Server IP** should match the assigned eBOX IP address. When you are using more than one eBOX device, the GPI mappings for the first device (GPI 1) use the first GPI mapping IDs, normally 1-24. The GPI mappings for GPI 2 follow sequentially, so if each eBOX has 24 ports, GPI 2 will have ports 25-48 assigned to it, and so on. Assign GPI usage appropriately to each port.

3 Router Configuration

Configuring HView SX Pro

The frame you install your HView SX Pro in will determine the steps required to configure it in a routing database. See the following topics:

Configuring HView SX Pro in an IP3 Frame

Configuring HView SX Pro in an IP3 router frame does not require any specialized procedures. Follow the instructions provided in your *IP3 Controller User Manual*, ensuring that the HView SX Pro devices are set up with the HD Video device type.

To complete this task, you should have a working knowledge of CCS Navigator. See Volume 6 of your Navigator User Manual for detailed descriptions of its installation and features. You must use Navigator version 5.0 or higher.

Configuring HView SX Pro in a Platinum Frame

A new HView SX Pro in a Platinum router frame must be configured in a router matrix. Using Navigator's routing components, you can either include it in a newly created router matrix, or you can add HView SX Pro to an existing routing matrix. Adding HView SX Pro to the routing matrix defines which router inputs will be used as input source audio and video.

The information below describes the different methods by which you can add HView SX Pro to a router database. It does not go into detail about any of these methods or about other aspects of editing a router database. For more information, refer to the Volume 6 of your *Navigator User Manual.*

To complete this task, you should have a working knowledge of CCS Navigator. See Volume 6 of your Navigator User Manual for detailed descriptions of its installation and features.

Your software and firmware must meet the following requirements:

- Navigator version 4.9 or higher

- PT-RES version 4.3 or higher

Creating a Routing System

If your HView SX Pro shipped preinstalled in a Platinum frame, you should start the network configuration process by creating a routing system. Follow these steps:

1. Ensure Navigator is in Build mode.
2. Right click on **Routers** in the **Navigation** pane, and then select **Create > Routing System** from the context menu.

   The **New Routing System Configuration** dialog box opens.

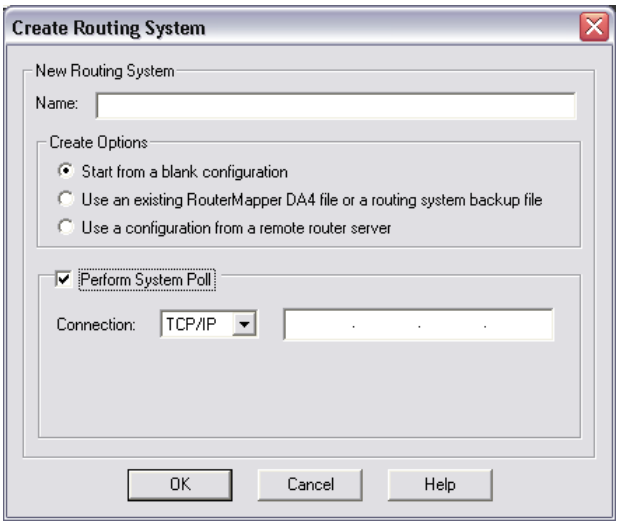


Figure 3-1 Create Routing System Dialog Box

3. In the **Name** field, enter a name for the routing system.

   This is the name that will appear in the **Navigation** window.

4. Under **Create Options**, choose **Start from a blank configuration**.

   This selection allows you to designate a new routing system, and then populate it manually or with a system poll.

5. Place a check beside **Perform System Poll**.
6. In the **Connection** field, choose **TCP/IP**, and then enter the IP address for your Platinum PT-RES module.
7. Click **OK**, and then wait while Navigator searches the network.

   When the search is complete, a series of folders appear in the Navigation pane under the name you provided.

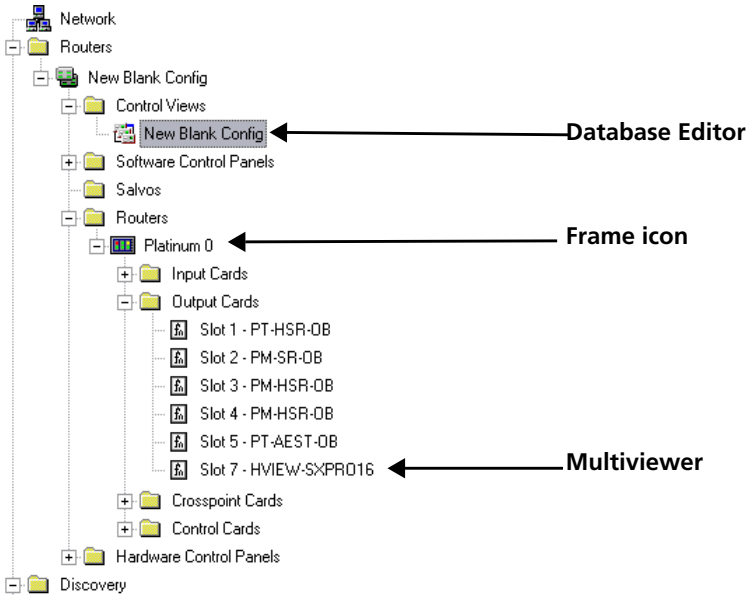


Figure 3-2 Routers Folder in the Navigation Pane

8 Right-click the **Frame** in the **Routers** folder, and then select **Poll**.
Wait while Navigator polls the device.

9 When the frame poll is complete, double-click the Frame in the Routers folder.
The **Edit Platinum Frame** dialog box appears.

10 Select the **Detected Matrices** tab, and then click **Copy to Configured Matrix**.

11 On the **Configured Matrices** tab, click **Add**.
The **Add WB Matrix** dialog box appears.

At this point, you can choose to add a WB matrix or a redundant matrix. See the following topics:

- ***Adding a WB (Wideband) Matrix*** on page 26
- ***Configuring a Redundant Matrix*** on page 28

Adding Output Modules by Polling

The Poll option is normally used if you have added HView SX Pro modules to a Platinum frame that is already configured and in use. The Poll option queries the control system for any programmable devices present in the system. Polling obtains information about the current configuration of each physical device, and compares it to the information found in the database to determine if the database information matches the actual configuration.

1 Ensure Navigator is in Build mode.

2 Right-click the **Frame** in the **Routers** folder, and then select **Poll**.
Wait while Navigator polls the device.

3 When the frame poll is complete, double-click the Frame in the Routers folder.
The **Edit Platinum Frame** dialog box appears.

4 Select the **Detected Matrices** tab, and then click **Copy to Configured Matrix**.

5 On the **Configured Matrices** tab, click **Add**.

The **Add WB Matrix** dialog box appears.

At this point, you can choose to add a WB matrix or a redundant matrix. See the following topics:

- ***Adding a WB (Wideband) Matrix*** on page 26
- ***Configuring a Redundant Matrix*** on page 28

Creating a New Routing Matrix

HView SX Pro units installed in 5, 9, or 15 RU Platinum frames can be configured as WB matrixes or as multiviewer matrixes. HView SX Pro units installed in a 28 RU Platinum frame can only be configured as WB matrixes.

When installed in a 5-, 9-, or 15-RU Platinum frame and configued in a WB matrix, HView SX Pro-16 actually has 8 discrete inputs, a HView SX Pro-32 has 16 discrete inputs, and a HView SX Pro-64 has 32 discrete inputs. You should choose this configuration option if your Platinum frame only has one crosspoint in the zone where the HView SX Pro is being installed, or if the module is installed in a 28 RU Platinum frame. See ***Adding a WB (Wideband) Matrix*** on page 26.

A Multiviewer matrix uses both crosspoint cards in the frame to double the number of inputs to the HView SX Pro, so a HView SX Pro-16 actually has 16 discrete inputs, a HView SX Pro-32 has 32 discrete inputs, and a HView SX Pro-64 has 64 discrete inputs. See ***Configuring a Redundant Matrix*** on page 28.

Adding a WB (Wideband) Matrix

When a HView SX Pro multiviewer is installed in a 28 RU frame, or when it is being installed in a zone where there is only one crosspoint, you must configure it as a Wideband matrix. When configured as a WB matrix, the module will have half the discrete inputs it would have if it was configured with a multiviewer matrix. However, each input has a duplicate input available for applying to layouts. See ***Editing a Window*** on page 65.

1 At the **Add WB Matrix** dialog box, choose **WB** from the **Matrix Type** drop-down list box.

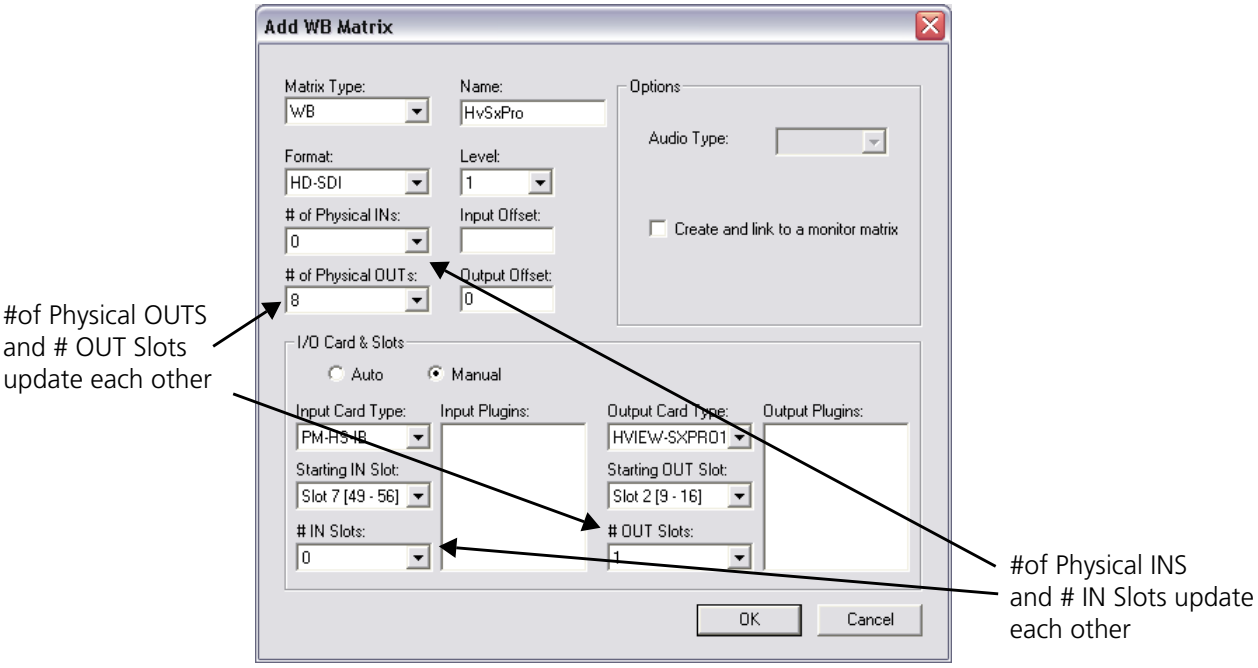


Figure 3-3 WB Matrix Dialog Box

2 In the **Name** field, enter a name that identifies this particular Platinum matrix.

3 Choose a matrix format from the **Format** drop-down list box.

4 In the **Level** box, enter a number that corresponds to the level the matrix will occupy in the routing system.

5 Choose the appropriate number of inputs from the **# of Physical INs** drop-down list box.

If you are planning on sharing inputs with another output module in the frame, select 0.

If you make changes to the **# IN Slots** selection, any changes you make are reflected in the **# of Physical INs** selection as well. If you do not want to change the number of physical inputs, do not change the **# IN Slots** selection.

6 In the **Input Offset** box, enter a number that corresponds to the point at which input numbering starts for the HView SX Pro in the logical database.

7 Choose the appropriate number of outputs from the **# of Physical OUTs** drop-down list box.

If you make changes to the **# OUT Slots** selection, any changes you make are reflected in the **# of Physical Outputs** selection as well. If you do not want to change the number of physical inputs, do not change the **# OUT Slots** selection.

Each slot occupied by an HView SX Pro represents eight outputs, so if you have an HView SX Pro-64, that represents four slots, or 32 outputs.

8 In the **Output Offset** box, enter a number that corresponds to the point at which output numbering starts for the HView SX Pro in the logical database.

9 In the **I/O Card & Slots** box, click the **Manual** radio button.

10 In the **Output Card Type** menu, select **HView SX Pro 16**, **HView SX Pro 32**, or **HView SX Pro 64**.

11 Select the starting slot for your input modules from the **Starting IN Slot** drop-down list box.

12 Check that number of HView SX Pro modules in the **# OUT Slots** drop-down list box corresponds to the correct number of slots occupied in the frame (this number ought to be 1/8 of the number in the **# OUT Slots** field).

13 Click **OK** to return to the **Configured Matrices** dialog box.

If you chose to share inputs (set the **# Physical Inputs** to 0), you must now assign inputs to the matrix. See ***Manually Assigning Inputs*** on page 29.

Configuring a Redundant Matrix

When a HView SX Pro is configured in a redundant matrix, this doubles the number of discrete PiPs to each device, so a HView SX Pro-16 has 16 outputs, a HView SX Pro-32 has 32 outputs, and a HView SX Pro-64 has 64 outputs.

Redundancy is not available on HView SX Pro modules in 28 RU Platinum frames.

1 On the **Add WB Matrix** dialog box, choose **Multiview** from the **Matrix Type** drop-down list box.

The **Add HView SX Matrices** dialog box (**Figure 3-4**) opens.

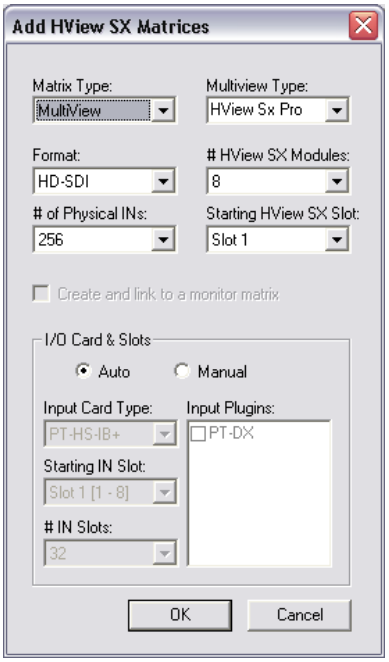


Figure 3-4 AddHView SX Matrices Dialog Box

2 Under **Multiviewer Type**, choose **HView SX PRO 16**, **HView SX PRO 32**, or **HView SX 64**.

3 Choose a matrix format from the **Format** drop-down list box.

4 Choose the appropriate number of inputs from the **# of Physical INs** drop-down list box.

If you set this to 0, then you can assign pre-existing input modules to the HView SX Pro. Otherwise, input modules are added, and can be configured or deleted later.

5 Choose the number of discrete HView SX Pro modules from the **# HView SX Modules** drop-down list box.

This is the number of HView SX devices, not the number of slots occupied.

6 Select the starting slot for the first (top) HView SX Pro module from the **Starting HView SX Slot** drop-down list box.

7 Click **OK** to return to the **Configured Matrices** dialog box.

The new matrix information appears in the description boxes.

If you chose to share inputs (set the **# Physical Inputs** to 0), you must now assign inputs to the matrix. See ***Manually Assigning Inputs*** on page 29.

Manually Assigning Inputs

If you chose to share inputs between the HView SX Pro and any other output modules in the frame, you can assign these inputs on the **Configured Matrices** screen.

1 Select the HView SX Pro matrix in the **Platinum Configured Matrix** list.

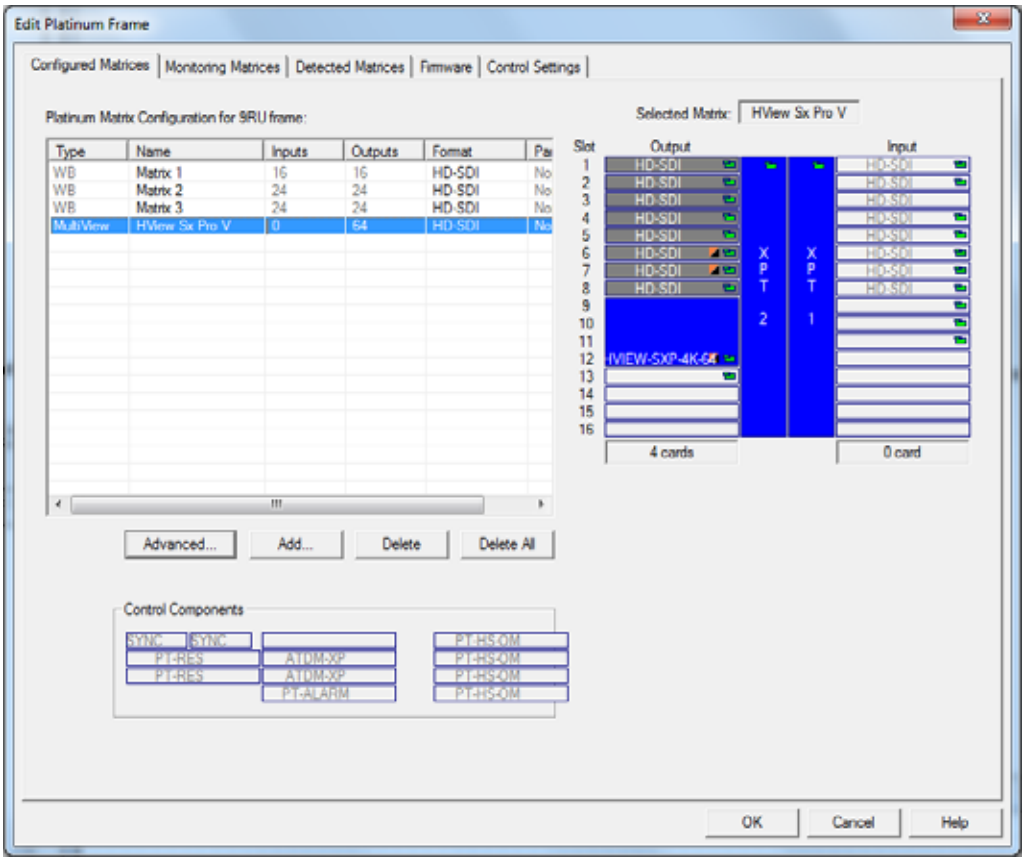


Figure 3-5 HView SX Pro Matrixes

In the graphical representation of the router at the right of the dialog box, the output modules, crosspoint modules, and input modules associated with that matrix are highlighted (blue).

2 Right click input modules in the **Input** (right) section of the selected matrix diagram, and select **Assign to HView SX Pro**.

3 Click **Advanced**.

The **Matrix Partition** dialog box opens.

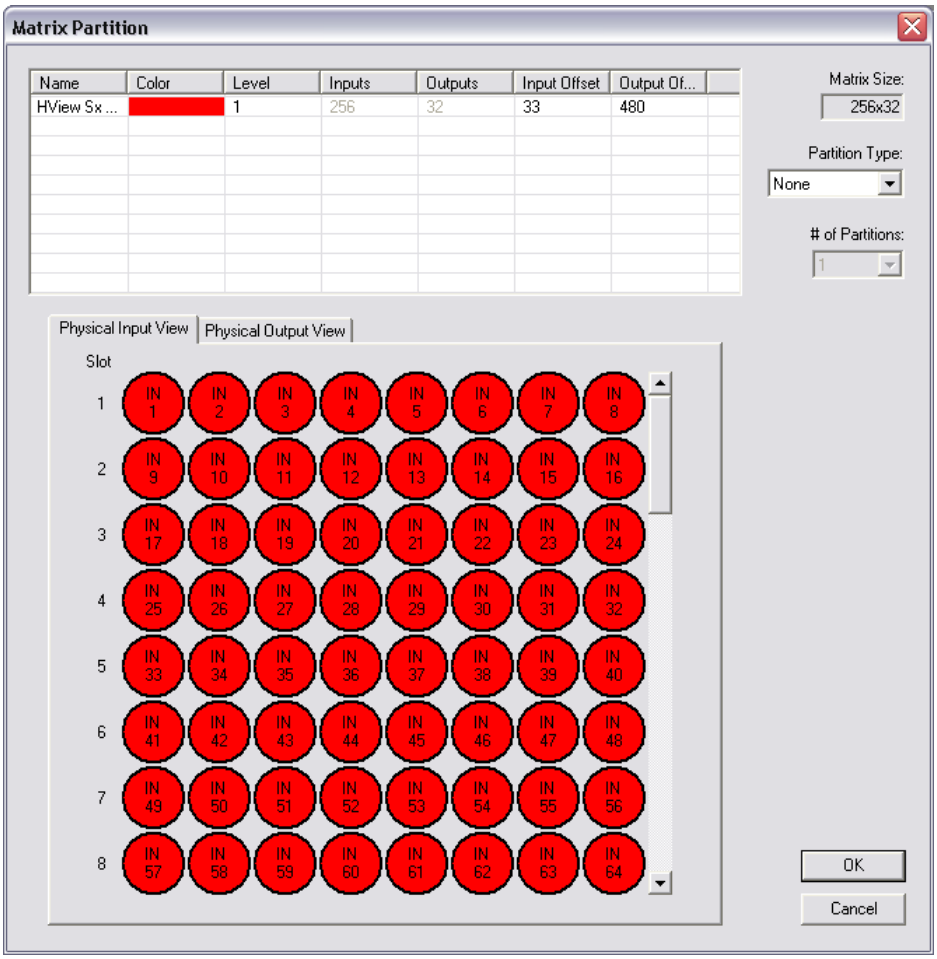


Figure 3-6 Matrix Partition Dialog Box

When you click on the HView SX Pro matrix in the configuration table, both crosspoints highlight, and all the assigned input modules.

Configure levels and offsets as required.

Configuring Multiviewers in Database Editor

1 To open the Router Database Editor, double-click on the item inside the routing system's **Control Views** folder.

In this dialog box, you can make the following changes:

- Configure UMD names

  On the **Sources** tab of the **Database Editor** dialog box, change the contents of the **Name** column to change the UMD names of devices on the multiviewer.
- Create Destinations Representing Actual PiPs
  - **i.** Select the **Sources** tab in the Database Editor.
  - **ii.** Edit the PiP destinations as required.

    Information on different methods of editing your PiP destinations is included in Volume 6 of your *Navigator User Manual*.
  - **iii.** Ensure that the correct destination names appear (or are assigned) to the correct control device(s).

2 When your changes are complete, click **Save**, and then close the dialog box.

3 Right-click the frame in the Routing system, and select **Download**.
This loads the changes to the frame.

Enabling LRC Protocol

HView SX Pro communicates with the Platinum where it is installed using LRC protocol. LRC is not enabled by default on Platinum. To enable LRC, follow these steps:

1 With Navigator in Build mode, double-click the frame in the **Routers** folder to open the **Edit Platinum Frame** dialog box.

2 Select the **Control Settings** tab, and click **Protocols**.

3 The **Change Protocol Settings** screen opens.

4 On the **Protocols** tab, select **LRCProtocol**.

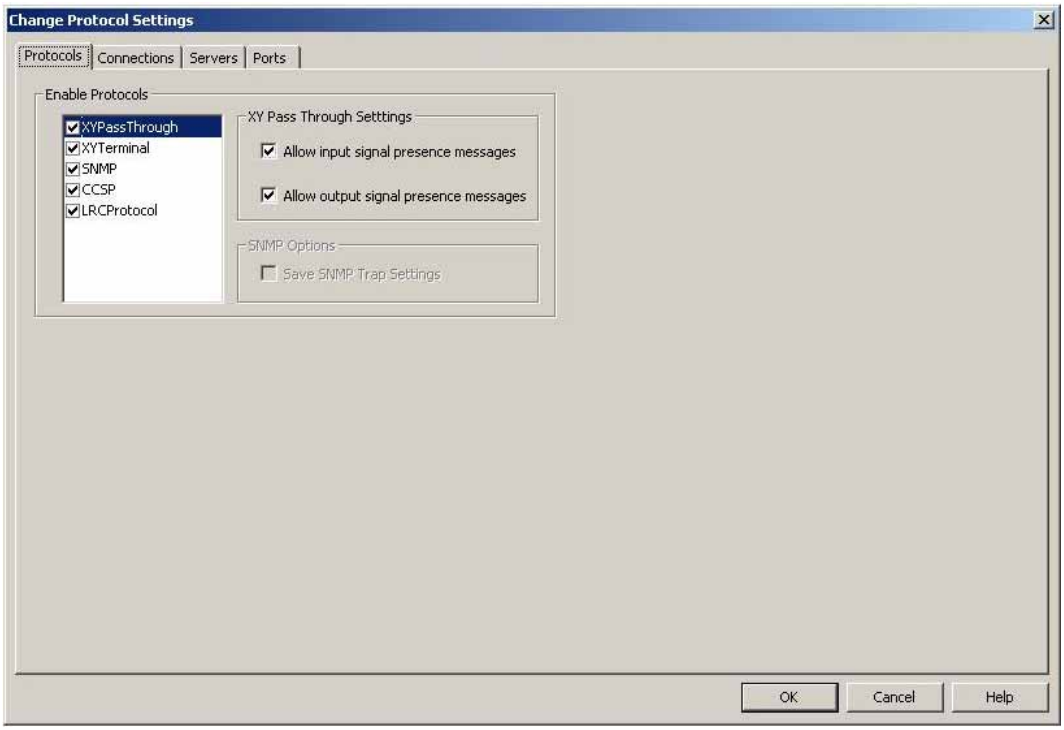


Figure 3-7 Change Protocol Settings Dialob Box, Protocols Tab

5 Select the **Servers** tab and then place a check beside **LRCTCPSrc**.

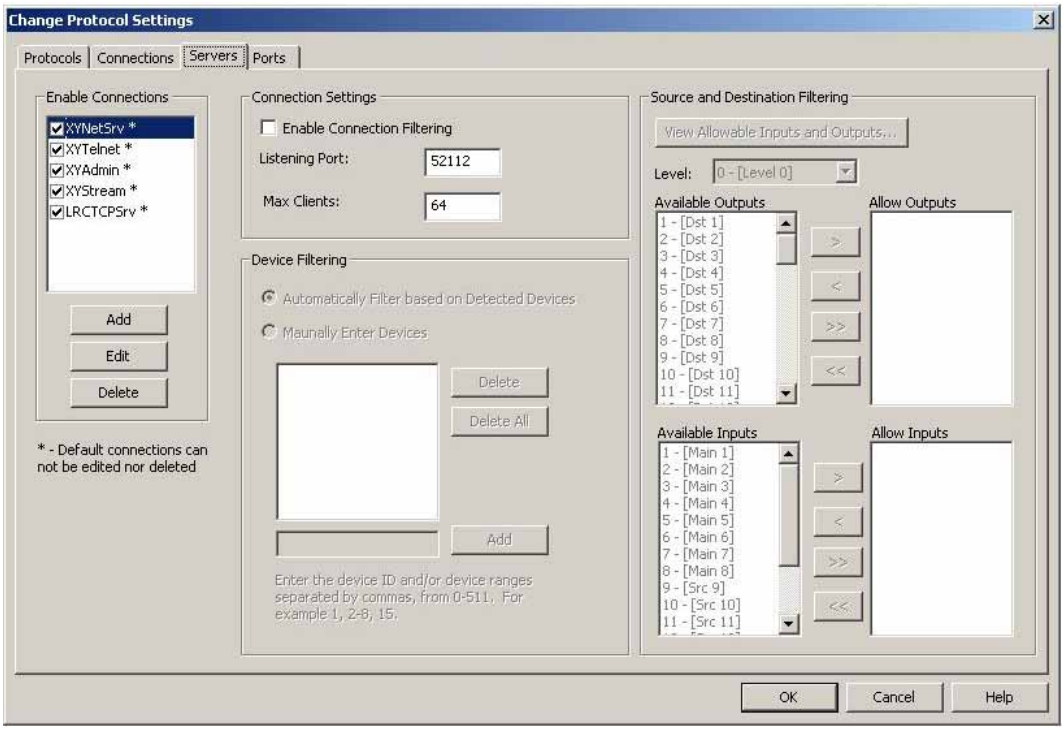


Figure 3-8 Change Protocol Settings Dialob Box, Servers Tab

6 Click **OK** and **Yes** to save.

Settings should take effect in a minute or two. Do not reboot Platinum while the flashes are being written to.

4 Configuring HView SX Pro Using HView Designer

HView Designer Description and Features

HView Designer software has three functions: to create layouts, configure hardware, and control the HView SX Pro system. Using HView Designer, you can configure your multiviewer system settings, and add and configure on-screen input audio and video alarms and on-screen digital clocks.

HView Designer communicates directly with your multiviewer system over Ethernet.

Layouts created with HView Designer can be recalled on the multiviewer hardware using CCS Navigator, Magellan, or on-screen control. For more information, see your Magellan or Navigator documentation, or ***Live Operation*** on page 107.

Multiviewer System Configuration and Monitoring

Use HView Designer's system configuration, control, and monitoring features to:

- Configure multiviewer hardware and calibrate output display devices
- Set up layouts
- Configure aspect ratio markers, V-Chip rating, ATC, closed captioning, teletext, or VITC
- Configure and display input audio and video signal alarms, including audio under and over level alarms, loss of audio, video and metadata alarms, and black and frozen video alarms
- Configure system processing rules that respond to specific hardware and alarm conditions and events
- Assign inputs to windows and audio meters within layouts
- Monitor input audio and video signals with user-defined alarm conditions
- Configure processing rules for specific system events and conditions

Layout Creation and Design

Use HView Designer's layout creation and design features to

- Create layouts from a blank layout or a preset layout template
- Select from a variety of layout backgrounds and background colors
- Add layout objects, such as layout windows (made up of video inputs, borders, tally indicators, audio meters etc.), labels, and alarms to a layout using basic Windows skills

- Resize and position video inputs and other layout objects with pixel accuracy using direct-entry window coordinates
- Open and edit layouts/files that are stored on connected multiviewer systems

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

Getting Started With HView Designer

HView Designer is intended for use creating and modifying layouts, doing configuration of multiviewer hardware, and controlling multiviewers.

See the following topics:

- ***Minimum System Requirements*** on page 34
- ***Logging In To HView Designer*** on page 34
- ***Exiting HView Designer*** on page 35

Minimum System Requirements

The PC you intend to use with HView Designer should meet the following requirements.

- A PC connected to a LAN with:
  - Operating System: Microsoft™ Windows® XP with Service Pack 2, Windows Vista, or Windows 7 (32- or 64-bit)
  - Intel® Pentium® III 450MHz or faster processor (or equivalent)
  - A minimum of 128MB of RAM
- A standard crossover or straight-through100 Mbps 100Base-T RJ-45 Ethernet cable to connect to a PC (the frame auto-detects the cable type)
- JavaScript enabled web browser; for best results use Microsoft Internet Explorer 8.0
- Silverlight version 4.0
- 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).

Logging In To HView Designer

To open a browser connection to a HView SX Hybrid, follow these steps:

1 In your browser, enter the IP address of the HView SX Pro and click **Enter** to connect.

If the HView SX Pro is off or in a failed state (i.e., disconnected), then you will see a "browser cannot display the page" or "browser could not connect" message.

HView Designer appears.

When you are not actively using the interface for the HView SX Pro, please log off out of the system.

Note: *The IP address is assigned to HView SX Pro, not the controller module. When you change Controller modules, you should not have to reassign the IP address.*

Exiting HView Designer

To log off HView Designer, do one of the following:

- Close your browser.
- Navigate to a different page in your browser.

HView Designer Workspace

When you start HView Designer, the Home tab is automatically selected. The workspace appears similar to **Figure 4-1**.

Figure 4-1 HView Designer Workspace

The HView 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 windows, as well as to configure audio meters, alarms, and metadata. You can customize the HView Designer workspace to suit the tasks you are performing.

Each workspace element is described below:

1. **Tabs** - As you open various portions of the interface, tabs are created so you can return to the pages in the state you most recently used them in. Each time you open or connect to HView Designer, you start with the Home screen (or tab). See ***Using Diagnostics*** on page 115, ***Working With Libraries in HView Designer*** on page 83, and ***Configuring Hardware*** on page 36.
2. **Layouts menu** - Provides quick access from the **Home** tab to the Layouts section for creating and editing layouts, and selecting the active preset. See ***Using Diagnostics*** on page 115.
3. **Library menu** - Provides tools for adding layout objects such as windows, layout templates, background images, clock images, and timers, and adding and editing alarm templates and window and clock styles. See ***Working With Libraries in HView Designer*** on page 83.
4. **System** - Options here provide tools to configure your hardware and display monitors. See ***Configuring Hardware*** on page 36.
5. **Diagnostics** - These tools help determine why your hardware is not operating as expected.
6. **Display Devices** - This section shows information of the active displays and the active layout on the display. See ***Display Profiles*** on page 43.
7. **Layout canvas** - Displays the current active layout on the chosen display device. If no display device is selected, or no layout exists on that device, or the device is not currently available, no active layout will appear. See ***Layouts*** on page 49.
8. **Control Panel** - This panel can be hidden or expanded and displays options for the selected element in the layout canvas. See ***Using the Control Panel*** on page 109.

Configuring Hardware

Various parameters are available for configuring the hardware on your multiviewer. You can also configure your hardware using CCS Navigator (see ***Remote Control using Navigator and SNMP*** on page 129) or Magellan control panel (see your Magellan User Manual).

Areas you can configure include automation, GPIs, network settings, timecode and clock source.

To configure your hardware from HView Designer, follow these steps:

1 On the **Home** tab, click **Hardware Configuration**.

The **Hardware Config** tab opens or appears.

