

# PROVIEW™ 8100

RELEASE 1.3.1

## User Guide

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December 2016

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**DANGER:** The Danger symbol calls your attention to information that, if ignored, can cause physical harm to you.

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**CAUTION:** The Caution symbol calls your attention to information that, if ignored, can adversely affect the performance of your Harmonic product, or that can make a procedure needlessly difficult.

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**NOTE:** The Note symbol calls your attention to additional information that you will benefit from heeding. It may be used to call attention to an especially important piece of information you need, or it may provide additional information that applies in only some carefully delineated circumstances.

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**IMPORTANT:** The Important symbol calls your attention to information that should stand out when you are reading product details and procedural information.

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**TIP:** The Tip symbol calls your attention to parenthetical information that is not necessary for performing a given procedure, but which, if followed, might make the procedure or its subsequent steps easier, smoother, or more efficient.

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Convention	Explanation
Typed Command	Indicates the text that you type in at the keyboard prompt.
<Ctrl>, <Ctrl>+<Shift>	A key or key sequence to press.
<i>Links</i>	The <i>italics in blue</i> text to indicate Cross-references, and hyperlinked cross-references in online documents.
<b>Bold</b>	Indicates a button to click, or a menu item to select.
ScreenOutput	The text that is displayed on a computer screen.
<i>Emphasis</i>	The <i>italics</i> text used for emphasis and document references.



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# Chapter 1

## Introduction

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Thank you for choosing the ProView 8100, an advanced Integrated Receiver Decoder (IRD) platform that optimizes primary distribution of video content over satellite or IP delivery networks. With an advanced feature set and compact design, the ProView 8100 IRD family increases workflow efficiencies, cost savings, and reliability for global broadcasters and service providers, simplifying the migration to an IP infrastructure and launch of value-added services.

The ProView 8100™ is ideal for use in a wide range of applications, from basic monitoring to end-point delivery from the distribution network. The IRD can act as a stand-alone unit or as part of a widely dispersed primary distribution network under the control of Harmonic's DMS™ video Distribution Management System. DMS provides broadcasters and service providers with powerful control tools for remotely managing large device populations, enabling secure broadcast of video content over satellite or IP delivery.

Topics:

- [Main ProView 8100 Applications](#)
- [TS Descrambling Applications](#)
- [Decoding Applications](#)
- [ProView 8100 Main Features and Configurations](#)
- [ProView 8100 Mechanical Structure](#)
- [ProView 8100 Management](#)

## Main ProView 8100 Applications

Designed to enhance single-channel commercial decoding applications, the ProView 8100 supports advanced decoding, descrambling, and frame-rate conversion from a single rack unit, decreasing rack space and energy consumption in video distribution plants. Decoding of MPEG-2/MPEG-4 AVC SD or HD video services eases the transition from legacy to modern delivery networks, while frame-rate conversion increases workflow efficiencies for multi-national program distributors by enabling high-quality up- and down-conversion of content shot at one frame rate but targeted for distribution at a different frame rate. The flexible IRD supports multiple input options, including DVB-S/S2, DVB-ASI, and IP, and outputs to ASI and IP. Advanced descrambling and multiplexing capabilities further improve workflow efficiencies, eliminating the need for a separate descrambler. An intuitive Web-based graphical user interface lowers the learning curve for operators.

## TS Descrambling Applications

The ProView 8100 is designed to economically meet the needs of digital turn around operators. Using its on-board dual DVB Common Interface and its embedded descrambling engines, the ProView 8100 descrambles and re-multiplexes selected programs, applying the operator's CA to the new digital chain. The ProView 8100 enables operators to create new SPTSs or an MPTS comprised of re-multiplexed services from the original streams. It is possible to output programs over IP or ASI.

The ProView 8100 also supports de-framing of T2-MI to MPEG-TS to allow reception and descrambling of the DVB-T2 feed into the operator head end.

## Decoding Applications

The Harmonic ProView 8100 professional receiver decoder is designed to provide a flexible solution for all applications including SD/HD MPEG-2/MPEG-4 AVC 4:2:0 decoding for the primary and secondary distribution markets and frame rate conversion. It is equipped with industry standard digital<sup>1</sup> and analog outputs, including analog video and audio, AES/EBU, SD-SDI and HD-SDI. The unit also performs HD down-conversion, aspect ratio adaptation of HD programs and frame rate conversion to generate professional quality baseband analog video and audio outputs for easy integration with the existing cable network infrastructure.

## ProView 8100 Main Features and Configurations

	Feature Description	ProView 8105 <sup>1</sup>	ProView 8130
Inputs	2 RF Ports	B	B
	2 ASI Inputs	B	B
	Single TS Processing	B	B
	Multiple TS Processing	X	X
	IP Input (2x GbE)	L	L
	Zixi Input (Contribution over the Internet)	L	L
	IP FEC (Input)	L	L
TS Outputs	ASI Output Port	B	B
	IP Output (2x GbE)	B	B
Descrambling	2 CI Slots	B	B
	BISS Descrambling (Full TS)	B	B
	Multi-Descrambling (Full TS)	B	L
	Verimatrix Embedded Descrambling	X	X

1. On select models.

	Feature Description	ProView 8105 <sup>1</sup>	ProView 8130
Video Decoder	Single Channel Decoder	X	B
	Dual Channel Decoder	X	X
	CV Output	X	B
	SDI Output (HD/SD)	X	B
	Simultaneous HD-SDI and SD-SDI	X	L
	HDMI (Single) Output	X	B
	3G-SDI Output	X	X
	SCTE-104	X	B
	Frame Sync Lock	X	L
	MPEG-2/4 SD Decoding 4:2:0	X	B
	MPEG-2/4 HD Decoding 4:2:0	X	L
	MPEG-2/4 SD/HD Decoding 4:2:2	X	X
Audio Decoding	Audio Decoding (D-type)	X	B (2 audios)
	MPEG-1 Layer 2 Decoding and/or AC-3 2.0 Encoding	X	B
	AAC (HE/LC) 2.0 Decode/ 5.1 Decode and Downmix	X	L
	Dolby Digital 5.1 passthrough	X	L
	Dolby-E Passthrough	X	X
	AAC (HE/LC) 5.1 Decode to Linear PCM or Dolby Digital 5.1 Decode to Linear PCM	X	L
	Dolby Digital Plus Decoding	X	B
	Decode and Output of 5.1 (DD or AAC)	X	L
Control	Ethernet: RJ-45 10/100BaseT Control	B	B
	HTTP Web GUI	B	B
	Terminal RS-232	B	B

	Feature Description	ProView 8105 <sup>1</sup>	ProView 8130
General	GPI for Alarms	B	B
	SCTE-35 to GPI	X	X
	T2-MI De-Framing	X	L
	Fingerprinting on the SDI Output	X	B
	MPE (High Speed Data) De-Encapsulation	X	L

1. The legend has been added below.

B	Basic hardware
O	Optional hardware
L	Firmware license option
X	Not available

## ProView 8100 Mechanical Structure

### ProView 8100 Enclosure

The ProView 8100 platform is housed in a 19" 1RU mount ready enclosure. It includes fans for right to left air passage for side-to-side heat dissipation, the ProView 8100 may be installed in a rack without spacing between units. This allows increased flexibility for installation of a large number of units in limited space environments and integration with additional DVB equipment.

### ProView 8100 Front Panel

The front panel of the ProView 8100 platform provides an interface to locally manage and operate the unit.



Figure 1–1: ProView 8100 Platform General View

The front panel includes, a large LCD display for menus and statuses, four direction buttons, an <ENTER> key an <Esc> key and two F keys and a numeric (hexadecimal) keypad.

Two LEDs show the WARNING and PWR/FAIL statuses.

A two slot DVB-CI (DVB Common Interface/smart card interface) enables using up to two Conditional Access Modules (CAMs) for stream descrambling.

## ProView 8100 Rear Panel

The rear panel of the ProView 8100 platform includes all of the required professional input and output connectors. The AC connector and power switch are also located on the rear panel as well as the earth stud. The rear panel is provided in various configurations as required for different applications.

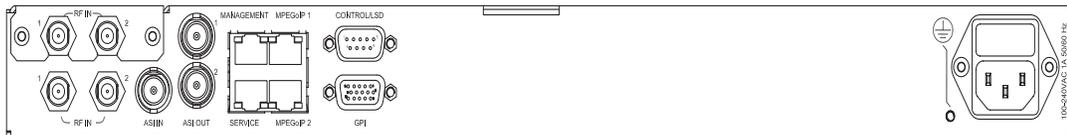


Figure 1-2: ProView 8105

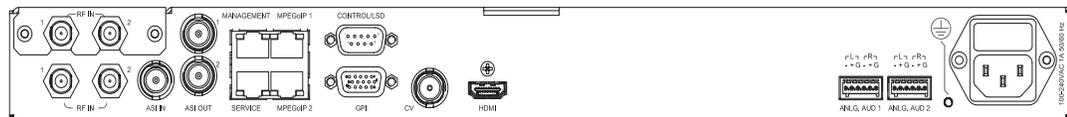


Figure 1-3: ProView 8110

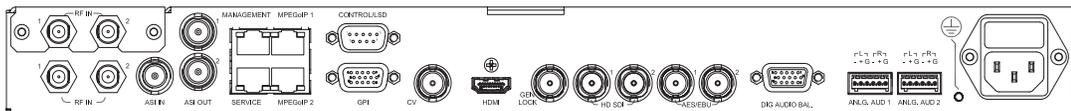


Figure 1-4: ProView 8130

## ProView 8100 Management

The ProView 8100 Platform provides a wide range of methods for local and remote monitoring and management:

### Front Panel Control

The ProView 8100 front panel provides an easy to use management interface using the large LCD screen and intuitive controls.

### Stand Alone GUI (SAG)

The ProView 8100 SAG provides an extensive GUI for managing the device over a LAN.

### DMS (Distribution Management System)

DMS from Harmonic is a management system for video distribution networks over satellite or IP. It provides in-band / Over-The-Air (OTA) control of multiple ProView 8100 devices installed in remote locations.

### Network Management System

The ProView 8100 platform provides monitoring access to Network Management Systems using its SNMP agent.

### ProView 8100 Redundancy

Use NMX management for redundancy to ensure continued service in the event that a device malfunctions. You can use a single or multiple backup ProView 8100s to ensure continued service with a single or multiple primary ProView 8100s. This feature is limited to the management of up to 2 output ports, ASI or SDI.



---

**NOTE:** The devices must be identical in hardware configuration, port structure and license.

---

See the Harmonic NMX Installation/Setup Guide for operating instructions.

# Chapter 2

## Quick Start

---

This chapter provides instructions for quick initial setup of the ProView 8100.

Topics:

- [Installation and Cable Connection](#)
- [Switching On](#)
- [Configuring the Management IP Parameters](#)
- [A Typical ProView 8100 Configuration Using the Front Panel](#)

## Installation and Cable Connection

Refer to the ProView 8100 Hardware Installation Guide for detailed information on installation and cable connection.

### Installation

The ProView 8100 can be installed in a 19" rack using mounting slides.

### Electrical connection

The ProView 8100 is powered by an AC power supply.



Figure 2–1: Earth stud (at lower left)

### Earthing

The earthing stud shall be permanently connected to protective earth in building installations. Permanent earthing connection shall be made first prior to all other connections and be disconnected last. Cable 18AWG should be used. When the unit is rack-mounted, the device's earth lug must be connected to the rack housing, which must be correctly earthed.

### Temperature

This equipment is intended for a maximum operating ambient temperature of 50 degrees Celsius.

### Power

The maximum permitted load for RF In output is 0.35A.

Below are special instructions for Nordic countries:

- When installed in Finland, Norway, and Sweden, this unit shall be installed in a restricted access location, where equipotential bonding is provided.
- This unit is permitted for connection to Norwegian IT power systems.
- In Norway and Sweden: Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system must be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).

Translation in Norwegian: "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel-TV nettet."

Translation in Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/ eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nätgalvanisk isolator finnas mellan utrustningen och kabel-TV nätet"

For installation in Norway see EN 60728-11:2005 standard.

## Cable Connections

Connect the remaining cables that are needed:

- DVB-S/S2
- ASI
- IP Management
- IP Data LAN (input and/or output)
- Video and audio monitor
- Professional video and audio outputs

## Switching On

Connect the unit to the power.

Once the boot process is completed (after 1 to 2 minutes) the **harmonic ProView 8100** message displays on the front panel LCD.



## Configuring the Management IP Parameters

To configure the management IP parameters of a ProView 8100 via the front panel:

1. Press <ENTER> on the keypad. The root menu appears.

2. Navigate **Unit > Management Port > IP Configuration**



3. Set the **IP Address**, **Subnet Mask** and **Default Gateway** for the management port.

## Configuring and Monitoring

You can configure the ProView 8100 using the front panel or remotely using the embedded SAG over the LAN.

The ProView 8100 SAG provides a GUI for easy remote management of ProView 8100s.