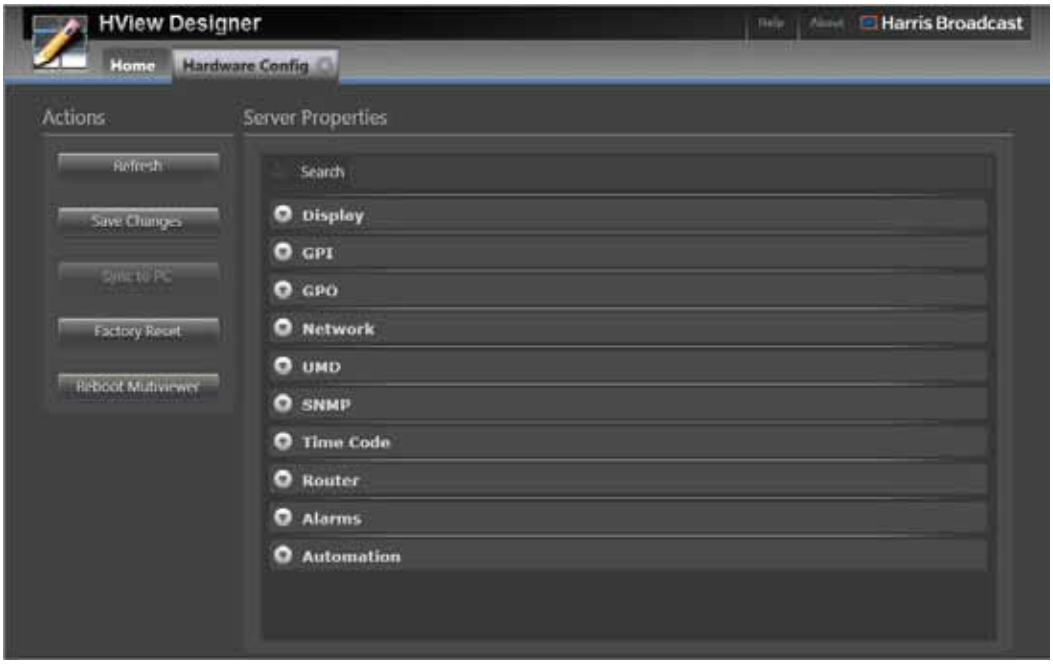


Figure 4-2 Hardware Config Tab of the HView Designer Interface

Within the tab, parameters are organized in groups. Open or close a group by clicking the arrow buttons. Parameters and options appear in **Table 4-1** below.

2 When you have made your changes, click **Save Changes**.

Table 4-1 Hardware Configuration Parameters and Descriptions

Item	Function	Options
Refresh	Reads the current Server Properties settings from the HView SX Pro hardware; can be useful when multiple PCs are connected to a single device.	
Save Changes	Applies Server Properties changes to the hardware.	
Sync to PC/Sync to NTP	This button is not available when the **System Time Source** (found on the **Hardware Config** tab under **Timecode**) is set to **None**. When the **System Time Source** is set to **PC** or **NTP** and the changes are saved, you can click the button to sync to the selected time source.	
Factory Reset	Returns all properties except network settings to their original configuration, including layouts in presets. A factory reset reboots the hardware. When layouts return to the display, the hardware refresh is complete. If you click OK on the Factory Reset dialog before layouts have reappeared, HView Designer disconnects and you may see a "Failure to connect" message.	
Reboot Multiviewer	Restarts the HView SX Pro device.	
Search	Type text and the display updates dynamically to display only items that contain that text.	
Display		
Output Rate	Selects the output display refresh rate	■ 50 ■ 59
SDI Output Standard	Selects the SDI output display resolution	■ 1080i ■ 1080p

Table 4-1 Hardware Configuration Parameters and Descriptions *(Continued)*

Item	Function	Options
HDMI Output Standard	Selects the HDMI output display resolution	■ 1080p
HDMI Signalling Type	Select the type of display output interface.	■ DVI ■ HDMI
GPI		
GPI Mapping		
Usage filter	Determines which GPIs are displayed in the list. Select a usage to display all GPIs that are assigned to that function.	■ **All** ■ Assigned ■ Unassigned ■ Set Tally ■ FullScreen ■ Layout Recall ■ Pause and Resume Timer ■ Reset and Start Timer
GPI	Select a GPI from the list to change its assignment. The mapping is based on the number of ports per connected GPI device. If your first device has 24 ports, those ports are mapped to GPIs 1-24. The second GPI device is then mapped to GPIs 25-48, and so on.	1 - 144 Reset—Sets the GPI back to Unassigned.
Reset All	Sets all GPIs back to Unassigned.	
Refresh	Updates the GPIs list to correctly display all changes since the filter was last applied.	
Usage	Displays the assignment for the selected GPI. To change an assignment, click the usage and choose an item from the menu that appears. When a usage is set, the region of the screen below the usage button updates with parameters for that option, as follows:	
	Unassigned**—**The GPI is not currently used.	
	Set Tally—Toggles the tally state.	■ **Scalar ID**—The video window the tally is associated with ■ **Tally ID**—The tally the trigger is associated with
	FullScreen—Toggles a video window to full screen state or back to the normal layout	■ **Group ID**—The preset the GPI is associated with ■ **Display ID**—The layout the GPI is associated with ■ **Scalar ID**—The video window that will be set to full screen when the GPI is triggered
	Layout Recall—Reverts to the previous layout.	■ **Group ID**—The preset the GPI is associated with ■ **Preset ID**—The layout the GPI is associated with

Table 4-1 Hardware Configuration Parameters and Descriptions *(Continued)*

Item		Function	Options
		Pause and Resume Timer—Turns the timer on or off.	■ **Display ID**—The layout the GPI is associated with ■ **Timer ID**—The timer the GPI is associated with
		Reset and Start Timer—Reverts the timer to its original number and starts timer.	■ **Display ID**—The layout the GPI is associated with ■ **Timer ID**—The timer the GPI is associated with
	GPI Triggers	All GPIs of a specific type will behave in a specific way. The following settings determine how the five types of GPI will behave when triggered.	
In EDGE TRIGGER Mode, an action takes effect when the button goes from OFF to ON, or from ON to OFF. As long as there is a change of state, the corresponding action will take place. For example, if FullScreen Trigger is set to 0, then closing or opening the switch from EBox will trigger the Full Screen or UnFullScreen. In LEVEL TRIGGER mode, the action will only take effect on when the Switch/Button stays ON. For example, if FullScreen Trigger Mode is set to 1 (LEVEL TRIGGER), then pressing and holding the button to ON state will set the corresponding video input to FULLSCREEN, while releasing the button to OFF state will put back the FullScreen video input back to normal layout.			
	Full Screen Trigger	Assigns the GPI trigger to set the display to full screen, or return the previous layout to the display	■ Edge ■ **Level**
	Layout Recall Trigger	Assigns the GPI trigger to recall the previous preset, or to change to the preset indicated by the Preset ID	■ **Edge** ■ Level
	Tally Trigger	Assigns the GPI trigger to turn the tally on or off	■ Edge ■ **Level**
	Timer Reset Trigger	Assigns a GPI trigger to reset the timer to its original value	■ **Edge** ■ Level
	Timer Start Trigger	Assigns the GPI trigger to start or stop the timer	■ **Edge** ■ Level
	GPI (Unit 1 - 6)		
	Enabled	Select the Enabled option when the GPI is in use	■ **Disable** ■ Enable
	GPIO Port	The port number to be used to connect to the eBOX server. If you are configuring multiple eBOXes for use with HView SX Pro, they are all set to the same port number, usually Port 23.	(4 digits)
	GPIO Server IP	The IP address of the eBOX server; this should match the assigned eBOX IP address (see ***Connecting JLCooper eBOX Devices*** on page 21).	xxx.xxx.xxx.xxx

Table 4-1 Hardware Configuration Parameters and Descriptions *(Continued)*

Item		Function	Options
	Number of Ports	Enter the number of ports used. A single eBOX can use up to 24 ports.	24
	Password	You can enter a password that will restrict access to the eBOX. If the field is empty, no password is required.	eBOX
	Password Enabled	Determines whether or not the password is required to access eBOX controls.	■ Disable ■ **Enable**
GPO			
GPO Mapping		The table displays the relationship between GPOs and PiPs.	■ By GPOs — Displays the GPO column first. ■ By PiPs — Displays the PiP Column first.
Set One-One		Assigns the GPOs and PiPs so that GPO1 is assigned to PiP 1, GPO 2 is assigned to PiP2, etc. until all PiPs are used up.	
Reset		Sets all items so the left column (either GPOs or PiPs is sequential and the right column is set to 0.	
Network Config			
IP address		This is the IP address of the HView SX Pro you are connecting to.	
Subnet mask		Mask address of the HView SX Pro you are connecting to.	
Gateway		The portion of your network that this device can communicate with	
Host name		The name that this HView SX Pro displays to users	<string>
UMD			
Port		The communications port through which your HView SX Pro receives UMD data	<string>
Protocol		The type of UMD information the HView SX Pro expects to receive; all supported protocols are listed as options	■ TSL 3.1 ■ TSL 4 ■ TSL 5 ■ Zandar ■ Ross ■ Image video
SNMP			
RW Community		The SNMP group that sends requests to this HView SX Pro	<string>
Subnet mask		The portion of your network that can communicate with this device	
Trap Destination IP		The address that this device will send SNMP traps to	
Traps		Determines whether this HView SX Pro sends trap data on the SNMP network; this can create excessive network traffic during configuration	■ Enabled ■ Disabled

Table 4-1 Hardware Configuration Parameters and Descriptions *(Continued)*

Item	Function	Options
Time Code		
NTP host	The source the HView SX Pro looks to when **Sync Time Source** is set to NTP time	Enter the IP address of the NTP time server.
Sync time source	The source the HView SX Pro relies on for time code input	None—When this is selected, **Sync to PC** is not available in the Actions section of the screen. When **Sync to PC** mode is enabled, the button is then enabled in the **Actions** section. ■ Sync to PC—The HView SX Pro module queries the PC for the time when you click **Save Changes**, and then free-runs at the accuracy of the local oscillator. The **Sync to NTP** button updates to display **Sync to PC**. ■ Sync to NTP—If this is selected, the **Sync to PC** button at the left of the page updates to **Sync to NTP** and the clock source changes.
Router		
IP Address [RO]	IP of the Platinum or IP3 router controller that contains this HView SX Pro	Based on your network's settings; by default this field is read-only and shows the router's ENET1 connection IP address.
Port	The communications port through which your Platinum router sends and receives data. Normally set to the default port number 52116 which is used by LRC protocol.	<string>
Override / Read Only Mode	Normally the Router IP address is read-only. Some routers are configured to use more than one IP address and ENET connection. Click **Override** and the field becomes read-writeable, so you can enter a different IP address. When you click **Save Changes**, the connection is changed for the HView SX Pro.	
Alarms The alarm levels are universal, meaning they apply to all instances of that particular alarm on all layouts on the system. To modify via a slider, click on it with the mouse and drag right or left, or click right or left of the slider to move it in that direction.		
Alarm file	The XML file that the alarms are stored in	GlobalAlarmLevel.x ml
Audio over level	The level over which the audio must be in order to trigger an alarm	-60 – **0** dB
Audio under level	The level under which the audio must be in order to trigger an alarm	-60 – **0** dB
Audio under time	The amount of time the audio must be under the specified **Audio under level** before an alarm is triggered	0 – 120 s (**3**)

Table 4-1 Hardware Configuration Parameters and Descriptions *(Continued)*

Item	Function	Options
Black picture level (measured in mV)	The video level at which pixels are deemed to be black. Black is set to 16 (default) and white is set to 235	1 – 763 (**108**)
Black picture percent	The percentage of picture allowed above the black level threshold in a dark picture; the threshold back-off percentage control is provided so that a brief period of blackness will not trigger a **Black Picture** alarm	1 – 100% (**50**)
Black picture time	The amount of time the picture contains the amount of black as set by the **Black Picture Level** and **Black Picture Percent** parameters before an alarm is triggered	0 – 120 s (**3**)
Frozen picture level	The amount the picture is frozen by the level of the Frozen picture level parameter before a frozen picture alarm is triggered	1 – 30 (**27**)
Frozen picture percent	The amount the image must be still before a frozen picture alarm is triggered	0 – 120 s (**3**)
Sync loss time	The amount of time sync must be lost before an alarm is triggered	0 – 120 s (**3**)
Temperature level	The module's internal temperature above which an alarm is triggered	1 – 100 (**27**)
Automation		
Port	Determines the source of automation commands the device will accept	4002 (default)

5 Display Profiles

Display Profile Overview

The canvas area of the Home tab allows you to view an entire display profile, one layout at a time. HView Designer uses the following terminology:

- **Display**: a physical monitor that shows a layout.
- **Layout**: the content that appears on one display.
- **Preset**: A group of layouts that show on the displays. Presets assign layouts as a group to monitors in order to maximize the scalar resources (the number of video inputs) of the HView SX Pro hardware.

Click on the Display bar at the top of the screen to see the layout assigned to a particular display. The layout and its currently assigned inputs show on the screen. From here, you can click Edit Active Layout to open the layout in the layout editor. See ***Using Layout Editor*** on page 54.

Click a display to view the current layout on that display.

Active layout on the selected display

When the control panel is open, you can control the active layout. See *Using the Control Panel* on page 109 for more information.

Figure 5-1 Display 1 is Currently Selected

Configuring Displays and Display Profiles

Before you can configure your output displays for use with HView Designer, you should have discovered your HView SX Pro device using CCS Navigator (4.9 or higher) and added the multiviewer to a Platinum or IP3 matrix.

After this intial configuration is done, the HView SW Pro automatically discovers the router's resource card. The router's source and destinations names are available using Harris Broadcast LRC protocol over the default port number 52116.

Each HView SX Pro 16 can drive three monitors, and each HView SX Pro 32 or 64 can drive six monitors. All monitors must be the same pixel and frame rate, and they are synchronized when connected to HView SX Pro.

A display profile is a description of the layouts on displays within a group. If no profiles are available for the HView SX Pro (perhaps because it is a new device, with no profiles created) **Change Display Profile** is not enabled.

Select **Create Display Profile** and **Change Display Profile** in the **System** section of the **Home** tab to open the **Display Profile** tab.

Once this tab is available, you can open it by clicking on it, or close it by clicking the X in the tab's title.

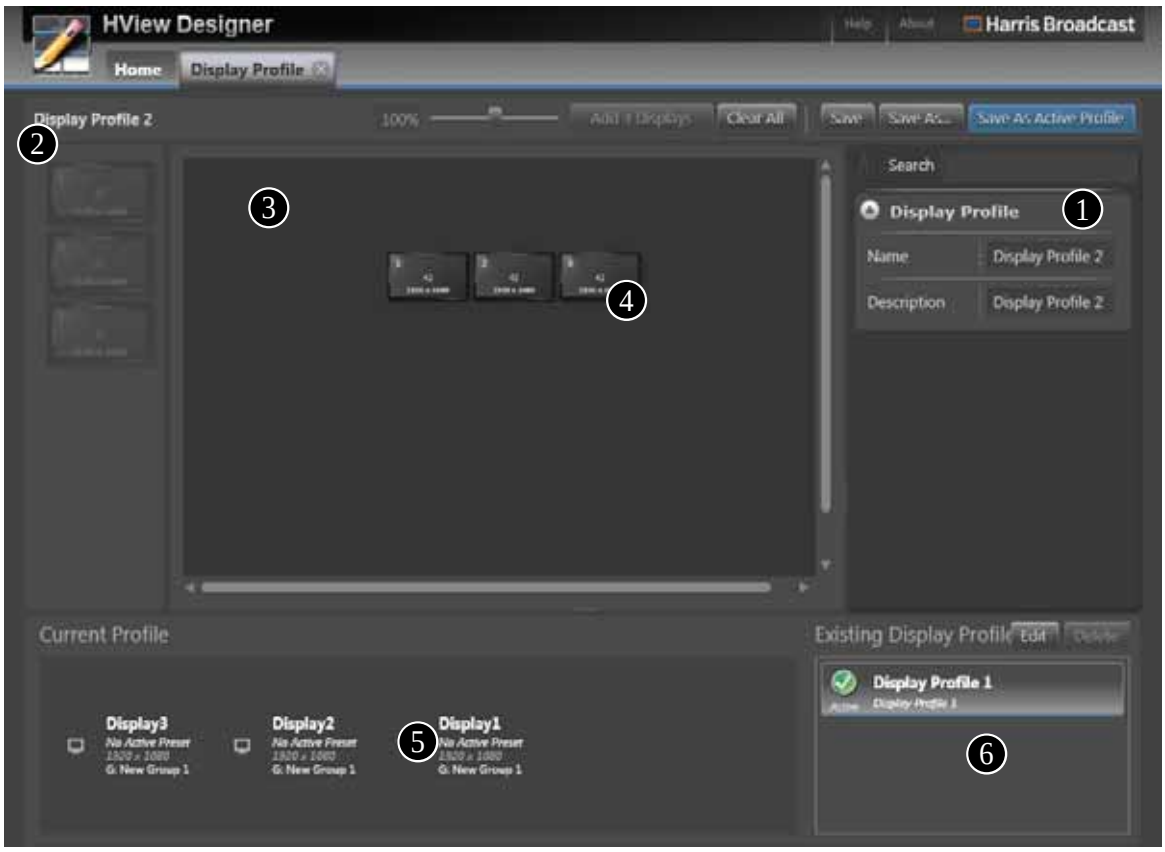


Figure 5-2 Display Profile Tab

Table 5-1 Display Profile Tab Definitions

Key	Item	Function
❶	Display Properties	This column updates depending on the selected item in the canvas. ■ **Display Profile** — Background is selected. These options apply to the entire display ■ **Group Properties** — Group is selected. These options define the whole group. ■ **Group Actions** — Delete the group.
❷	Available displays	The list shows all displays associated with the device. Bright displays are available to be added to the profile; dull displays are not available. If your device is a HView SX Pro16, three displays are available. If it is a HView SX Pro32 or 64, then six displays are available. As you add displays to the profile canvas, they disappear from the Display profile list. Each display can be added to the profile once.
❸	Profile Canvas	Displays the currently selected displays in the profile.
❹	Display Object	Shows a thumbnail representation of the current display profile on the display canvas.
❺	Current Profile	Shows descriptions of all items in the profile.
❻	Existing Display profiles	Lists all saved profiles.

Creating a Display Profile

1. On the **Home** panel, click **New Display Profile**.
   The **Display Profile** tab appears and/or comes to the front.

2. In the Display Profile data area at the right of the dialog box, enter a name and description for the display profile.

You can enter or change the display profile's name later by clicking on the background of the canvas area. When you save the profile, it will have this name and description in the bottom right corner of this screen.

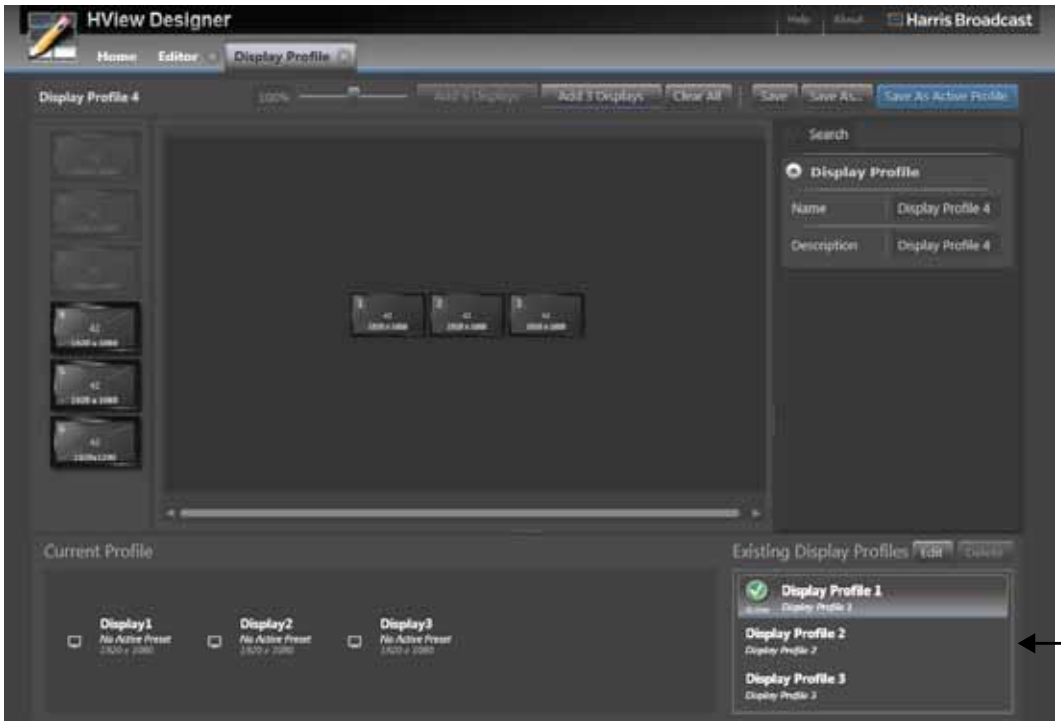


Figure 5-3 Display Profile Screen

It will also have this name and description in the **Change Display Profile** dialog box

3 To add displays to the profile, click **Add 3 Displays** or **Add 6 Displays**.

If you have a HView SX Pro 16, then you can add 3 displays. If you have HView SX Pro 32 or HView SX Pro 64, you can add 6 displays.

To delete a display or group of displays from the canvas, click once on the group of displays, and then click **Delete** on your keyboard, or click **Delete** or **Delete Group** under **Display Actions**, or right click on the group and select **Delete Display**.

As you add and delete displays from the profile, the **Current Profile** section of the screen updates to show information about the displays, including their size, active preset, and the group they are assigned to.

4 Save the profile in one of the following ways:

- Click **Save** to save the profile
- Click **Save as** to save the profile with a different name and description
- Click **Save as Active** to save the profile with its current name and description, and update the profile on the connected displays

Setting the Active Display Profile

The active display profile is the one that is currently assigned and in use on the HView SX Pro. You can set the active display profile from the **Display Profile** screen by clicking **Save as Active Profile**. You can also set the active profile from the **Home** panel. Follow these steps:

1 Click **Change Display Profile**.
The following window appears:

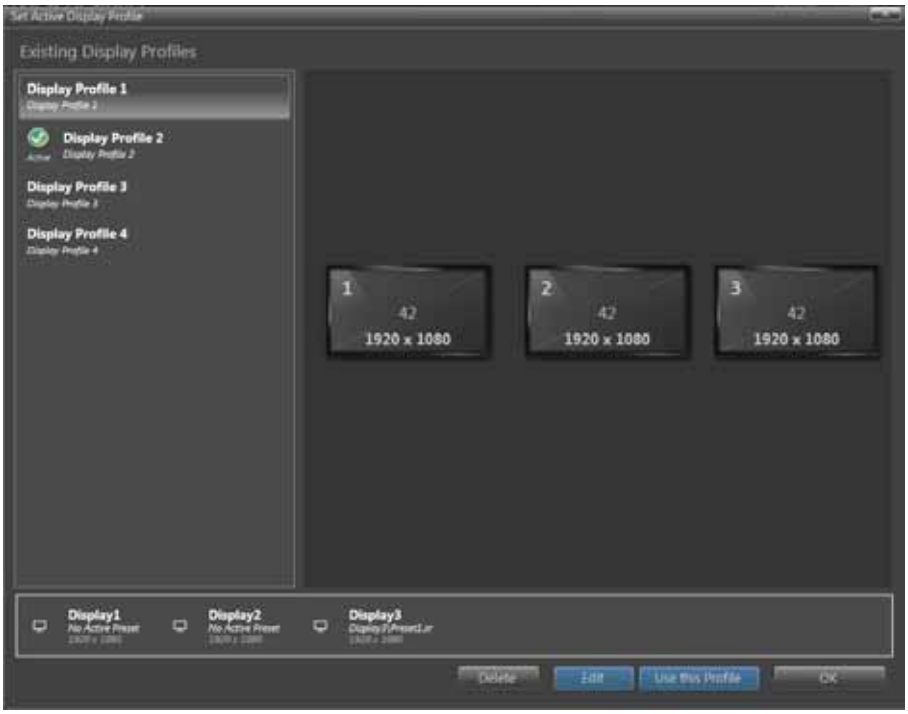


Figure 5-4 Set Active Display Dialog Box

The active profile on the HView SX Pro has a green check at its left.

2 Click an item in the **Existing Display Profiles** list to see the displays in the canvas to the right, and a description of each display in the banner across the bottom.
3 Click **Use this Profile** to set the selected profile as the active profile on the HView SX Pro.
4 On this screen, you can also do the following:
- **Delete**—Removes the profile from HView SX Pro and memory
- **Edit**—Opens the selected profile in the **Display Profile** tab

5 Click **OK** to close the **Set Active Display Profile** screen.

Editing a Display Profile

1 In the bottom right corner of the Display Profile tab, select a profile from the **Existing Display Profiles** list.
The active profile on the HView SX Pro has a green check at its left.

2 Click **Edit**.
The layout displays appear in the **Display Profile** canvas.

3 Make changes.
See ***Creating a Display Profile*** on page 45 for tools and options for display profiles.

4 Click one of the **Save** options.

6 Layouts

Working With Layouts

A layout is an arrangement of windows and other layout objects. Windows are containers that are used to store a compilation or arrangement of layout objects, such as video inputs, audio meters, and tally indicators to display video and information from the multiviewer's various input sources. Other layout objects include clocks, timers, backgrounds, and stand-alone labels.

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

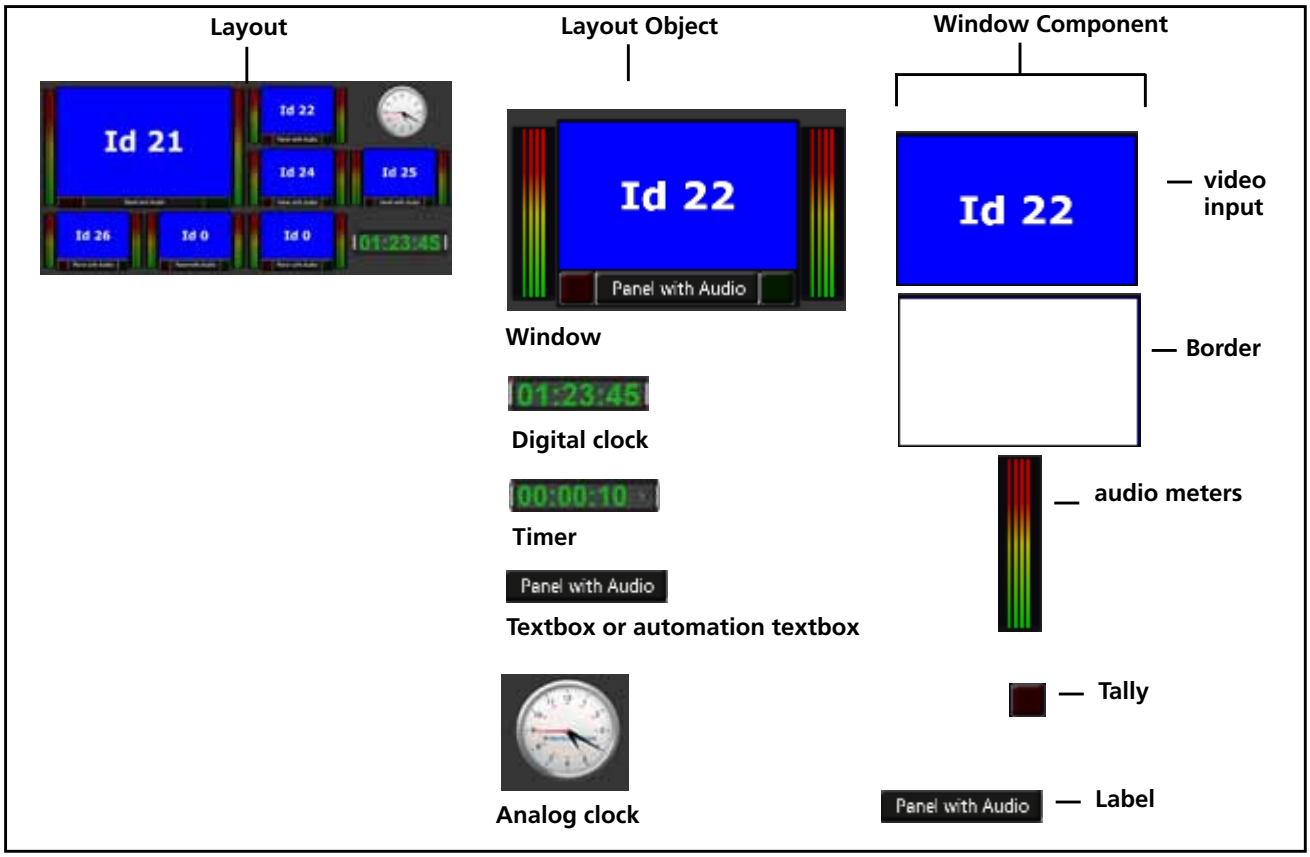


Figure 6-1 Layout, Windows, and Layout Objects

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

Creating New Layouts

Using the Layout Creation Wizard, you can create customized layouts starting with a predefined layout and using objects from the library. You can then save the layout and publish it to your multiviewer for display.

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

New layouts can be created "offline," which means that you can use HView 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 multiviewer to create and edit layouts.

1 From the HView Designer **Home** tab, do either of the following:

- Click **New Layout Using Template**
- With a display that has no active preset (so the central region of the **Home** tab looks like **Figure 6-2**), click **Create New Layout**.

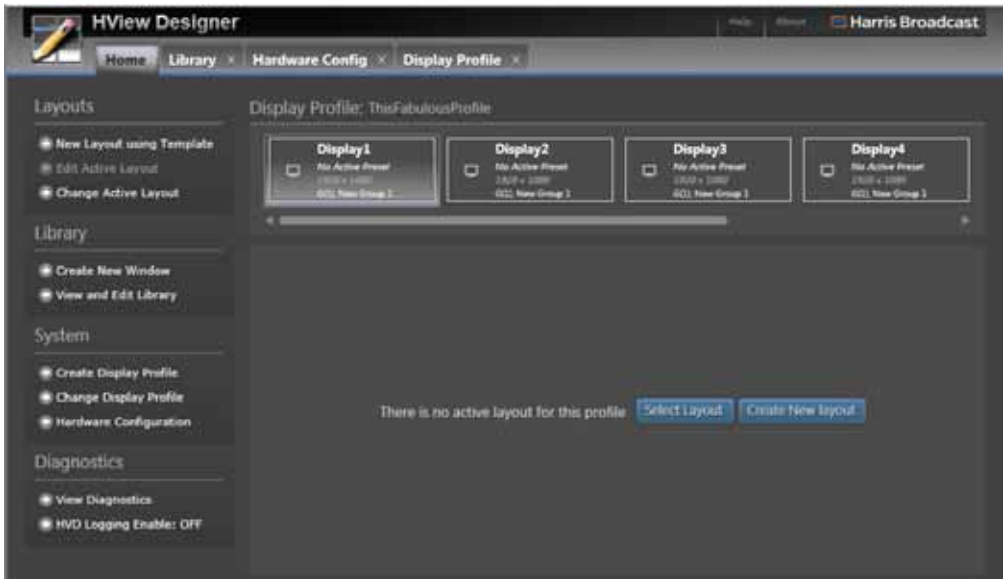


Figure 6-2 Display 2 Has No Active Preset

- Click **Change Active Layout**, and then click **Create New Layout**.

The **New Layout** dialog box opens.

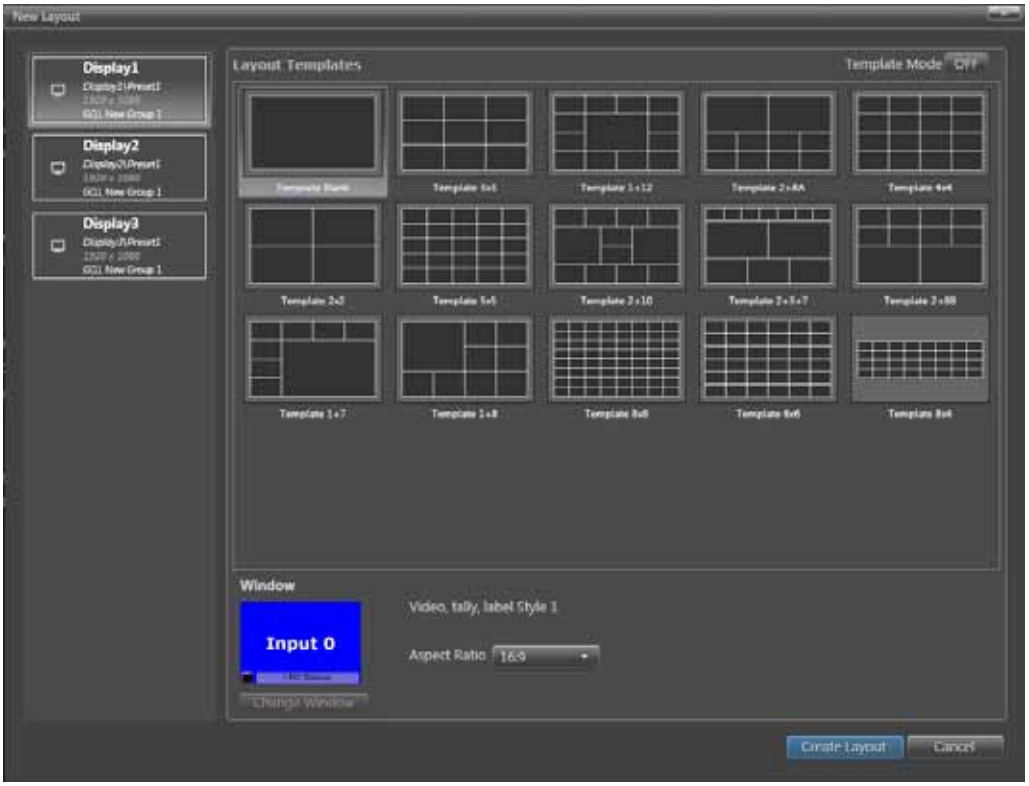


Figure 6-3 New Layout Dialog Box

2 From the **Display Profile Configurations** list, choose a display.

3 Click on a template to select it.

A thumbnail of the window that will be used to populate the template is shown at the bottom of the dialog box. To the right of the window is a brief description of the window and a button indicating the currently selected aspect ratio.

4 To change the aspect ratio of the window, click the aspect ratio button. Options include:

- Free (the width and height of the window can be changed independently)
- 16:9
- 14:9
- 4:3

5 If you want to change the window:

a Click **Change Window**.