To configure the ProView 8100 using the front panel, see [Front Panel Overview](#) and [Device Configuring Using the Front Panel](#).

To monitor the ProView 8100 using the front panel, see [Monitoring Using the Front Panel](#).

To configure the ProView 8100 using SAG, see [Remote Management Using SAG](#) and [Device Configuring Using SAG](#).

To monitor the ProView 8100 using SAG, see [Monitoring Using SAG](#).

Related topics:

- [A Typical ProView 8100 Configuration Using the Front Panel](#)
- [Remote Access](#)
- [A Typical ProView 8100 Configuration Using SAG](#)

## A Typical ProView 8100 Configuration Using the Front Panel

This configuration uses a selection of inputs, IP output, decoding, Transparent TS mode and descrambling.



**NOTE:** The ProView 8100 has two modes:

Multiplex - In Multiplex mode the device generates a new stream and we can select which programs to pass and modify the bitrate.

Transparent - In transparent mode, the whole output stream is passed to the output unchanged.

See [Output Menu](#) for details.

The basic order of configuring the ProView 8100 is:

1. Select input port, **DVB-S/S2**, **IP** or **ASI**.
2. Configure a **DVB-S/S2** or **IP input** port (GbE port and IP Sockets).
3. Configure decoding.
4. Select a program for descrambling.

To configure the ProView 8100 using the Front Panel:

1. Navigate **Root > Input > Primary Port Selection**.
2. Select a port.

3. If you selected a DVB-S/S2 port, navigate **Root > Port Settings > DVB-S/S2 > RF-<1/2> Configuration** and configure the DVB-S/S2 reception, see *Port Settings Menu* for details.
4. To configure the GbE data port (common for input and output):
  - a. Navigate **Root > Port Settings > GbE > GbE Port <1/2>**.
  - b. Set **Admin Status** to **Enable**.
  - c. Navigate to IP Configuration.
  - d. Configure IP Address and Subnet Mask.
5. If you selected an input GbE port, perform the following to configure the **Input Sockets**.
  - a. Navigate **Root > Port Settings > GbE > Input Sockets > Socket-<1/2>**.
  - b. Set **Admin Status** to **Enable**.
  - c. Configure **Multicast IP** or select **Unicast**.
  - d. Configure **UDP Port**.
  - e. Optional parameters:
    - FEC/RTP
    - De-Jittering
    - Source Specific Multicast (SSM)
6. Perform the following to configure the **Output Sockets**:
  - a. Navigate **Root > Port Settings > GbE > Output Sockets > Socket-<1/2>**.
  - b. Set **Admin Status** to **Enable**.
  - c. Configure **Multicast IP**.
  - d. Configure **UDP Port**.
7. Perform the following to configure decoding:
  - a. Navigate **Root > Decoding > Configuration > Program Selection > Service Mode**.
  - b. Select **Program**.

A list of all input programs received displays.

The screen displays the program # (decimal), program name if the input stream provides an SDT table and the status (CAS/scrambled or FTA/free to air).

Prog. #	Program Name	Status
04 8502	Rai Movie	CAS
05 8511	Rai 1	FTA
06 8512	Rai 2	FTA
07 8513	Rai 3	FTA

- c. Select a program.
8. Perform the following to pass the entire incoming Transport Stream to the output:
  - a. Navigate **Root > Output > TS Settings > TS Mode**.
  - b. Select **Transparent**.
9. Perform the following to select a program for descrambling:
  - a. Navigate **Root > Output > Descrambling**.

A list of all input programs received displays.

The screen displays the program # (decimal number), program name if the input stream provides an SDT table, the status (CAS/scrambled or FTA/free to air) and CA Device.

	Input Program	Status	CA Device
01	272 (DVB-SSU DBC)	FTA	None
02	273	FTA	None
03	274	FTA	None
04	8502 (Rai Movie)	CAS	None

- b. Select a program for descrambling.
- c. Select a descrambling device.
- d. Select a CAM, or BISS key depending on what type of descrambling device you selected.

## Remote Access

Before you can manage a ProView 8100 remotely, you must configure the IP parameters, see [Configuring the Management IP Parameters](#). The ProView 8100 uses a SAG (Stand Alone GUI) for easy device management and remote access.

## A Typical ProView 8100 Configuration Using SAG

This configuration uses a selection of inputs, IP output, decoding, Transparent TS mode and descrambling.



**NOTE:** The ProView 8100 has two modes:

Multiplex - In Multiplex mode the device generates a new stream and we can select which programs to pass and modify the bitrate.

Transparent - In transparent mode, the whole output stream is passed to the output unchanged.

See [TS Properties in Logical Outputs Program](#) for details.

The basic order of configuring the ProView 8100 is:

1. Launching the SAG.
2. Select input port, **DVB-S/S2, IP** or **ASI**.
3. Configure a DVB-S/S2 or IP input port (GbE port and IP Sockets).
4. Configure decoding.
5. Select a program for descrambling.
6. Add a program to the transport stream with a new program number. (This changes the TS mode to Multiplex.)

## Prerequisites

The following are prerequisites for launching the SAG:

- The IP address of the device that was entered during the configuration via the front panel
- The user name and password to access the SAG
  - (user name) Admin - (password) Admin – for configuration tasks
  - (user name) Monitor - (password) Monitor – for monitoring the device

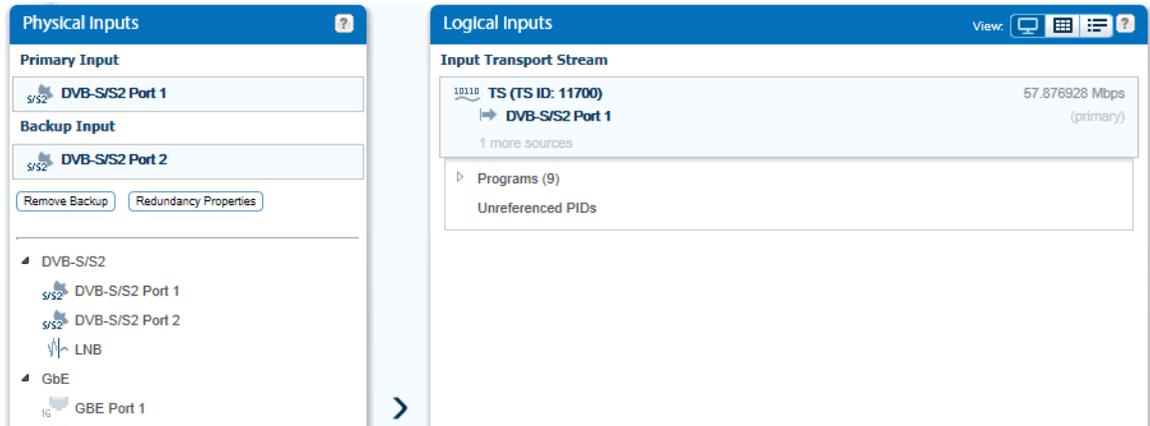
## Typical Configuration

To launch the ProView 8100 SAG:

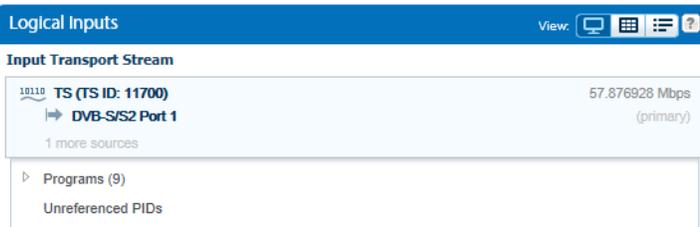
1. Enter the ProView 8100™ IP address into the browser URL box.
2. On the log on screen, enter the user name and password.
3. Click **OK**.

To configure the ProView 8100 using SAG:

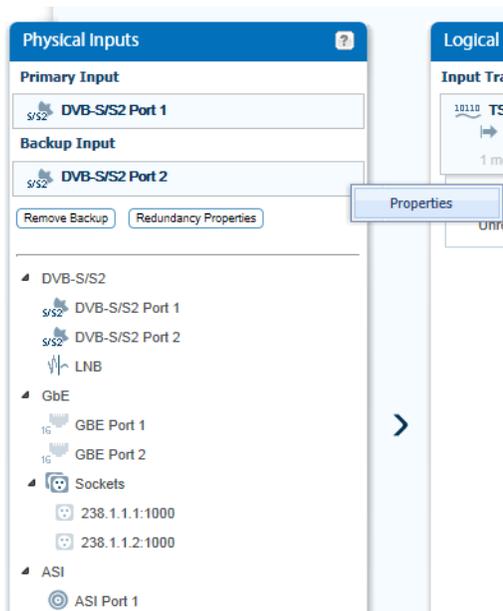
1. Drag the input port to be used from the **Physical Inputs** pane to the multiplexer in the **Logical Inputs** pane.



2. The new logical input selection displays in the **Logical Inputs** pane.



3. If the input stream is received from satellite, perform the following to display and configure a DVB-S/S2 input port:
  - a. Expand the device tree in the **Physical Input** pane to reveal the DVB in ports.
  - b. Right-click the DVB-S/S2 port to be used and select **Properties**.



The DVB-S/S2 port properties display.

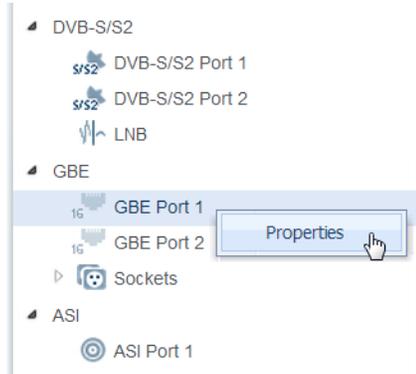
 The image shows a 'DVB-S/S2 Input Port #1: Properties' dialog box. It contains the following settings:
 

- Modulation Standard: Automatic
- Symbol Rate (Msym/s): 27.5
- Spectral Inversion: Automatic
- Modulation & FEC: Automatic
- Pilots: Automatic
- Physical Layer Scrambling Seed: 0
- Roll-Off (%): Automatic
- ISI(Hex): FF
- Frequency Drift Compensation: On
- Drop Erroneous Packets:
- Mute Upon Reception Errors:
- Frequency**
  - In L-Band (GHz): 1.284
  - Carrier Frequency : 11.034
- LNB** (dropdown menu)
- Signal Reception Adjustments** (dropdown menu)
- Alarms Thresholds** (dropdown menu)

 At the bottom are buttons for 'Show Status', 'OK', 'Cancel', and 'Apply'.

- c. Click the **Show Status** button to view the port status.
- d. Configure the properties in the left section and click **Apply**. Note that you can enable LNB for only one RF input.

4. To configure the GbE data port (common for input and output):
  - a. Expand the device tree in the **Physical Input** or **Physical Output** pane to reveal the GbE ports.
  - b. Right-click the GbE port to be used and select **Properties**.



The GbE port properties display.

**GbE Port #1: Properties** ? X

Enabled:	<input type="checkbox"/>
IP Address:	<input type="text" value="127.127.2.2"/>
Subnet Mask:	<input type="text" value="255.255.255.0"/>
MAC Address:	00:0c:a2:23:f7:36
<b>Port Redundancy</b>	
Input Redundancy Mode:	Hot-Standby
Output Redundancy Mode:	Mirror
Redundancy Scheme:	<input type="text" value="Manual"/> ▼
Active Port:	<input checked="" type="radio"/> Primary (GbE-1) <input type="radio"/> Backup (GbE-2)
<b>Virtual IP</b>	
Override Source IP:	<input type="checkbox"/>
<b>PHY Configuration</b>	
Autonegotiation:	<input checked="" type="checkbox"/>
Speed (Mbps):	1000
Duplex:	Full

- c. Configure the GbE data port (common for input and output).
  - d. Mark the **Enabled** check box.
  - e. Configure **IP Address** and **Subnet Mask**.
5. To configure an IP input socket:

- a. Expand the Sockets tree in the **Physical Inputs** pane to reveal the sockets.
- b. Right-click the socket in the **Physical Inputs** pane to be used and select **Properties**. The input socket properties appear.

**Input Socket #1 238.1.1.1 Properties** ? X

Enabled:

IP Type: Multicast

IP Address: 238.1.1.1

UDP Port: 1000

**FEC/RTP** ^

FEC: None

Re-Ordering:

Number of Re-Ordered Packets: 0

Number of Out-of-Range Packets: 0

Clear Statistics

**De-Jittering** ^

De-Jittering Mode: Normal

Delay (ms): 250

De-Jittering Status: Off

Source Specific Multicast v

OK Cancel Apply

- c. Mark the **Enabled** check box.
  - d. Configure **IP Address** for **Multicast** or select **Unicast**.
  - e. Configure **UDP Port**.
  - f. Optional parameters:
    - FEC/RTP
    - De-Jittering
    - Source Specific Multicast (SSM)
6. To configure an IP output socket:
- a. Expand the Sockets tree in the **Physical Outputs** pane to reveal the sockets.
  - b. Right-click the socket in the **Physical Outputs** pane to be used and select **Properties**. The output socket properties appear.

**Output Socket #1 238.1.1.1 Properties** ? X

Enable:

Multicast IP Address: 238.1.1.1

UDP Port: 1000

Source UDP Port: 1024

Encapsulation Mode: UDP

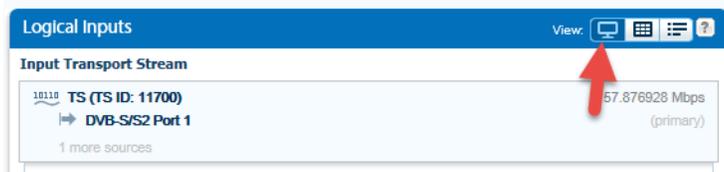
**Advanced** ^

IP Packet Size (Bytes): 1316 (7 TS Packets)

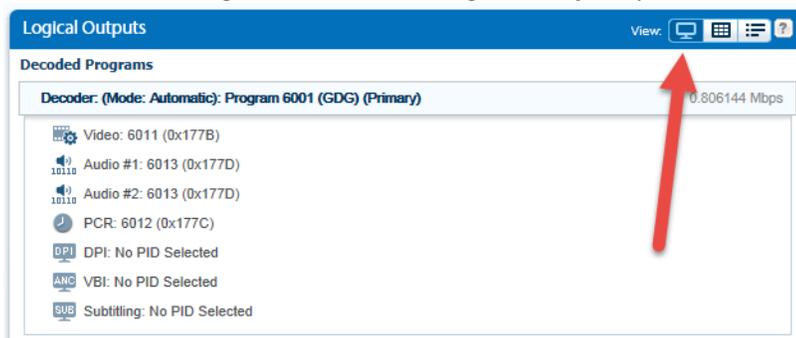
Time to Live: 64

OK Cancel Apply

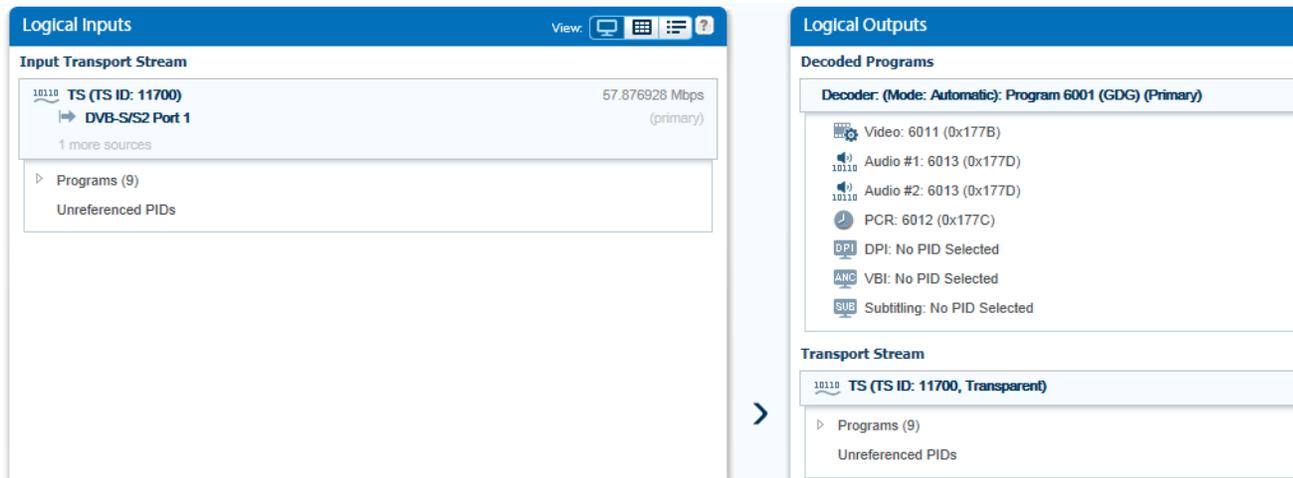
- c. Mark the **Enabled** check box.
  - d. Configure the **Multicast IP Address**.
  - e. Configure **Source UDP Port**.
7. Perform the following to configure a program for decoding:
- a. Select **Program View** in the **Logical Inputs** pane.



- b. Expand the **Programs** tree.
- c. Select **Program View** in the **Logical Outputs** pane.



- d. Drag the program name from the **Logical Inputs** pane and drop it on the decoding channel in the **Logical Outputs** pane.



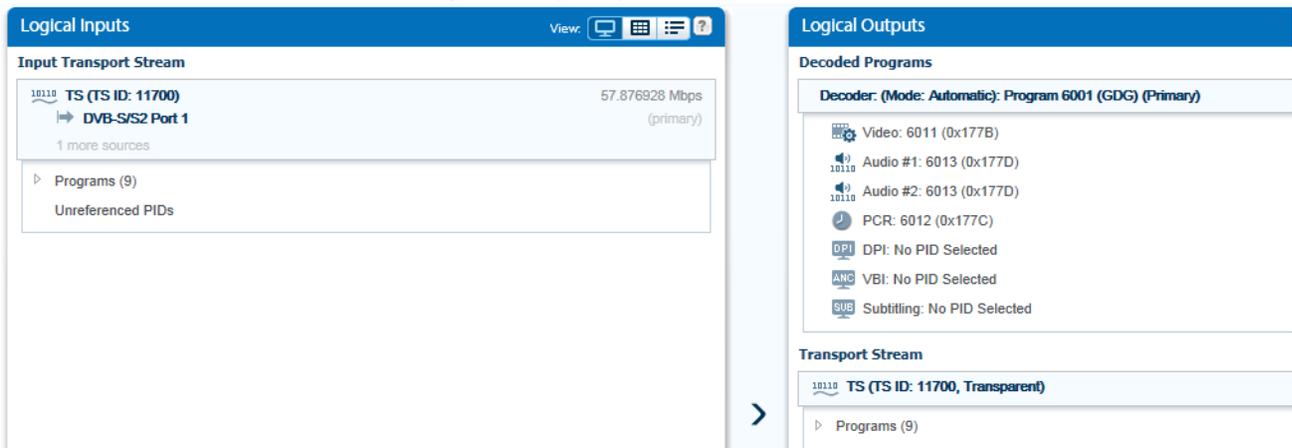
**NOTE:** You can also configure a program for decoding by right-clicking on **Decoder** and selecting **Properties** in the **Logical Outputs** pane.

8. Perform the following to configure the entire transport stream for decoding:

- a. Select **Program View** in the **Logical Outputs** pane.

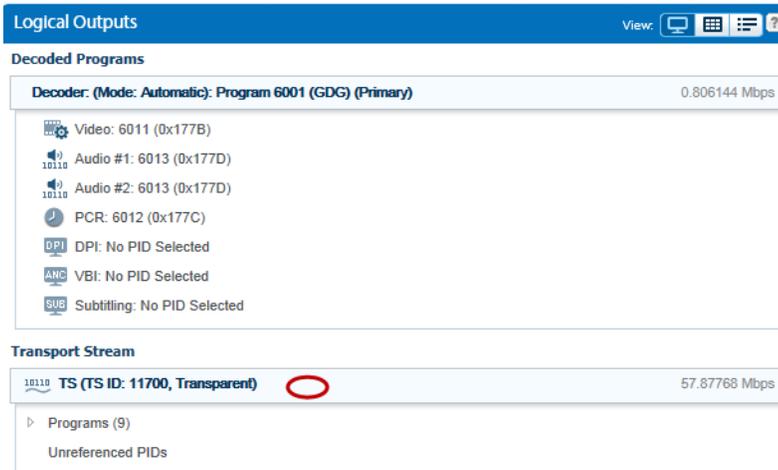


- b. Drag the transport stream from the **Logical Inputs** pane and drop it on the decoding channel in the **Logical Outputs** pane.

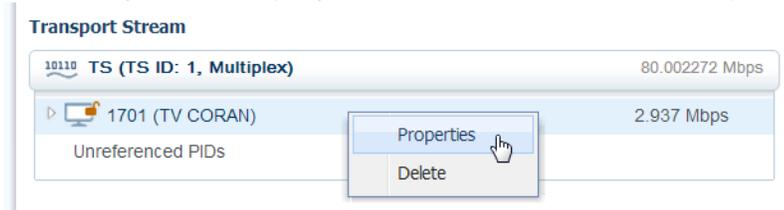


9. Perform the following to select a program for descrambling:

- a. Click the transport stream in the **Logical Outputs** pane to expand the tree.



- b. Right-click the program to descramble and select **Properties**.



The program properties display.

Program 1 () on TS #1: Properties

Program Name:

Program Number: 1

Source

Input Program Number: 17001

Descrambling

CA Device: CAM-1

Forwarding

Redundancy

PID Remapping: No Remapping

Forwarding and Descrambling:

Pass All

Selective

OK Cancel Apply

- c. Select a descrambling device from the **CA Device** drop-down list.
  - d. Select a CAM, or BISS key depending on what type of descrambling device you selected.
  - e. If you selected BISS, select a BISS key from the **BISS Key** drop-down list. (BISS keys must be created under the CA & BISS menu before performing this task.)
  - f. Click **Apply**.
10. Perform the following to add a program to the transport stream with a new program number:
- ❑ Drag a program from the **Logical Inputs** pane in **Program View** to the **TS** under **Transport Stream** in the **Logical Outputs** pane in **Program View**.

Logical Inputs

View: [Icons]

Input Transport Stream

10110 TS (TS ID: 11700) 57.87392 Mbps (primary)

DVB-S/S2 Port 1

1 more sources

Programs (9)

1 (Satlink Slide)	1.427 Mbps
1003 (Arte Channel)	1.340 Mbps
2001 (FashionTV HD)	7.052 Mbps
3001 (FashionTV SD)	2.023 Mbps
4001 (ALL IN CHANNEL)	0.024 Mbps
5001 (Canale Italia)	1.620 Mbps
6001 (GDG)	0.799 Mbps
7001 (RomaUNO)	1.927 Mbps
8001 (Arte Oggi)	0.432 Mbps

Unreferenced PIDs

Logical Outputs

Decoded Programs

Decoder: (Mode: Automatic): Program 6001 (GDG) (Primary)

- Video: 6011 (0x177B)
- Audio #1: 6013 (0x177D)
- Audio #2: 6013 (0x177D)
- PCR: 6012 (0x177C)
- DPI: No PID Selected
- ANC: VBI: No PID Selected
- SUB: Subtitling: No PID Selected

Transport Stream

10110 TS (TS ID: 11700, Transparent)

Programs (9)

- 1 (Satlink Slide)
- 1003 (Arte Channel)
- 2001 (FashionTV HD)
- 3001 (FashionTV SD)

—OR—

- ❑ Right-click **TS** under **Transport Stream** in the **Logical Outputs** pane in **Program View** and select **Add New > Program**.

The screenshot displays the 'Logical Outputs' interface. At the top, there is a 'View' button with icons for a monitor, a list, and a help icon. Below this, the 'Decoded Programs' section shows a 'Decoder (Mode: Automatic): 17001 (VOD 151)' with a bitrate of 1.848416 Mbps. It lists several components: Video: 257 (0x101), Audio #1: 513 (0x201), Audio #2: 513 (0x201), PCR: 257 (0x101), DPI: No PID Selected, VBI: No PID Selected, and Subtitling: Disabled. The 'Transport Stream' section shows a 'TS (TS ID: 1, Multi)' with a bitrate of 80.002272 Mbps. A context menu is open over the TS entry, showing 'Add New' (with a sub-menu containing 'PID' and 'Program') and 'Properties'. Below the TS entry, there is a 'Programs (1)' section with a sub-entry '1 (VOD 151)' at 1.561 Mbps, and an 'Unreferenced PIDs' section.

# Chapter 3

## Front Panel Overview

The front panel of the ProView 8100 advanced Integrated Receiver Decoder platform provides a managing interface for local monitoring and configuring the operation of the ProView 8100 unit. This chapter describes the operation of the front panel interface.

Topics:

- [Main Elements and Structure](#)
- [Front Panel Display](#)

### Main Elements and Structure

The ProView 8100 front panel displays information regarding the input and output streams and for basic operations. [Figure 3-1](#) illustrates the front panel.