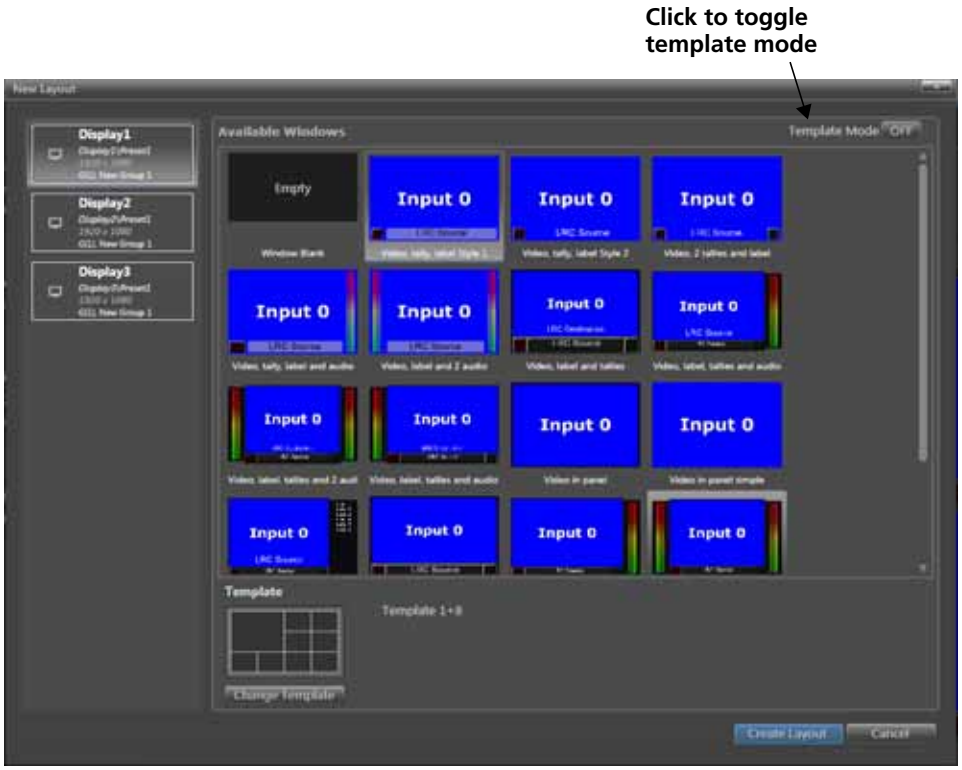


Figure 6-4 Available Windows Dialog Box

b Select the window you want to use.

c (Optional) Click **Change Template** to return to the template selection screen.

Some combinations of layout and window may be disabled, due to unavailable space in the layout for all the window's elements. If your combination will result in an unacceptable layout, a message will appear at the bottom of the dialog box.

6 Select a setting for Template mode.

- **Off**—you will be able to freely add or remove layout items in the Layout editor.
- **On**—you will be able to drag and drop new items to replace old ones in the Layout editor. Items can only be moved or resized within the grid boundary.

Once the layout is created, you will have options to change the template mode to either

- **Manual mode**—Items are dropped at the cursor point
- **Auto mode**—Items are auto-placed from left to right, top to bottom

Once a layout stops being in Template mode, you cannot return it to that state.

7 Click **Create Layout**.

*If the **Create Layout** button is unavailable, it may be due to an inappropriate combination of window and layout. Change one of these options to a simpler selection. The button will return to availability.*

The new layout opens in the **Editor** tab. Each region of the layout is populated by the selected window.

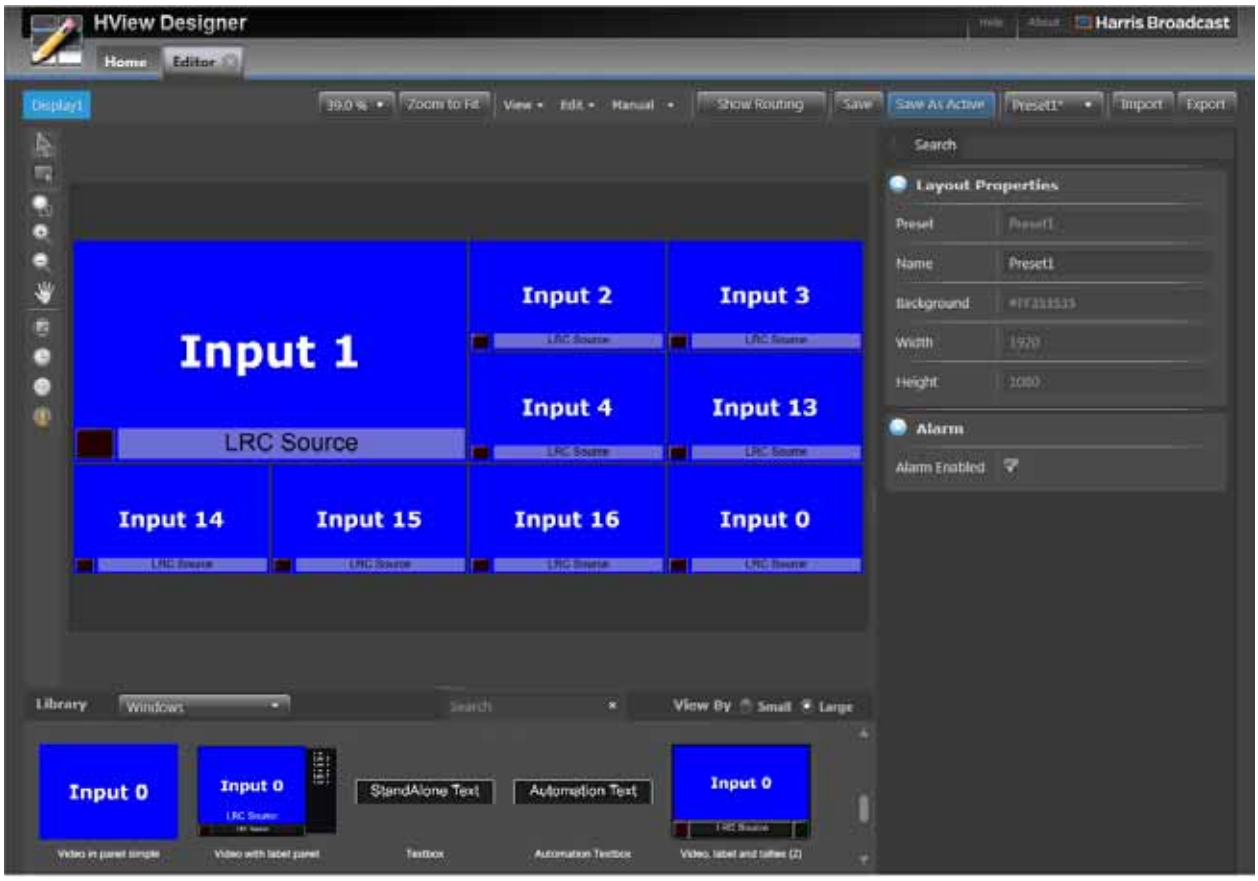


Figure 6-5 Editor Tab for a New Layout

Duplicate Windows are only seen in Wide band mode. In Multi viewer mode you do not see duplicates. See ***Creating a New Routing Matrix*** *on page 26 for more information.*

8 Modify the layout.

See ***Using Layout Editor*** on page 54.

9 From the Preset menu, select a preset to assign the layout to.

If there is already a layout in the selected preset slot, you will be asked if you want to overwrite that preset.

10 To save the layout do one of the following:

- Click **Save** to save the layout to the selected preset.
- Click **Save as Active** to save the layout to the selected preset and display this preset on Hview SX Pro output.
- Click **Export** to save the layout to the current PC or to another network location.

Opening a Layout for Editing

You can always edit the active layout for the selected display by clicking **Edit Active Layout**. To choose a different layout for editing, follow these steps:

1 Select a display.

2 Click **Change Active Layout**.
The **Change Active Layout** dialog box opens.

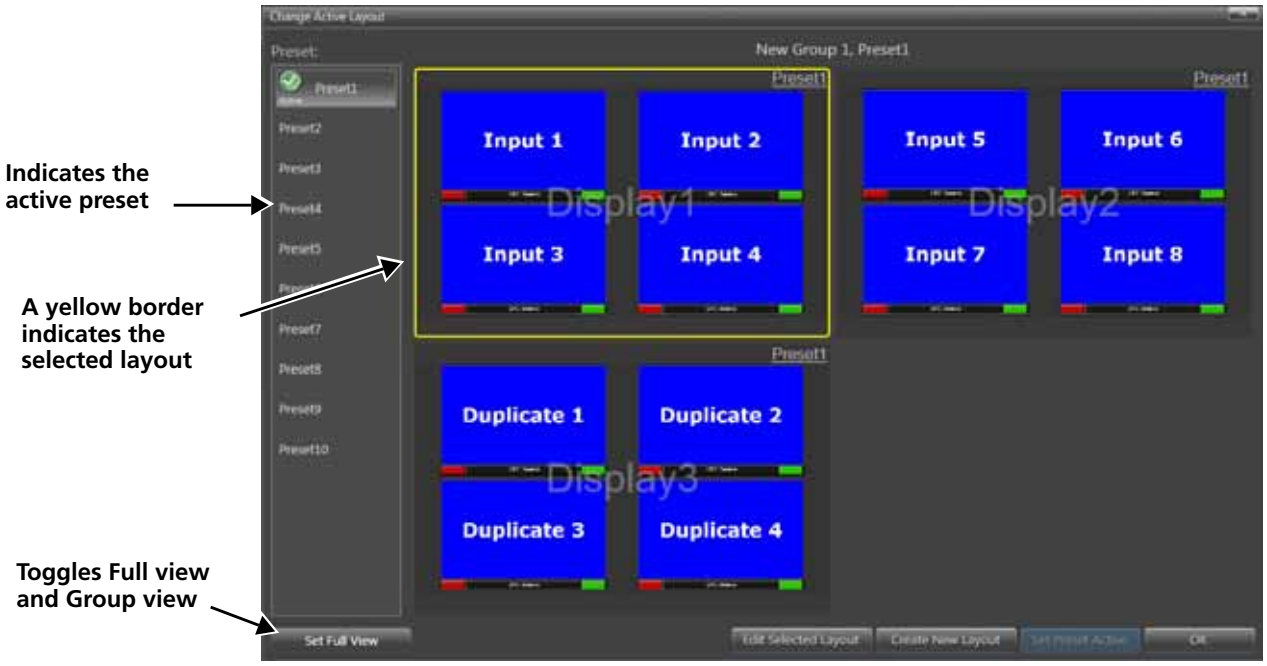


Figure 6-6 Change Active Layout Dialog Box

3 Select a preset from the list on the left.
The display at the center of the screen updates to show the layouts involved in that preset.

Click a layout and then click **Set Full View** to see that layout in full-screen. Click **Revert to Group View** to see all layouts (there will be three layouts with HView SX Pro-16 and HView SX Pro-8x3-28 modules).

4 Click **Edit Layout**.
The **Set Active Layout** dialog box closes and the layout opens in the **Layout Editor** tab.

You can now make changes to the layout and save it as described in ***Using Layout Editor*** on page 54.

Using Layout Editor

When you create a new layout or open a layout for editing, it opens in the Editor tab. Only one layout at a time can be open for editing.

Figure 6-7 illustrates an overview of Layout editor options and controls.

Figure 6-7 Using HView Designer Controls and Options

1. Selection tools. See ***Tool Palette*** on page 56.
2. Layout canvas. For more information, see ***Adjusting the Layout Canvas*** on page 58.
3. Display controls. For more information, see ***Display Controls*** on page 57.
4. Modify object properties for the selected item. See ***Editing Window Components*** on page 67 and ***Editing Layout Component Properties*** on page 63.
5. Library objects. The Layout Editor's library panel only shows objects available to layouts. See ***Working With Libraries in HView Designer*** on page 83.
6. Save options. See ***Save Controls*** on page 58.

You can drag and drop objects from the library to the canvas.

Tool Palette

The tool palette at the left side of the screen provides access to common functions

Table 6-1 Tool Palette

Tool	Name	Function	
	Pip window selection	Selects a window object. When a window object is selected, you can edit the general components of that window, including alarms assigned to it, its position, and its source properties. Objects selected with this tool have a dotted red outline. Click and hold the mouse button while dragging the mouse to select multiple items, or hold the SHIFT key and click on multiple items.	
	Pip sub-widget item selector	Selects a component of a window, such as a video input, label, tally, audio meter, clock, or timer. When a component is selected, you can edit its unique properties. If this tool is not available, select a window and then try again. Objects selected with this tool have a yellow outline. See ***Using Component Mode*** on page 71.	
	Zoom	Click the left mouse button to zoom in. Hold the Ctrl key and click the left mouse button to zoom out.	
	Zoom In	Left mouse button zooms in	
	Zoom Out	Left mouse button zooms out	
	Pan	Use the pan tool to move the view of the section of the layout while zoomed in on a layout.	
	Select Window	Opens the Window library, which contains windows and standalone labels that can be added to the layout.	**Note:** the library pane must be enabled in the **View** menu to see these libraries. See ***Adding Objects to the Layout*** on page 59.
	Select Clock	Opens the Clock library, which contains various styles of digital and analog clocks that can be added to the layout.	
	Select Timer	Opens the Timer library, with up and down timers that can be added to the layout.	
	Select Alarm	Opens the Alarm Templates library.	

Display Controls

Table 6-2 Display Controls

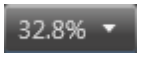
Button	Description	Function
	Zoom Level	Click to choose a zoom level. The button indicates the current level.
	Zoom to Fit	The button resizes the layout to fill the display space provided.
	View Menu	Menu turns on or off extra display elements. The **View** menu contains the following options: ■ **View Grid (Q)**—Turns on/off a crosshatch background to aid in aligning objects. This is more useful when there are less things on the layout. ■ **View rulers**—Turns on or off the rulers on the left and top of the canvas. When rulers are visible you can add guides to the layout. ■ **View Library pane**—Turns on or off the library pane at the bottom of the screen. See ***Using the Library Panel*** on page 60. ■ **View Property pane**—Opens or closes the property pane at the right of the screen. See ***Adjusting Layout Properties*** on page 59 and ***Editing Layout Component Properties*** on page 63. ■ **View Guides**—Turns on or off guides, if there are any. This is independent of the View Rulers option which allows you to add guides. See ***Using Guides*** on page 62.
	Edit Menu	The **Edit** menu contains the following options: ■ **Undo**—Undoes up to the last 25 actions. ■ **Redo**—Redoes the most recently undone action ■ **Delete**—Removes the currently selected item. ■ **Select All** (CTRL A) ■ **Unselect All** (CTRL space) ■ **Copy Window** (CTRL C) ■ **Paste Window** (Ctrl V)

Table 6-2 Display Controls *(Continued)*

Button	Description	Function
	Format Menu (displays the format state)	The **Format** menu setting determines editor mode for behavior for adding items to the layout: ■ **Auto Format**—Items are auto-placed from left to right, top to bottom ■ **Manual Format**—Items are dropped where the cursor points ■ **Template Format**— Items can only be replaced, moved or resized within the grid boundary Once you switch from Template Format, it is no long available.
	Show Routing / Show Video Input	Toggles display of the actual video input or the name of the video input on the display.

Save Controls

Table 6-3 Save Controls

Button	Description	Function
	Save	Saves the current layout to the selected preset on the HView SX Pro
	Save as Active	Saves the layout to the selected preset and displays this preset on the HView SX Pro output.
	Preset	Assigns the layout to one of the presets on the HView SX Pro. The active preset is indicated in this menu with an asterisk.
	Import	Opens a layout from a local (non-HView SX Pro) location, such as a server, local PC drive, or removable storage.
	Export	Saves the layout to a local (non-HView SX Pro) location, such as a server, local PC drive, or removable storage.

Adjusting the Layout Canvas

You can drag the dividing line between the Library pane or Property pane and the canvas, making the canvas larger or smaller. You can also increase the view of the layout canvas by disabling the view of the **Library** and/or **Properties** pane.

1 Hover the mouse over the line between the screen areas.

The mouse turns to a pair of arrows, indicating you can drag up and down (library pane), or left and right (Property pane).

2 Click the mouse.

The dividing line between the two screens turns blue.

3 Do either of the following:

- While holding the mouse button down, drag the mouse in the directions indicated by the arrows of the mouse, and then release.
- Use the keyboard arrows to move the divider in the available directions.

Items in the Library and Property windows arrange themselves to best use the space available when the cursor is dropped.

Adjusting Layout Properties

To open the **Layout Properties** and **Alarm** palettes, click on the layout background. These palettes are described in **Table 6-4** and **Table 6-5**.

Grey rows are read-only.

Table 6-4 Layout Properties

Item	Function
Preset	Displays the preset that is assigned to this layout.
Name	Enter a descriptive title for the layout; this title will help define the layout in other regions of the interface.
Background	If no graphical background has been assigned, this field shows the hex description of the solid color background. The color code is an eight-character hexadecimal value representing the alpha and colors red, green, and blue with (#AARRGGBB). For example, the color of red, the color code is #FFFF0000, which is '255' alpha, '255' red,'0'green, and '0' blue. The alpha channel which is the level of transparency is normally set to FF or '255' If a graphical background has been assigned to the layout from the library, then the file name for the background is displayed.
Width	The X axis size of the layout; the size of the layout will match the selected output video standard resolution.
Height	The Y axis size of the layout; the size of the layout will match the selected output video standard resolution.

Table 6-5 Layout Alarm Properties

Item	Function
Alarm Enabled	All layout alarms and alarms actions can be disabled for troubleshooting purposes and then enabled again retaining previous alarms settings.

Adding Objects to the Layout

Objects are added to the layout from the library.To add an object to the canvas, follow these steps:

1. If the library is not open, first open it by selecting **View** > **View Library Pane** from the bar above the layout canvas.
2. Select the correct library by doing either of the following:
   - Select an item type on the tool palette.

- Select from the menu in the top left of the Library panel.

  If you select **All**, then all objects that can be added to the layout are displayed in the library. Other libraries offer a more limited selection. At no time will the library offer items such as widgets that cannot be added independently to the layout. Objects that can be added include:

3 In the library, select the specific object and drag it to the layout canvas.

New items always start out in the top left corner of the layout.

Using the Library Panel

The library panel contains all the elements that can be added to a layout.

If the Library panel does not appear in the **Editor** tab, open it by selecting **View** > **View Library** Panel from the top of the screen. You can expand or contract the **Library** panel by hovering the mouse over the middle of the top of the panel until the mouse displays a double-pointed arrow. Click and drag the cursor up or down, and then release when the panel is at the size you want.

From the **Library** menu, the following sub-menus are available:

- **All**—Displays all elements available to add to a layout.
- **Windows**—Displays groups of elements. You can also make custom windows. See ***Creating Windows*** on page 87.
- **Backgrounds**—Displays backgrounds. By default, HView Designer has some generic backgrounds. You can add your own custom backgrounds. See ***Adding and Removing Backgrounds*** on page 86.
- **Clocks**—Shows all clocks, both analog and digital. You can also make custom digital clocks. See ***Editing Clocks*** on page 101.

  You can add up to 12 clocks to layouts within a group on an HView SX Pro system.
- **Alarm Templates**—Shows all alarm templates that have been created. You can also customize alarm templates. See ***Working with Alarms and Alarm Templates*** on page 104.
- **Timers—**Contains an up timer and a down timer. See ***Editing a Timer*** on page 64.

  For best results, do not add more than 10 timers to layouts in an HView SX Pro system.

Adding a Background to the Layout Canvas

The background of your layout can be an image, or it can be a solid color. See the following topics:

Adding a Graphical Background

You can add any image stored in the library as the background to your layout. Follow these steps:

1 If the library is not already open, select **View** > **View Library Pane** from the button bar at the top of the screen.

2 (Optional) From the **Library** menu, select **Backgrounds**.

3 With your mouse, click on a background and drag it to the layout.

The layout updates to show the background behind all layout objects.

For information on adding graphics to the Background Library, see ***Adding and Removing Backgrounds*** on page 86.

Using the Color Selector Dialog Box

Right click on the background of the layout and select **Change Background Color**. The **Color Selector** dialog box opens to assign a color to the background.

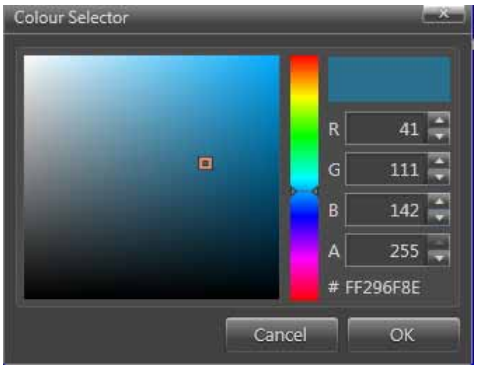


Figure 6-8 Color Selector Dialog Box

To choose a color:

1. Choose a hue using the slider bar.
2. In the shade region of the screen, click the shade you want.
   You can also enter the RGB numbers of your color.

Alpha channel (A) is the level of transparency and is normally set to FF or '255'.

The palette in the top right of the dialog box updates to show your color.

3. Click **OK**.
   The background changes to the selected color.

Moving Objects on the Layout Canvas

With the Selection tool active (see ***Tool Palette*** on page 56) click an object on the Layout Canvas, then while holding down the mouse button, drag the mouse to move a window.

You can move multiple objects by holding the Shift button and clicking on individual objects, or by holding down the mouse while dragging a rectangle around the objects to be selected.

The selected object in the layout canvas has a red dotted border and small blue squares on its corners and sides. To resize an object, click any of the small blue squares, hold down the mouse button and drag to resize the window. The window is resized proportionally.

When you click on an object in the layout and drag it, it will snap to the guides, or to other objects in the layout.

You cannot drag an object off the layout area or position it partially on the layout area. All objects must be entirely within the layout.

Using Guides

If you have rulers open on the layout, roll the mouse over the ruler and click to add guides to the layout.

Adding Guides

To add a guide, follow these steps:

1. If rulers are not visible at the top and left of the layout canvas, select **View** > **View Rulers** to make them visible.
2. From the **View** menu, select **View Guides**.
   If there are guides already on the layout, they become visible.
3. Click the mouse on the ruler at the point where you want a guide to appear.
   A red line appears on the layout canvas.

Moving Guides

1. To select a guide, drag the mouse across any point on the background over the guide (do not click and start to drag over a window or other layout element, as that element will be selected).
   The guide gets a red dotted line around it. The mouse pointer turns to a pointing finger icon.

Figure 6-9 Pointing Finger Icon

2. To reposition the guide, click and drag the handle on the guide with your mouse, and then release when the guide is positioned how you want it.

Deleting Guides

To delete a guide, follow these steps:

1. Drag the mouse across any point on the background over the guide to select the guide.
2. Press **Delete** on your keyboard.

Editing Layout Component Properties

When you click on a non-Window object in the layout canvas with the Pip Window selection tool, the following options appear:

Table 6-6 Window General Properties

Parameter	Function/Range
Name	You can enter a descriptive name for the window as a whole
ID	(Read-only) A numeric index, only appears for objects that can be connected to another object, such as a timer.
Top	The position of the top edge of the window in reference to the left edge of the layout; you can move the window by changing this number
Left	The position of the top edge of the window in reference to the top of the layout; you can move the window by changing this number
Width	The X axis size of the window; you can resize the window by changing this number. If you change the number and click **Enter**, the height is changed proportionally. To change just the width of the window, press **Shift + Enter** to confirm the change.
Height	The Y axis size of the window; you can resize the window by changing this number. f you change the number and click **Enter**, the width is changed proportionally. To change just the height of the window, press **Shift + Enter** to confirm the change.

Right Click Options with the Pip Window Selection Tool

When you right-click a window or other layout element with the Pip Window selection tool, you have these options:

- **Copy Window**—Places all the properties of the selected window except its size and position on the clipboard.
- **Paste Window Properties**—Applies all window properties except the window size and position to the selected window. (Audio meters are included in the paste only when the two windows have the same number of audio meters.)
- **Paste Alarm Properties Only**—Applies only the alarm settings from the copied window to the selected window.
- **Edit Window Style**—Opens the selected window in the Window editor. See ***Copy and paste options include metadata, alarms, etc.*** on page 79.
- **Set Component View**—In this mode, you can edit elements of the selected window.

Copy and paste options include metadata, alarms, etc.

Editing a Clock

Digital and analog clocks have the same options. When you add a clock to a layout, it has the time zone properties of your PC.

A clock is not a window element, so if you click on it with the Pip Sub-Widget item selection tool, you will see the options described in **Table 6-11**:

Table 6-7 Clock Component Properties

Item	Options
Time Source	**System**— Use the multiviewer's internal time as a reference source for the selected clock. **LTC**— Uses an external source as the clock reference source such as the LTC input.
Clock Offset	Choose a number between -12 to +13 hours from the first menu, and 00 m or 30 m (minutes) from the second.

Editing a Timer

A timer can be up or down. Timers are in HH:MM:SS format (hours, minutes, and seconds).When you click on a timer with the Pip Sub-Widget item selection tool, the following options appear in the Object Properties panel:

Table 6-8 Timer Component Properties

Item	Function
ID	The ID is used for reference for control using SNMP or CCSP.
Source	**System**— Use the multiviewer's internal time or an NTP source as the reference source for the selected clock. **LTC**— Uses an external source as the clock reference source such as the LTC input.
Time	The initial starting time of the timer. To set the time, do either of the following: ■ Click on the hour, minute or second and type the value in ■ Click on the hour, minute or second and use the increment buttons ■ Click on the clock-face and use slider controls
Alert Time	The time at which the timer blinks.
Warning Time	The time at which the timer turns red.

Editing a Standalone Label

When you click on a standalone text label with the Pip Sub-Widget item selection tool, the following options appear in the Object Properties panel:

Table 6-9 Standalone Label Properties

Item	Function
Label Source	Choose Fixed.
Text	Enter text for the label.

Standalone labels do not have an ID to associate with a window component, and their source is always fixed (static).

Editing an Automation Label

When you click on an automation text label with the Pip Sub-Widget item selection tool, the following options appear in the Object Properties panel:

Table 6-10 Automation Label Properties

Item	Function
Label Source	Choose Automation.
Message ID	Configure these fields based on the settings for your automation system. See **Appendix C** for sample configurations.
Sub ID	

Automation labels do not have an ID to associate with a window component, and their source is always fixed (static).

Editing a Window

When a window is added to a layout, you can change its size and position and some properties elements of that window. You cannot change the elements that are in the window within the layout. For that, you need the **Window Editor**. For information on using the **Window Editor**, see ***Reopening a Window or Textbox for Modification*** on page 100.

When you click on a window with the Pip Window selection tool, you can move that window.

Resizing a Window

To resize a window, Follow these steps:

1. Hover the mouse over a control point on the selected window until the mouse becomes a bidirectional arrow.
2. Click the mouse and drag.

   The window can be resized in the directions of the two arrows. Hold the Shift key down to constrain the window to its current aspect ratio.

For best results, do not allow video windows to layer on top of each other. This can lead to video artifacts.

Editing Window Properties

When you click on a window with the Pip Window selection tool, the Modify Object Properties column at the right of the screen updates to show window options, as described in **Table 6-11**.

Table 6-11 Window Properties

Parameter	Function/Range
General	
Name	You can enter a descriptive name for the window as a whole
ID	A numeric index

Table 6-11 Window Properties *(Continued)*

Parameter	Function/Range
Video Input	The drop-down menu lists all the available video inputs. If your HView SX Pro is configured with a Wideband matrix, the list also contains a duplicate of each available input. Each input that is in use in the preset has an indicator:  The number in the middle of the indicator represents the display the input is used in within the preset. If the indicator is yellow, the input is used on the current display, while if it is white, it is used in a different display within the preset. Each input or duplicate input can be used once per preset.
Top	The position of the top edge of the window in reference to the left edge of the layout; you can move the window by changing this number
Left	The position of the top edge of the window in reference to the top of the layout; you can move the window by changing this number
Width	The X axis size of the window; you can resize the window by changing this number. If you change the number and click **Enter**, the height is changed proportionally. To change just the width of the window, press **Shift + Enter** to confirm the change.
Height	The Y axis size of the window; you can resize the window by changing this number. f you change the number and click **Enter**, the width is changed proportionally. To change just the height of the window, press **Shift + Enter** to confirm the change.
Aspect Ratio	Choose the aspect ratio; options include: ■ Free (the width and height of the window can be changed independently) ■ 16:9 ■ 14:9 ■ 4:3
Alarm Properties	
See ***Working with Alarms*** on page 39 for a complete description of using alarms.	
Routing Properties	
Enabled	When **checked**, HView SX Pro controls routing of the video input. When **unchecked**, an external system, such as IconMaster controls the router for that video input.
Audio Routing Properties	
Enabled	When **checked**, HView SX Pro controls routing of the audio input. When **unchecked**, an external system, such as IconMaster controls the router for that audio input.

When you click on an element in a window with the pip sub-widget item selection tool, that element's component properties appear. See the following:

- ***Editing Video Properties*** on page 68
- ***Editing Label Properties*** on page 77

- ***Editing Tally Properties*** on page 78
- ***Editing Audio Meter Properties*** on page 78

Editing a Group of Windows

To select multiple windows, hold the mouse button down and drag across the windows you want to select, or hold the Shift key down and click on individual windows. You can then resize or move all the windows the same way you would alter an individual window.

When multiple windows are selected, only fields that have the same data will be filled. If you change a field, whether it is filled or not, all windows in the group will be updated.

Table 6-12 Right-click Options on Group Selections

Option	Function
Paste Window Properties to All	This option is only available when Window Properties have been copied to the clipboard. (Audio meters are included in the paste only when the two windows have the same number of audio meters).
Paste Alarm Properties Only to All	Pastes only the alarm properties from the window where all Window Properties have been copied to the clipboard.
Align Everything Left	Aligns all selected windows to the left edge of the leftmost selected window.
Align Everything Right	Aligns all selected windows to the right edge of the rightmost selected window.
Align Everything Top	Aligns all selected windows to the top edge of the topmost selected window.
Align Everything Bottom	Aligns all selected windows to the bottom edge of the bottom most selected window.
Distribute Horizontally Across Layout	Does not alter the positions of the selected windows in the vertical plane, but aligns them evenly across the layout.
Distribute Vertically Across Layout	Does not alter the positions of the selected windows in the horizontal plane, but aligns them evenly from the top to the bottom of the layout.
Make Same Size as First One	Resets the size of all selected windows so they match the size of the first selected window.

Note: These alignment options will not prevent video windows from layering on top of each other. For best results, do not allow video windows to overlap each other. This can lead to video artifacts.

Editing Window Components

To modify elements of a window such as video properties, labels, audio bars, etc., you must first put the window in component view.

To enter component view, do either of the following:

- Click on a window with the PiP window selection tool and then click component with the pip sub-widget item selection tool.
- Double-click on a PiP with the PiP window selection tool.

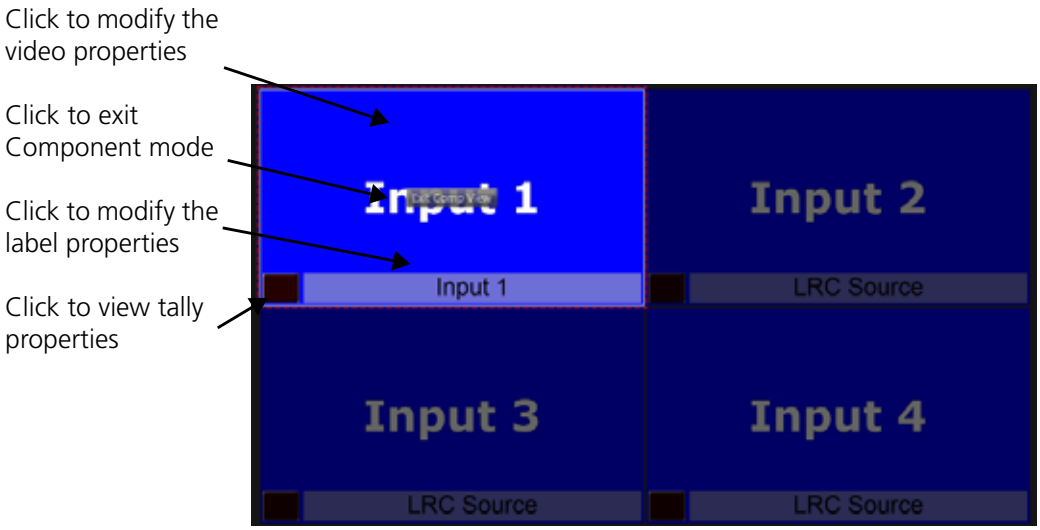


Figure 6-10 Component View

This view makes it clear what window you are selecting objects from.

To exit Component View mode, click the button in the middle of the window.

Editing Video Properties

Video properties are divided into seven separate palettes. Each palette has an arrow in its top left corner that you can use to open or close it.

Table 6-13 Video Properties

Item	Function
Video	
Name	Enter text you want to have associated with the video; this can be used for search purposes
ID	The ID identifies the internal scaling unit associated with that video input, to tie it with other window resources.

Table 6-13 Video Properties *(Continued)*

Item	Function
Video Input	The drop-down menu lists all the available video inputs. If your HView SX Pro is configured with a Wideband matrix, the list also contains a duplicate of each available input. Each input that is in use in the preset has an indicator:  The number in the middle of the indicator represents the display the input is used in within the preset. If the indicator is yellow, the input is used on the current display, while if it is white, it is used in a different display within the preset. Each input or duplicate input can be used once per preset.
General	
Height	Size of the y axis of the space for the video, measured in pixels.
Width	Size of the x axis of the space for the video, measured in pixels.
Video Metadata (Choose from the drop-down menu)	
None	
CC 608	CC Modes ■ CC 1 — CC 4
CC 708	CC Modes ■ Service 1 — 6
Timecode	■ **VITC** / **ATC** ■ **Left** / **Right** / **Center** screen position ■ **Small** / **Large** text size ■ **Row** 1 —15 When VITC is selected ■ **VBI Line** 8 to 22 When ATC is selected ■ - ATC_VITC1 ■ - ATC_VITC2 ■ - ATC_LTC
Teletext	■ **TT Mode** — **OP47** or **WST** ■ **Subtitles Page** —The page number determines the Teletext page that is expected to be displayed. The range is 0 to 999 (801 is the default for OP-47 closed captioning).