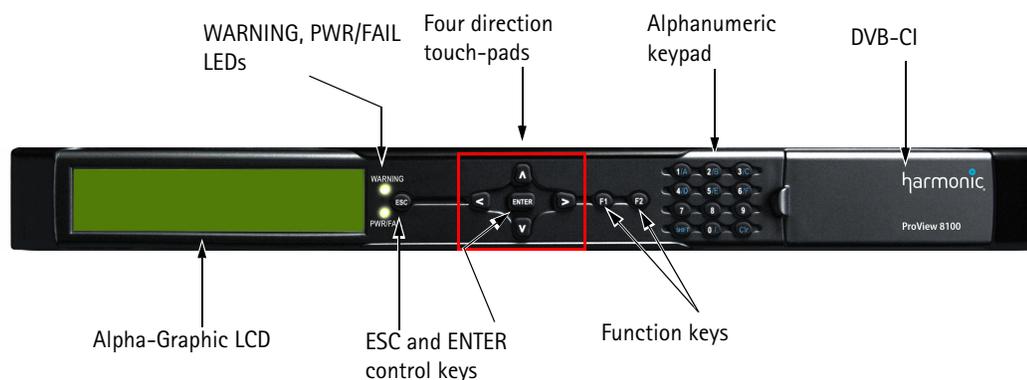


Figure 3-1: ProView 8100 front panel

The ProView 8100 front panel comprises the following:

- **Large LCD display** – The large LCD display provides enhanced menus with graphical interface such as charts, radio buttons, tables and icons.
- **Warning and Pwr/Fail indicators** – LED status indicators.
- **Arrow keys** – Use the four direction arrow keys to navigate the menu items. Use the up and down arrow keys to select characters for parameters.
- **<ENTER>** – Use the **<ENTER>** key to approve selections and set-ups.
- **<Esc>** – Use the **<Esc>** key to revert selections and set-ups.
- **Function Keys** – The **<F1>** key displays the satellite status.
- **Alphanumeric keypad** – Use this keypad to enter digits and hexadecimal letters. Hold the **<Shift>** key to enter blue characters. Use the **<Clr>** key without **<Shift>**.
- **Two DVB-CI slots** – enable you to use up to two Conditional Access Modules (CAMs) for stream descrambling.

## Front Panel Display

The ProView 8100 front panel display has four types of pages:

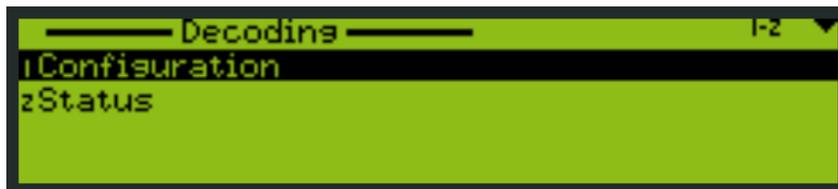
- Menu
- Parameter
- Edit value
- Radio select

The front panel screen can display up to four items at a time. Additional items can be accessed using the <up> and <down> arrow keys.

The following paragraphs describe the various front panel screen page types and how to use them in menu navigation and managing the device features.

### Menu Pages

Menu pages display submenus and menu items.



Use the <up> and <down> arrow keys to move between the branches of the tree and press <ENTER> to select and display the next lower level in the menu tree.

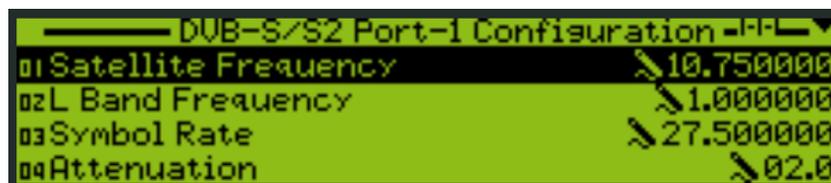
The front panel root menu of the ProView 8100 is a simple menu screen.

To display the ProView 8100 root menu press <ENTER> on the front panel default page.

See [Appendix E, Front Panel Menu Tree](#) for a diagram of the front panel menu tree.

### Parameter Pages

The parameter pages displays the parameters of the element in the menu tree. They comprise on the left side, a list of the parameter names and on the right side, parameter values. Editable parameters have a pencil icon next to them. Parameters without the pencil icon are read-only.



Use the <up> and <down> arrow keys to move between the parameters and press <ENTER> to select an editable parameter to set-up. After pressing <ENTER>, an Edit Value or a Select Value Screen is displayed to configure new values for the parameter.

## Edit Value Pages

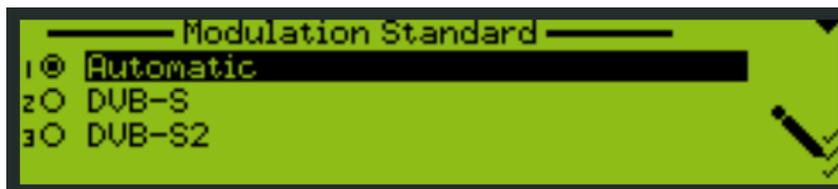
Use Edit Value pages to edit parameter values. The parameter value can be a number or a string.



Use the <left> and <right> arrow keys to select a digit and the <up> and <down> arrow keys to change the value of the parameter. You can enter values using the alphanumeric keypad. Press <ENTER> to confirm the change or <ESC> to revert to the original value.

## Radio Select Pages

Radio select pages display a list of items for selection (  = currently active,  = currently inactive):



Use the <up> and <down> arrow keys to move between the items and press <ENTER> to select the required option. After pressing <ENTER>, the selected option is activated.

# Chapter 4

## Device Configuring Using the Front Panel

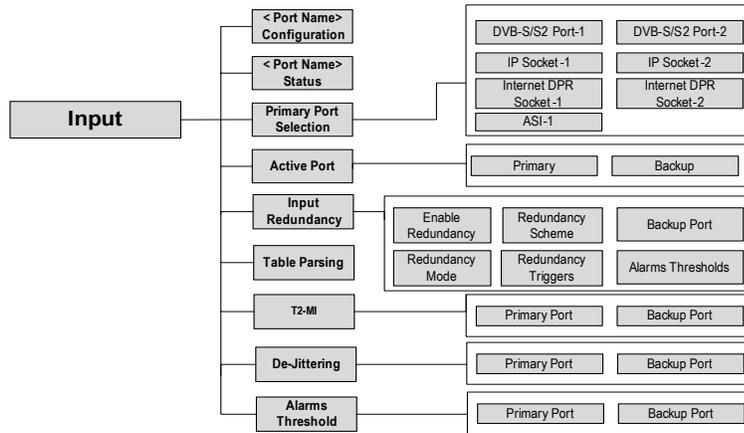
Topics:

- [Input Menu](#)
- [Decoding Menu](#)
- [Output Menu](#)
- [CA & BISS Menu](#)
- [Port Settings Menu](#)
- [Active Alarms Menu](#)
- [Presets](#)
- [Unit Menu](#)
- [DMS Menu](#)

### Input Menu

Use the **Input** menu to select and configure input ports.

To access the **Input** menu, go to Navigate **Root > Input** .



The **Input** menu comprises:

- **<Port> Configuration** – The name of the menu changes according to the port selected as the **Primary Port**. When **DVB-S/S2 Port-1** is selected, the menu displays as **DVB-S/S2 Port-1 Configuration**. When **IP Socket-1** is selected, the menu displays as **IP Socket-1 Configuration**.
- **<Port> Status** – This menu is only available when the selected port is a **DVB-S/S2**. This menu is also accessible by pressing **F1**. When there is no lock, only the **FR Status** parameter is displayed (Unlocked). When there is a signal lock, the parameters for RF Status, Modulation Standard, C/N, Eb/NO, Link Margin, PER, Tuned Frequency, Frequency Offset, Spectral Inversion, and Modulation & FEC Rate are displayed.

- **Primary Port Selection** – Use this menu to select which port serves as the primary port for the device.
  - **DVB-S/S2 Port-1**
  - **DVB-S/S2 Port-2**
  - **IP Socket-1**
  - **IP Socket-2**
  - **Internet DPR Socket-1** (only with license)
  - **Internet DPR Socket-2** (only with license)
  - **ASI-1**
- **Active Port** – Use this menu to select the active port.
  - **Primary**
  - **Backup**
- **Input Redundancy** – Use this menu to define the input redundancy parameters. (This option is locked when the device is controlled by the DMS)  
 Note: If the device is controlled by the DMS and the input profile on the DMS is set to local override, redundancy is working.
  - **Enable Redundancy**
    - **On**
    - **Off**
  - **Redundancy Mode**
    - **Hot-Hot** – Both the primary and backup ports are enabled at all times
    - **Hot-Standby** – The inactive port will be disabled (Only applicable for sockets/Internet DPR. ASI and RF ports will always be enabled)



**NOTE:** The Hot-Standby mode is primarily intended for Internet DPR broadcaster redundancy. Primary and Backup are two Internet DPR sockets. Only the active port is connected to the Broadcaster. No data is flowing in the network between the broadcaster and the inactive Internet DPR socket.

- **Redundancy Scheme**
  - **Manual** – You can manually switch between the primary port and the backup port regardless of their link status
  - **Manual Revert** – The device switches from the primary port to the backup port when the primary port fails on one of the redundancy triggers and the backup port has no active alarms. You can revert from the backup port to the primary port manually
  - **Automatic** – (Default) The device switches to the standby port whenever the active port fails on the redundancy trigger and the standby port has no active alarms
  - **Automatic Revert** – The device switches from the primary port to the backup port when the primary port fails on the redundancy trigger and the backup port has no active alarms. The device reverts to the primary as soon as the primary port has no active alarms
- **Backup Port** – (Only available when the **Redundancy Scheme** is not **No Redundancy**.)
  - **<Port> Configuration**
  - **<Port> Status**
  - **Port Selection**
- **Redundancy Triggers** – Use this menu to select the alarms that trigger redundancy
  - **MPEG Sync Loss** – (Default and mandatory) Asserted when the device cannot sync to the input stream

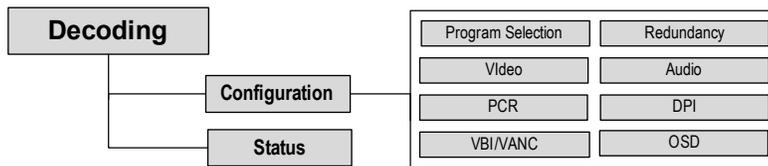
- CC Errors** – Mark to assert when CC errors are detected
  - PID Missing** – Mark to assert when there is no bitrate detected on the PID
  - Alarms Thresholds** – Use this menu to control the threshold for each selected alarm on the Primary and Backup Port
- **Table Parsing** – Use this menu to select which MPEG tables are parsed by the ProView 8100 at the Logical Input.
  - None**
  - PSI (MPEG)** – The device only parses the PAT, PMT, and CAT tables.
  - PSI/SI (DVB)** – (Default) The device passes the following tables:
    - PAT**
    - PMT**
    - CAT**
    - SDT**
    - NIT**
    - TDT**
    - EIT**
    - MIP**
- **T2-MI**
  - Primary Port**
    - T2-MI Processing Mode**
      - None
      - Passthrough
      - De-Framing – (Only when license is installed)
    - T2-MI PID** – (Range: 0 to 8191 (Only when De-Framing is selected))
    - PLP** – Range 0 to 255 (Only when De-Framing is selected)
  - Backup Port** – (Only when redundancy is enabled)
    - T2-MI Processing Mode**
      - None
      - Passthrough
      - De-Framing – (Only when license is installed)
    - T2-MI PID** – Range: 0 to 8191(Only when De-Framing is selected)
    - PLP** – Range 0 to 255 (Only when De-Framing is selected)
  - Descrambling** – (Only when De-Framing is selected)
    - After De-Framing**
    - Before De-Framing**
- **De-Jittering**
  - Primary Port** – (Only when De-Jittering is enabled)
    - De-Jittering Mode**
      - Off
      - Normal
      - Low Delay
      - High
      - DVB-T SFN

- T2-MI
    - Average Input Bitrate** – (Only when **De-Jittering Mode** is **T2-MI**)
    - Delay (ms)**
    - Status**
  - Backup Port** – (Only when De-Jittering is enabled and when redundancy is enabled)
    - De-Jittering Mode**
      - Off
      - Normal
      - Low Delay
      - High
      - DVB-T SFN
      - T2-MI
    - Average Input Bitrate** – (Only when **De-Jittering Mode** is **T2-MI**)
    - Delay (ms)**
    - Status**
- **Alarms Threshold** – Use this menu to select the port for which the alarms threshold is relevant.
  - MPEG Sync Loss Alarm**
    - Primary Port**
      - Event Duration (sec) – Range: 0.5 to 86400 (Default 0.5)
    - Backup Port** – (Only when redundancy is enabled)
      - Event Duration (sec) – Range: 0.5 to 86400 (Default 0.5)
  - CC Errors Alarm**
    - Primary Port**
      - Number of Errors – Range: 1 to 1,000,000 (Default 5)
      - Within (sec) – Range: 0.5 to 86400 (Default 1)
    - Backup Port** – (Only when redundancy is enabled)
      - Number of Errors – Range: 1 to 1,000,000 (Default 5)
      - Within (sec) – Range: 0.5 to 86400 (Default 1)
  - PID Missing Alarm**
    - Primary Port**
      - PID – Range: 0 to 8191 (Default 8191)
      - Missing for (sec) – Range: 0.5 to 86400 (Default 86400)
    - Backup Port** – (Only when redundancy is enabled)
      - PID – Range: 0 to 8191 (Default 8191)
      - Missing for (sec) – Range: 0.5 to 86400 (Default 86400)

## Decoding Menu

Use the **Decoding** menu to configure the decoder or view the decoder status. The **Decoding** menu is enabled only on certain models. In a model that only supports monitoring decoding, only the applicable parameters display.

To access the **Decoding** menu, go to **Navigate Root > Decoding**.



The **Decoding** menu comprises:

- [Configuration](#)
- [Status](#)

## Configuration

Use the Configuration submenu to configure the decoding method. Options are:

- **Program Selection** – Use this menu to select the program (for details, see [Program Selection](#)).
- **Redundancy** – When a license is available and Redundancy can be activated.
- **Video** – Sets up the video decoding parameters, depending on the video codecs and format (for details, see [Video Configuration](#)).
- **Audio1/2** – Sets up the audio decoding parameters for each one of the two audio channels in the program (for details, see [Audio Configuration](#)).
- **PCR** – Selects the clock source for the decoded program and sets up the a/v sync parameters (for details, see [PCR Configuration](#)).
- **DPI** – Use this menu to configure alarms to switch GPI relays (for details see [DPI Configuration](#)).
- **VBI/VANC** – Sets up the VBI/VANC parameters for the various program related functions (for details, see [VBI/VANC Configuration](#)).
- **OSD** – Use this menu to configure the insertion of subtitles from VBI PIDs (for details, see [OSD Configuration](#)).

## Program Selection

Use the Program Selection menu to configure the program selection:

- **Input Program** – Displays a list of available programs. Select the program you wish to decode (for details see [Input Program](#)).
- **Service Mode** – (for details see [Service Mode](#))
- **Descrambling** – This menu appears when **Service Mode** is Program or Automatic. Select the descrambling device for the decoded program.
  - **CA Device**
    - **None**
    - **Verimatrix** – Only for a device with Verimatrix.
    - **CAM**
      - CAM-1 (Default)
      - CAM-2
    - **BISS**

- **Video PID** – You can select up to one video PID to decode. Selection modes:
  - **None** – No Video PID is decoded
  - **Automatic** – (Default) The device automatically selects and decodes the video PID of the selected program
  - **Fixed** – Select a video PID by its number (1-8190)
    - **PID Number**
- **Audio PID** – You can select up to two audio PIDs to decode. Selection modes:
  - **Audio #1/2**
    - **Mode**
      - **None** – No Audio PID is decoded
      - **Automatic** – The device automatically selects and decodes the audio PID of the selected program
      - **Fixed PID** – Appears when Service Mode is Program or PID Mode  
**PID Number** – Appears when mode is Fixed
      - **Preferred Language** – Default is ENG. Appears when Mode is set to Preferred Language
- **PCR PID** – Select the PCR PID of the input program. Selection modes:
  - **Automatic** – (Default) The PCR PID in the PMT is selected
    - **Automatic** (Default)
    - **None**
  - **Fixed PID** – Select the PID
    - **Fixed PID**
    - **None** (Default)
- **DPI PID** – (Only available on model 8130) You can select up to one DPI PID for the decoded program. Selection modes:
  - **Automatic** – (Default) The DPI PID in the PMT is selected
    - **Automatic**
    - **None** (Default)
  - **Fixed PID**
  - **None**
- **VBI/VANC PID** – Select the VBI PID of the input program. Selection modes:
  - **Automatic** – (Default) The VBI PID is selected
  - **Fixed PID**
  - **None**
- **Subtitling PID** – You can select up to one DVB subtitling PID to decode. This option is only available when DVB subtitling has been enabled for OSD. Selection modes:
  - **Automatic** – (Default) The device automatically selects the subtitling PID.
  - **Preferred Language** – Select the language. Default is **ENG**.
  - **Fixed PID**
  - **None**

### Input Program

You can only configure the input program when **Service Mode** is Program. It displays

the input program number when **Service Mode** is Automatic.

#### In **Program Mode**:

Entering this menu enables you to configure the program to be decoded. The FP marks the selected program.

The FP displays a list of programs from the input and enables you to add a new program.

When **Add new** is selected you are required to enter a program number.

#### In **Automatic Mode**:

Entering this menu displays the same list as described in program mode. The FP marks the selected program. If you select a different program, the FP will change the **Service Mode** to **Program Mode** and set this program as the configured one.

### Service Mode

Use the **Service Mode** menu to select a service selection mode:

- **No Decoding** – Use this mode to disable decoding. When the Service Mode is set to **No Decoding**, the rest of the decoder menus are hidden
- **Program** – Use this mode to set the decoder to manual program selection
- **Fixed PID** – Use this mode to set the decoder to manual PID selection
- **Automatic** – Use this mode for the device to automatically decode the first program in the TS (first in PAT)

When the **Service Mode** is set to **No Decoding**, the rest of the decoder menus are hidden

When the **Service Mode** is not set to **No Decoding** and **Redundancy** is **Off**, only **Program** and **No Decoding** is displayed.

When **Service Mode** is changed to **Program** the FP navigates the user to the **Input Program** menu (so he can select the program).

### Redundancy Configuration

Use the **Redundancy** configuration menu to set up the decoding redundancy.

When the **Service Mode** is set to **Program**, redundancy can be configured. To access the **Redundancy** submenu, go to Navigate **Root > Decoding > Configuration > Redundancy**. Options are:

- **Off**
- **Input Redundancy**
- **Alarms**

When Input Redundancy is chosen, the Redundancy submenu contains the following options:

- **Redundancy Control**
  - **Off** – There is no Redundancy Control activated.
  - **Input Redundancy** - The Redundancy Control follows the settings from the Input Redundancy.
  - **Alarms** – The Redundancy Control is based on the configured Redundancy Triggers.
- **Active Program** – (Only when **Redundancy Scheme** is **Manual** or **Redundancy Scheme** is **Manual Revert** and **Active Program** is **Backup**)
  - **Primary**

- Backup**
- **Backup Program**
  - Input Program**
  - Descrambling**
- **Pre-Descramble** – (Default is Disabled) When enabled, the device will descramble the backup program while it is not active

When Alarms is chosen, the Redundancy submenu contains the following options:

- **Redundancy Control**
  - Off** – There is no Redundancy Control activated.
  - Input Redundancy** - The Redundancy Control follows the settings from the Input Redundancy.
  - Alarms** – The Redundancy Control is based on the configured Redundancy Triggers.
- **Active Program** – (Only when **Redundancy Scheme** is **Manual** or **Redundancy Scheme** is **Manual Revert** and **Active Program** is **Backup**)
  - Primary**
  - Backup**
- **Backup Program**
  - Input Program**
  - Descrambling**
- **Redundancy Scheme**
  - Manual**
  - Manual Revert**
  - Automatic**
- **Redundancy Triggers**
  - No PCR Detected Error**
  - Decoder Failure on Video**
- **Pre-Descramble** – (Default is Disabled) When enabled, the device will descramble the backup program while it is not active

## Video Configuration

Use the **Video** configuration menu to set up the decoded video stream output parameters for the decoded program.



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**NOTE:** The user configuration of video parameters is restored to defaults when switching between Service Modes or between programs.

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To access the **Video** submenu go to Navigate **Root > Decoding > Configuration > Video**.

The **Video** submenu comprises:

- **Codec** – selects the video decoding mode. Parameters:
  - Automatic** (Default) – Not supported when Service Mode is in PID mode.
  - MPEG-2** – The device forces the decoder to decode according to MPEG-2.
  - AVC** – The device forces the decoder to decode according to AVC.
- **Display Format** – selects the video display format. Parameters:

- ❑ **Automatic**
- ❑ **Automatic+SD** – HD+SD simultaneous decoding<sup>1</sup>. SDI1 will use the automatic format and SDI2 will be using SD.
- ❑ **SD**
- ❑ **HD**



**NOTE:** Changing the display format may take a few seconds. During this time the front panel display freezes. The Aspect Ratio Conversion feature is performed if the aspect ratio of the video in the incoming transport stream is not the same as the configured aspect ratio for the output stream.

- **HD Outputs** – this parameter appears when the display format is HD.
  - ❑ **Output Format** – This parameter maintains its value after changes of the Service Mode or Program Configuration/Selection.
    - ❑ **720p @ 50**
    - ❑ **720p @ 59.94**
    - ❑ **720p @ 60**
    - ❑ **1080i @ 25**
    - ❑ **1080i @ 29.97**
    - ❑ **1080i @ 30**
  - ❑ **Scaling to 16:9** – This parameter maintains its value after changes of the Service Mode or Program Configuration/Selection.
    - ❑ **Pillarbox** (Default)
    - ❑ **Center-Cut**
    - ❑ **Anamorphic**
    - ❑ **AFD**
- **SD Outputs** – Set these parameters for the SD analog (CV) monitoring output and SD SDI.
  - ❑ **Aspect Ratio** – selects the aspect ratio conversion for the output stream. To be performed if the incoming stream aspect ratio is not the same as the configured output aspect ratio.  
Parameters (related to selected aspect ratio):
    - ❑ **Automatic** (Default)
    - ❑ **4:3 Aspect ratio**
    - ❑ **16:9 Aspect ratio**
  - ❑ **Scaling to 4:3** (conversion)
    - ❑ **Center-Cut**
    - ❑ **Letterbox**
    - ❑ **Anamorphic**
    - ❑ **AFD**
  - ❑ **Scaling To 16x9** (conversion) – This parameter maintains its value after changes of the Service Mode or Program Configuration/Selection.
    - ❑ **Center-Cut**
    - ❑ **Pillarbox (Side Bars)**
    - ❑ **Anamorphic**

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1. Only on 8130 devices with a license.

- AFD
- **Analog Format**
  - **525 Line Systems**
    - NTSC (Default)
    - PAL M
  - **625 Line Systems**
    - PAL B/G (Default)
    - PAL I
    - PAL D
    - PAL N
    - French SECAM
    - Russian SECAM<sup>2</sup>
- **Advanced**
  - **Blanking Mode** – Select the option to output when there is no video.
    - Black Frame (Default)
    - Last frame
    - Last field
    - Bar
    - Mute – Select this option to have nothing on the SDI out port when there is no video input.
  - **Video Error Recovery Mode** – The error definitions are:
    - 1 – Full (Default)
    - 2 – Partial
    - 3 – None
    - 4 – High
  - **HDMI Format** – Options are:
    - HDMI
    - DVI

## Audio Configuration

Use the **Audio** configuration menus to set up the audio decoding parameters for the audio channels. The audio parameters are restored to defaults when changing **Service Mode** or **Programs**. Use Embedded audio to embed the audio channels in the SDI out ports.

The **Audio** menu comprises:

- **Audio #1/2**
  - **Codec** – selects the audio decoding mode. Parameters:
    - **Automatic** (Default) – **Automatic** mode is not supported when the **Service Mode** is **PID Mode**. When PID mode is selected the default codec is MPEG-1 Layer II.
    - **MPEG-1 Layer I** – For Audio-1 the available processing type is:
      - Downmix/2.0 Decode

For Audio-2 the available processing types are:

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2. Only on model 8130.

- Downmix/2.0 Decode (default)
- **MPEG-1 Layer II** – The only available processing type is:
  - Downmix/2.0 Decode
- **AC-3** – For Audio-1 the available processing types are:
  - Downmix/2.0 Decode (default)
  - Passthrough

For Audio-2 the available processing types are:

- 5.1 Decode
  - Downmix/2.0 Decode (default)
  - Passthrough
- **E-AC-3** – For Audio-1 the available processing types are:
  - Downmix/2.0 Decode (default)
  - Passthrough

For Audio-2 the available processing types are:

- 5.1 Decode
  - Downmix/2.0 Decode (default)
  - Passthrough
- **AAC ADTS** – For Audio-1 the available processing type is:
  - Downmix/2.0 Decode (default)

For Audio-2 the available processing types are:

- 5.1 Decode
  - Downmix/2.0 Decode (default)
- **AAC LATM** – For Audio-1 the available processing type is:
  - Downmix/2.0 Decode (default)

For Audio-2 the available processing types are:

- 5.1 Decode
  - Downmix/2.0 Decode (default)

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**NOTE:** Changing between audio Codecs takes up to one minute. During this time the FP display freezes.