Table 6-13 Video Properties *(Continued)*

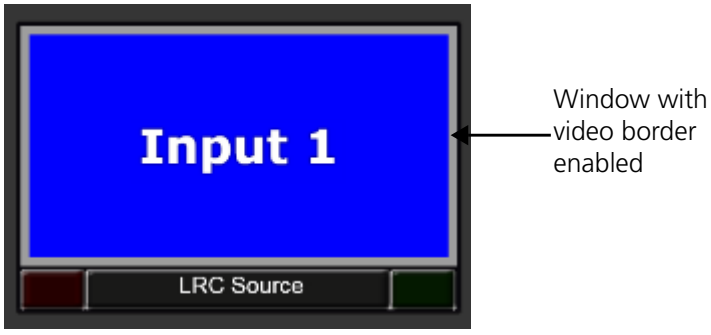
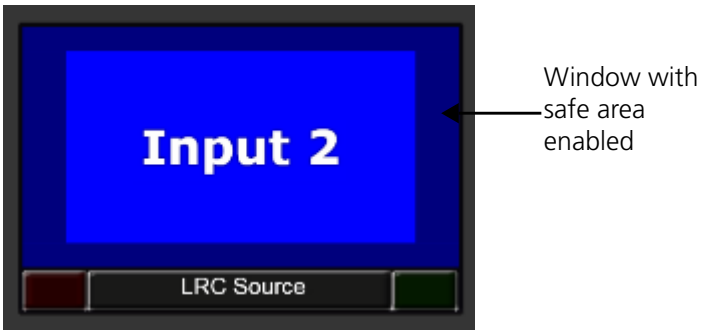
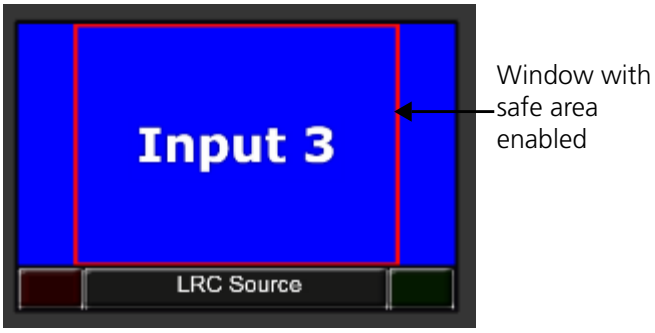
Item	Function
Video Borders When video borders is set to **Enabled**, a gray border is displayed on the video section of the selected window of the layout 	
Enable	■ Checked ■ Unchecked
Size	1 - 10
Video Safe Area When video safe area is **Enabled**, a darker blue border indicating the selected safe area size is displayed on the selected window 	
Enable	■ Checked ■ Unchecked
Size	10 - 95%
Aspect Ratio markers When aspect ratio markers is **Enabled**, the selected aspect ratio markers are displayed on the window of the layout 	

Table 6-13 Video Properties *(Continued)*

Item	Function
Enable	■ Checked ■ Unchecked
Ratio	Select the aspect ratio markers: ■ 4:3 ■ 14: 9 ■ 16:9
Color	Click the button to determine the color of the markers. The color selector tool works similarly to the color selector for the layout background, except the alpha channel provides transparency. See ***Using the Color Selector Dialog Box*** on page 61.
Width	Set the thickness of the marker, from 1-10 pixels.
Detect Aspect Ratio	
Force PiP AR	■ **Off** — scales video to PiP size ■ Detect Aspect Ratio — scales PiPs based on detected information
Force PiP AR (only available when **Force PiP AR** is set to **Detect Aspect Ratio**)	■ **Standard Based** ■ AFD ■ WSS ■ VI
Line selection (only available when **VI** is selected under **Force PiP AR**)	**SD525** Range: 12 — 19 (**14**) SD625 Range: 8 — 22 (**11**)
SD (only available when **Force PiP AR** is set to **Detect Aspect Ratio**)	■ **16:9** ■ 14:9 ■ 4:3
HD (only available when **Force PiP AR** is set to **Detect Aspect Ratio**)	■ **16:9**
Video Cropping	
Enable	■ **Off** ■ On
X-Offset (%)	**0** - 100
Y-Offset (%)	
Crop Width (%)	
Crop Height (%)	

Table 6-13 Video Properties *(Continued)*

Item	Function
Input Type (note this field is for informational purposes only and in the absence of video input will default to HD 1080)	■ HD 1080 ■ HD 720 ■ SD 720x486 ■ SD720x576
X Pixel Offset	These read-only fields update to indicate the dimensions of the window based on settings made in the offset and crop fields above.
Y Pixel Offset	
Pixel Width	
Pixel Height	

Configuring Video Indexing

Configure Video Indexing on individual PiPs using the Aspect Ratio parameters in **Table 6-13**. Video Indexing in HView SX Pro is compliant with the following standards:

- RP 186 - 2008
- SMPTE 125
- SMPTE ST 2016-1 and SMPTE ST 2016-3

HView SX Pro implements class 1.1 data octet 1 (Scanning System Data Field and Active Format Description) on 525 and 625.

Configuring Aspect Ratio (AR) settings

For AFD, VI, and WSS, if the coded frame matches the PiP AR, then video is anamorphically stretched with no other AR processing. (E.g. cropping or deleting video):

- SD input (4:3 system) to 4:3 PiP
- SD input (16:9 system) to 16:9 PiP

If the coded frame does not match the PiP AR, AR processing is required:

- SD input (4:3 system) to 16:9 PiP
- SD input (16:9 system) to 4:3 PiP

The Image is scaled with no geometric distortion and Letter box/pillar box is applied as required. The PiP's physical size stays the same. Only the scaling inside the PiP changes.

The AFD shapes in **Table 6-14** and **Table 6-15** are common for VI AFD, WSS, and AFD.

Table 6-14 16:9 Scanning (AFD)

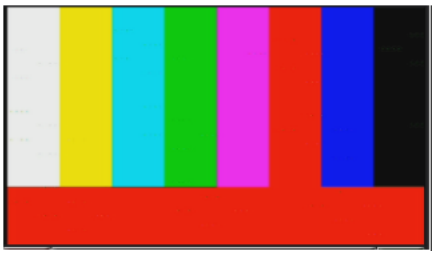
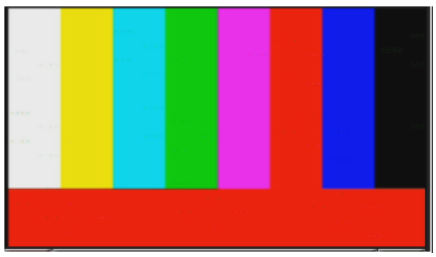
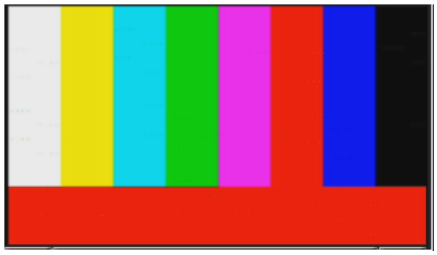
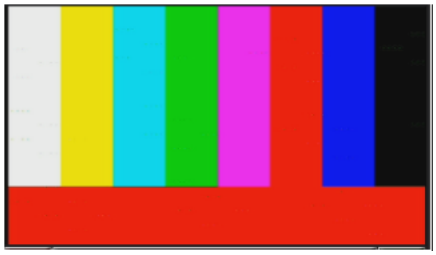
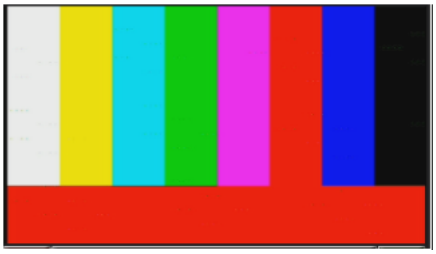
AFD Code	PiP AR 16:9	PiP AR 4:3
1000	 VI 16:9 Full Frame	 VI 16:9 Full Frame
1011	 VI 16:9 Box 14:9 (center)	 VI 16:9 Box 14:9 (center)
0100	 VI 16:9 Box>16:9 (center)	 VI 16:9 Box>16:9 (center)
1001	 VI 16:9 4:3 (center)	 VI 16:9 4:3 (center)
1010	 VI 16:9 16:9 (protected)	 VI 16:9 16:9 (protected)

Table 6-14 16:9 Scanning (AFD) *(Continued)*

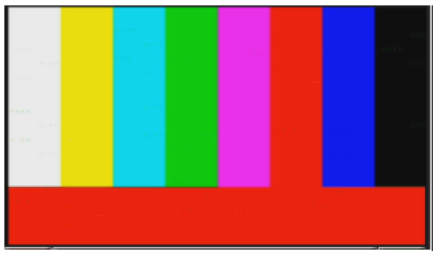
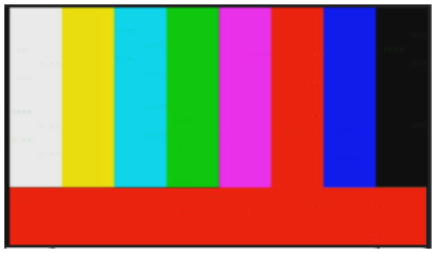
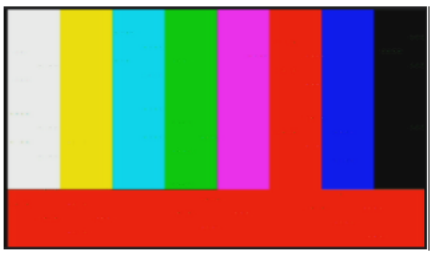
AFD Code	PiP AR 16:9	PiP AR 4:3
1101	 VI 16:9 4:3 (a 14:9 center)	 VI 16:9 4:3 (a 14:9 center)
1110	 VI 16:9 16:9 (a 14:9 center)	 VI 16:9 16:9 (a 14:9 center)
1111	 VI 16:9 16:9 (a 4:3 center)	 VI 16:9 16:9 (a 4:3 center)

Table 6-15 4:3 Scanning (AFD)

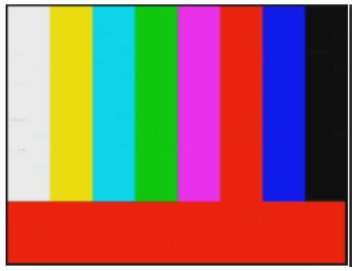
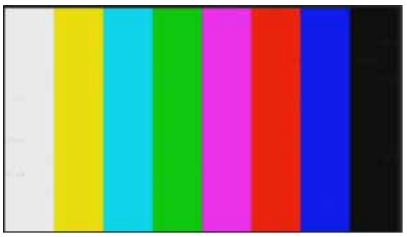
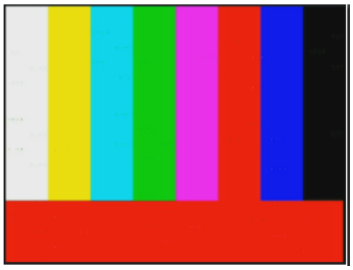
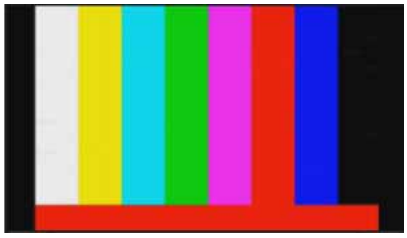
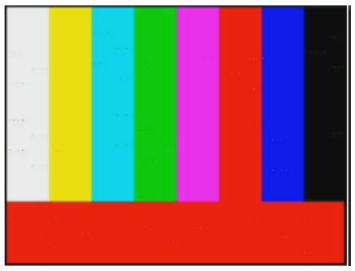
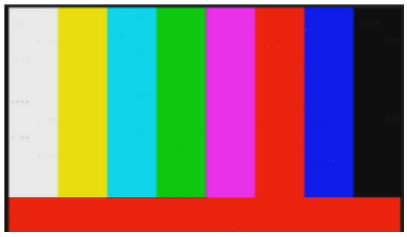
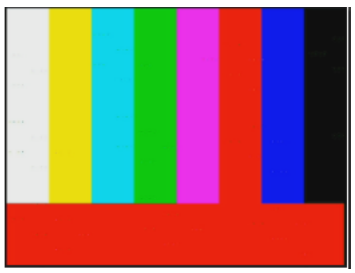
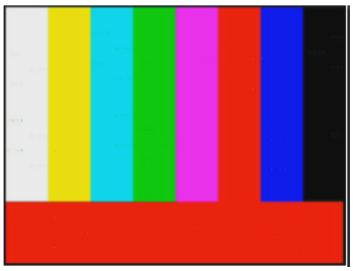
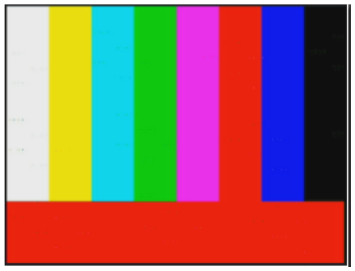
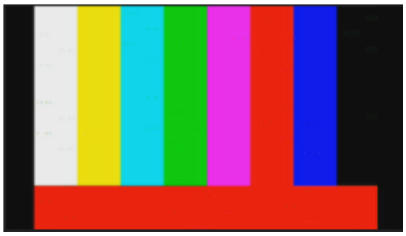
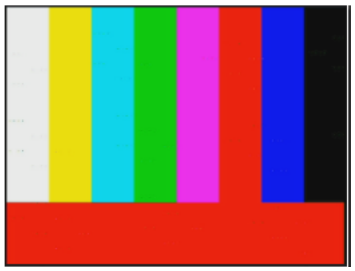
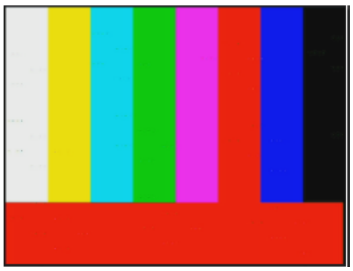
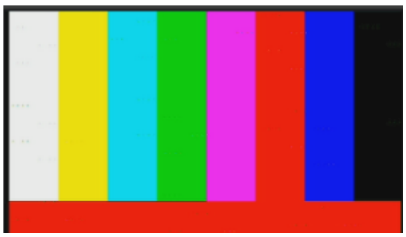
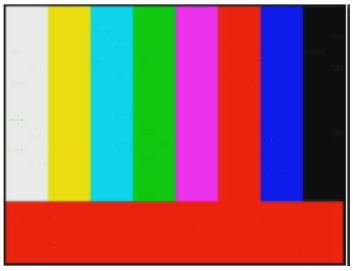
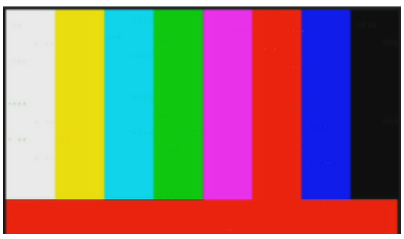
AFD Code	PiP AR 4:3	PiP AR 16:9
0010	 VI 4:3 Box 16:9 (top)	 VI 4:3 Box 16:9 (top)
0011	 VI 4:3 Box 14:9 (top)	 VI 4:3 Box 14:9 (top)
0100	 VI 4:3 Box>16:9 (center)	 VI 4:3 Box>16:9 (center)
1000	 VI 4:3 Full Frame	 VI 4:3 Full Frame
1010	 VI 4:3 16:9 (center)	 VI 4:3 16:9 (center)

Table 6-15 4:3 Scanning (AFD) *(Continued)*

AFD Code	PiP AR 4:3	PiP AR 16:9
1011	 VI 4:3 14:9 (center)	 VI 4:3 14:9 (center)
1101	 VI 4:3 4:3 (a 14:9 center)	 VI 4:3 4:3 (a 14:9 center)
1110	 VI 4:3 16:9 (a 14:9 center)	 VI 4:3 16:9 (a 14:9 center)
1111	 VI 4:3 16:9 (a 4:3 center)	 VI 4:3 16:9 (a 4:3 center)

Editing Label Properties

Depending on the source you select for the label, different options become available.

Table 6-16 Editing a Label

Item	Function
Label Source	■ **Fixed**—Label displays the contents of the **Text** field. ■ **UMD**—Label displays data provided from either the routing database or an external UMD protocol, associated with the parent window's ID, and further specified by the **UMD Source** parameter. ■ **Video Standard—**Label displays the video standard of the video input source. ■ **Aspect Ratio**—Label displays the aspect ratio of the video component of the window. ■ **VChip**—Displays the V-Chip rating that is contained in the video stream's metadata. ■ **Closed Caption**—Label indicates the presence or absence of CC 608 and CC 708 captions. ■ **Automation**—Displays information provided by an A8100 D-series automation system, based on information provided with the **Message ID** and **Sub ID** parameters. See ***Configuring A8100 D-Series Automation*** on page 154. ■ **Teletext**—Displays Closed Caption or other metadata information. See **Table 6-13** on page 68.
UMD source	When the **Label Source** is set to **UMD**, this option helps define the label contents: ■ **Primary**—Displays primary UMD from the external UMD protocol ■ **Secondary**—Displays the secondary UMD from the external UMD protocol that supports secondary UMDs. ■ **LRC Source**—Displays the source UMD from the Logical Router database. ■ **LRC Destination**—Displays the destination UMD from the Logical router database
Text	Using a standard keyboard, enter text that will appear if the **Label Source** is **Fixed**.
Message ID	When the L**abel Source** is set to **Automation**, this option helps define the label contents. See ***Label Source and UMD ID in HView SX Pro*** on page 155.
Sub ID	

Editing Tally Properties

The Tally Object Properties palette is for information purposes only. Tallies are defined at the time when the window is created, and the IDs are associated with the contents of the window. See ***Modifying a Tally in the Window Editor*** on page 96.

Table 6-17 Editing a Tally

Item	Function
Type	■ Red tally ■ Green tally ■ Yellow tally ■ Blue tally
ID	The ID identifies the internal scaling unit associated with that video input, to tie it with other window resources.
State	■ Off ■ On

Editing Audio Meter Properties

The audio meters always monitor the audio associated with the video input to the window.

Table 6-18 Audio Meter Component Properties

Item	Function
Channels	By default, Embedded Audio channels 1 - 4 are listed. **Add Embedded:** Adds the next available embedded channel. **Add Discrete**: Adds the next available TDM channel. Note: TDM is not currently supported. Neither add button will add a channel that is already selected on the window, whether in this audio meter or any other audio meter that might be associated with the window. To change the channel, click the channel's label and all channels of that type are displayed (either embedded or TDM. Note: TDM is not currently supported). **Up/Down**: Moves the audio channel up or down one level in the list. **Del**: Deletes the channel.
Bar Width	The width of the individual audio channel indicators within the audio meter.
Spacing	The space between the individual channels filled in with background on the audio meter.
Show Graticule	When checked, audio meter scale indicators are displayed.

Right Click Options with the Pip Sub-Widget Item Selection Tool

When you right-click a window or other layout element with the Pip Sub-Widget item selection tool, you have these options:

- **Copy Window Properties**—Places all the properties of the selected window except its size and position on the clipboard.
- **Paste Window Properties**—Applies all window properties except the window size and position to the selected window. (Audio meters are included in the paste only when the two windows have the same number of audio meters.)
- **Paste Alarm Properties Only**—Applies only the alarm settings from the copied window to the selected window.
- **Edit Window Style**—Opens the selected window in the Window editor. See ***Reopening a Window or Textbox for Modification*** on page 100.

  You must close the Window editor before you can return to modifying the layout in the layout editor. The window that is in modification turns yellow and flashes "in editing" to indicate that it is undergoing modification.

  When you modify the window, you will have various save options, including replacing the window style just the selected layout, or replacing all windows that have the same window style within all layouts. You must close the Window editor if you want to continue editing your layout.
- **Set Component View**—In this mode, you can edit elements of the selected window.

Copy and paste options include metadata, alarms, etc.

Using the Alarms Panel

When you add or select an object in a layout within the Layout Editor screen, the Alarm Properties panel appears.

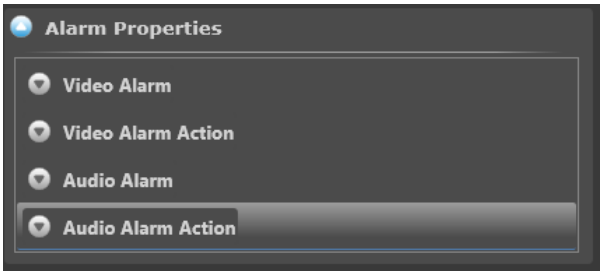


Figure 6-11 Alarm Properties Panel

Enable/Disable Alarms

Alarms are enabled or disabled for the entire layout at the same time. To change the setting for a layout, follow these steps:

1. Click on the background of the layout in the Editor tab.
2. In the Property Pane at the right of the screen, click beside **Alarm Enabled** (found under **Alarms**).

   Now, when you click a window and then select an option under **Alarm Properties**, that option indicates, at the top of its properties list, that the **Enabled** status for that alarm is **True** or **False**.

Configuring Alarms Settings

A row that is grey in the table indicates that setting is read-only and cannot be changed.

Table 6-19 Video Alarms

Item	Function	Range
Enabled	When unchecked, no alarms will be triggered for the video.	■ True ■ False
Black Picture	Triggers an alarm when the video is black for a period of time, as defined by the **Black picture level**, **Black picture percent**, and **Black picture time** parameters in the alarms section of the Hardware Configuration. See Table 4-2 on page 16.	■ Checked ■ Unchecked
Frozen Picture	Triggers an alarm when the video is frozen for a period of time, as defined by the **Frozen picture level** and **Frozen picture time** parameters. See Table 4-2 on page 16.	■ Checked ■ Unchecked
Loss of Sync	Video is not in sync for a period of time defined by the **Loss of video sync** parameter. See Table 4-2 on page 16.	■ Checked ■ Unchecked
Loss of CC	Closed captioning data is not present on the signal	■ Checked ■ Unchecked
Loss of VCHIP	VCHIP data is not present on the signal	■ Checked ■ Unchecked
Loss of ATC	ATC data is not present on the signal	■ Checked ■ Unchecked
Loss of VITC	VITC is not present on the signal	■ Checked ■ Unchecked

Table 6-20 Video Alarm Actions

Item	Function	Range
Enabled	When unchecked, no alarm response will be triggered for the video.	■ True ■ False
Visual Display	Indicates on the layout when an alarm is triggered. Settings within the layout itself determine how the alarm is indicated. See ***Adjusting Layout Properties*** on page 59.	■ Checked ■ Unchecked
SNMP Message	Posts the alarm to the SNMP client on the system when the alarm is triggered	■ Checked ■ Unchecked
GPO Response	Triggers a GPO when the alarm is triggered	■ Checked ■ Unchecked
CCSP Notification	Sends a message over the CCS P network when an alarm is triggered	■ Checked ■ Unchecked

Table 6-21 Audio Alarms

Item	Function	Range
Enabled	When unchecked, no alarms will be triggered for the audio.	■ True ■ False
Channels	Selects which channels the alarms are enabled on.	1 - 16
TDM Channels	Selects which TDM channels the alarms are enabled on. Note: TDM is not currently supported.	1 - 8
Audio Over	Triggers an alarm when the audio is loud for a period of time, as defined by the **Audio over level** and **Audio over time** parameters. See Table 4-2 on page 16.	■ Checked ■ Unchecked
Audio Under	Triggers an alarm when the audio is quiet for a period of time, as defined by the **Audio under level** and **Audio under time** parameters. See Table 4-2 on page 16.	■ Checked ■ Unchecked
Audio Loss	Triggers an alarm when the audio carrier (AES/EBU framing) is lost or invalid.	■ Checked ■ Unchecked

Table 6-22 Audio Alarm Actions

Item	Function	Range
Enabled	When unchecked, no alarm response will be triggered for the audio.	■ True ■ False
Visual Display	Indicates on the layout when an alarm is triggered. Settings within the layout itself determine how the alarm is indicated. See ***Adjusting Layout Properties*** on page 59.	■ Checked ■ Unchecked
SNMP Message	Posts the alarm to the SNMP client on the system when the alarm is triggered	■ Checked ■ Unchecked
CCSP Notification	Sends a message over the CCS P network when an alarm is triggered	■ Checked ■ Unchecked
GPO Response	Triggers a GPO when the alarm is triggered	■ Checked ■ Unchecked

Applying an Alarm Template

To apply an alarm template to a window, follow these steps:

1. In the layout editor, drag an alarm template from the Library.
2. Drop it on a Window.

A window can only have one alarm template applied at a time.

You can also apply a series of alarms to a window using the right-click context menu.

1. Right click on a window.
2. Select **Copy window properties**.
3. Right click on another window.
4. Select **Paste alarm properties only**.

7 Working With Libraries in HView Designer

Using Libraries

When you click on **View and Edit Library** in the HView Designer Home page, all library objects are visible. The Library differs from a library panel in the Layout editor or Window editor, because here new items can be created to add to any layout.

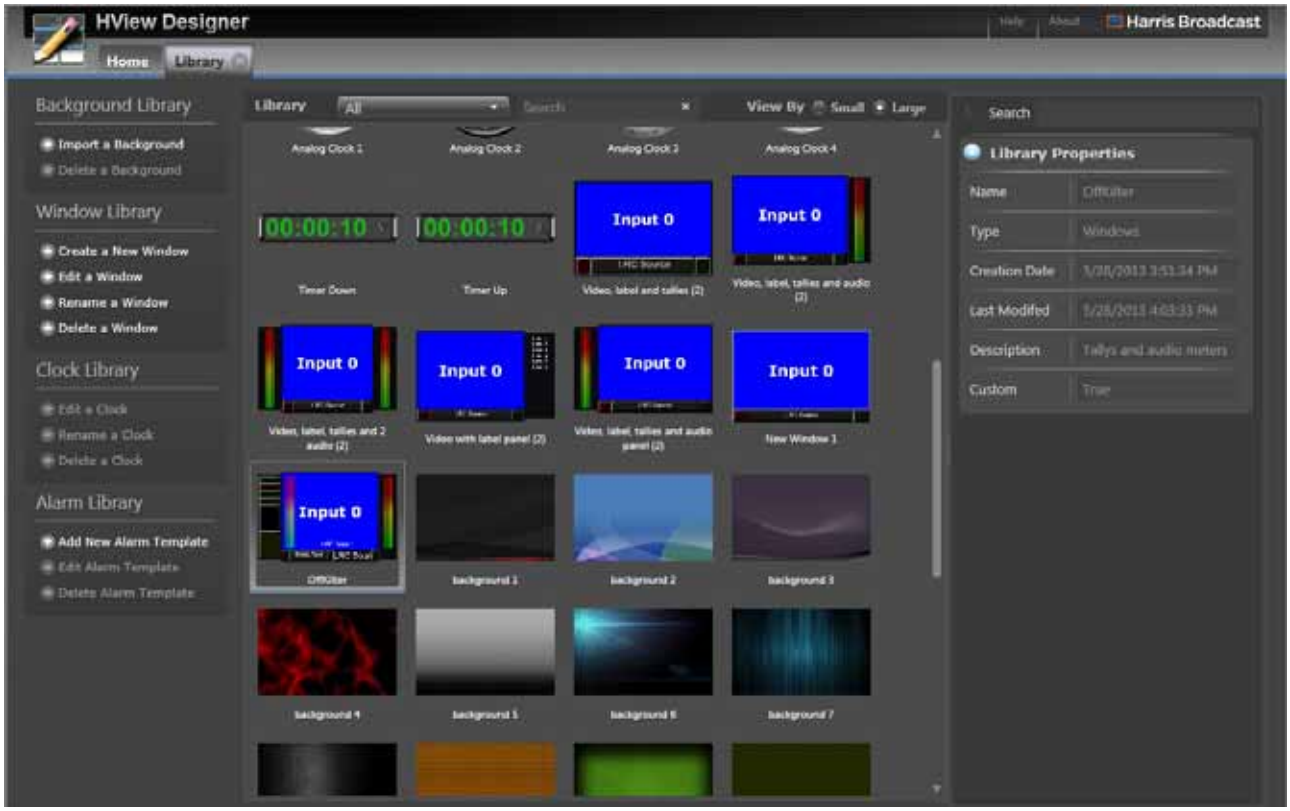


Figure 7-1 Library

From the **Library** menu, the following sub-menus are available:

- **All**—Displays all elements in all libraries.
- **Windows**—Displays groups of elements.
- **Backgrounds**—Displays backgrounds.
- **Clocks**—Shows all clocks, both analog and digital.
- **Alarm Templates**—Shows all alarm templates that have been created.

- **Window Templates**—Displays panel templates and widgets for use in creating windows with the Window Editor. See ***Creating Windows*** on page 87.
- **Timers**—Contains an up timer and a down timer.

In the library tab, you can access window options such as create, edit, rename, and delete. See ***Creating Windows*** on page 87 for more information.

You can also create, edit, and delete alarm templates. See ***Working with Alarms and Alarm Templates*** on page 104.

Searching a Library

When you search a library, all sub-libraries are searched.

Enter your search text in the search field.

If you enter Clock, all clocks will appear. If you enter 4, all items that contain the letter 4 in their name will appear.

Viewing Library Items

There are two viewing options:

Figure 7-2 Small Icons

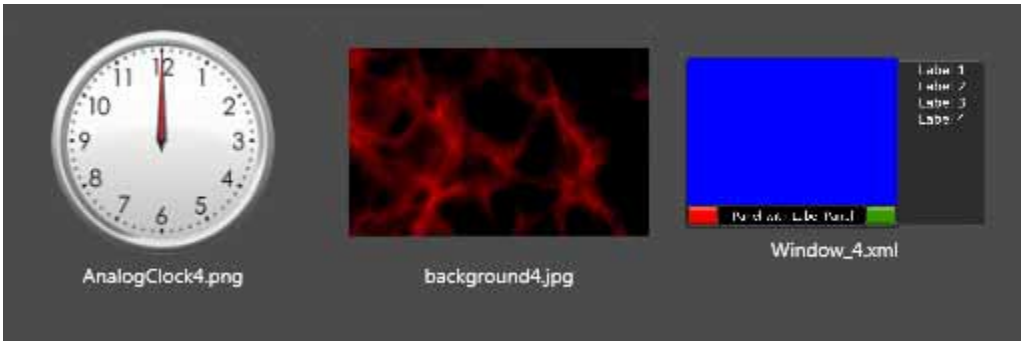


Figure 7-3 Large Icons

Library Properties

When you click on an object in a library, that object's properties panel opens.

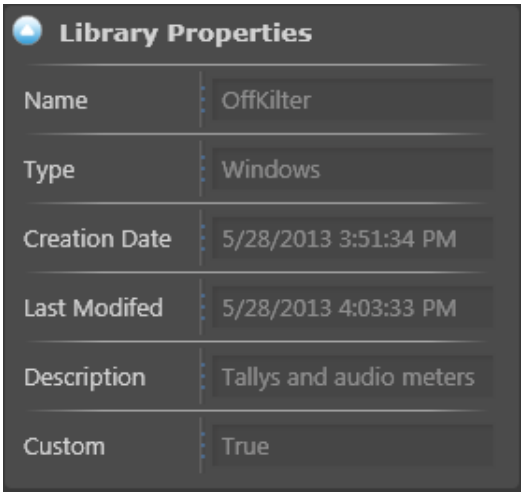


Figure 7-4 Library Properties Panel for a Custom Window

Table 7-1 Library Properties Panel Objects

Item	Description
Name	The title by which the item is labeled in all libraries
Type	Can be any of the following: ■ All ■ Windows ■ Backgrounds ■ Clocks ■ Alarm Templates ■ Window Templates ■ Timers This designation determines the sub-libraries the item will appear in.
Creation Date	Only appears for custom library items (clocks, windows, alarms or backgrounds). This is the day and time when the object was created.
Last Modified	Only appears for custom library items (clocks, windows, alarms or backgrounds). This is the day and time when the object was last edited. If the object has never been edited, then it and the creation date will match.
Description	When the object is created, this field matches the Name field above. To alter the description, click the Rename option for this object type. Only custom objects can have their description modified.
Custom	■ **True**—This object was created or imported to the system and can be modified, deleted, etc. ■ **False**—This is a default object on the system and cannot be modified or deleted.

Adding and Removing Backgrounds

You can add up to eight custom backgrounds to the library in HView Designer. When you upgrade your system, you can choose whether to keep these backgrounds.

A suitable background meets the following specifications:

- JPG or PNG file type
- Smaller than 1024 pixels

For best results, the background image should have an aspect ratio of approximately 16:9.

Adding Graphics to the Background Library

Up to eight custom backgrounds can be added to the library. Backgrounds are stretched or squished to fit the area of the layout when used.

1 On the main page, click **View and Edit Library**.
The library panel opens or comes to the front.

2 From the menu at the left of the screen, click **Import a Background**.
If this option is not available (greyed out) it may be because a panel is already open at the bottom of the screen. Close that panel and **Import a Background** becomes available.

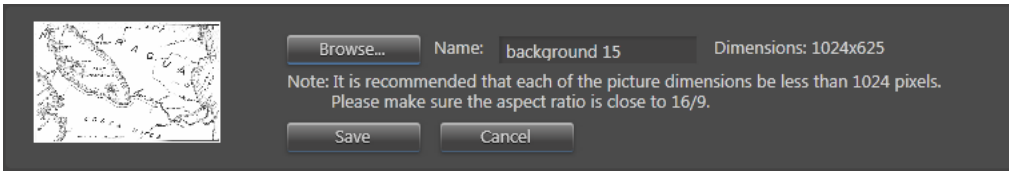


Figure 7-5 Adding a Background

3 Click **Browse** and then browse to the file.
The selected file appears as a thumbnail in the right of the panel. If the file is not a suitable size, the **Save** button will not enable.

4 Click **Save**.

5 If you already have the maximum number of custom backgrounds saved on the system, you wil see an error message. Delete and unneeded background and then try your save again.

Deleting Graphics from the Background Library

1 On the main page, click **View and Edit Library**.
The library panel opens or comes to the front.

2 From the menu at the left of the screen, click **Delete a Background**.
You can only delete custom backgrounds that have been imported into the system, not backgrounds that are by default on the system). If this option is not available, then the object you are trying to delete is not a custom background.

Creating Windows

Windows are the basic building blocks of a layout. You can create new windows and store them in the library, edit them, and delete them.

A window is made up of a panel, which contains a series of containers for all the other items in the window. The panel contains one video input, plus tallies, labels, and audio meters (collectively known as widgets, when applied to a window).

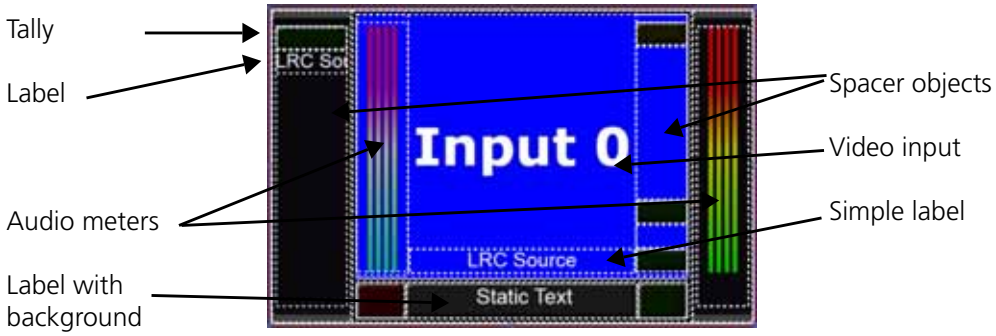


Figure 7-6 Window Objects

To launch the Window Editor, from the **Home** tab, click **Create New Window**.

If this option is not available (greyed out) it may be because a panel is already open at the bottom of the screen. Close that panel and **Create New Background** becomes available.