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- **Processing Type**
  - **5.1 Decode** (Audio-2 only)
  - **Downmix/2.0 Decode** (Default)
  - **Passthrough**
- **AC-3 Downmixing** – selects the mixing mode for the output.  
Parameters:
  - **Downmix Mode**
  - **Dynamic Range Control**
- **Advanced**
  - **Delay** – Range: -128 to 128 ms, only on devices with a professional decoder.
  - **Channel Mode**
    - Mono – Only supported on analog outputs and only on devices with a professional decoder.
    - Stereo (default)

- Both Left
  - Both Right
  - Digital Format** – Selects the audio format mode. When using **Dolby Digital Passthrough**, this parameter has no effect.
    - Consumer
    - Professional
  - Volume** – Sets the audio volume on devices with a professional decoder. Range: -63 to 0 dB Default is 0.
  - AC-3 Downmixing**
    - Downmix Mode** – Only for the following codecs: Automatic, AC-3 or E-AC-3
      - LoRo
      - LtRt (Default)
    - Dynamic Range Control** – Only on devices with a professional decoder and only for the following codecs: **Automatic, AC-3 or E-AC-3**. This parameter maintains its value after changes of the **Service Mode** or **Program Configuration/Selection**.
      - Line Out (Default)
      - RF Remod
- **Digital Format** – AES/EBU header channel status. Only on devices with a professional decoder. This parameter maintains its value after changes of the **Service Mode** or **Program Configuration/Selection**.
  - Consumer**
  - Professional** (default)
- **Embedded Audio** – Only on devices with a professional decoder.
  - Apply SDI Groups changes**
    - Apply Changes**
    - Drop Changes**
  - Group 1-4** – There are four SDI groups to choose from. The default is **Group 1**.
    - Pair 1/2**
      - N/A – Same as mute.
      - Audio 1 L/R
      - Audio 2 L/R
      - Audio 2 C/LFE (Appears when Audio 2 Processing Type is 5.1 Decode.)
      - Audio 2 Ls/Rs (Appears when Audio 2 Processing Type is 5.1 Decode.)

## PCR Configuration

Use the **PCR Configuration** menu to set up the clock synchronization parameters for the decoded program. This parameter maintains its value after changes of the Service Mode or Program Configuration/Selection.

The **PCR Configuration** menu provides the following options:

- **Clock Source** – Selects the clock source for the synchronization of the modulation of the audio and video streams in the program. You cannot change the clock source when A/V Sync is set to 5 ms. Parameters:
  - Decoder Clock** (Default)
  - Original PCR** – The PCR of the input program.

- **Frame Synchronizer**
- **A/V Sync** – Selects the audio to video synchronization parameter. This parameter maintains its value after changes of the Service Mode or Program Configuration/Selection. Parameters:
  - **Frame** – Select this parameter to limit the audio/video sync jitter to 1 frame. (Default)
  - **Off**
- **Decoder Buffer Delay** – The range is 1 to 300 ms. The default is 100.
- **Frame Synchronizer** – (Only on devices with a professional decoder).
  - **SD Horizontal Delay**
  - **SD Vertical Delay**
  - **HD Horizontal Delay**
  - **HD Vertical Delay**

The following PCR and A/V Sync status displays:

- PCR discontinuity counter
- PCR Glitch counter
- Number of Audio frames skipped
- Number of Audio frames repeated
- Number of Video frames skipped
- Number of Video frames repeated

You can reset the counters.

## DPI Configuration

Use this menu to configure SCTE 35 commands to toggle GPI relays for Digital Program Insertion. Only on devices with a professional decoder. These features are only available if you have configured a DPI PID. The DPI parameters are restored to defaults when changing Service Mode or Program Configuration/Selection. It comprises the following submenus:

- **GPI Triggering** – You can configure up to two GPIs.
  - **Pre-Roll (Sec)** – Use to configure the pre-roll. A positive value means that the GPI will be triggered X seconds before the event occurs. A negative value means that the GPI will be triggered X seconds after the event occurs. This configuration is preserved after program switching. Range -10 to 10 seconds. Default is 0.
  - **OON Relay** – Use to configure the **Out Of Network** alarm switch, GPI-1, GPI-2, GPI-3.
  - **RTN Relay** – Use to configure the **Return to Network** alarm switch, GPI-1, GPI-2, GPI-3.
- **VANC (SCTE 104)**
  - **AS Index** – Range 0 to 255. Default 0.
  - **DPI PID Index** – Range 0 to 65535. Default 0. This parameter is preserved when program switching occurs.
  - **SD VANC**
    - **Insert** – Whether to insert.
      - Yes
      - No
    - **Line** – Range 15 to 23
  - **HD VANC**

- ❑ **Insert** – Whether to insert.
  - ❑ Yes
  - ❑ No
- ❑ **Line** – Range 15 to 23

### VBI/VANC Configuration

The **VBI/VANC** menu enables you to insert VBI/VANC data into the decoded video. You can insert several VANC datum items into the same line but you cannot insert several VBI items into the same line and you cannot insert VBI and VANC into the same location. All VBI/VANC parameters remain unchanged after switching between PID selection modes or between programs.

Each type has a submenu to configure the video source and insertion location. The submenus are:

- **AFD/VI** – VI and AFD can be on the same line.
  - ❑ **Source:**
    - ❑ **VBI ES**
    - ❑ **Video ES**
      - ❑ VBI  
Insert: Yes/No  
Line #1: 11 (display only)
      - ❑ VANC to SD  
Insert: Yes/No  
Lines: 11 to 14 (default 11)
      - ❑ VANC to HD  
Insert: Yes/No  
Lines: 11 to 14 (default 11)
- **AMOL (Automatic Measurement Of Line-Ups)**
  - ❑ **Source:**
    - ❑ **VBI ES**
      - ❑ VBI  
Insert: Yes/No  
Line #1: 20 (display only)  
Line #2: 22 (display only)
      - ❑ VANC to SD  
Insert: Yes/No
      - ❑ VANC to HD  
Insert: Yes/No
- **CC (Closed Captions)** (Default: **Enabled**) Both CEA-608 and 708 are supported but each is only inserted if it exists in the source.
  - ❑ **Source:**
    - ❑ **Video ES**
      - ❑ VBI  
Insert: Yes/No  
Line #1: 21 (display only)
      - ❑ VANC to SD  
Insert: Yes/No  
Lines: 9 to 14 (default line 9)

- VANC to HD  
Insert: Yes/No  
Lines: 9 to 14 (default line 9)
- **Raw Data (monochrome 4:2:2)**
  - Source:**
    - VBI ES**
      - VBI  
Insert: Yes/No
- **SCTE 104**
  - Source:**
    - DPI PID**
      - VANC to SD  
Insert: Yes/No  
Lines: 15 to 23 (default line 15)
      - VANC to HD  
Insert: Yes/No  
Lines: 15 to 23 (default line 15)
- **TVG**
  - Source:**
    - VBI ES**
      - VBI  
Insert: Yes/No
      - VANC to SD  
Insert: Yes/No
      - VANC to HD  
Insert: Yes/No
- **TTX**
  - Source:**
    - VBI ES**
      - VBI  
Insert: Yes/No
      - VANC to SD  
Insert: Yes/No  
Protocol: SMPTE-2031 or E\_OP47
      - VANC to HD  
Insert: Yes/No  
Protocol: SMPTE-2031 or E\_OP47
- **Video Program System (VPS)**
  - Source:**
    - VBI ES**
      - VBI  
Insert: Yes/No  
Line: 16 (display only)
- **VITC**
  - Source:**

- Decoder** (default)
- VBI ES**
- Video ES**
  - VBI  
Insert: Yes/No  
VBI Line #1: 7 to 23 (default 12)  
VBI Line #2: 7 to 23 (default 14)
  - VANC to SD  
Insert: Yes/No  
Line: 9 to 14 (default 9)  
Insert to: VANC
  - VANC to HD  
Insert: Yes/No  
Line: 9 to 14 (default 9)  
Insert to: VANC/HANC
- **VITS**
  - Source:**
    - Decoder (VBI ES)**
      - VBI  
Insert: Yes/No  
Line #1: 7 to 23 (default 17)  
Lines #2: 7 to 23 (default 18)
- **WSS (Wide Screen Signaling)**
  - Source:**
    - Decoder**
    - VBI ES**
    - Video ES (default)**
    - WSS-AFD**
      - VBI  
Insert: Yes/No  
Line: 23 (display only)

## OSD Configuration

Use this menu to configure the insertion of subtitles from VBI PIDs. It operates in **Auto Mode** and **Program Mode** in HD and SD. Configuration of OSD parameters are restored to defaults when switching between Service Modes or between programs.

- **Source**
  - None** (Default)
  - DVB Subtitling**
  - VBI Teletext**
- **Page Selection** (Only when **Source Selection** is Teletext Subtitling)
  - Selection Mode**
    - Automatic**
    - Manual** – Enter Hex. (Only when **Service Mode** is Program)
    - Preferred Language**
  - Language** – The list of the languages is according to ISO 639 language codes.

- **SD Outputs** (Appears when **Source Selection** is DVB Subtitling or Teletext Subtitling)
  - **Enable: Yes/No** (Default Yes)
  - **Zoom** – (Default is 100%.) Zoom only available in certain modes and DVB Subtitling.
  - **X Offset** – Range: -100 to 100 pixels (Default is 0.)
  - **Y Offset** – Range: -100 to 100 pixels (Default is 0.)
- **HD Outputs** (Appears when **Source Selection** is DVB Subtitling or Teletext Subtitling)
  - **Enable** – (Default Yes)
  - **Zoom** – (Default is 1.) Zoom only available in certain modes and DVB Subtitling.
  - **X Offset** – Range: -100 to 100 pixels (Default is 0.)
  - **Y Offset** – Range: -100 to 100 pixels (Default is 0.)

## Status

Use the Status submenu to check the decoding status. Options are:

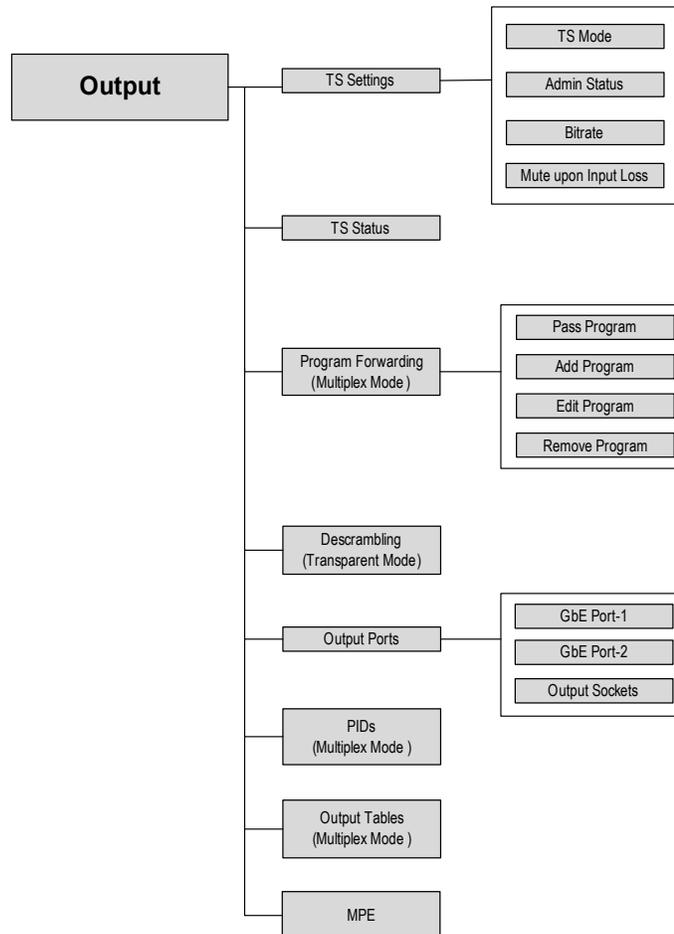
- **Selected Program** – The menu displays the currently decoded program. When Redundancy is Off, the menu will display the program number. When Redundancy is On and the active program is the Primary, the menu will display the program number and indicate that it is the Primary. When Redundancy is On and the active program is the Backup, the menu will display the program number and indicate that it is the Backup.
- **Selected PIDs** – Only entries for items that their PID Selection Mode was not set to **None** display.
  - **Video**
  - **Audio #1**
  - **Audio #2**
  - **PCR**
  - **DPI**
  - **VBI**
  - **Subtitling**
- **Video** – Selected video PID
  - **Coding Format**
  - **Input Format**
  - **Input Aspect Ratio**
  - **Chroma Sampling**
- **Audio**
  - **Audio #1**
    - **Coding Format**
    - **Language**
    - **Input Channel Mode**
    - **Decoding Type**
    - **Sampling Rate**
  - **Audio #2**
    - **Coding Format**
    - **Language**
    - **Input Channel Mode**

- ❑ **Decoding Type**
- ❑ **Sampling Rate**

## Output Menu

Use the **Output** menu to configure the output transport stream, program forwarding and output PIDs.

To access the **Output** menu go to Navigate **Root > Output** .



The **Output** menu comprises:

- **TS Settings**
  - ❑ **TS mode**
    - ❑ **Multiplex** – A new TS is generated with programs and tables from the input and new tables can be generated.
    - ❑ **Transparent (Default)** – The entire TS is passed to the output unchanged and the bitrate remains the same.
  - ❑ **Admin Status** – Enable or Disable the output TS
    - ❑ **Enable**
    - ❑ **Disable**

- ❑ **Bitrate** – When the **TS Mode** is **Multiplex**, you can configure the bitrate of the TS. When the **TS Mode** is **Transparent**, the bitrate of the TS displays.
- ❑ **Mute upon Input Loss**
  - ❑ **On** – Disable the output when MPEG Sync Loss alarm is asserted on the active port of the Input TS. Once the alarm is remitted the device will un-mute the output.
  - ❑ **Off** – (Default)
- **TS Status** – This menu displays the list of programs that are passed to the output.
  - ❑ **Program #**
  - ❑ **Program Name**
  - ❑ **Scr. Mode**
- **Program Forwarding** – All of Program Forwarding is available in Multiplex mode.
  - ❑ **Pass Program** – This menu is available only when the **TS Mode** is **Multiplex**. This menu enables you to pass a program from the input. To pass a program the steps are:

#	Step	Default
1	Select a program to forward.	
2	Select CA device.	<b>None</b>
3	Select <b>None</b> , <b>Verimatrix<sup>1</sup></b> , <b>CAM</b> , or <b>BISS</b> .	
4	Select a CAM, or BISS key.	
5	Set the output program number if required.	<b>Same as input.</b>
6	Set PID remapping mode.	<b>No remapping</b>
7	Set the Offset if required.	

1. Only for a device with Verimatrix.

- ❑ **Add program** – Use this menu to pass a program that currently is not present in the input (pre-provision). To add a program the steps are:

#	Step	Default
1	Specify the input program number.	
2	Select CA device.	<b>None</b>
3	Select <b>None</b> , <b>Verimatrix<sup>1</sup></b> , <b>CAM</b> , or <b>BISS</b> .	
4	Set the output program number if required.	<b>Same as input</b>
5	Select a CAM, or BISS key.	
6	Set PID remapping mode.	<b>No remapping</b>
7	Set the Offset if required.	

1. Only for a device with Verimatrix.

- ❑ **Edit Program** – Use this menu to view which programs are passed to the output and to modify their configuration.
  - ❑ **Program Number** – Use to set the output program number.

- **CA Device**
- **CAM** – This menu appears when CA Device is set to **CAM**.
- **BISS Key** – This menu appears when CA Device is set to **BISS**.
- **PID Remapping** – Selecting the PID remapping mode and the **Offset** (if applicable).
  - No Remapping
  - Offset from Input PID
- **Offset** – Only if Offset from Input PID is selected.
- **Redundancy** – For more information about the defaults, see [Program Properties in Logical Outputs Program View TS](#).
  - Redundancy Control
    - Off
    - Input Redundancy
    - Alarms
  - Active Program
    - Primary
    - Backup
  - Backup Program
    - Input Program (Options are: None, Add New, Selection of available programs)
    - Descrambling
  - Redundancy Scheme
    - Manual
    - Manual Revert
    - Automatic
    - Automatic Revert
  - Redundancy Triggers
    - PCR PID Missing (Enabled/Disabled)
    - Video PID Missing (Enabled/Disabled)
    - CC Errors (Enabled/Disabled)
  - Alarms Thresholds

- CC Errors (Enter Number of Errors and Within (sec))
    - Pre-Descramble (Enabled/Disabled)
    - PID Aliasing (Enabled/Disabled)
    - Backup Service Name (Options are: As Primary or As Active)
  - Advanced
    - **Remove program** – You can remove a program that has been either added or passed. The list of passed programs display.
    - **Descrambling** – This menu is available only when the **TS Mode** is **Transparent**. To select a program for descrambling the steps are:

#	Step	Default
1	Specify the input program.	
2	Select CA device.	<b>None</b>
3	Select <b>None</b> , <b>Verimatrix<sup>1</sup></b> , <b>CAM</b> or <b>BISS</b> .	
4	Select a CAM, or BISS key.	

1.Only for a device with Verimatrix

- **Output Ports** – Use this menu to configure the output ports.
    - **GbE Port-1/2**
      - **Admin Status** – You can enable either or both GbE ports. When the port is enabled and no link is detected, the device reports a Link Down alarm. Disable the port to mask this alarm. (Default is Disabled.)
        - Disable
        - Enable
      - **IP Configuration**
        - IP Address – Each port must have a different IP Address. (Default is 127.0.0.X.)
        - Subnet Mask – The IP mask. (Default is 255.255.255.0.)
      - **MAC Address** – Cannot be changed.
      - **Auto Negotiation** – You can enable and disable Autonegotiation. It enables devices to perform automatic configuration for best modes of operation over links and provide automatic speed matching for multi-speed devices.
        - Off
        - On
      - **PHY**
      - **Duplex** – Display only.
      - **Virtual IP**

- Enable – You can enable either or both GbE ports. When the port is enabled and no link is detected, the device reports a Link Down alarm. Disable the port to mask this alarm. (Default is Disabled.)
    - Yes
    - No
  - **Output Sockets** – You can configure the same IP Address and UDP Port for several sockets if you define the Source Specific Multicast and the Source IP Addresses are different.
    - **Socket-1/2**
      - Admin Status – You can enable or disable the output socket.
      - Multicast IP – When the IP Type is Multicast, you must enter the multicast IP address. (Default is 255.1.1.X (X is the socket number).)
      - UDP Port – The destination UDP range is 0 to 65535. (Default is 1024.)
      - Source UDP Port – The source UDP range is 0 to 65535. (Default is 1024.)
      - Encapsulation Mode: UDP or RTP
      - Packets Per IP
- **PIDs** – This menu is only available when the TS is in **Multiplex** mode. Use this menu to pass unreferenced PIDs to the output for instance when cross connecting a PID.
  - **Pass PID** – Use this menu to pass a PID. The steps are:
    - Enter **Input PID**.
    - Enter **Output PID**.
  - **Edit PID** – Use this menu to change the **Output PID** value of a previously passed PID. The menu displays a list of all passed PIDs.
  - **Remove PID** – Use this menu to remove a previously passed PID. The menu displays a list of all passed PIDs.
- **Output Tables** – This menu is only available when the **TS mode** is **Multiplex**.
  - **Standard** – Use this menu to select which standard to follow for table generation in the output. Transitioning between the tables display modes affects which tables are generated, passed or neither (None).
    - MPEG > DVB: No changes in the MPEG table generation modes. DVB table generation modes are set to defaults
    - None > DVB: All MPEG and DVB tables modes are set to defaults
    - MPEG/DVB > None: All table generation modes are set to None
    - DVB > MPEG: MPEG table generation mode is preserved. All others are set to None
    - None > MPEG: MPEG table generation mode is set to defaults. All others are set to None
  - **None** – No tables are parsed.
  - **PSI (MPEG)** – The device only parses the PAT, PMT, and CAT tables.
  - **PSI/SI (DVB)** – (Default) By default the device displays the following tables:
    - PAT
    - PMT

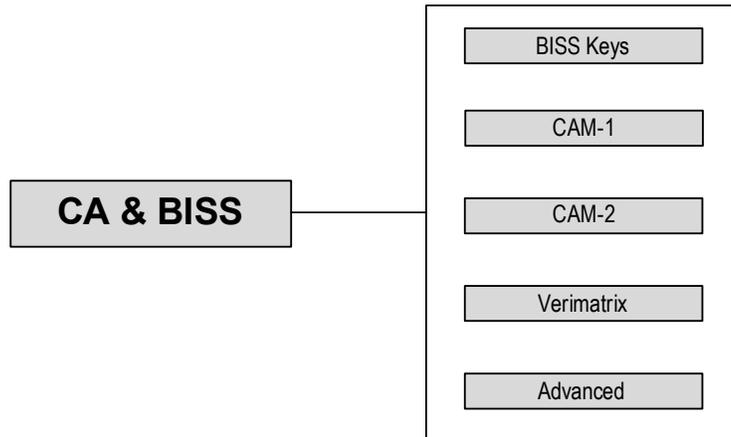
- CAT
  - SDT
  - NIT
- PAT** – Displays when **Standard** is not set to **None**.
  - Mode
    - None – Device does not generate or pass the PAT
    - Pass – Device passes the PAT without any changes
      - Input PID – In Pass mode the Input PID is required. (Range 0 to 8190, Default is 0.)
    - Generate – Device generates the PAT (Default)
      - Repetition Rate (ms) – Range 50 to 1000ms, Step 10 ms. (Default is 300.)
      - TS ID – The TS ID that carries the PAT. In Generate mode the TS ID in the PAT is as configured by the user.
- PMT** – Displays when **Standard** is not set to **None**.
  - Repetition Rate – Range 50 to 1000 ms. Step 10 ms. (Default 300 ms)
  - Programs PMTs – Displays the list of programs that are passed. Once a program is selected you can set:
  - Mode
    - None – Device does not generate or pass the PMT
    - Pass – Device passes the PMT without any changes
      - Input PID – In Pass mode the Input PID is required (Range 1 to 8190, Default is 32.)
    - Generate – Device generates the PMT. The PMT references EMMs that are configured to be passed (Default)
- CAT** – Displays when **Standard** is not set to **None**.
  - Mode
    - None – Device does not generate or pass the CAT
    - Pass – Device passes the CAT without any changes
    - Generate – Device generates the CAT. The CAT references EMMs that are configured to be passed When the CAT mode is set to Generate you can pass EMMs.
  - Input PID – In Pass mode the Input PID is required (Range 1 to 8190, Default is 1)
  - Repetition Rate (ms) – Range 50 to 1000ms, Step 10 ms. (Default is 500.)
  - Pass EMM
  - Edit EMM
  - Remove EMM
- SDT** – Displays when **Standard** is set to **PSI/SI** (DVB). The SDT only includes services that are referenced in the output PAT.

- Mode
  - None – Device does not generate or pass the SDT
  - Pass – Device passes the SDT without any changes
    - Input PID – In Pass mode the Input PID is required. (Range 1 to 8190, Default is 17.)
  - Generate – Device generates the SDT. In Generate mode the TS ID in the SDT is as was configured by the user. (Default)
    - Repetition Rate (ms) – Range 50 to 2000ms, Step 10 ms. (Default is 500.)
    - Original Network ID – The ID of the originating delivery system. In Generate mode you can configure the Original Network ID. (Range 0 to 65535, Default is 1.)
- NIT – Displays when **Standard** is set to **PSI/SI** (DVB).
  - Mode
    - None – Device does not pass the NIT
    - Pass – Device passes the NIT without any changes (Default)
      - Input PID – In Pass mode the Input PID is required. (Range 1 to 8190, Default is 16.)
- MPE
  - **Enable/Disable**
  - **PID Selection Mode.** Options are:
    - By Input Program Number (PID value range 1-65535)
    - By Input PID (PID value range 0-8190)
  - **Status**

## CA & BISS Menu

Use the **CA & BISS** menu to configure BISS keys, CAM auto recovery and advanced descrambling settings.

To access the **CA & BISS** menu go to Navigate **Root > CA & BISS**



**BISS Keys** – Use to create, edit and delete BISS keys.

- **Edit**

- **Key 1 to10**

- **Description** – Editable key name.

- **Mode**

- BISS-1 12 hex characters
      - BISS-E Injected ID 16 hex characters
      - BISS-E Buried ID 16 hex characters

- **SW** – Only when mode is **BISS-1**.

- **ESW** – Only when mode is not **BISS-1**.

- **ID** – Only when mode is not **BISS-1**.

- **Create New**

- **Description** – Editable key name.

- **Mode**

- BISS-1 12 hex characters
      - BISS-E Injected ID 16 hex characters
      - BISS-E Buried ID 16 hex characters

- **SW** – Only when mode is **BISS-1**.

- **ESW** – Only when mode is not **BISS-1**.

- **ID** – Only when mode is **BISS-E Injected ID**.

- **Delete**

- **CAM 1/2**

- **Auto Recovery** – Use to configure the ProView 8100 to reset the CAM when one of the following alarms are raised:

- **CAM Descrambling Failure** – Enabled. (Default)

- **CAM Processing Failure** – Enabled. (Default)

- ❑ **Packet Loss after Descrambling** – Disabled. (Default)
  - ❑ **CAM Information**
    - ❑ **Name**
    - ❑ **Manufacturer**
    - ❑ **Manufacturer Code**
    - ❑ **CAS ID**
  - ❑ **CAM MMI** – (Only when CAM is inserted) Use to access the MMI (Man Machine Interface).
- **Verimatrix**

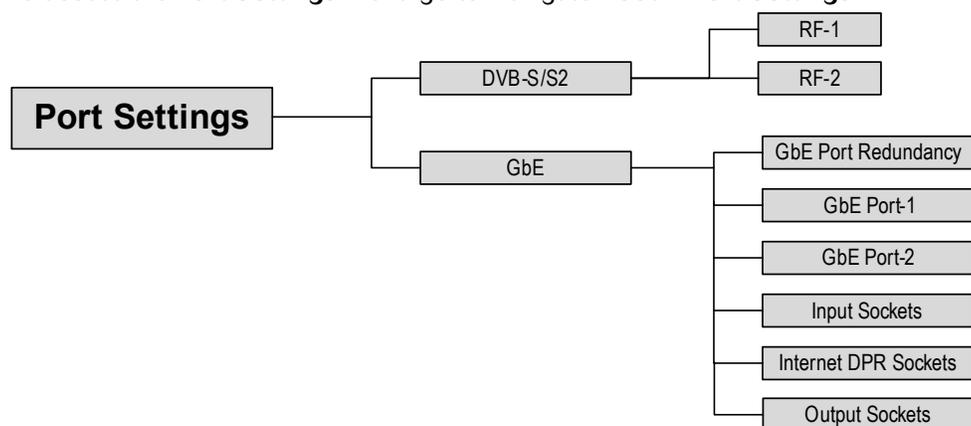
(Only for a device with Verimatrix)

  - ❑ Display of the Virtual Smartcard (VSC) ID.
  - ❑ Display of Lib SW Version.
- **Advanced**
  - ❑ **Bypass Descramber** – Disabled. (Default) If Enabled, BISS scrambled programs are not opened.
    - ❑ **Disable**
    - ❑ **Enable**
  - ❑ **Max Bitrate to CAM** – This option sets the bitrate for both CAMs.
    - ❑ **72 Mbps** – Compatible with most CAMs (Default)
    - ❑ **96 Mbps** – Use this bitrate if your CAM supports 96 Mbps
    - ❑ **108 Mbps** – Use this bitrate if your CAM supports 108 Mbps
  - ❑ **CAM De-Jittering** – Enabled. (Default)
    - ❑ **Disable**
    - ❑ **Enable**

## Port Settings Menu

Use the **Port Settings** menu to configure the RF and GbE inputs.