The following tab appears:

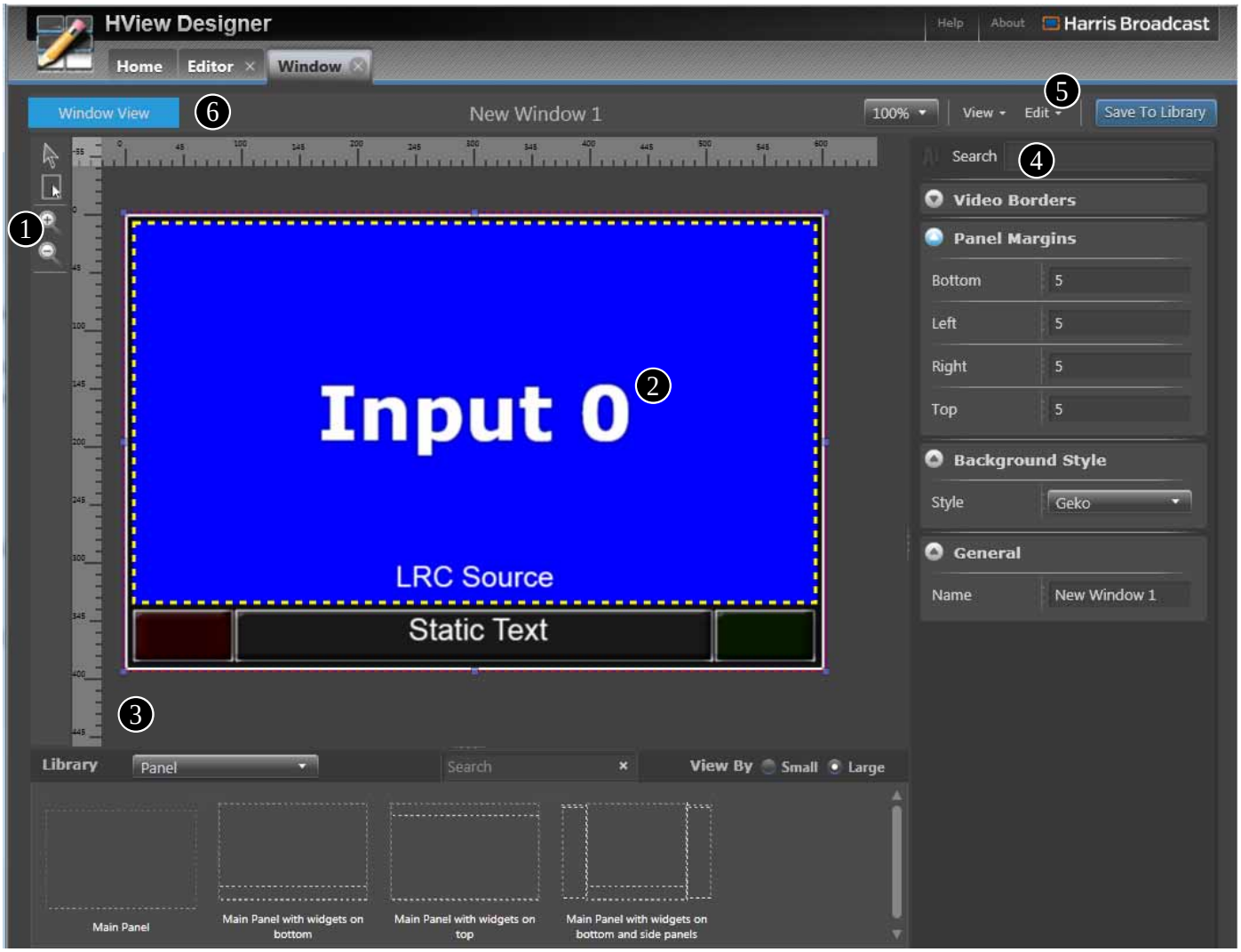


Figure 7-7 Window Editing Tab

Table 7-2 Display Profile Tab Definitions

Key	Item	Function
1	Window Editor tools	See ***Using Window Editor Tools*** on page 89
2	Window Canvas	Displays the currently selected window.
3	Window Library	Contains two types of objects: ■ **Panels**—A window template that has areas defined for video inputs and widgets. ■ **Widgets**—Objects that go in the defined regions of a panel, including tallys, audio meters, labels, and spacer objects. For more information on Libraries, see ***Using Libraries*** on page 83
4	Properties panel	Shows details of items in the window.

Table 7-2 Display Profile Tab Definitions *(Continued)*

Key	Item	Function
❺	View and Save options	This region includes standard view menu and view scale, as well as Undo/ Redo. ■ **Save to Layout** only appears when the Window Editor has been launched as a right-click option from a Layout. ■ **Save to Library** will only save a window that has had changes made to it. See ***Saving a Window*** on page 98.
❻	Show window view / Show selectable items	Indicates the view state defined by the top two buttons of the tool panel. See ***Using Window Editor Tools*** on page 89.

Using Window Editor Tools

On the left side of the display, there are four buttons.

Table 7-3 Window Editor Toolbar Items

Tool	Name	Function
	Clear outline view	Hides the container regions on the window. When you click on the window, items display their outlines, so the window may fill up with dotted lines over time.
	Show outline view	Shows dotted lines on the window indicating the different container regions.
	Zoom in	Click the left mouse button to zoom in.
	Zoom In	Left mouse button zooms out.

Library Panel in the Window Editor

You can expand or contract the Library panel by hovering the mouse over the middle of the top of the panel until the mouse displays a double-pointed arrow. Click and drag the cursor up or down, and then release when the panel is at the size you want.

- **Window Templates**—Displays templates, that can contain windows and other elements.
- **Widgets**—Includes tallies, audio meters, and sample layouts that can be added to a Window. This library is primarily intended for use in the Window Editor. See ***Working with Widgets in a Window*** on page 91.

For information on using the library panel in the window editor, see ***Adding Widgets to a Panel*** on page 91 and ***Changing the Panel Applied to a Window*** on page 89.

Changing the Panel Applied to a Window

A window starts with the default panel applied to it. To change the panel on a window, follow these steps:

1 In the Library pane at the bottom of the Window Editor, choose Panel from the drop-down menu.

Figure 7-8 Panels in the Library

2 Click on a panel and drag it to the Window canvas.

When you click on a window in the Window Editor with the **Modify Window View** tool selected, you can modify the panel size in the **Properties** pane.

3 Open the **Panel Margins** or **Container Margins** palette to adjust the distance between a panel and any adjacent objects, such as video objects, other panels, and the outside edges of the panel. When you change the margin sizes, the space is added or removed from the objects within the panel, rather than from the panel itself. The margin can be as small as 0, where the panel is butted up against objects beside it.

A panel can be sized in one direction. A panel at the top or bottom of the screen can be scaled by width, and a panel (at the left or right of the screen)

Table 7-4 Sizing Options for a Panel

Control	Options
Panel X or Y Size	■ **Fill** — After space is allocated to fixed and dynamically-sized panels, the remaining space is divided between all panels that are fill-sized. If there is no space, these panels are assigned a width or height of 0 pixels. ■ **Fixed** — This option has the highest priority. When selected, the Y Size % field becomes available. A Fixed panel takes up the allocated space, diminishing the size of other panels if required. ■ **Dynamic** — This option has the second highest priority. All space remaining after fixed panels are placed is divided up equally between dynamically sized panels.
X or Y Size (Pixels)	Width or Height of a fixed-size panel, measured in pixels. The minimum size is 20 pixels, and the maximum depends on other objects in the window.

4 Open the **Container Margins** palette to modify the top, bottom, left, and right margins of the selected container.

Working with Widgets in a Window

The Widget Library contains all the different types of objects that can be used in a window. Widgets include:

Table 7-5 Library Widgets That Can Be Added To Windows

Object	Description
Tally	There are four types of tally: ■ Red ■ Green ■ Yellow ■ Blue See ***Modifying a Tally in the Window Editor*** on page 96.
Label	■ Simple Label ■ Label with Background — The text in this label is resized to fit within the label margins. See ***Label Margins*** on page 98.
Audio Meter	You can either have an audio meter or labels, tallys and spacer objects within a vertical container. You cannot put an audio meter in a horizontal container. You can put an audio meter on either end of the video portion of a window whether there is a panel spot for it or not. This means if the panel has two vertical containers, the window can potentially hold four audio meters. See ***Modifying Audio Meters in Window Editor*** on page 94.
Spacer Object	Creates an empty spot in the container. See ***Modifying a Spacer Object in the Window Editor*** on page 95.

Adding Widgets to a Panel

You can add a widget to any region of the window except the video container. Some panels have a container that overlaps the video container, and widgets can be added to that.

1. Click a widget in the library at the bottom of the screen and drag it to the Window canvas.
2. When an area becomes outlined in yellow, drop the widget and it is added to that area of the screen.

   Widgets are added to the right end of horizontal containers, and below the previous widget in vertical containers.

Deleting a Widget from a Window

1. Click on the widget with the mouse.
2. Open the Properties panel for the widget.

   If the widget is a Tally widget, you would open the Tally Properties panel. If it is a label, you would open the Label Properties panel.

3. Click **Delete Item**.

   The item is removed from the container, and the other items in the container are shifted to fill the space.

Modifying Relative Widget Positions

1 Click a widget in the Window.
The container the widget is in must have within it at least two widgets.

2 Click the **Move Left** and **Move Right** buttons.
The widget moves one position in the selected direction, displacing other objects within that container.

Modifying Widget Sizes

Widgets can be sized independently. Follow these steps:

1 Click a widget in the Window.
2 Open the **Sizing Options** palette in the **Properties Panel**.

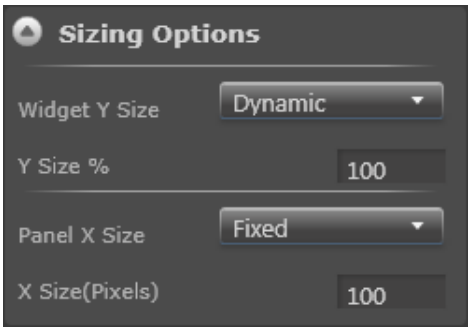


Figure 7-9 Widget Sizing Options

A widget can be sized in one direction. Widgets in a wide panel for example at the top or bottom of the screen can be scaled by width only, and widgets in a tall panel (at the left or right of the video pane) can be scaled by height only. The other dimension is defined by the panel size.

Table 7-6 Widget Properties Panel Options

Sizing Option	Description
Widget X or Y Size	■ Fill — After space is allocated to fixed and dynamically-sized widgets, the remaining space is divided between all widgets that are fill-sized. If there is no space, these widgets are assigned a height or width of 0 pixels. ■ Fixed — This option has the highest priority. When selected, the **X** or **Y Size %** field becomes available. A Fixed widget takes up the allocated space, diminishing the size of other widgets if required. ■ Dynamic — This option has the second highest priority. All space remaining after fixed widgets are placed is divided up equally between dynamically sized widgets.
X or Y Size %	Width or height of a fixed-size widget, measured in pixels. The minimum Y size is 20 pixels The minimum X size is 10 pixels The maximum depends on other objects in the window and the size of the window itself.

Modifying Object Properties

Each object in a window can be modified in the Window Editor. If you need to modify a window object later, the window can be reopened in Window Editor from its position in a layout. the changes can be applied to that window only or to all instances of the window in the layout.

Modifying the Video Portion of a Window

Some of the items in the Video portion of a window can be further modified when the window is added to a layout.

Table 7-7 Video Properties Options for a Window

Item	Function
Video Borders This control can be overridden on a window-by-window basis when the window is used in a layout. See ***Editing Video Properties*** on page 68	
Enable	Activates borders on the video portion of the window.
Size	Range —1 to 10 (default 2)
Panel Margins	
Bottom	Defines the shape of the video window. Each dimension has a minimum value of 0, The maximum varies depending on the settings for the other margins and the overall size of the video.
Left	
Right	
Top	
Background Style	
Style	■ **None**—The spaces between containers show through to the background of the layout. ■ **Crisp**—Spaces between containers have lines. ■ **Geko**—Spaces between containers are solid.
General	
Name	This is the name the panel will be saved with.

Modifying Audio Meters in Window Editor

Table 7-8 Audio Meter Properties Options for a Window

Item	Function
Audio Object	
Delete Item	Removes the object from the window
Container Margins	
Bottom	Defines the shape of the video window. Each dimension has a minimum value of 0, The maximum varies depending on the settings for the other margins and the overall size of the video.
Left	
Right	
Top	
Audio	
Channels	By default, Embedded Audio channels 1 - 4 are listed. ■ **Add Embedded:** Adds the next available embedded channel. ■ **Add Discrete**: Adds the next available TDM channel. Note: TDM is not currently supported. Neither add button will add a channel that is already selected on the window, whether in this audio meter or any other audio meter that might be associated with the window. To change the channel, click the channel's label and all channels of that type are displayed (either embedded or TDM). **Up/Down**: Moves the audio channel up or down one level in the list. **Del**: Deletes the channel.
Show Graticule	When checked, audio meter scale indicators are displayed.
Background Style	
Style	■ **None**—The spaces between containers show through to the background of the layout. ■ **Crisp**—Spaces between containers have lines. ■ **Geko**—Spaces between containers are solid.
General	
Name	This is the name the panel will be saved with.

When the window is added to a layout, channels can be added and removed on individual windows. However, the Show Graticule setting can only be configured by reopening the window in the Window Editor.

Modifying a Spacer Object in the Window Editor

Spacer objects allow you to separate objects within a container.

Table 7-9 Spacer Object Properties Options

Control	Function
Spacer Object	
Delete Item	Click to remove the object from the window.
Sizing Options	
Widget X or Y Size	■ Fill — After space is allocated to fixed and dynamically-sized widgets, the remaining space is divided between all widgets that are fill-sized. If there is no space, these widgets are assigned a height or width of 0 pixels. ■ Fixed — This option has the highest priority. When selected, the **X** or **Y Size %** field becomes available. A Fixed widget takes up the allocated space, diminishing the size of other widgets if required. ■ Dynamic — This option has the second highest priority. All space remaining after fixed widgets are placed is divided up equally between dynamically sized widgets.
X or Y Size %	Width or height of a fixed-size widget, measured in pixels. The minimum Y size is 20 pixels The minimum X size is 10 pixels The maximum depends on other objects in the window and the size of the window itself.
Panel Margins	
Bottom	Defines the shape of the video window. Each dimension has a minimum value of 0, The maximum varies depending on the settings for the other margins and the overall size of the video.
Left	
Right	
Top	
Positioning See ***Modifying Relative Widget Positions*** on page 92.	
Background Style	
Style	■ **None**—The spaces between containers show through to the background of the layout. ■ **Crisp**—Spaces between containers have lines. ■ **Geko**—Spaces between containers are solid.
General	
Name	This is the name the panel will be saved with.

Modifying a Tally in the Window Editor

Tallys can only be modified in the Window Editor.

Table 7-10 Tally Properties Options for a Window

Control	Function
Tally	
Tally ID	Choose a number from the menu: ■ Red defaults to 1 ■ Green defaults to 2 ■ Blue defaults to 3 ■ Yellow defaults to 4 ■ Nothing defaults to 5, but it is available
Delete Item	Click to remove the object from the window.
Sizing Options	
Widget X or Y Size	■ Fill — After space is allocated to fixed and dynamically-sized widgets, the remaining space is divided between all widgets that are fill-sized. If there is no space, these widgets are assigned a height or width of 0 pixels. ■ Fixed — This option has the highest priority. When selected, the **X** or **Y Size %** field becomes available. A Fixed widget takes up the allocated space, diminishing the size of other widgets if required. ■ Dynamic — This option has the second highest priority. All space remaining after fixed widgets are placed is divided up equally between dynamically sized widgets.
X or Y Size %	Width or height of a fixed-size widget, measured in pixels. The minimum Y size is 20 pixels The minimum X size is 10 pixels The maximum depends on other objects in the window and the size of the window itself.
Container Margins	
Bottom	Defines the shape of the video window. Each dimension has a minimum value of 0, The maximum varies depending on the settings for the other margins and the overall size of the video.
Left	
Right	
Top	
Background Style	
Style	■ **None**—The spaces between containers show through to the background of the layout. ■ **Crisp**—Spaces between containers have lines. ■ **Geko**—Spaces between containers are solid.
General	
Name	This is the name the panel will be saved with.

Modifying a Label in the Window Editor

Aspects of a label, such as the text of the Fixed field, can only be modified when the window is used in a layout. There are two types of label that can be added to a window: simple labels and labels with background. The controls are the same, except that the label with background has additional background controls, as noted in **Table 7-11.**

Table 7-11 Label Properties Options for a Window

Control	Function
Label	
Label Source	■ **Fixed**—Label displays the contents of the **Text** field. ■ **UMD**—Label displays data provided from either the routing database or an external UMD protocol, associated with the parent window's ID, and further specified by the **UMD Source** parameter. ■ **Video Standard—**Label displays the video standard of the video input source. ■ **Aspect Ratio**—Label displays the aspect ratio of the video component of the window. ■ **Program ID**—Label displays ID information contained in the video stream's metadata. ■ **VChip**—Displays the V-Chip rating that is contained in the video stream's metadata. ■ **Closed Caption**—Label indicates the presence or absence of CC 608 and CC 708 captions. ■ **Automation**—Displays information provided by an A8100 D-series automation system. See ***Configuring A8100 D-Series Automation*** on page 154. ■ **Teletext**—Displays Closed Caption or other metadata information. See **Table 6-13** on page 68.
UMD source	When the **Label Source** is set to **UMD**, this option helps define the label contents: ■ **Primary**—Displays primary UMD from the external UMD protocol ■ **Secondary**—Displays the secondary UMD from the external UMD protocol that supports secondary UMDs. ■ **LRC Source**—Displays the source UMD from the Logical Router database. ■ **LRC Destination**—Displays the destination UMD from the Logical router database
Text color	Click to open a palette, from which you can select a shade, measured in RGBA.
Text background	Click to open a palette, from which you can select a shade, measured in RGBA
Font	Click to choose from a menu: ■ Arial ■ Verdana
Delete Item	Click to remove the label object from the window.

Table 7-11 Label Properties Options for a Window *(Continued)*

Control	Function
Label Margins These settings apply to Label with Background only. See ***Modifying a Label in the Window Editor*** on page 97 for more information.	
Bottom	Determine how far from the edges the text can fit. The text is resized to fit within these margins.
Left	
Right	
Top	
Sizing Options	
Widget X or Y Size	■ **Fill** — After space is allocated to fixed and dynamically-sized widgets, the remaining space is divided between all widgets that are fill-sized. If there is no space, these widgets are assigned a height or width of 0 pixels. ■ **Fixed** — This option has the highest priority. When selected, the **X** or **Y Size %** field becomes available. A Fixed widget takes up the allocated space, diminishing the size of other widgets if required. ■ **Dynamic** — This option has the second highest priority. All space remaining after fixed widgets are placed is divided up equally between dynamically sized widgets.
X or Y Size %	Width or height of a fixed-size widget, measured in pixels. The minimum Y size is 20 pixels The minimum X size is 10 pixels The maximum depends on other objects in the window and the size of the window itself.
Container Margins	
Bottom	Defines the shape of the video window. Each dimension has a minimum value of 0, The maximum varies depending on the settings for the other margins and the overall size of the video.
Left	
Right	
Top	
Background Style	
Style	■ **None**—The spaces between containers show through to the background of the layout. ■ **Crisp**—Spaces between containers have lines. ■ **Geko**—Spaces between containers are solid.
General	
Name	This is the name the panel will be saved with.

Saving a Window

If the window editor was opened from the Library, you will have a **Save to Library** button. If the window was opened from a layout (using the Edit Window Style right-click option in the layout) you will have an additional button in your window Editor.

1 (Optional) In the **Properties** panel, open the **General** tool, and then, beside **Name**, enter a descriptive name for the window.

2 Click one of the following:

- **Save to Library**—The window is added to the library tab.

  If the window has been previously saved, there are two options:

  - **Update the existing window style in the library. Saved style name:** —This option overwrites the window.
  - **Save as a new window style in the library. Saved Style name:**—This option saves the window with a new name that you enter in the Saved style name field, while leaving the pre-existing window intact.

- **Save to Layout**—This option only appears if the Window was opened from a Layout (see ***Right Click Options with the Pip Window Selection Tool*** on page 63). The following options appear:

  - Apply the changes to the edited window in layout only
  - Apply the changes to all windows that have the same style as the edited window in layout

  Neither of these options saves the window to the library.

3 Make a selection and click **OK** to proceed.

Renaming a Window

Once a window has been created you can rename it from the library tab.

1 If the Window editor is open, close it.

You cannot launch a window into the Window editor when it or another window is already open for editing.

2 Select the window in the **Library** tab.

3 Click **Rename a Window**.

This task cannot be done when the Window Editor is open.

A region opens at the bottom of the display:

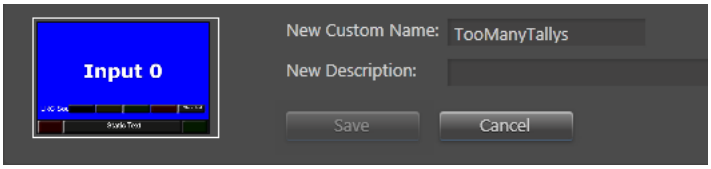


Figure 7-10 Renaming a Window

4 Enter a new name.

You can also enter a description, but this is optional.

5 Click **Save**.

The Library is updated with the new window name.

Deleting a Window

Once a window has been created you can delete it from the library tab.

1 If the Window editor is open, close it.

You cannot delete a window when it or another window is open for editing.

2 Select the window in the Library tab.
3 Click **Delete a Window**.
This task cannot be done when the Window Editor is open.

Click Yes to confirm the deletion.

The selected window is removed permanently from the library.

Reopening a Window or Textbox for Modification

Windows, textboxes, and automation textboxes can all be opened for editing.

Opening a Window or Textbox From the Library

1 If the Window editor is open, close it.
You cannot launch a window or textbox into the Window editor when it or another window is open for editing.

2 In the Window library, click the window or textbox to reopen.
3 Click **Edit a Window**.
This task cannot be done when the Window Editor is open.

The Window Editor launches, populated by the selected window or textbox .

Opening a Window or Textbox From a Layout

You can also open a window or textbox for editing from the Layout Editor.

1 Right-click on a window or textbox and select **Edit Window Style**.
If a window is already open in the Window editor, focus switches to the window editor with the already open window. Otherwise, focus switches to the window editor with the window selected in the layout.

The selected window or textbox in the Layout editor tab turns yellow and indicates that it is open for editing. No modifications can be made to the layout until the window is closed in the window editor.

2 Make modifications to your window or textbox.
3 Save your window or textbox as described in ***Saving a Window*** on page 98.
If you want to save the window or textbox to the library and the layout, you must perform the save operation once to each place.

Close the window editor.

You can now edit the layout in the Layout editor again.

Editing Clocks

You can edit a digital clock or an automation clock in the window editor.

Edit a Clock

To edit a digital clock, follow these steps:

1. If the **Window Editor** is open, close it by clicking the **X** in its title tab.
   You cannot launch a clock into the Window editor when the Window editor is already open.
2. On the **Home** tab, click **View and Edit Library** if the **Library** tab is not already open.
3. At the top of the **Library** tab, open the **Library** menu and choose **Clocks**.
   The Library tab refreshes to show only the clocks.
4. Click one of the following:
   - Digital Clock
   - Automation Clock
   - A clock that has already been made (will also be a digital clock but will have a different name)
5. In the **Clock Library** menu, choose **Edit a Clock**.

Figure 7-11 Clock Library With a Custom Clock Selected

The Window Editor tab opens with the selected clock open for editing.

6. Click the clock to open the Clock Properties at the right of the screen, and make changes to the clock.

Table 7-12 Custom Clock Options

Control	Options
Background Style	
Style	■ None—The clock background is transparent and shows the Layout background behind the numbers. ■ Crisp—Places a soft-edged box around a black background behind the clock numbers. ■ Geko—Places a hard-edged box around a black background behind the clock numbers. ■ Clock—Places scrolls at the left and right of the numbers and edges around the black background behind clock numbers. ■ Outline—Places a thicker outline around a black background behind the clock numbers.
Settings	
Digit color	Click the button to open a color picker window. When you've used the available tools to get the color you want, click OK to close the window.
Font	■ Arial ■ Verdana (note: this font does not appear on the monitor)
Clock Margins	
Bottom	Positions the clock within the box, with higher numbers positioning it closer to the top of the box, and making the numbers smaller.
Left	Higher numbers move the number to the right.
Right	Crops the right edge of the number.
Top	Positions the number lower in the box.
General	
Name	Enter a descriptor by which the clock will be labeled in the library.

7 Click **Save to Library**.

8 Close the **Window Editor**.

Your clock appears in the **Clock Library** and can be added to layouts.

Renaming a Clock

You can only delete custom-made clocks.

1 If the Window tab is open, close it.

You cannot rename a clock with the Window tab open.

2 Click the clock you want to rename, either in the Clock library, or in the general library.

3 Under Clock Library at the left of the screen, select Rename a Clock.

A box appears at the bottom of the screen.

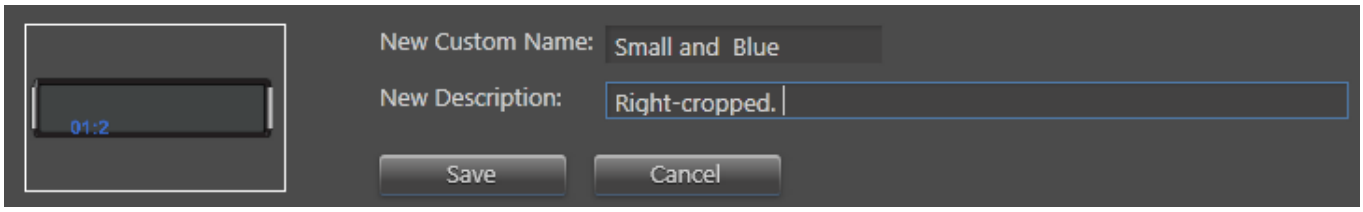


Figure 7-12 Renaming a Clock

4 Enter a new name for the clock.
5 (Optional) Enter a new description for the clock.
6 Click Save to update the clock's properties panel.

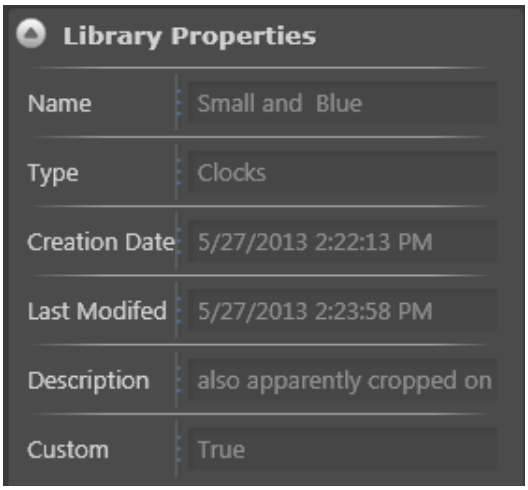


Figure 7-13 Library Properties for a Clock

By default, the clock's description is the same as its name. The only way to change its description is in the clock editing pane.

Deleting a Clock

The **Delete** option is only available when a clock is custom-made.

1 If the Window tab is open, close it.
You cannot delete a clock with the Window tab open.

2 Click the clock you want to delete, either in the Clock library, or in the general library.
3 Under **Clock Library** at the left of the screen, select **Delete a Clock**.
A dialog box asks if you are sure you want to delete the clock.

4 Click **Yes**.
The clock is removed from the general and Clock libraries.

Working with Alarms and Alarm Templates

Alarm templates are a quick way to assign the same alarm settings to numerous windows, or to save the same settings to different layouts. In the Alarm library, you can create, edit, and delete alarm templates.

When an alarm template is active, you have to save or cancel to look at a different library.

Creating an Alarm Template

1 If the Window tab is open, close it.

You cannot create an alarm template with the Window tab open.

2 At the left side of the **Library** tab, click **Add New Alarm Template**.

An Alarm Template panel opens at the bottom of the screen, and the Properties panel at the right of the screen updates to display alarm options.

Figure 7-14 Alarm Template at Bottom of Library

The parameter palette opens at the right of the screen.

3 At the bottom of the screen, enter a **Template Name**.

The **Description** field fills in at the same time. You can enter a different description, but it's not required.

4 Select video alarms and audio alarms, and video and audio alarm actions.

5 Click **Save**.

Your new alarm template is saved to the library.

Editing an Alarm Template

1 If the Window tab is open, close it.

You cannot create an alarm template with the Window tab open.

2 Click on an alarm template in the library.

3 Click **Edit Alarm Template**.

The Alarm Template tools open at the bottom of the screen. The Alarm Palette opens at the right of the screen.

4 Make any changes to your alarm template.

5 If you change the template's name, a new template is saved, rather than overwriting the alarm template that you opened.

6 Click **Save**.

Your new alarm template is saved to the library.

You can also click **Cancel** to return the alarm template to its original settings.

Deleting an Alarm Template

1 If the Window tab is open, close it.

You cannot create an alarm template with the Window tab open.

2 Click on an alarm template in the library.

3 Click **Delete Alarm Template**.

The alarm template is removed from the library.

8 Live Operation

Controlling HView SX Pro Live

Live control of HView SX Pro is best executed using the HView Designer. Many on-air controls for HView SX Pro appear on the HView Designer **Home** tab.

Figure 8-1 HView Designer Workspace

Live control elements are described below:

1. **Edit Active Layout**-Opens the layout on the layout canvas in an Editor tab. There, you can edit the layout and save it to the output display using **Save as Active**. See ***Working With Layouts*** on page 49.
2. **Change Active Layout**- Opens a dialog box where you can look at all layouts, select one and then send it to the display. See ***Using the Change Active Layout Dialog Box*** on page 108.

3. **Display Profiles** - There will be three or six displays, depending on whether you have a HView SX Pro-16, -32, 0r -64. Click a display to see the layout on that display in the Layout Canvas. Each display has a bit of descriptive information.
4. **Change Display Profiles**- A display profile defines the monitors that are configured.
5. **Layout canvas** - Displays the current active layout on the chosen display device. If no display device is selected, or no layout exists on that device, or the device is not currently available, no active layout will appear.
6. **Control Panel** - This panel can be hidden or expanded and displays options for the selected element in the layout canvas. See ***Using the Control Panel*** on page 109.
7. **Mouse Control** - When enabled, a mouse appears on the output monitors. Depending where you click, different options will appear. See ***Using Mouse Control*** on page 111.

Using the Change Active Layout Dialog Box

You can look at all available layouts in the Change Active Layout dialog box before choosing one to send to the selected display.

1 On the HView Designer **Home** tab, click **Change Active Layout**.
The **Change Active Layout** dialog box opens.

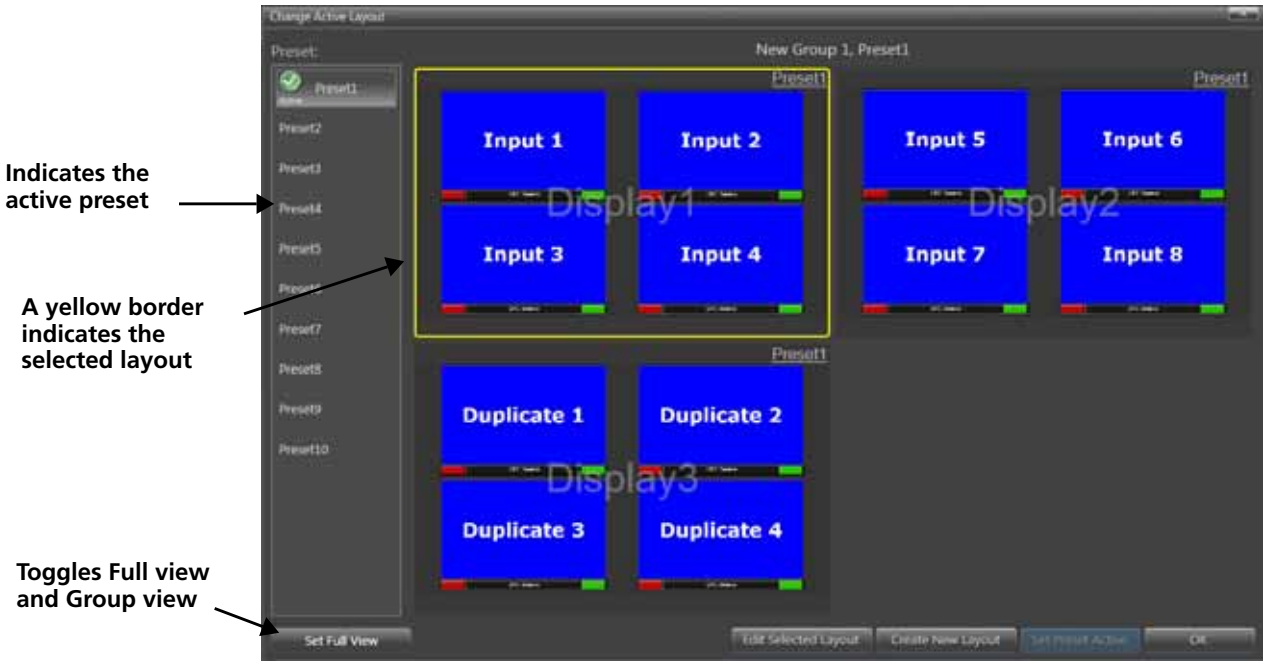


Figure 8-2 Change Active Layout Dialog Box

2 Select a preset from the list on the left.
The display at the center of the screen updates to show the layouts involved in that preset.

Click a layout and then click **Set Full View** to see that layout in full-screen. Click **Revert to Group View** to see all layouts (there will be three layouts with HView SX Pro-16 and HView SX Pro-8x3-28 modules).

3 Click **Set Preset Active** to assign the preset to the displays.

Using the Control Panel

The control panel at the bottom of the Home screen allows you to control live elements of the layout while it displays on a device.

When a control is enabled, the background of that button changes to a light color blue to indicate its enabled state.

To expand the control panel, click the button at left of the Control panel bar at the bottom of the screen. To hide the control panel, click the button in its top left corner.

When you click on a window in the active layout, the control panel updates to provide control options for the video and audio assigned to that window.

Expand/Hide Control Panel

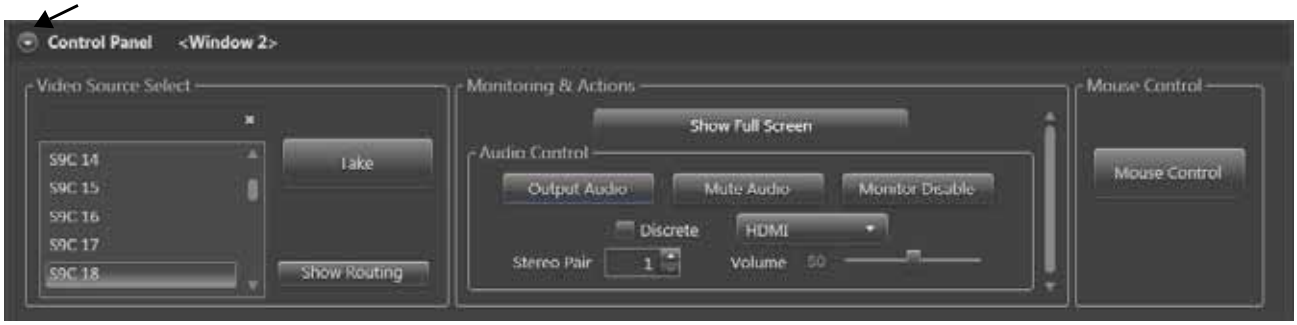


Figure 8-3 Control Panel

Table 8-1 Control Panel Options For a Window

Item	Function
Search Source	As you enter text in this field, the source list updates to display only items that contain the search text. To return to the full list, click the X at the right edge of the field.
Video Source Select	The drop-down menu lists all the sources. Choose one and then click **Take** to change the source of the video input. Click **Show Routing** / **Show Video Input** (the button label toggles) to view the different naming convention labels on the video inputs.
Show/Revert Full Screen	Sets the currently selected video input to display across the whole screen. The image is not rescaled, so if it is a different aspect ratio than the output display, the overlay will not be complete, and the image will be centered, with the layout still showing in the background. When the selected window is displayed full-screen, the **Show/Revert Full Screen** button turns blue. To return to the normal layout display, click the button again. The button turns gray.

Table 8-1 Control Panel Options For a Window *(Continued)*

Item	Function
Output Audio	Activates the audio output for the video input. The audio type is determined by the **Audio Type menu**. If another video input is playing this audio type and you select this button, the other audio stops and this audio plays instead. If AES and HDMI audio are muted then both are reactivated when this button is clicked.
Mute Audio	Mutes audio monitoring output (from both AES and HDMI, if both are activated). Use the **Output Audio** button to un-mute.
Monitor Disable	Disables the selected (AES or HDMI) audio monitoring and removed the connection to this Pip. Use the **Output Audio** button to re-enable.
Discrete	Activates or deactivates TDM audio. Note: TDM is not currently supported.
Audio type menu	Choose the output interface for the audio output monitor ■ AES ■ HDMI
Stereo Pair	Choose the audio pair to output on the audio output monitor.
Volume	Adjust the audio volume on the output of the audio monitor.

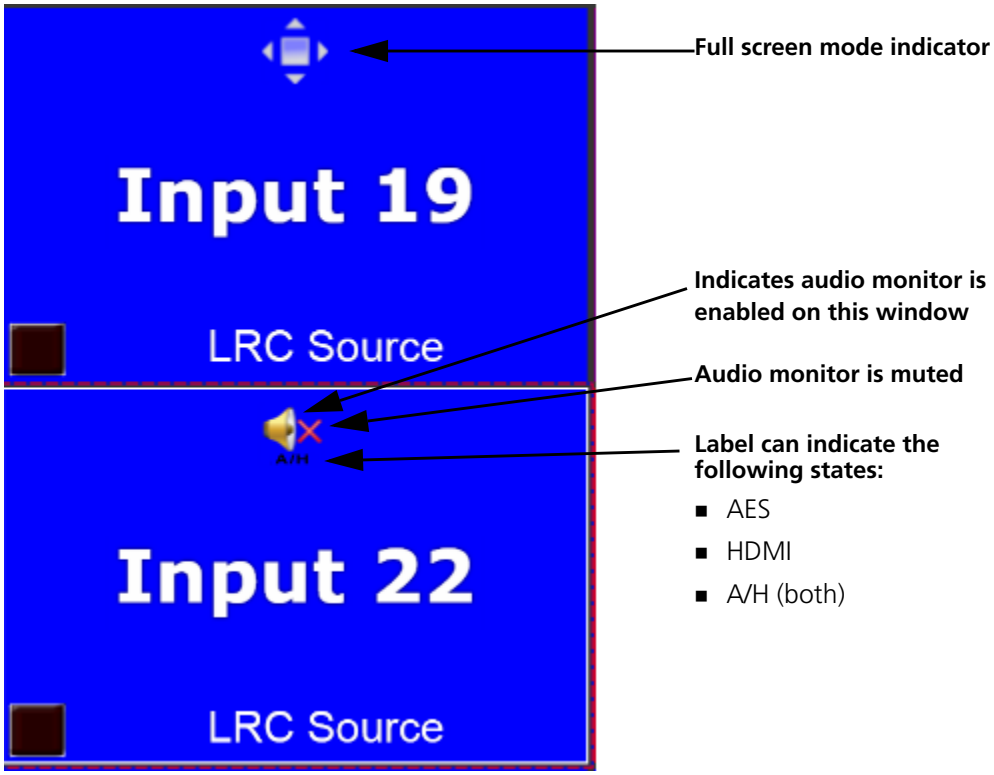


Figure 8-4 Monitoring Full-Screen and Indicating Muted Audio

When you click on a timer in a layout, the control panel updates to provide options for that timer.

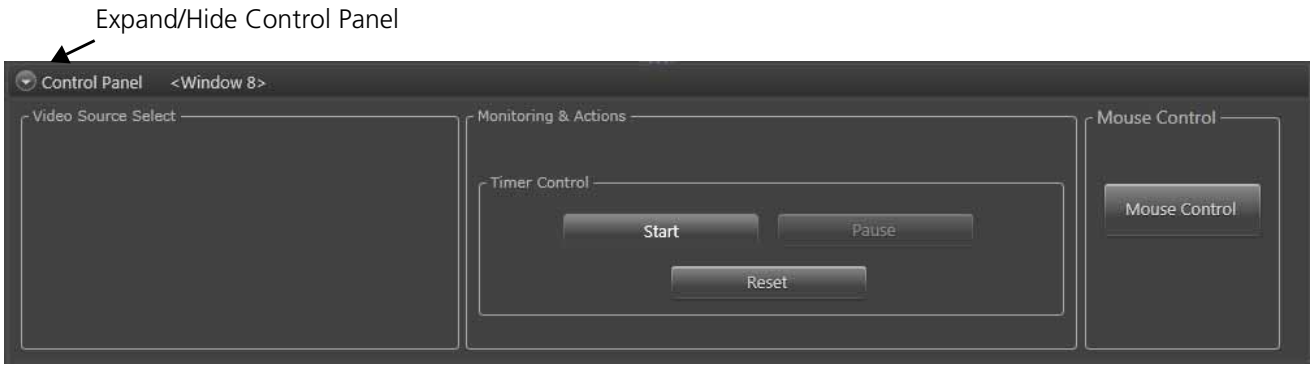


Figure 8-5 Control Panel

Table 8-2 Control Panel Options For a Timer

Item	Function
Start	Starts the timer
Pause	Pauses the timer
Reset	Resets the timer to its preconfigured starting value.

Using Mouse Control

Even when no video window is selected, Mouse Control is available.

Table 8-3 General Controls

Item	Function
Mouse Control	Activates remote mouse control.

When mouse control is enabled, the Control panel minimizes itself. To deactivate mouse control, press SHIFT+F8 to exit.

The mouse now appears on the output monitors. Depending where you click, different options will appear.

Video Window

Click a video window to see the following options:

Table 8-4 Video Window Options

Menu Option	When Selected
Router source	A menu of all available sources appears. Choose a source and click OK to apply that source to the video window, or Cancel to close the window leaving the source as previously selected.
Follow Destination	Menu of all available destinations
FullScreen/Unfullscreen	Toggles the selected video window as full screen or reverts to the layout
Route Audio	On the box that opens, select an **Audio Output Channel** from the menu on the left, and then select an **Audio Channel Pair** from the menu on the right. **Set**—Routes the selected output channel and audio pair but does not apply the change **Apply**—Routes all the selected channel pairs that you set to the corresponding audio output channels and closes the panel **Close**—closes the Route Audio panel

Note: *When you are viewing the layout live on the output, A video window that shows green on the monitor has a scalar assigned that is outside the display group.*

Background

Click on an area of background to see a single item, **Recall Layout**. When you select this option, a list of presets appears. Select a preset and click **OK** to apply that preset, or **Close** to cancel.

A message appears on the screen indicating that the layout has been changed.

Timer

Click on a timer that is not running. There are two options:

- **Start—** Click to activate the timer, and the **Start** option becomes **Pause**. When the timer is in a paused state, that option becomes **Resume**.
- **Reset—**Click and the timer goes back to its original time.

Table 8-5 Timer Status Indicators

Timer Indicator	Name	Description
	End Time Counter	The timer has reached its end time.
	Pause Counter	The Timer is paused.
	Play Counter	The counter has been started and is currently counting up or down.

9 Diagnostics

Using Diagnostics

1 From the HView Designer **Home** tab, select **View Diagnostics**.

A dialog box opens, displaying any errors.

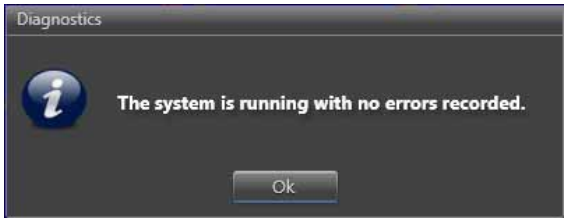


Figure 9-1 Diagnostics Dialog Box

Installing Magellan Diagnostic Logging

Magellan Diagnostic Logging is purchased separately. It is installed on a PC on the same network as the HView SX Pro, and receives messages designated by the system administrator for review.

System Requirements

Hardware Requirements

Magellan Diagnostic Logging can be installed on a PC that meets or exceeds the following requirements:

- 3 GHz Pentium IV processor (Core 2 Duo - 2.39 GHz recommended)
- 1 GB RAM (2 GB recommended)
- 100-BaseT Network connection
- Minimum 20 GB HDD drive
- 1 GB Available Disk Space
- DVD-ROM Optical Drive
- Super VGA supporting 1152 × 864 (19-inch recommended) Display

Operating System

Choose one of the following:

- Windows 7 32-bit
- Windows 7 64-bit
- Windows Server 2008 R2 64-bit

Required Software

The following software must be installed prior to installing Magellan Diagnostic Logging:

- Microsoft .NET 4 Client Profile
- Microsoft .NET 4 Extended
- Microsoft .NET Framework 3.5.1 Feature (Microsoft Windows Server 2008 r2 only)
- Microsoft Silverlight 5.1 or higher
- Microsoft Visual C++ 2010 x64 Redistributable for Windows 7 64bit

Installing Magellan Diagnostic Logging

Double-click the correct file, depending on your operating system:

- MagellanDiagnosticLogging32-BitNetworkServerandClientRuntime xx.xx.xx.msi
- MagellanDiagnosticLogging64-BitNetworkServerandClientRuntime xx.xx.xx.msi

Magellan Diagnostic Logging uses InstallShield. Follow the instructions that appear on the screen. It is not necessary to reboot the PC after installing the software.

Configuring HView SX Pro for Magellan Diagnostic Logging

In HView Designer, on the **Home** tab, click **HVD Logging Enable: OFF**.

The button label changes to show **HVD Logging Enable: ON**.

Launching Magellan Diagnostic Logging

To launch Magellan Diagnostic Logging, do one of the following:

- From the **Start** menu, select **All Programs** > **Harris** > **Magellan Diagnostic Logging** > **Diagnostic Logging Viewer**.
- In the URL field of your browser, type http://localhost:8002/

The home page of Magellan Diagnostic Logging lists all devices configured to send messages to the server.

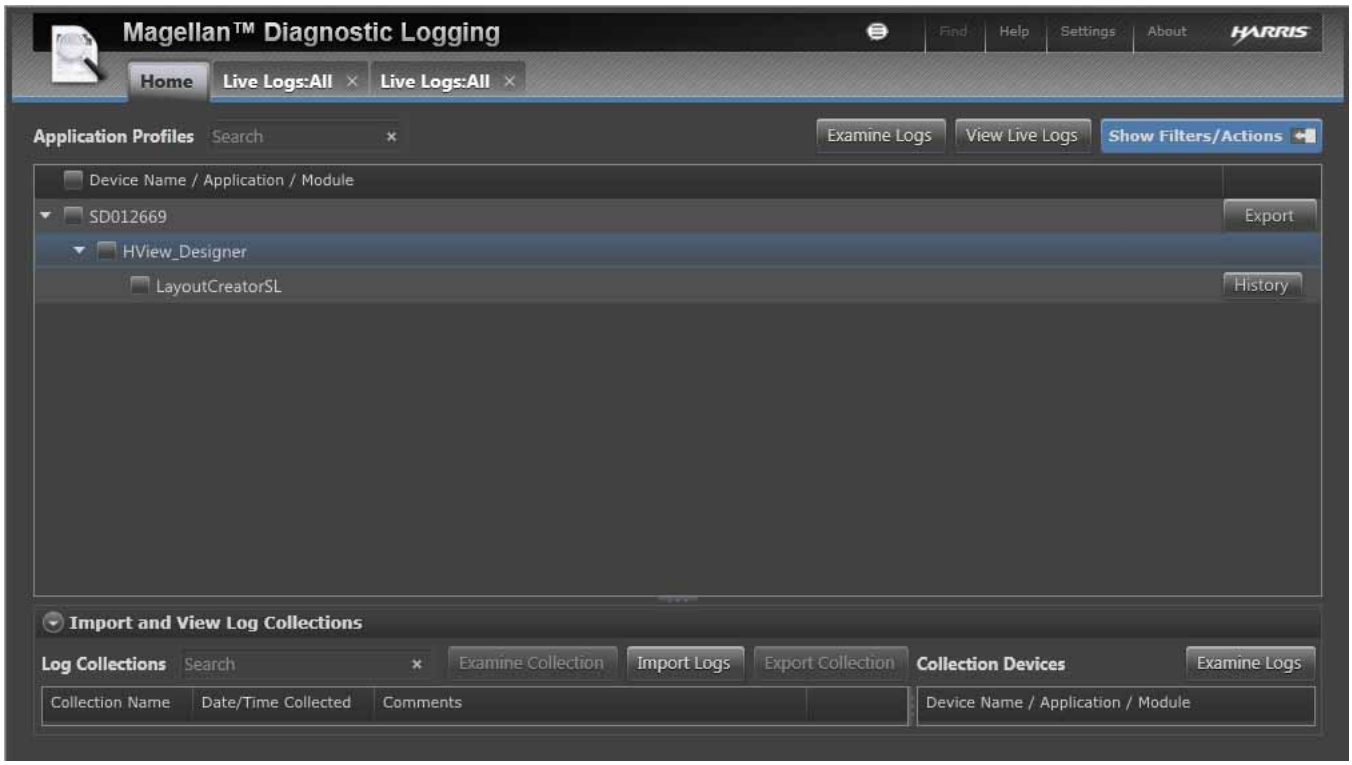


Figure 9-2 Home Page of Magellan Diagnostic Logging

Diagnostic Logging's **Home** tab displays a list of devices that send it messages. The device in Figure 9-2 has received log messages from one device.

The PC hosting HView Designer has a sub-device that you can view by clicking the down arrow. Below the sub-device is the log. To view a summary of the log for a device, click **History** at the lowest level of the log entry.

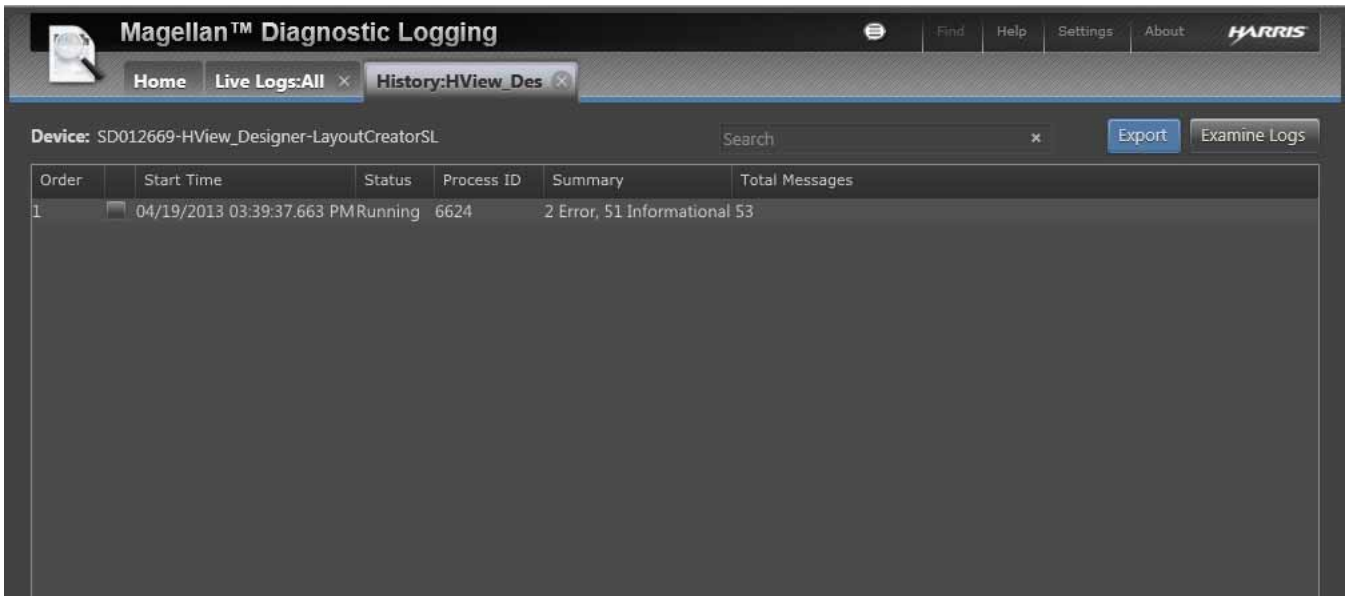


Figure 9-3 History for an HView SX Pro Device

Diagnostic Logging Interface

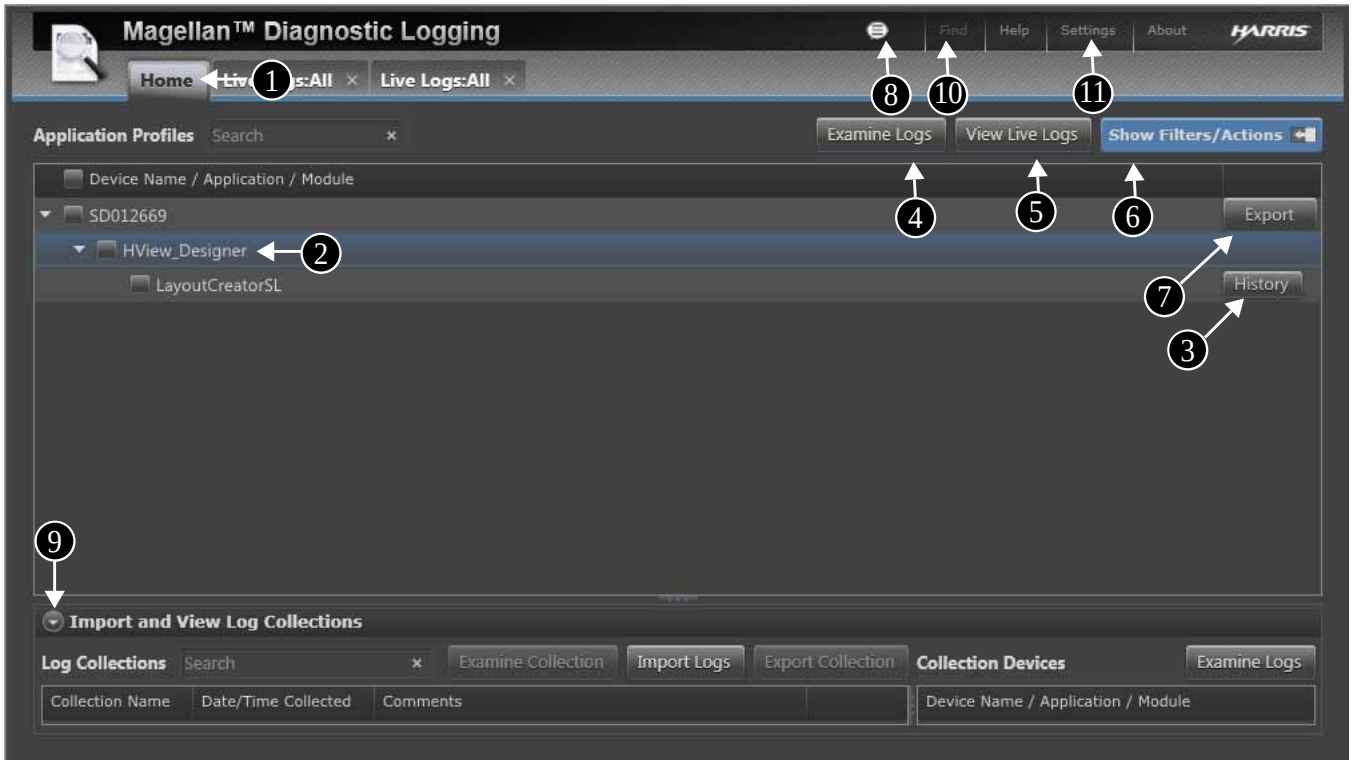


Figure 9-4 Diagnostic Logging Home tab

Table 9-1 Diagnostic Logging Interface Options

	Item	Description
❶	Home Tab	The Diagnostic Logging Home Tab.
❷	Device	The available elements to view logs for
❸	History	Select an element and click the **History** button to view History for the selected element
❹	Examine Logs	Select an element and click the **Examine Logs** button to review logs for the selected element
❺	View Live Logs	Select an element and click the **View Live Logs** button to view real time logs for the selected element
❻	Filters and Actions	Click to filter display and content preferences for logs
❼	Export	Select an element and click the **Export** button to export log information. Logs can be exported by day, week, or all.
❽	Summary	Click the **Summary** icon to display a Summary toolbar at the top of the page that contains shortcut links to Exports, Imports, and Collections. See ***Using Summaries*** on page 124.

Table 9-1 Diagnostic Logging Interface Options *(Continued)*

	Item	Description
❾	Import and View Log Collections	Click to view/access **Log collections** based on name/ date/comments - these can then be **examined** or **exported**. You can also **import** logs.
❿	Settings	Click to view/define **System-wide settings**, **Log Viewer Settings**, and **Logging Server Settings**.
⓫	Find	Searches for the entered text on the page

Viewing Logs

To view a log, place a check beside the device on the Home page, and then click **View Live Logs**.

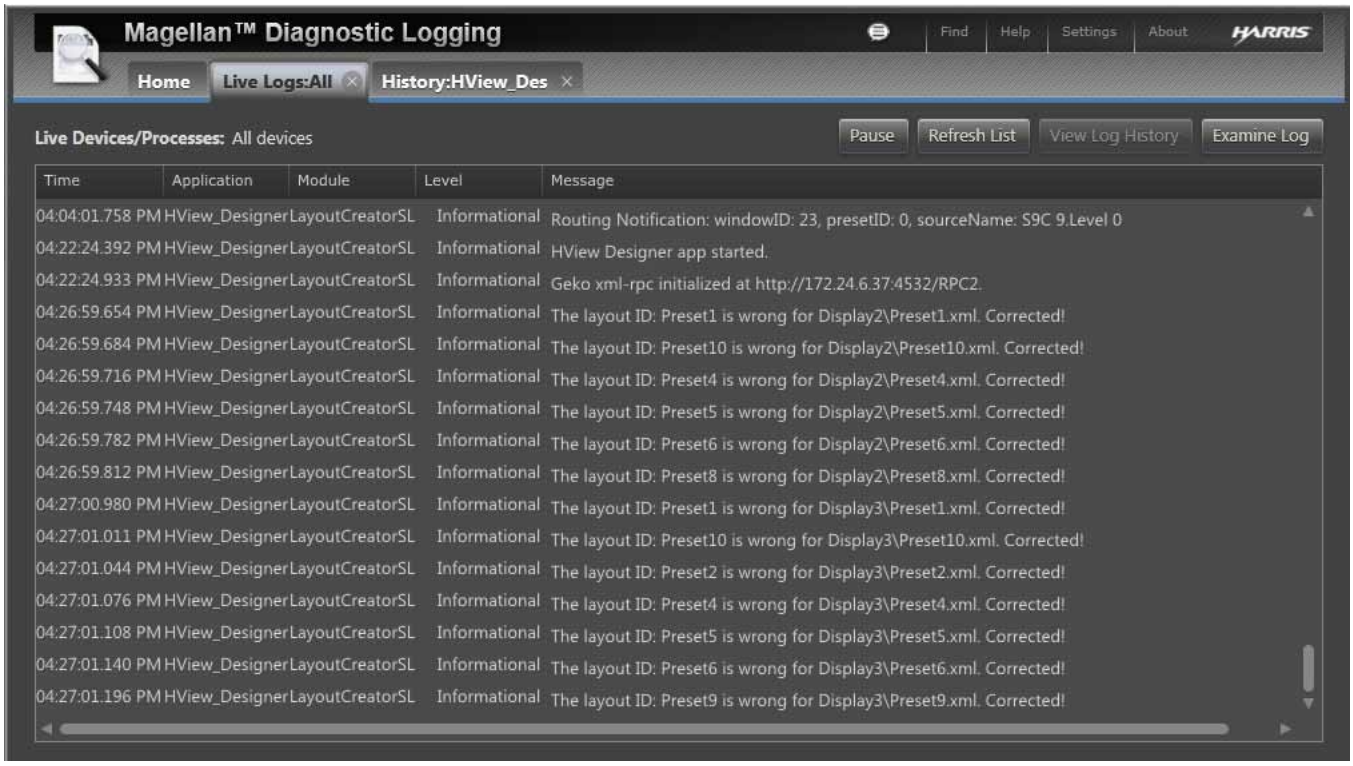


Figure 9-5 Live Logs for HView SX Pro System

If no logs are selected or all logs are selected, click **View Live Logs** and the log that opens will contain entries for all connected devices.

If no device has activity when you select View Live Logs, the viewer tab is empty. The viewer updates dynamically as events occur.

Examine Logs

On the Home tab, select devices (if no devices are selected, it's the same as if all of them are) and click Examine Logs to view logs in detail.

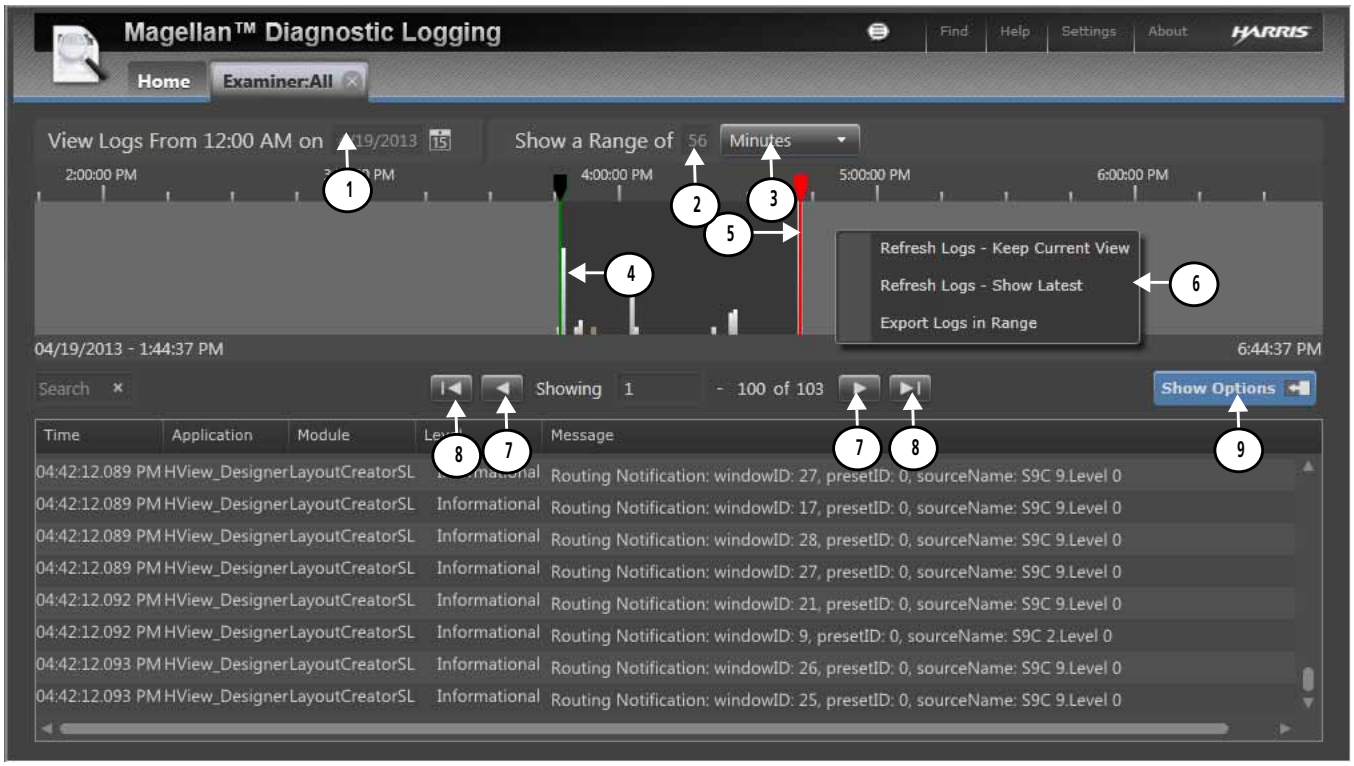


Figure 9-6 Examining a Log

Table 9-2 Examiner Tab

	Item	Description
1	Log Date	Date to view logs from. Type in a date or click the calendar icon and go to a date.
2	Units in View	Number of defined units for the log (hours, minutes, etc)
3	Display Units	Units to view log information in (Days, Hours, Minutes, Seconds, Milliseconds)
4	Log Start Range	The Start Point of the Log Range. Click and drag to define.
5	Log End Range	The End Point of the Log Range
6	Log Range Options	Right click to view options for the selected log range. You can choose to refresh logs or export the selected range.
7	Next Page	Click to go to the next or previous page.
8	Last Page	Click to go to the last or first page.
9	Options	Click to view/define Log Options and to filter logs.

The top portion of the Examiner tab shows a timeline. A green marker indicates the beginning of the viewing area, and a red marker indicates the end.

To View a specific time, click the timeline with the mouse. The log examiner updates to show logs surrounding that time. A black line appears in the timeline, indicating the current time in the Examiner.

Above the timeline, you can adjust the content that is displayed by changing the date and duration. To view a different part of the log, drag the green and red sliders.

Below the timeline, messages are displayed in a static format. You can sort the log entries by clicking on column headers.

Changing the Content Displayed in the Examiner

In addition to sorting a log file by the display columns, you can choose to view only certain types of logs. Follow these steps:

1 Click **Show Options**.

The **View Options** palette appears at the right side of the screen.

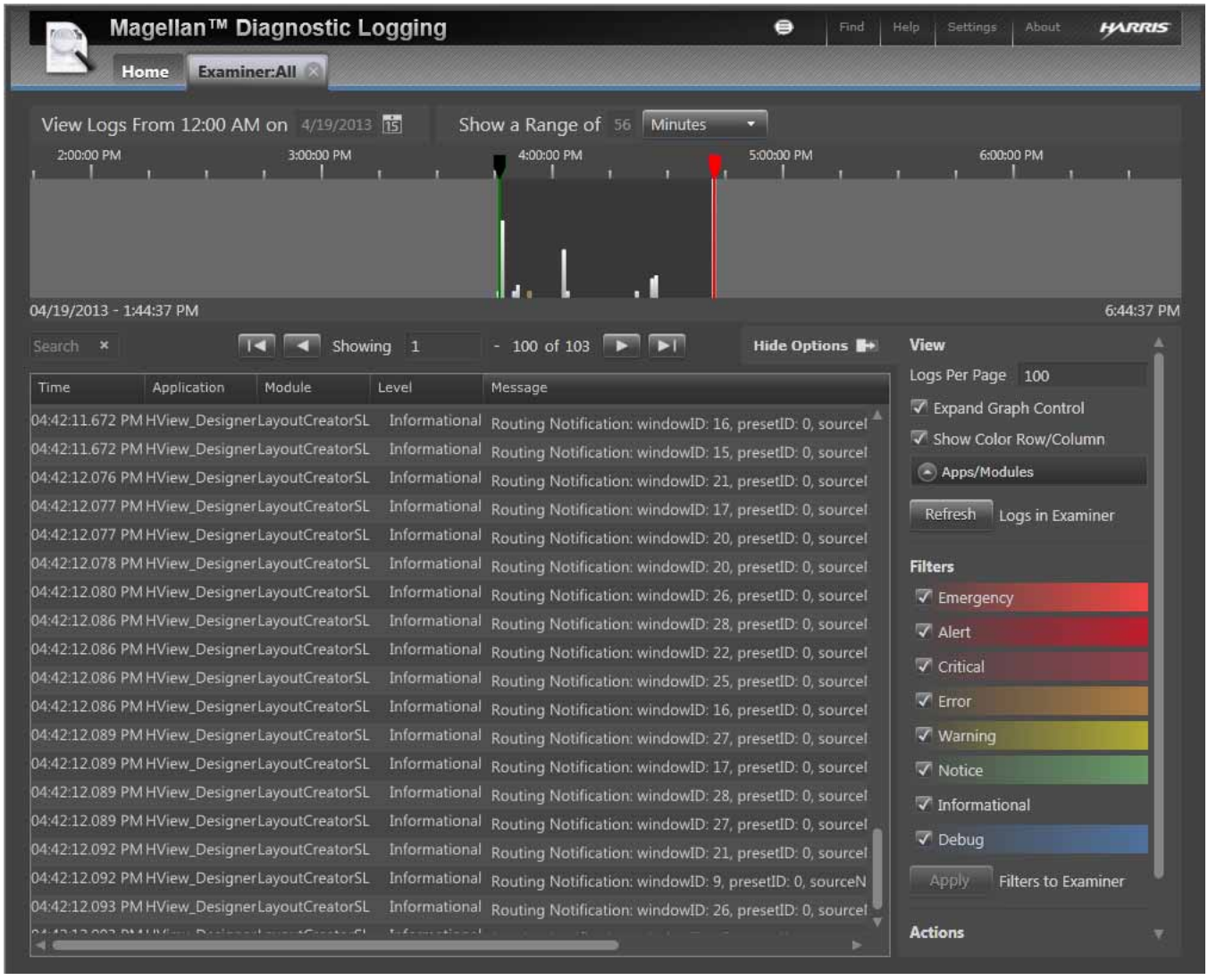


Figure 9-7 Show Options while Examining a Log

2 At the top of the palette, select how many logs to view, and how they will be displayed.

3 Place checks beside types of information you would like to see in the Examiner.

You can only filter out information that is being sent already from the HView SX Pro. Settings, configured using the HView Designer supersede settings on this screen.

4 Click **Apply**.

The table refreshes to display the selected information.

Export Logs

When you export a log, it is saved as a zip file that can be viewed by any log viewer.

1 Do one of the following:

- From the Diagnostic Logging **Home** page, do either of the following:
  - At the right end of the HView SX Pro's header line, click **Export**, and then choose **Past Day**, **Past Week**, or **All Logs**.
  - Place checks beside items in the Devices and Application Profiles list, and then click **Show Filters/Actions**, and then click **Export** under **Actions**. Choose **Past Day**, **Past Week**, or **All Logs**.

    All selected logs (any log with a check beside it) are exported.
- From the Examiner, click **Show** options, and then, under **Actions**, click **Export**. Choose **Logs in View**, **Past Day**, **Past Week**, or **All Logs**.
- From the History tab, place a check beside the logs you want to export, and then click **Export**.

When the log is collated and ready to be saved locally, a dialog may appear, asking what to do with the file.

2 Click **Save** to save the file to the local computer. You can choose a different location for the file.

If this dialog does not appear, but a progress bar appears instead, the file is being transferred to the local computer.

When the export has finished, a message appears on the top left corner of the Diagnostic Logging interface.

Import Logs

Magellan Diagnostic Logging can import logs that it or another device has saved. To import a log, follow these steps:

1 Click **Import and View Collections** at the bottom of the **Home** page.

The lower section of the screen expands to display something similar to **Figure 9-8**:

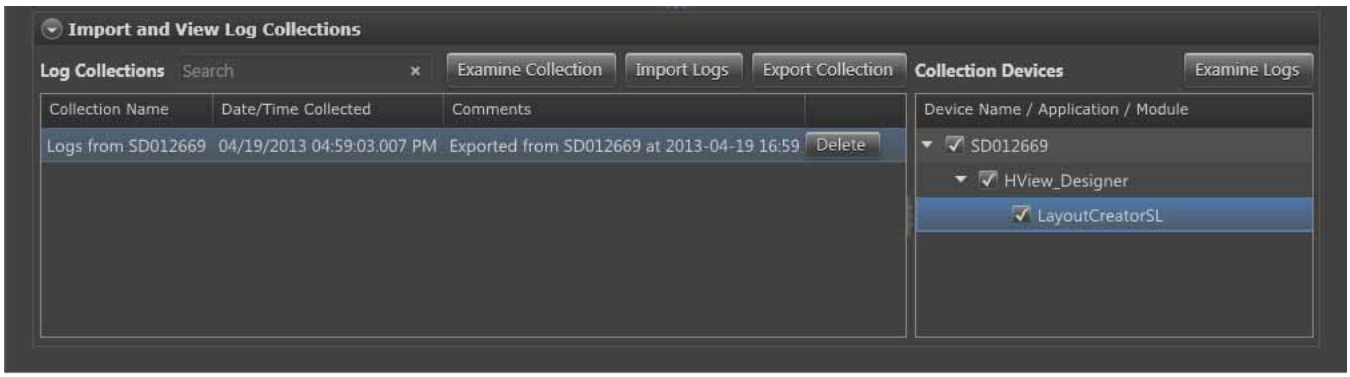


Figure 9-8 Import and View Collections -- Opened

2 Click **Import Logs** and then browse to a .zip file and click **Open**.

A progress bar appears, and when the import is finished, an **Import Complete** message appears in the top right corner of the screen.

3 Click an item in the Log Collections column on the left.

The Collection Devices column updates to display all devices contained in that collection. Within each device are nested folders for each sub-device. HView SX Pro devices normally have one sub-device.

4 Place a check beside each device log you would like to load in the examiner, and then click Examine Logs.

The logs open in the Examiner. For more information, see ***Examine Logs*** on page 119.

Collect Logs

A collection is a group of logs that you group yourself.

1 On the **Home** tab, click **Show Filters/Actions**.
2 The **Filters/Actions** panel opens.
3 Click **Actions** > **Collect logs to network**.

The following dialog box opens:

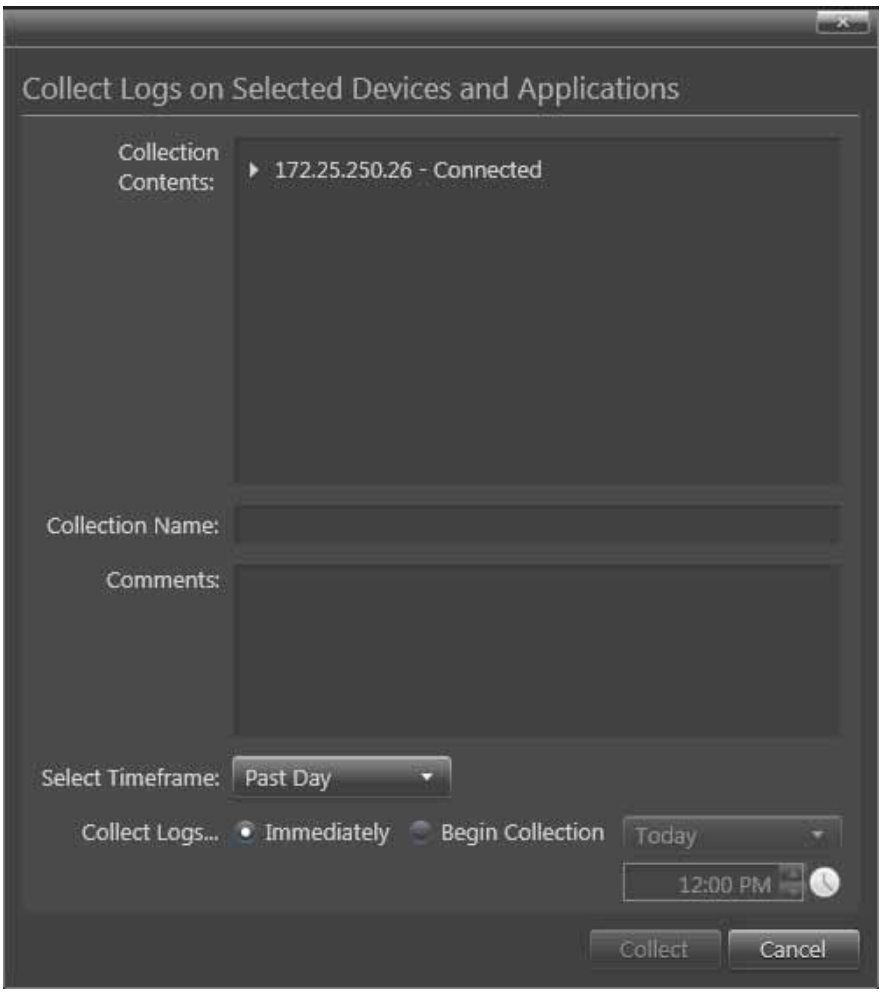


Figure 9-9 Collecting Logs to Network

4 Enter a name for the collection, and any comments that might help identify the purpose of the collection or its contents later.
5 Select a time frame, and choose whether to collect logs immediately, or begin collection at some later point.
6 Click ***Collect*** to activate the collection.

Using Summaries

If you have recently imported or exported a log, the **Summary** bar appears below the button bar at the top of your Diagnostic Logging screen. If the Summary bar is not open, click **Summary** to open it.

Figure 9-10 Summary Button

The Summary bar has three options: **Exports**, **Imports**, and **Collections**.

Click one of these options to open the **Summary Details** dialog box.

The three options correspond to three tabs on the **Summary Details** dialog box.

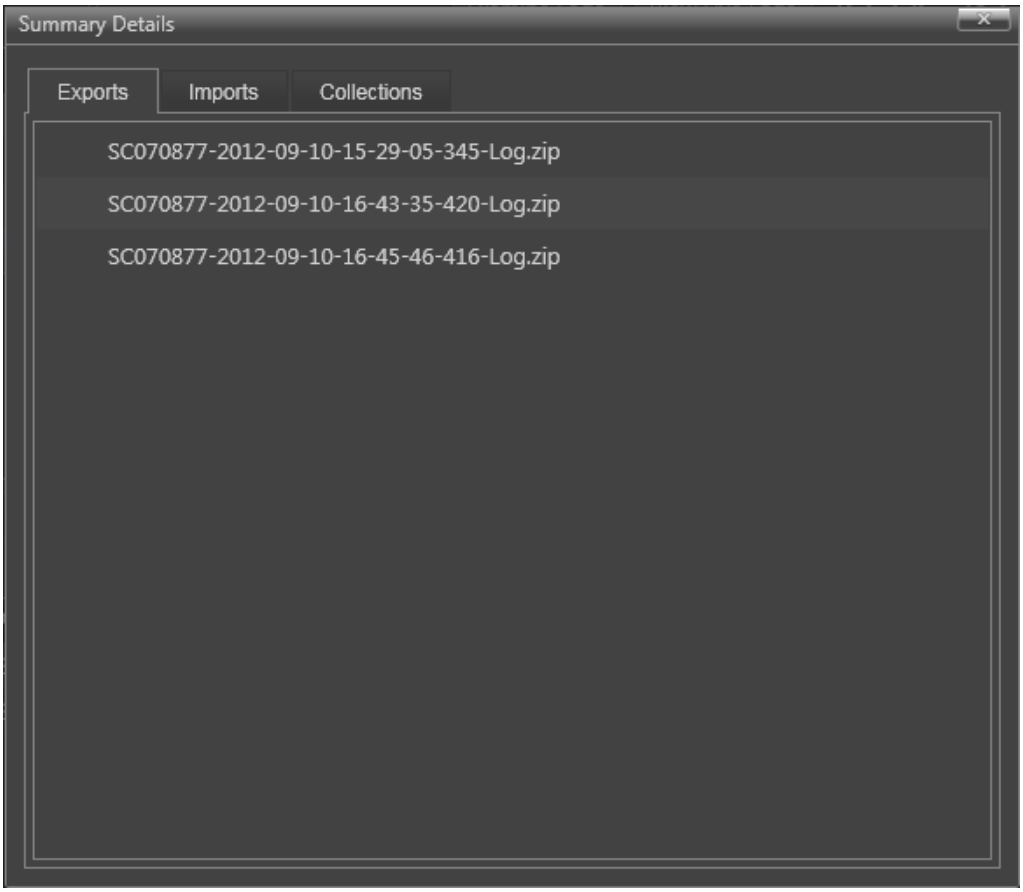


Figure 9-11 Summary Details Dialog Box

Each tab details recent activity for that area of the interface.

Clearing the Diagnostic Log

When you clear logs from the Log, all devices are also removed. Be sure to save logs that you need prior to clearing.

1 If the **Filters** palette is not open at the right side of the screen, click **Show Filters/Actions**.

2 Click **Clear All Logs** and then click **OK**.

All logs and all information in the logs are removed.

When a device has activity, it will reappear on Magellan Diagnostic Logging's **Home** page.

Configuring Magellan Diagnostic Logging

Click **Settings** in the top right corner of the screen to open the **Settings** pane.

For the most part, don't change port numbers and other settings except on the advice of Customer Service.

Some settings that can customize system performance include:

- Minimum Log Interval
- Columns and column order

If you are not receiving any messages, despite having devices configured, check **Receive Messages over SysLog**. If this item is not checked, no messages will be received.

When you make any changes to your settings, click **Save** to commit the changes.

Changing Columns That Appear in Magellan Diagnostic Logging

1 On the Settings panel, scroll down to Column References.

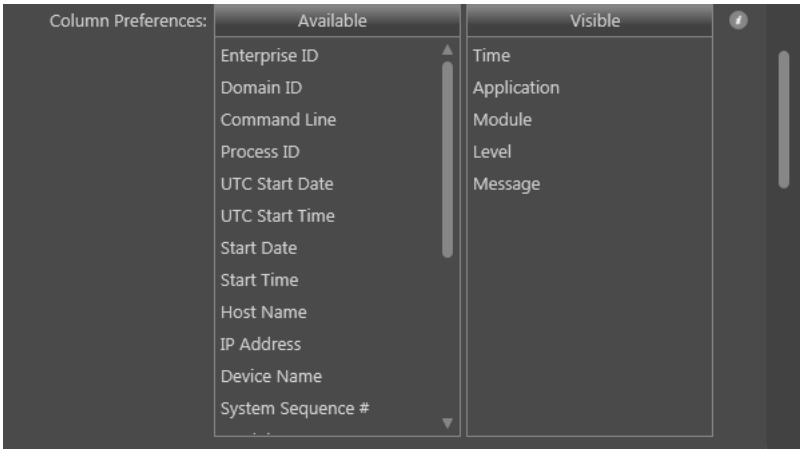


Figure 9-12 Column References Selector in Magellan Diagnostic Logging

The items in the list on the left are not currently used in the Log display. Items in the list on the right are column headers in the Log display.

To move items from one column to the other, click on the item and hold the mouse down while dragging from one column to the other. When you see a shadow of the item in the column you're dragging to, release the mouse button. The item appears at the point in the list where you dropped it.

You can change column order by dragging items within a column

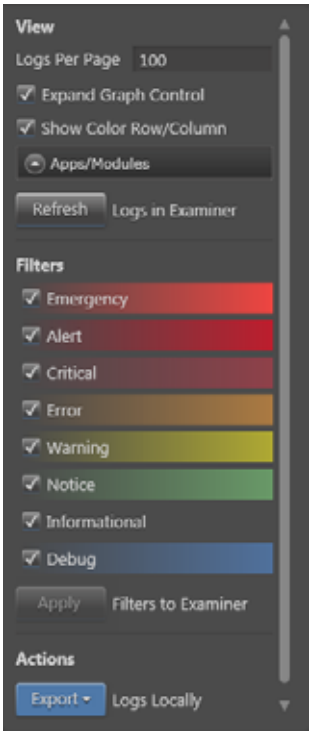
Note: *You can also drag column headers on the table interfaces themselves.*

2 Click **Save** to commit the changes.
Changes to columns are universal and apply to all examiner pages.

hanging (Filtering) the Content Displayed in the Examiner

In addition to sorting a log file by the display columns, you can choose to view only certain types of logs. Follow these steps:

1 Click **Show Options**.
The **View Options** palette appears at the right side of the screen.



2 At the top of the palette, select how many logs to view, and how they will be displayed.
3 Place checks beside types of information you would like to see in the Examiner.
You can only filter out information.

4 Click **Apply**. The table refreshes to display the selected information.

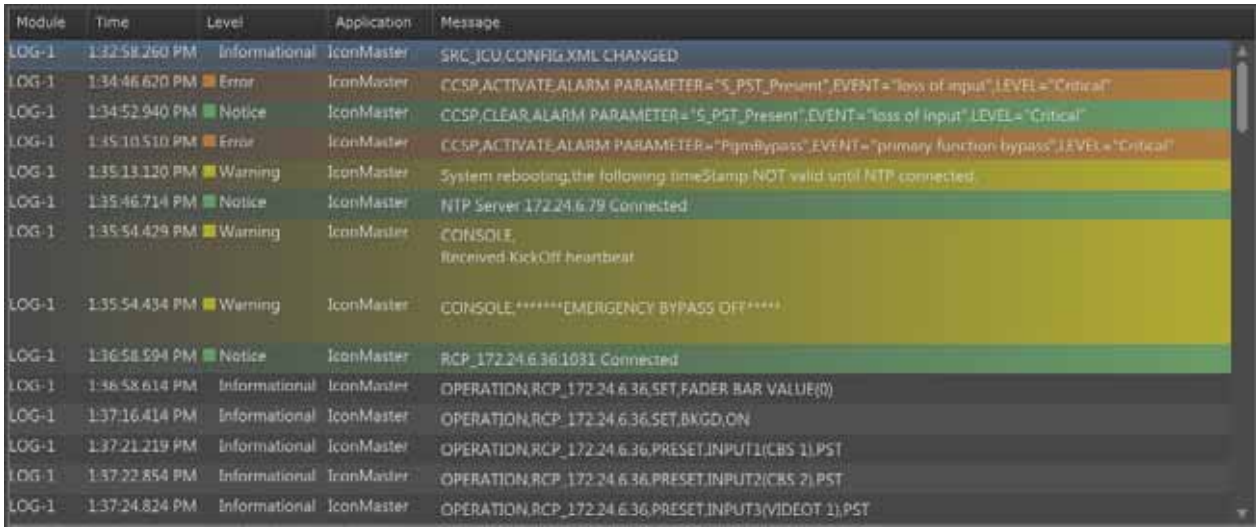
Interpreting HView SX Pro Messages in Magellan Diagnostic Logging

Information such as Date, Time, Level, Sequence, etc., is defined by Magellan Diagnostic Logging itself; see Magellan Diagnostic Logging's documentation for more information on those items.

The Message field in Magellan Diagnostic Logging is specific to the particular device. A single device action, such as loading a layout, can trigger numerous messages in the log, as the repercussions of that action are executed.

The message field of a typical log entry is separated by commas, and contains the following information:

- The source of the change, for example: Routing Notification, meaning the change occurred as a result of an action taken at the router)
- The location where the action took place, for example Window ID: 4 meaning a specific Window where the action was put into effect
- The item that was triggered, such as a specific preset
- The action that happened as a result of the triggered item, such as a source being updated



Module	Time	Level	Application	Message
LOG-1	1:32:58.260 PM	Informational	IconMaster	SRC_ICU.CONFIG.XML CHANGED
LOG-1	1:34:46.620 PM	Error	IconMaster	CCSP,ACTIVATE,ALARM PARAMETER="S_PST_Present",EVENT="loss of input",LEVEL="Critical"
LOG-1	1:34:52.940 PM	Notice	IconMaster	CCSP,CLEAR,ALARM PARAMETER="S_PST_Present",EVENT="loss of input",LEVEL="Critical"
LOG-1	1:35:10.510 PM	Error	IconMaster	CCSP,ACTIVATE,ALARM PARAMETER="PgmBypass",EVENT="primary function bypass",LEVEL="Critical"
LOG-1	1:35:13.120 PM	Warning	IconMaster	System rebooting,the following timeStamp NOT valid until NTP connected.
LOG-1	1:35:46.714 PM	Notice	IconMaster	NTP Server 172.24.6.79 Connected
LOG-1	1:35:54.429 PM	Warning	IconMaster	CONSOLE, Received KickOff heartbeat
LOG-1	1:35:54.434 PM	Warning	IconMaster	CONSOLE,*******EMERGENCY BYPASS OFF*****
LOG-1	1:36:58.594 PM	Notice	IconMaster	RCP_172.24.6.36:1031 Connected
LOG-1	1:36:58.614 PM	Informational	IconMaster	OPERATION,RCP_172.24.6.36,SET,FADER BAR VALUE(0)
LOG-1	1:37:16.414 PM	Informational	IconMaster	OPERATION,RCP_172.24.6.36,SET,BKGD,ON
LOG-1	1:37:21.219 PM	Informational	IconMaster	OPERATION,RCP_172.24.6.36,PRESET,INPUT1(CBS 1),PST
LOG-1	1:37:22.854 PM	Informational	IconMaster	OPERATION,RCP_172.24.6.36,PRESET,INPUT2(CBS 2),PST
LOG-1	1:37:24.824 PM	Informational	IconMaster	OPERATION,RCP_172.24.6.36,PRESET,INPUT3(VIDEOT 1),PST

Figure 9-13 Sample Log File from Magellan Diagnostic Logging

The log entries in **Figure 9-13** describe:

- **Error:** This level is reserved for problems that directly affect output, such as loss of signal and loss of reference. High-priority CCSP alarms with a level of **Critical** generate this message when asserted.
- **Warning**: This level notifies about potential problems. Medium-priority CCSP alarms with a level of **Warning** generate this message when asserted.
- **Notice**: These messages apply to all alarm de-assertions and RCP connection messages.
- **Informational**: This level indicates routine device operation.
- **Debug**: This level is disabled by default and only intended for use in specific trouble-shooting guided by Magellan tech support.

Informational messages will be generated for all operational changes from control sources enabled in the diagnostic logging setup. All messages control from the parametric system are identified as CCSP.

10 Remote Control using Navigator and SNMP

Using Remote Control Systems with HView SX Pro

The HView SX Pro is fully compatible with CCS network control systems such as CCS Navigator and Magellan Network Control Panel. You can also control and monitor the multiviewer using third-party SNMP software. You can remotely perform the following operations:

- Select and change layouts for display
- Select and change video input sources
- Select audio channels for monitoring on the multiviewer's AES outputs
- Monitor the multiviewer as well as audio and video signal alarms
- Set audio and video alarm threshold values
- Change HView SX Pro's IP Address and Subnet Mask

For more information about controlling the multiviewer using CCS control, see ***Controlling Your Multiviewer on a CCS Network*** on page 129. For detailed information about using Magellan to control and monitor your multiviewer, see your *Magellan Configuration and Operation Manual*. For information on controlling the multiviewer using SNMP software, see ***Monitoring the Multiviewer Through SNMP*** on page 135.

For information on doing firmware upgrades on your HView SX Pro modules, see ***Updating Firmware with HViewUpgrade*** on page 138.

Controlling Your Multiviewer on a CCS Network

You can use CCS Navigator and the Magellan Network Control Panel to set CCS controllable parameters on your HView SX Pro. CCS parameters allow you to select layouts and modify some layout attributes. Using CCS Navigator, you can also monitor various hardware alarms, such as operating temperature alarms.

Each output module has its own set of parameters and alarms. Before you can access these parameters and alarms, you must discover the output module using CCS Navigator.

The following sections describe how to discover HView SX Pro and how to control and monitor it using CCS Navigator. For information about controlling HView SX Pro modules using Magellan network control panels, see your *Magellan Configuration and Operation Manual*.

Discovering HView SX Pro Modules Using Navigator

You can use CCS Navigator in Build mode to discover HView SX Pro modules that are connected to a CCS network through the Ethernet connector on the back of the module.

1. Make sure Navigator is in Build mode.
2. If the **Discovery Window** is not open, click **Tools** > **Discovery** in the main menu.
   The **Discovery Window** appears, most likely in the bottom left corner of the screen.
3. Click **Options**, and on the Hosts tab place a check beside **Enable scanning of MAC addresses** and **Configure device settings and/or device IDs**.
4. Click **OK** to close the **Add Host** dialog box, and then **OK** again to close the **Discovery Options** dialog box.
5. Click **Start**.
6. Navigator polls the network. When the poll is complete, the **IP Settings and Device ID Configuration** dialog box opens.

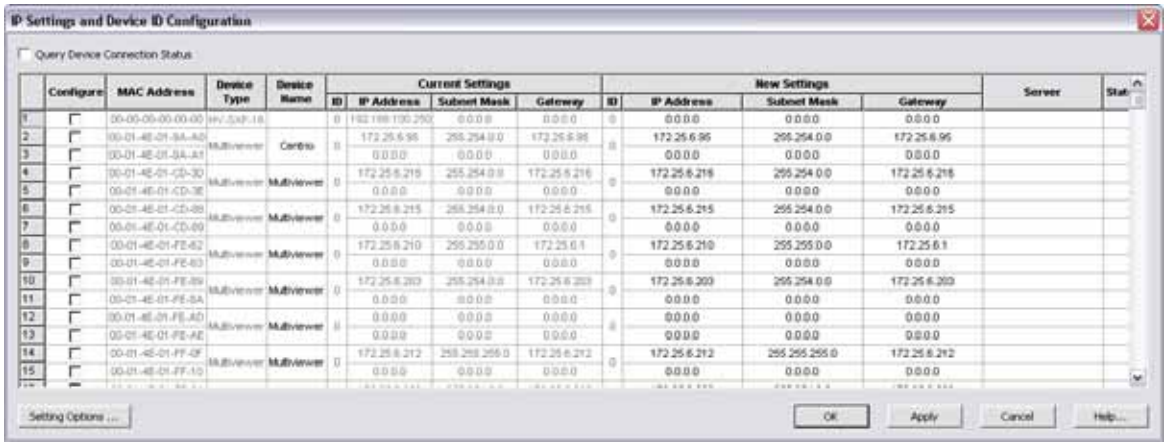


Figure 10-1 IP Settings and Device ID Configuration Dialog Box (HView SX Pro is in the first line)

If your HView SX Pro has not been configured on your CCS network, it will most likely be found at the default IP address of 192.168.100.250.

7. Place a check beside the HView SX Pro and click **Setting Options**.
8. The **IP Settings and Device ID Options** dialog box opens.
9. Enter an IP address, Subnet mask, and default gateway appropriate for your network.
10. Click **OK**, and then click **Apply** and **OK** to close the **IP Settings and Device ID Configuration** dialog box.
    Navigator runs a discovery.
11. When your discovery is complete, **Discovery Completed** is displayed in the **Discovery Window**.
12. Click **Save**.
    The contents of your discovery populate the **Discovery** folder of the **Navigation Window**.

You can now switch to Control mode by selecting **File** > **Operational Mode** > **Control** from the main menu. Depending on which output module parameter set or alarm group you want to view, double-click on the appropriate icon in the **Navigation Window** to display the controls for a display.

Figure 10-2 illustrates a discovered output module.

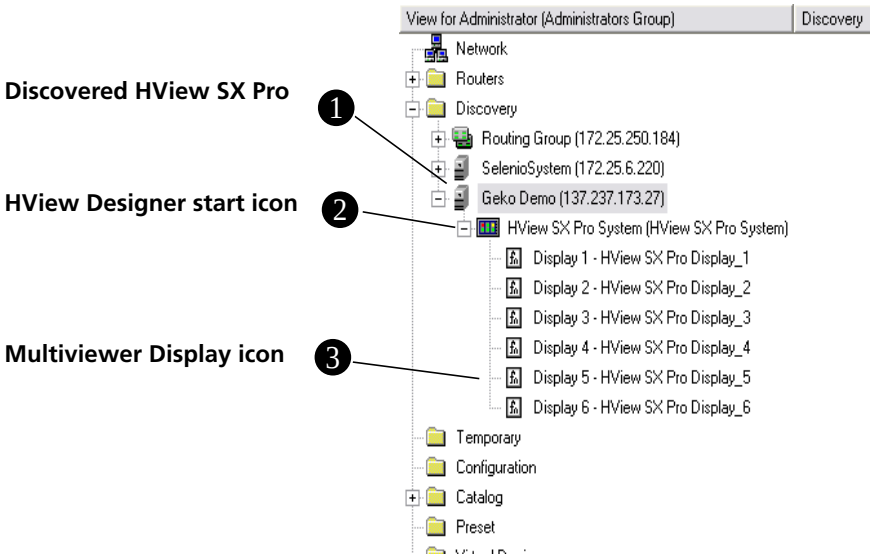


Figure 10-2 Discovering an Output Module

The following sections describe the multiviewer-related icons that appear in the Network view after you discover HView SX Pro.

1. Click this icon to expand the discovered HView SX Pro folder.
2. Double-click to start HView Designer. For more information, see ***Getting Started With HView Designer*** on page 34.
3. Double-click the HView SX Pro display icon to see output-related parameters and alarms in a Control dialog box. For information about display parameter and alarms, see ***Multiviewer Display Device Node Parameters and alarms*** on page 132.

Parameters and Alarms

Use CCS Navigator in Control mode or Magellan network control panel to access CCS controllable parameters and alarms. Output modules have no card-edge controls. You must discover HView SX Pro before you can access CCS parameters and alarms (see ***Discovering HView SX Pro Modules Using Navigator*** on page 130).

Output module alarms function in the same way other CCS device Smart Alarms operate. For information about how CCS Alarms work, see your CCS Navigator documentation. Additional audio and video alarms can be viewed on display layouts and with HView Designer software. See ***Using the Alarms Panel*** on page 79 for more information about configuring and viewing on-screen audio and video alarms.

Parameter Table Notes

The parameters are listed in the order that they appear in CCS Navigator.

When viewing the control parameter tables, observe the following:

- Shaded table rows indicate read-only (feedback) parameters. Some Read-only parameters can be modified using HView Designer.

- Bold parameter options indicate the default settings for the parameter.

Multiviewer System Parameters and Alarms

Table 10-1 lists the system parameters, and Table 10-2 on page 132 lists system alarms.

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Table 10-1 Multiviewer System Parameters

Parameter Name	Function	Options
Parameters		
System Name	Displays the name of the current Multiviewer system	(displayed system name)
Number Displays	Shows the number of display devices currently connected to the selected Multiviewer system	(number of displays)
Initial Counter Time	Determines the start time of any counters	(**00.00.00.00**)
Parameters > Virtual GPI		
Virtual GPI (1-24)	Renders the specified virtual GPI	■ **Disable** ■ Enable
Parameters > Event Control		
Global Event Name	Defines the global event	(name of event)
Event Enable	Enables selected event	■ **Disable** ■ Enable
Enable All Events	Enables all events	■ **Disable** ■ Enable

Table 10-2 Multiviewer System Alarms

Alarm Name	Description
System Major Alarm Summary	Active if any alarm condition is reported (priority > 7) for the system
System Minor Alarm Summary	Active if any alarm condition is reported (4 < priority < 7) for the system
Over Temperature	Board is too hot
Fan Failure	A fan on one of the modules has failed

Multiviewer Display Device Node Parameters and alarms

You can access Display device parameters and alarms for each output device that is associated with a HView SX Pro.

To access the Display Device parameters and alarms

1. In the Network view, double-click or expand the **Display** folder.
2. Click the **Parameters** tab.
3. To view a consolidated list of display alarms, click the **Alarms** tab.

Table 10-3 lists the CCS parameters for each display device.**Table 10-4** lists the alarms for each display device.

Table 10-3 Multiviewer Display Device Parameters

Parameter Name	Function	Options
Parameters/PiP/PiP Source This Parameter menu only appears when the layout currently assigned to this display contains inputs. One instance of the parameter appears for each input. Duplicates are not represented.		
Pip (x) Source	Select the router source to connect to this video input.	Choose from all available router source/levels
Parameters/PiP/PiP Status This Parameter menu only appears when the layout currently assigned to this display contains inputs. One instance of the parameter appears for each input. Duplicates are not represented.		
Pip (x) Status	Indicates status of the video input signal. A green (present) status for this parameter indicates that video is available in the layout or wall	■ Green—No alarm ■ Red—Alarm present
Parameters/PiP/PiP Name This Parameter menu only appears when the layout currently assigned to this display contains inputs. One instance of the parameter appears for each input. Duplicates are not represented.		
Pip (x) Name	Displays the name of the video input as assigned in HView Designer when creating or editing a layout	String (default: **Window n**)
Parameters/PiP/PiP UMD Name This Parameter menu only appears when the layout currently assigned to this display contains inputs. One instance of the parameter appears for each input. Duplicates are not represented.		
Primary	Displays the primary name of the video input as it appears on UMD displays	String
Secondary	Displays the primary name of the video input as it appears on UMD displays	String
LRC Source	Displays the logical router source of the video input as it appears on UMD displays	String
LRC Destination	Displays the logical router destination of the video input as it appears on UMD displays	String
Parameters/PiP/PiP Full Screen		
PiP ID	Maximizes the selected video input to full-screen	■ **FS_Off** ■ (all available video inputs, listed by their video input Name)
Parameters/ Audio		
Audio Output	Selects the destination for audio monitoring	■ **AES** ■ HDMI
Pip ID	Selects the audio for external monitoring	■ **Off** ■ Window 1 - n

Table 10-3 Multiviewer Display Device Parameters *(Continued)*

Parameter Name	Function	Options
Stereo Pair	Choose stereo pair to monitor Note: TDM is not currently supported.	■ **Embedded 1&2** ■ Embedded 3&4 ■ Embedded 5&6 ■ Embedded 7&8 ■ Embedded 9&10 ■ Embedded 11&12 ■ Embedded 13&14 ■ Embedded 15&16 ■ TDM 1&2 ■ TDM 3&4 ■ TDM 5&6 ■ TDM 7&8
Volume	Adjusts the loudness of the audio being monitored	0 - 100
Monitor	Activates or deactivates AES and/ or HDMI audio monitoring	■ **Enable** ■ Disable
Parameters/ Presets		
Active Preset	Select the preset to be displayed on this output	■ Preset 1 ■ ■ ■ Preset 10

Table 10-4 Multiviewer Display Device Alarms

Alarm Name	Description	Priority
Audio Ch1 Missing ■ ■ Audio Ch16 Missing	The audio is missing on the specified channel	7
Audio Ch1 Peak ■ ■ Audio Ch16 Peak	The audio is too loud on the specified channel	7
Audio Ch1 Low ■ ■ Audio Ch16 Low	The audio is too quiet on the specified channel	7
Sync Loss	Sync has been lost	7
Video Freeze	Content in the video frame is not changing	4
Video Black	Video level remains at digital black level	7
CC Data Missing	Closed Caption data missing	4

Table 10-4 Multiviewer Display Device Alarms

Alarm Name	Description	Priority
VChip Missing	VChip information is not present on line 21 field 2	1
ATC Missing	Ancillary Time Code packets are not detected within the digital video stream for a period in excess of the duration setting	4
VITC Missing	VITC is not detected	4

Monitoring the Multiviewer Through SNMP

Configuring a HView SX Pro as an SNMP Agent

You configure your multiviewer as an SNMP agent in HView Designer.

1. On the **Home** tab, click **Hardware Configuration** to open the **Hardware Config** tab.
2. Click **SNMP**.
   SNMP parameters become visible.

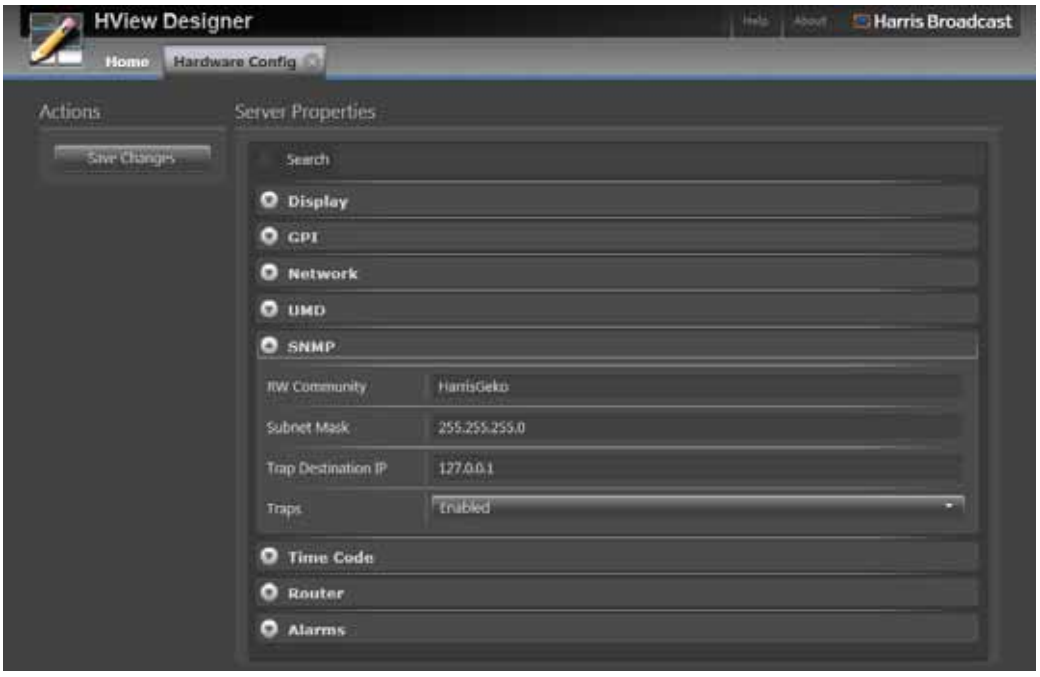

Figure 10-3 SNMP Parameters

3. Beside **RW Community**, enter the password for read/write access that the SNMP manager will use.
4. Beside **Subnet Mask**, enter a number appropriate to your network configuration.
5. Type the IP address of the SNMP Manager unit in the **Trap Destination IP** field.
6. Beside **Traps**, select **Enabled**.
7. Click **Save Changes** to upload the new settings to the HView SX Pro.

Configuring Third-Party SNMP Software Control

To set up your multiviewer with optional SNMP to communicate with SNMP MIB browsing software, follow these steps:

1. Make the required network connections between HView SX Pro(s) and your PC with installed SNMP browser/control software.
2. Ensure that your output module is configured to send traps to the computer that contains your MIB browsing software.

   For information on configuring SNMP on HView SX Pro, see ***Configuring a HView SX Pro as an SNMP Agent*** on page 135.

3. Load the Leitch mibs (downloadable from our website) into your SNMP browser/control software:
   - leitch.mib

     This MIB sets up the basic structure for product specific MIBs. It can be found under the **Private** > **Enterprise** branch in your MIB browsing software, and sets up the **leitchProducts** and **leitchCommon** sub-branches.

     The **leitchCommon** branch is initially empty. The **leitchProducts** branch contains several initially empty sub-folders.
   - ccsAlarm.mib

     This MIB adds a **ccsAlarms** sub-branch to the **leitchCommon** folder. When it is installed, you will be able to determine what specific module or frame has triggered an alarm (trap).

     These general MIB files set up a structure to help define parameters as SNMP objects, and alarms as SNMP traps.
4. Load the Multiviewer MIBs (downloadable from our website) into your SNMP browser/control software:
   - ZANDAR-ARM-MIB.txt
   - MULTIVIEWERSYSTEM.mib

     Loads the display parameters and alarms listed in ***Multiviewer Display Device Node Parameters and alarms*** on page 132.

   The Multiviewer MIBs will appear in the (11) multiviewer folder under the **LeitchProject** folder.

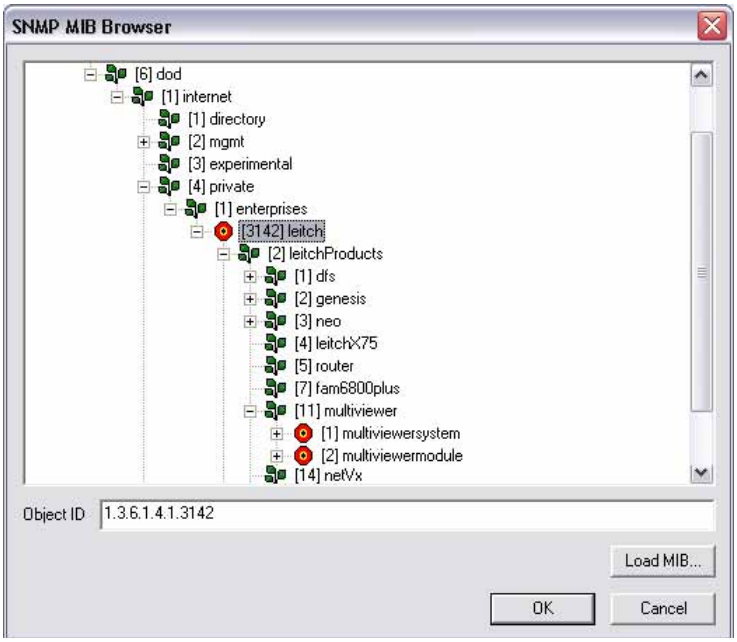

Figure 10-4 Multiviewer MIBs Loaded into NUDesign MIB Browser

5 Configure your MIB browser to connect to HView SX Pro by entering the IP address, Port (if you have changed the Port from its default in the configuration), and other standard configuration settings.

Your browser should now connect to the SNMP agent running on HView SX Pro.

6 To receive traps, start up the trap receiver in your MIB browser software.

To verify that your configuration is correct, browse to **Private** > **Enterprises** > **Leitch** on the MIB tree, and then right click on the **Leitch** heading and choose **Walk**.

You will see all the parameters and alarms for the device.

To facilitate monitoring more than one multiviewer, MIBs index devices by IP address. These settings will be available in your SNMP manager. See your SNMP manager's documentation for details of how to customize its configuration.

Updating Firmware with HViewUpgrade

As product developments occur, firmware updates may be released to introduce new features or improve functionality. Firmware updates are applied to HView SX Pro multiviewers using the HViewUpgrade utility. Upgrade takes approximately 20 minutes.

Before you begin, ensure that your system has the following available:

- PIPEmicro v3.3 latest for PX and PT resource modules as of July, 2013 with current H/W
- Network upgrade package for Hview SX Pro
- PC connected to the target HView SX Pro
- Navigator (v 5.1.2 is the latest as of July, 2013)

To upgrade firmware, follow these steps:

1. Assign an unique IP address to each set of HView SX Pro if this has not been done already.
2. Ping each device to ensure that all devices are responding.
3. Verify current PIPEmicro version and update with the latest one if required.
   - Update HView SX Pro in a Platinum router frame through Navigator
   - Update HView SX Pro in IP3 router frames through the IP3 configuration tool
4. Run the Network upgrade utility by launching the HViewupgrade utility.

   The network upgrade utility automatically detects HView SX Pro devices in a defined frame (IP3 and/or Platinum routers) and displays their IP, MAC, and port addresses.

   If the utility does not detect some HView SX Pro devices in the defined frame, you can add them manually:

   a. Add the IP address of the HView SX Pro device below **Add Multiviewer.**
   b. Click **Add**.

      A new row is added to the **Multiviewers** table.
5. Put check marks in the ID column for each device as necessary.

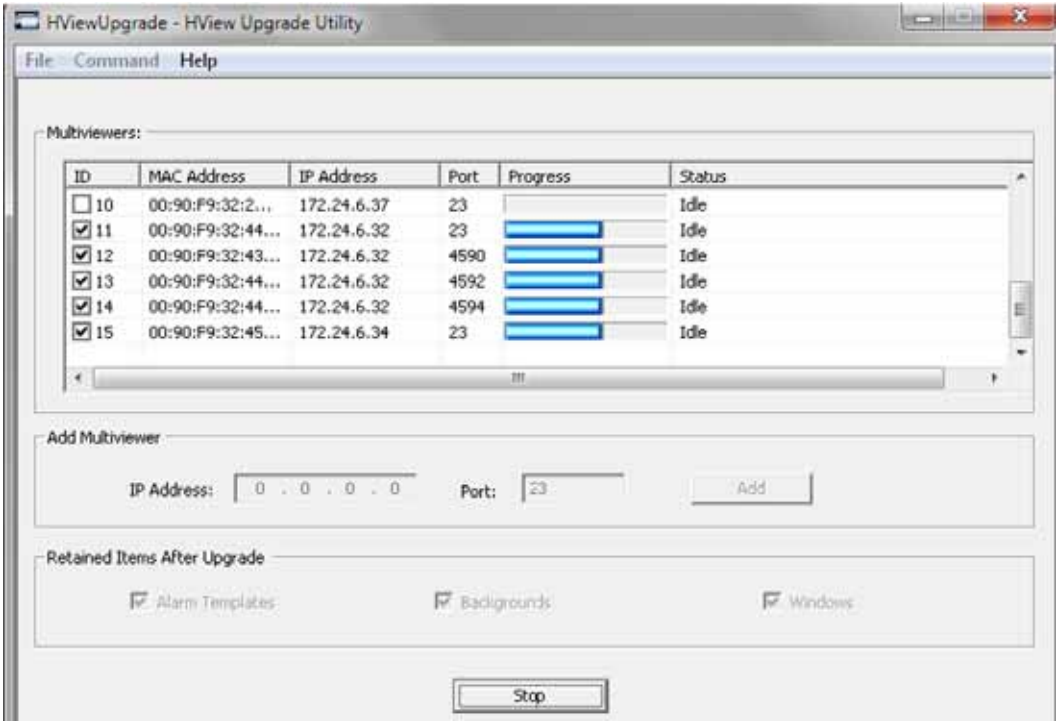

Figure 10-5 HView Upgrade Utility

6 Checking the boxes under **Retained Items After Upgrade** for items you want to keep.
You can retain previously created alarm templates, imported backgrounds, and windows.

7 Click **Start** and then wait while the upgrade process completes.
The upgrade process may take up to up to 20 minutes to complete.

At the end of the upgrading process, HView SX Pro devices are rebooted automatically. If for some reason a module does not perform auto reboot, you can manually reboot the HView SX Pro devices by re-seating individual devices or re-powering the routing system.

8 Clean the history of the browser, and then exit the browser.
In Internet Explorer 8, choose **Tools** > **Internet Options** > **General**. Under **Browsing History**, place a check beside **Delete browsing history on exit** and then click **OK**.

9 Reopen the browser and connect to the HView SX Pro again.

10 Click **About** to check the versions of HView SX Pro and HView designer.

Figure 10-6 Hview Designer About Screen

Figure 10-6 shows following information:

- HView SX Pro version v2.0.22
- HView Designer v1.71.0
- FPGA versions 310D:310D:1333:40B
- Product Type HView SX Pro 32 system

11 Specifications

Specifications are subject to change without notice.

SDI Input per slot (via MI connector)

Table 11-1 SDI Input from MI connector Specification

Item	Specification
Number of inputs per slot	32 over MI internal connector multiplexed and re-clocked down to 16 non blocking routed sources
Connector type	Internal MI card edge connector
Standards	■ SMPTE 259M-C (SD), 525/625 ■ SMPTE 292M-C (HD), 720p50/59.94Hz, 1080i50/59.94Hz ■ SMPTE 424M (3G), 1080p50/59.94Hz (supported in a Platinum frame only) ■ 1080 p25 ■ 1080 sf25 (reports as 1080i50) ■ 1080 p30 ■ 1080 sf30 (reports as 1080i60) ■ 1080 sf23.97
Impedance	75Ω ±1%
Signal level	800 mV ± 10% differential pairs

SDI Flex-link Inputs

Table 11-2 SDI Input Specification

Item	Specification
Number of inputs per slot	16
Connector type	Densishield 8-way connector and internal MI card edge connector
Standards	■ SMPTE 259M-C (SD), 525/625 ■ SMPTE 292M-C (HD), 720p50/59.94Hz, 1080i50/59.94Hz ■ SMPTE 424M (3G), 1080p50/59.94Hz (supported in a Platinum frame only) ■ 1080 p25 ■ 1080 sf25 (reports as 1080i50) ■ 1080 p30 ■ 1080 sf30 (reports as 1080i60) ■ 1080 sf23.97
Impedance	75Ω ± 1%
Signal level	800 mV ± 10% differential pairs

AES Monitoring Audio Output

Table 11-3 Discrete Audio Output Specification

Item	Specification
Number of audio inputs per slot	1
Connector type	HD-BNC connector
Standards	AES3-1992 and SMPTE 276M
Impedance	75Ω (0.1 to 6 MHz)
Signal level	1.0 V ± 10%
DC offset	0 V ± 50m V
Rise/fall time	30ns to 44ns between at 10% and 90% amplitude points
Jitter	<0.025UI (±0ns)
Output sample rate	48kHz
Bits	24, 20 or 16
Channel status and user bit	Professional mode, Normal Audio mode

SDI Outputs

Table 11-4 SDI Output Specification

Item	Specification
Number of outputs	Up to 3 per slot
Connector type	Amphenol HD-BNC
Standards	■ SMPTE 292M-C (HD), 1080i50/59.94Hz ■ SMPTE 424M (3G), 1080p50/59.94Hz (supported in a Platinum frame only)
Impedance	75Ω ± 1%
Return loss	■ > 18 dB from 5 MHz to 1.5 GHz ■ > 10 dB from 1.485 GHz to 2.97 GHz
Signal level	800 mV ± 10%
DC offset	0 V ± 0.5 V
Rise and fall times	■ 0.75 ns to 1.5 ns (SD) ■ < 270 ps (HD) ■ < 135 ps (3G) (supported in a Platinum frame only)
Overshoot/undershoot	< 10%
Jitter	■ < 0.2 UI pk-pk (>10 Hz) (SD) ■ < 1 UI (673 ps) pk-pk of timing jitter (>10 Hz) (HD) ■ <0.2 UI (135 ps) pk-pk of alignment jitter for (>100 kHz) (HD) ■ < 2 UI (673 ps) pk-pk of timing jitter (>10 Hz) (3G) (supported in a Platinum frame only) ■ <0.3 UI (101 ps) pk-pk of alignment jitter (>100 kHz) (3G) (supported in a Platinum frame only)

SFP FIBER Outputs

Table 11-5 FIBER Output Specification

Item	Specification
Number of outputs	3 per slot implemented as one single and one dual SFP module
Connector type	LC
Standards	■ SMPTE 292M-C (HD), 1080i50/59.94Hz ■ SMPTE 424M (3G), 1080p50/59.94Hz (supported in a Platinum frame only)
Output wavelength	1310 ± 20 nm

Table 11-5 FIBER Output Specification *(Continued)*

Item	Specification
Output power	-7 dBm Typical
Rise and fall time	<135ps Typical
Jitter	<135 ps pk-pk
Laser safety level	Class 1

HDMI Outputs

Table 11-6 HDMI Output Specification

Item	Specification
Number of outputs	3 or 6
Connector type	HDMI Locking connector
Standards	■ HDMI 1.3c ■ EIA-861B 1080p 50/59.94Hz ■ EIA-861B 1080i 50/59.94Hz ■ VESA CVT 1920x1200 50/59.94Hz Reduced Blanking
Impedance	50Ω
Amplitude	400 mV ≤ Vswing ≤ 600 mV (single-ended)
Rise/fall time	75 ps ≤ Risetime/Falltime ≤ 0.4 Tbit
Jitter	0.25 Tbit

10/100/1000 Base-T Ethernet I/O

Standard 10/100/1000 Base-T Ethernet Port as defined by IEEE 802.3-2008.

Table 11-7 Ethernet I/O Specification

Item	Specification
Standard	IEEE 802.1
Type	RJ45

Linear Time Code Input

Table 11-8 Unbalanced Longitudinal Time Code

Item	Specification
Standards (compatible)	SMPTE 12M-1999
Connector type	Unbalanced, Amphenol HD-BNC
Impedance	Hi-Z (>30 kΩ)
Input sensitivity	300 mV pk-to-pk

Supported Video Output Resolutions

Supported DVI output resolutions are subject to the capabilities of the connected DVI display. Support cannot be guaranteed for displays with non-standard timing.

Table 11-9 Supported Video Output Resolutions

SDI	HDMI
1080i 59Hz	1080p 59Hz
1080i 50Hz	1080p 50Hz
1080p 59Hz	1080p 59Hz
1080p 50Hz	1080p 50Hz

Power Consumption

Table 11-10 HView SX Pro Power Consumption Specifications

Module Name	24 V (Watts)	5 V (Watts)	Total Power Per Module
HV-SXP-8X3-FR28	50	0.15	50.15
HV-SXP-8X3-O-FR28	55	0.15	55.15
HV-SXP-16X3	50	0.15	50.15
HV-SXP-16X3-O	55	0.15	55.15
HV-SXP-16X6-FR28	100	0.15	100.15
HV-SXP-16X6-O-FR28	110	0.15	110.15
HV-SXP-32X6	100	0.15	100.15
HV-SXP-32X6-O	110	0.15	110.15
HV-SXP-32X6-FR28	200	0.15	200.15

Table 11-10 HView SX Pro Power Consumption Specifications *(Continued)*

HV-SXP-32X6-O-FR28	220	0.15	220.15
HV-SXP-64X6	200	0.15	200.15
HV-SXP-64X6-O	220	0.15	220.15

Operating Temperature

Table 11-11 Operating Temperature Specification

Item	Specification
Operating Temperature	41° to 113°F (5° to 45°C)

Propagation Delay

Table 11-12 Propagation Delay Specification

Item	Specification
Video delay	Less than one frame for all outputs
Audio delay	Matching video delay

A Frequently Asked Questions

Overview

This chapter answers frequently asked questions (FAQs) and provides troubleshooting information about your HView SX Pro system. The FAQs are organized into the following categories:

- System FAQs answers some common questions about your multiviewer. See ***System FAQs*** on page 147.
- Video input and output display FAQs answer some common questions about video signals and display devices, as well as provide troubleshooting information about display devices. ***Video Input/Output Signals and Display Devices FAQs*** on page 147.
- CCS software FAQs answers common questions about using CCS software applications with your multiviewer.***CCS Software Applications FAQs*** on page 149.

System FAQs

What are FPGA Errors?

FPGA errors indicate a power-up initialization failure. Immediately after a power-on reset, a CPLD downloads firmware into programmable logic devices (known as FPGAs).

If an initialization fails, an LED on the affected xVIM module will light up (red) to indicate that the XVIM FPGAs are not configured. If this error occurred after a firmware upgrade, try running the upgrade again.

What Is the Typical Video Delay of a HView SX Pro Unit?

Less than one frame, same in both DVI and HDSDI.

Video Input/Output Signals and Display Devices FAQs

Why Does the External Display Attached to the DVI Output Have Poor Image Quality?

Most display problems can be traced to output display scaling artifacts or poor cabling. Correcting these errors usually requires either configuration changes or higher quality DVI cables. If the picture has lots of speckles or mosquito noise, then the DVI cable is too long.

What are "Scaling Artifacts"?

Scaling errors can occur when a display device connected to a display output is forced to rescale an image by interpolating new pixels. This rescaling occurs because the display resolution generated by the output does not match the native display resolution supported by the display device. The interpolation process often introduces "scaling artifacts" that will soften or degrade the resultant displayed image.

To avoid scaling errors, check the native resolution of the display device, and wherever possible, configure the output to match the display's native resolution. Also turn off any over scan to ensure 1:1 scaling and turn off any sharpness filters. The scalar on the HView SX Pro is most likely much superior to the scalar on the monitor so it is important to ensure no scaling is done by the monitor to ensure the best video quality.

What is "Ghosting"?

"Ghosting" refers to vertical fringing artifacts. The use of incorrectly specified cable or twisted pair connections most often causes this problem. Always use high-quality, RF-screened VGA cable with individual coaxial cables for each of the red, green, and blue signals of the VGA output.

What Calibration Adjustments are Necessary on the Attached Display?

To ensure a high-quality picture, you should always properly calibrate the attached display device, particularly digital display devices such as plasma displays and LCDs.

If the Output Signal Fails, What Should Be Done?

Check the following:

- There is power to the output module and it is turned on (the On LED is green)
- One or more valid input signal(s) are connected and the chosen video inputs correspond to valid input(s)
- If you are using SDI, make sure you are connected to HD monitors
- If you are using two DVI displays, make sure they are connected to displays of the same resolution, with the same vertical scanning rates

Why Do Some Video Tiles Appear to Have an Incorrect Format?

Ensure that the output line standard is selected to be the same as the majority of the inputs.

Check to see if you have selected the correct aspect ratio setting in HView Designer.

Why are Some Video Tiles Green?

A video tile may show as green on the HView SX Pro output display if the scalar is outside the display group. To correct this error, open the layout in HView Designer and choose a different video source for the tile.

Why Do Overlapped Pips Display Artifacts?

HHView SX Pro does not support overlapped Pips.

What UMD/Tally protocols are supported by HView SX Pro?

The HView SX Pro supports the TSL protocol, Ross Tally, and Image Video protocol on TCP/IP.

CCS Software Applications FAQs

Is There a Specific CCS Application Version That I Need to Install?

Navigator 5.1.2 or later and Magellan 2.2b7 or later can be used with HView SX Pro.

Why do I have no output?

Check that the board is seated correctly, and that your cable length does not exceed the recommended HDMI/DVI limits.

Why is my motion not smooth?

Ensure that the correct refresh rate has been set for your region (50 or 59.9Hz).

HView Designer FAQs

How Do I Access the Components Within a Window?

If you cannot edit or alter the components within a window, this is usually because you are using the wrong select tool. See Window Selector and direct (internal) selector descriptions in ***Tool Palette*** on page 25.

B Servicing Instructions

Overview

CAUTION!

These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

When servicing your HView SX Pro system, ensure that you take precautions to prevent electrostatic discharge (ESD). See "Appendix A: Safety Precautions, Certifications, and Compliances" in your *Platinum Installation, Configuration, and Operation Manual* for more information.

These servicing instructions contain the following information:

Replacing a Fan

In the event that one of the fan units fails in a HView SX Pro module, you should install a replacement as soon as possible to prevent overheating. Replacement fans are available from Customer Service.

To replace a failed fan unit, follow these steps:

1. Open the front door of the Platinum frame and remove the module or complete set of two or four HView SX Pro output modules.

   It is not necessary to remove power from the frame to remove the modules.

2. If necessary, separate the modules so the top of the module that has experienced the failure can be accessed.
3. Identify the fan you are replacing, and then remove the corresponding header wires from the PCB board (see **Figure B-1** on page 152).
4. Unscrew the fan, and then pull it firmly away from the assembly to remove it from the standoffs (see **Figure B-1** on page 152).

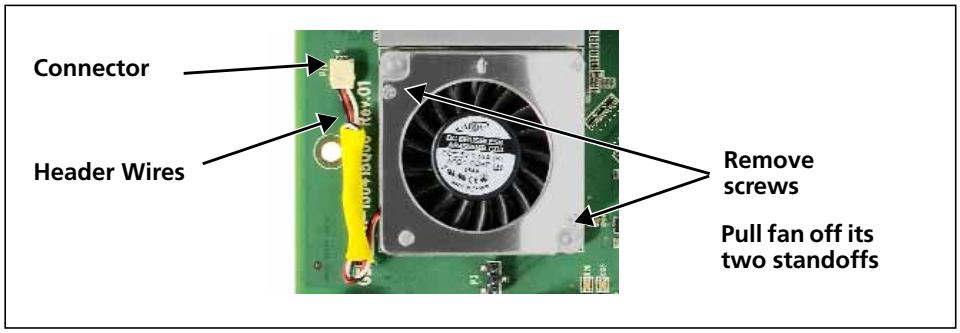

Figure B-1 Removing a Fan from the Assembly

5 Position a new fan over the assembly standoffs, and then fasten the fan into place with the supplied screws.

(Ensure that the fan labeling is face down, and that the header wiring is aligned correctly, as shown in **Figure B-1**.)

Do not over tighten the screws.

6 Connect each new fan's header wires to the assembly PCB board (see **Figure B-1** on page 152).

7 Reconnect the HView SX Pro modules together in a stack.

8 Reinsert the HView SX Pro module set into the frame, ensuring that the alignment pin merges with the back module and the modules fit smoothly within the module guides in the frame.

9 Close the Platinum frame front panel.

C UMD/Tally Option

The HView SX Pro offers optional under monitor display (UMD) support. This option provides a protocol interface (via TCP/IP) to different third-party UMD/tally generator systems in order to display UMD source identification and tally status information. This information automatically updates on-screen when it is changed by the tally system.

Requirements for Optional UMD Support

HView SX Pro requires a device that can generate UMD/Tally commands—for example, a UMD generator, production switcher, or router. The HView SX Pro supports the TSL protocol, Ross protocol, D-Series protocol, and Image Video protocol on TCP/IP to implement UMD support.

Sample System Configurations

This section illustrates some typical multiviewer to UMD device connections. Protocols are configured in the **Hardware Config** tab of HView Designer, and data is transmitted over the Ethernet connection.

Configuring Image Video UMD Protocol

The TSI-1000 Image Video Tally Controller collects information from signal routing and processing equipment to operate displays and tallies as directed by its internal configuration information.

To create labels:

Syntax: %(Addr) D%1S(strings) %Z

#D: 1~255 (UMD Address)

String: <display string up to 17 characters>

%Z: Terminator

Table C-1 Color Block Coding

First	Second	Third	Fourth	Fifth
Text color	Set tally 0	Set tally 1	Set tally 2	Set tally 3

Configuring A8100 D-Series Automation

This section details the configuration settings that are required for an A8100 D-series Automation System to drive the UMD information on aHView SX Pro multiviewer.

There are three main configuration requirements that are to be made, in order for UMDs on HView SX Pro to be updated by A1800:

- Configure the IP address for the HView SX Pro for UMD messages in Automation.
- Set the Communication Port to be the same on HView SX Pro (for automation) and A8100 (for UMD protocol messages).
- Match the UMD/MESSAGE IDs in A8100 configuration to the UMD/MESSAGE IDs of the UMD (PIP UMD, Automation Text Box, etc) in HView SX Pro Hview Designer.

Port Configuration in HView SX Pro

You need to set two ports in the Hardware Configuration tab of the HView designer interface.

1 In HView Designer's Home page, click **Hardware Configuration**.

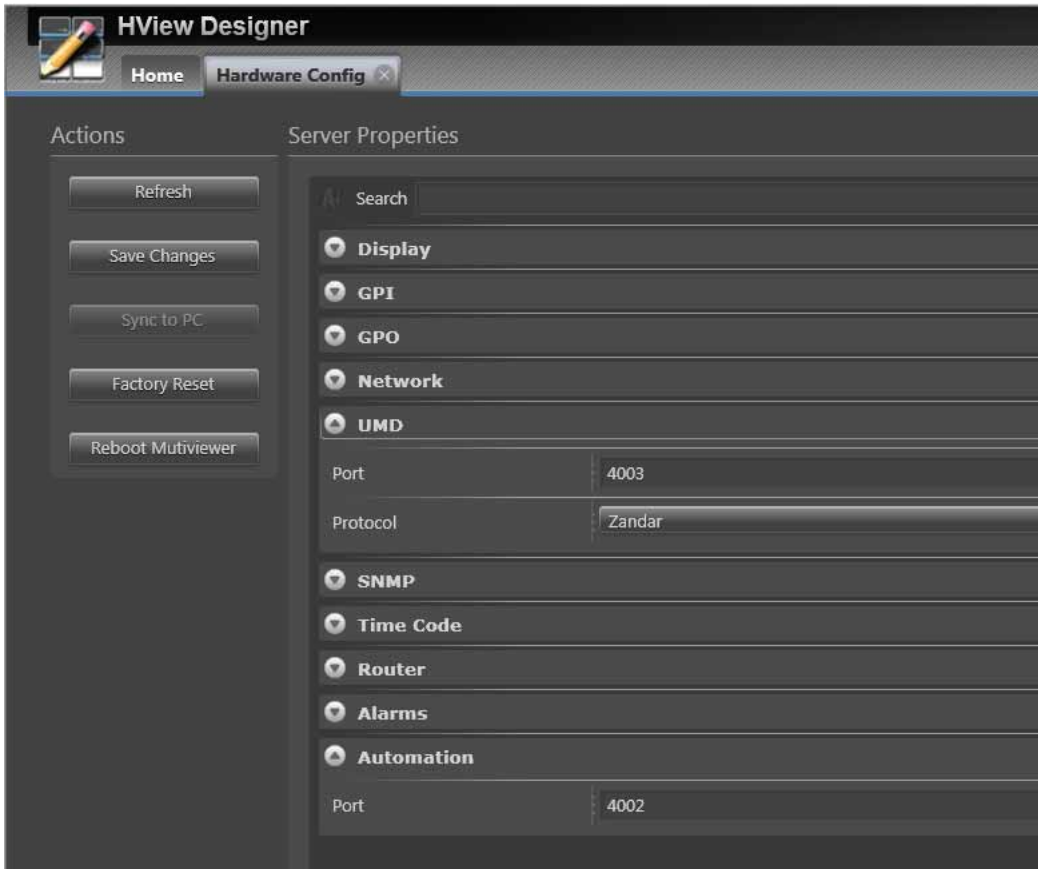

Figure C-1 Hardware Config

2 Click **UMD** to see the **Port** and **Protocol** options, and then make the following selections:
- **Port—**Must be set to a different number than the **Automation** port below
- **Protocol**—Zandar

3 Click **Automation**, and then set the **Port** option.

The **Automation** port must be set to a different number than the **UMD** port. For example; if the Port in the **UMD** submenu is set to 4001, then the port in the **Automation** submenu can be set to 4002.

Label Source and UMD ID in HView SX Pro

You must configure the settings for each label in HView Designer.

1 In the Layout Editor, click a label.
2 The **Object Properties** panel updates show the object's properties.
3 Make the following changes:
- **UMD**—Set to Automation.
- **Message ID** (or UMD ID) for the Automation text—Set to a number greater than 64.

Figure C-2 Configuring a Label for Automation

You can also set labels to Automation in the Window Editor tab of HView Designer, but each message ID must be set individually.

Configuration in A8100

1 Open the file Zandarumd-1.xml, which is found in Equipment folder.
The Zandarumd-1.xml looks as following:

```
<?xml version="1.0" ?>

<!-- DMAS configuration file -->

<zandarumd>
<num_umds>72</num_umds>
<communication>
<host>172.10.84.150</host>
<port>4002</port>
</communication>
</zandarumd>
```

2 To configure the IP and Port settings, change the following items:

```
<host>172.10.84.150</host>
```

Set the IP address to that of the HView SX Pro device.

```
<port>4002</port>
```

Set the port to match that of the HView SX Pro device.

3 To configure the UMD ID, make the following change:

```
<num_umds>72</num_umds>
```

Set this line to the highest UMD ID needed.

This example uses eight Automation Text boxes, so the UMD IDs are set from 65 to 72.

4 Resave the file.

Table Mapping for UMD IDs and UMD Formatting

Three co-related types of tables need to be configured to meet UMD requirements. These are umd_line.tbl, bus.tbl, bus_umd[1-4].tbl. These are found in the Tables folder.

umd_line.tbl

```
1   |zandarumd          |   |   |  1| 65|
2   |zandarumd          |   |   |  1| 66|
3   |zandarumd          |   |   |  1| 67|
4   |zandarumd          |   |   |  1| 68|
5   |zandarumd          |   |   |  1| 69|
6   |zandarumd          |   |   |  1| 70|
7   |zandarumd          |   |   |  1| 71|
8   |zandarumd          |   |   |  1| 72|
```

Configure the UMD IDs in the last column. In this example, eight UMD IDs for Automation Text boxes are set to 65-72.

bus.tbl

In the bus.tbl table, UMD IDs are mapped to the format and fields that are to be shown on the UMD for each respective bus. This is done in the last few columns of the bus.tbl. **Figure C-3** shows the last few columns of bus.tbl. The labeling on top indicates the columns that need to be configured.

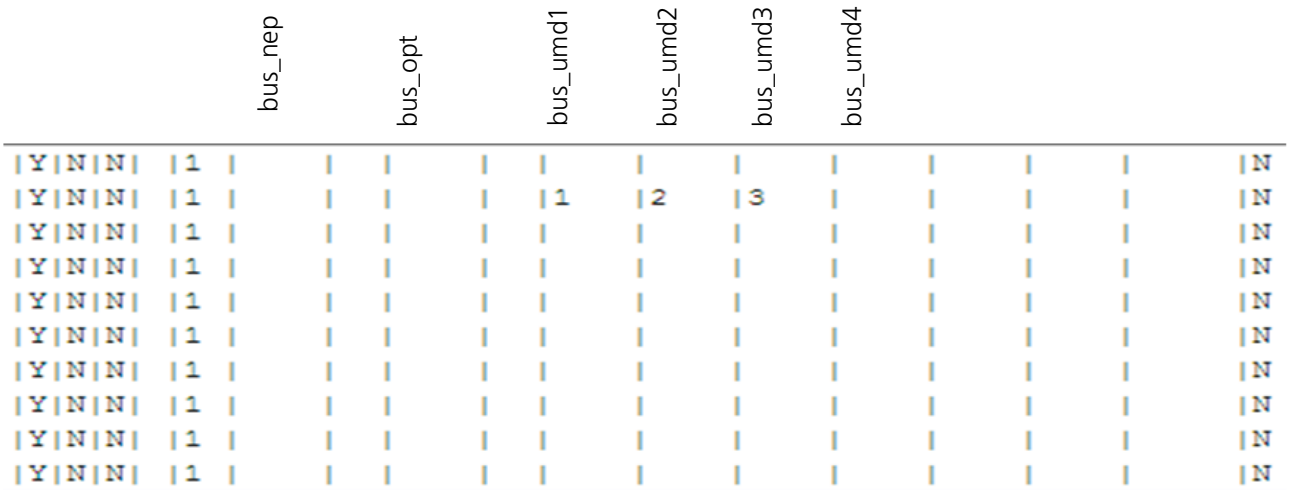

Figure C-3 Last Columns of the bus.tbl Table

Each row in bus.tbl represents a Bus (the first row is Bus 1, the second row is Bus 2, etc.).

Match each of the labeled columns of the tbl file to the table file name on top of the column. The numbers in the column are index numbers of UMD IDs defined in umd_line.tbl.

Thus, UMD ID 65 (Indexed as 1 in umd_line.tbl) will have the format and fields that are defined in bus_umd1.tbl and the data will be of Bus 2. UMD ID 66 will format and fields define in bus_umd2.tbl and data will be of Bus 2.

bus_umd[1-4].

These table files define the format and fields to be displayed. These files look like this:

CHANNEL_SOURCE	|LM|20|L|A|	The current source being played in the playlist of the DALStation Scheduler.
NEXT_EVENT_START	| 1|20|R|P|	The time of the next event that is to be played in playlist of the DALStation Scheduler.
BUS	|LM|20|L|A|	Displays the BUS/Channel name
TIME	|LM|25|R|A|	The current time
NEXT_EVENT_SOURCE	| 1|15|L|P|	The name of the next event that is to be played in playlist of the DALStation Scheduler
COUNTDOWN	| 1|15|R|P|	The countdown to the next event to be play in the playlist of the DALStation scheduler.

Any change made in the tables/files of the A8100 requires the A8100 to be re-run through the linux terminal in order for the change to come in play.

Some table files have significantly long widths and are not viewed in correct format if a regular text viewer such as Wordpad is used. Notepad++ can be used to avoid this.

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