To access the **Port Settings** menu go to **Navigate Root > Port Settings**.



The **Port Settings** menu comprises:

- **DVB-S/S2**
  - ❑ **RF-1/2** (Additional 2 RFs are optional)

## □ Configuration

- Satellite Frequency – Sets the receiving frequency according to the satellite LNB transmitting frequency. The receiver controls the LNB band by sending a 22 kHz signal. When the signal is sent, the LNB uses its High Band Local Oscillator (L.O.). The range is 11.55000 to 12.750000 GHz. When the signal is not sent, the LNB uses its Low Band L.O. The range is 10.700000 to 11.900000 GHz.
- L Band Frequency – Sets the L-band frequency  
The range is 0.950000 to 2.150000 GHz, the default is 1.0 GHz.
- Symbol Rate – DVB-S and DVB-S2. Sets the L-band symbol rate.  
The range is 01.000000 to 45.000000 Msym/s]
- Attenuation – Internal attenuation for saturated signals.  
The range is 00.0 to 30.0 dB, the step is 0.1 dB, the default is 2 dB.
- Gain – Internal gain to improve signal strength.
  - Enable – Default
  - Disable
- LNB – Use this menu to assign LNB to selected RF input (the RF input can be RF-1-4 when the optional board with 2 RFs is added). The default is RF-1.
  - Enable LNB
    - Enable
    - Disable
  - Polarization – Selects the polarization of the antenna in the satellite LNB.
    - Off – Default
    - Vertical (13V)
    - Horizontal (18V)
  - LNB Frequency Band – Selects the receiver frequency band according to the satellite Low Noise Block (LNB) transmitting frequency band.
    - Universal (Low: 9.75, High: 10.6) – Default
    - Universal Wide (Low: 9.75, High: 10.75)
    - Ku Band – Range 8.500 to 13.00, Default 9.75.
    - C Band – Range 5.000 to 6.000, Default 5.150.

- LO Frequency
  - When the LNB Type is Ku:
    - Configurable value 8.500 to 13.000. The resolution is GHz. The step is 125 kHz (Default is 0.750)
  - When the LNB Type is C:
    - Configurable value 5.000 to 6.000. The resolution is GHz. The step is 125 kHz (Default is 5.150)
  - When the LNB Type is Universal
    - and 22 kHz Tone is Low Band (Off), the value is 9.750 (Display only)
    - and 22 kHz Tone is High Band (On), the value is 10.600 (Display only)
  - When the LNB Type is Universal Wide
    - and 22 kHz Tone is Low Band (Off), the value is 9.750 (Display only)
    - and 22 kHz Tone is High Band (On), the value is 10.750 (Display only)
- 22 kHz Tone
  - High Band
  - Low Band – Default
- Modulation Standard – Selects the L-Band modulation standard.
  - Automatic
  - DVB-S
  - DVB-S2
- MODCOD – Selects the modulation type, FEC rate and coding rate, according to the modulation standard selected. You cannot change this parameter when Modulation Standard is Automatic.
  - DVB-S
    - QPSK 1/2
    - QPSK 2/3
    - QPSK 3/4
    - QPSK 5/6
    - QPSK 7/8
    - Automatic – Default.
  - DVB-S2

- QPSK 1/2
  - QPSK 3/5
  - QPSK 2/3
  - QPSK 3/4
  - QPSK 4/5
  - QPSK 5/6
  - QPSK 8/9
  - QPSK 9/10
  - 8PSK 3/5
  - 8PSK 2/3
  - 8PSK 3/4
  - 8PSK 5/6
  - 8PSK 8/9
  - 8PSK 9/10
  - Automatic – Default.
- Roll Off – Selects the roll factor. DVB-S2 only.
    - Automatic – Default
    - 0.20
    - 0.25
    - 0.35
  - Pilot – DVB-S2 only. The Pilot feature should only be on when the signal has Pilot symbols, otherwise the demodulator will not lock onto the signal.
    - Automatic
    - On
    - Off
  - Spectral Inversion – DVB-S and DVB-S2. Selects the mode of operation for the spectral inversion function.
    - Automatic – only in DVB-S and is the DVB-S default.
    - Normal – default for DVB-S2.
    - Inverted
  - Scrambling Seed – DVB-S2 only. sets the value for the physical layer scrambling seed.  
Range – 0 to 262141, default is 0.
  - ISI (Multiple Input Stream) – Input Stream Identifier in hexadecimal. Use this parameter to select a specific transport stream from a multi-transport carrier.
  - BER Thresholds – DVB-S only. Range: 0.1 to 0.0000001, default is 0.0001.
  - PER Thresholds – DVB-S2 only. Range: 0.1 to 0.00001, default is 0.01.
  - Eb/No Thresholds
    - Mode: Automatic or Manual
    - Level (dB): Range 0.5 to 15, default 4. (in manual mode)
  - Drop Erroneous Packets – Use this parameter to instruct the demodulator not to pass any transport stream packets with errors. The default is to pass all TS packets.

- On
    - Off – Default
  - Mute upon Errors
    - On
    - Off – Default
  - Drift Compensation
    - On – Default
    - Off
- **Status** – Displays the status of the DVB-S/S2 parameters when the signal is locked. When there is no signal lock, it shows RF Status with unlocked as status. When there is a signal lock, the following information is displayed:
  - Modulation Standard
  - C/N
  - Eb/No
  - Link Margin
  - PER (if Modulation Standard is DVB-S2)
  - BER (if Modulation Standard is DVB-S)
  - Tuned Frequency
  - Frequency Offset
  - Spectral Inversion
  - Modulation & FEC Rate
  - Pilot Signal
  - Roll-Off
- **GbE**
  - **GbE Port Redundancy**
    - **Input Redundancy**
      - Off (Independent)      All input sockets are associated with GbE-1
      - Hot-Standby (Default)      All input sockets are associated with the active port. When switching to Hot-Standby mode, by default, GbE-1 (the primary port) should be the active port and GbE-2 (the backup port) should be in standby.
    - **Output Redundancy**
      - Off (Independent)      All output sockets are associated with GbE-2
      - Mirror (Default)      All output sockets are associated with both ports.

- **Redundancy Scheme**
  - **Manual** You can manually switch between the primary port and the backup port regardless of their link status
  - **Manual Revert** The device switches from the primary port to the backup port when the primary port fails on one of the redundancy triggers and the backup port has no active alarms. You can revert from the backup port to the primary port manually
  - **Automatic** The device switches to the standby port whenever the active port fails on the redundancy trigger and the standby port has no active alarms
  - **Automatic Revert** The device switches from the primary port to the backup port when the primary port fails on the redundancy trigger and the backup port has no active alarms. The device reverts to the primary as soon as the primary port has no active alarms
  
- **Active Port – Options when Redundancy Scheme is Manual only**
  - Primary (GbE-1)
  - Backup (GbE-2)
  
- **GbE Port-1/2**
  - **Admin Status** – You can enable either or both GbE ports. This parameter only works when the redundancy mode is manual. If both ports are enabled then only one port is active while the other one is in standby mode. By default Port 1 is active and Port 2 is on standby. The port on standby does not pass data. When the port is enabled and no link is detected, the device reports a Link Down alarm. Disable the port to mask this alarm. (Default is Disabled.)
    - Disable
    - Enable
  
  - **IP Configuration**
    - **IP Address** Each port must have a different IP Address. (Default is 127.127.X.X, where X is the port number.)
    - **Subnet Mask** The IP mask. (Default is 255.255.255.0.)
  
  - **MAC Address** – Each port has its own MAC Address. They are factory set and cannot be changed.



- Disable
- Enable

Null Insertion – Enable to insert NULL packets instead of packets that could not be corrected. Only relevant when input is RTP.

- Disable
- Enable (Default)

- Status
  - # of Re-Ordered Packets
  - # of Out-Of-Range Packets
- De-Jittering – When enabled all input sockets are de-jittered.
  - Mode
    - Off – No De-Jittering
    - Low Delay
    - Normal – Network jitter less than 50 msec (Default)
    - High Jitter – Network jitter less than 300 msec
    - DVB-T SFN
    - T2-MI
  - Average Bitrate – Expected TS bitrate. Range: 1 - 160 Mbps When the Mode is T2-MI the default is 40. When the Mode is Off the default is 160.
  - Delay – De-Jittering introduces a delay according to the configured mode. Display only.
  - Status – Display only.
- SSM – When enabled you can configure one source IP address. Only packets with this source address are processed. When disabled the device accepts all packets with destination IPs and ports that match the socket regardless of their source IP.
- Set SSM – You will be required to set the IP Address.
- Delete SSM – This will remove the SSM configuration.
- **Internet DPR Input Sockets**
  - **Internet DPR Socket-1/2**
    - Configuration
      - Admin Status
        - Disable
        - Enable Select to enable the selected input socket.
      - Source
        - Internet DPR Broadcaster Used for a point-to-multipoint connection.



- # of Recovered Packets
  - # of Unrecovered Packets
  - # of Re-Ordered Packets
  - # of Duplicate Packets
  - # of Re-Transmissions
  - Clear Statistics
- **Output Sockets** – The data on each socket is sent to both output ports.
- **Socket-1/2**
    - Admin Status: Disable or Enable
    - Multicast IP
    - UDP Port – You can configure the same IP Address and UDP Port for several sockets if you define the Source Specific Multicast and the Source IP Addresses are different. The source UDP range is 0 to 65535. (Default is 1024.)
    - Source UDP Port – The source UDP range is 0 to 65535. (Default is 1024.)
    - Encapsulation Mode: UDP or RTP
    - Packets Per IP – Options are:
      - 188 (1 TS Packets)
      - 376 (2 TS Packets)
      - 564 (3 TS Packets)
      - 752 (4 TS Packets)
      - 940 (5 TS Packets)
      - 1128 (6 TS Packets)
      - 1316 (7 TS Packets)

## Active Alarms Menu

Use the **Active Alarms** menu to display a list of the current alarms. For details see [Active Alarms Menu](#).

## Presets

Use the **Presets** menu to create several configurations. If you use several satellites, you can save each satellite configuration as a preset in XML format. The device can store at least 10 configurations. The first time you use it, there is only one menu item, namely **Create**, as there are no presets yet. The export/import process does not overwrite the following:

- The IP addresses, PHY configuration, admin status and auto-negotiation of all the ports
- The device's licenses
- The FP contrast level
- Device Name

- Routing Table
- Date, Time
- Users and their passwords

To display the **Presets** menu go to Navigate **Root > Presets**.

After you create a configuration, more menu items are displayed. The full menu list comprises:

- **Activate** – Select a preset to activate.
- **Create** – Once you have created one preset, there are 2 menu options:
  - **Overwrite Preset** – Use this menu item to overwrite a preset already created.
  - **New Preset** – Use this menu item to save the current configuration as a preset. Use the four direction buttons to enter a preset name. The name length limit is 80 characters.
- **Delete** – Select the preset to delete.
- **Rename** – Select the preset to rename.
- **Delete All** – Use this menu item to delete all presets.




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**NOTE:** When the device is controlled by the DMS, Presets cannot be activated.

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## Unit Menu

Use the following **Unit** menu items to configure and monitor ProView 8100s:

- **Management Port** – See [Configuring the Management IP Parameters](#).
- **Firmware** – The SAG enables you to manage (Install, Activate, and Delete) the firmware. The ProView 8100 can store at least 5 different firmware versions. Configuration parameters are preserved when upgrading from an older version.




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**NOTE:** The activation process may affect the service up to one minute.

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- **Running Firmware** – Display only.
- **Activate Installed Firmware** – The ProView 8100 keeps a list of installed versions. You can manually activate any installed software version. The process of changing the active software version takes several minutes and requires a reboot. During SW Activation the power LED in the FP blinks. Once the process has ended (successfully or not) the LED is constantly green.
- **Remove Installed Firmware** – You can delete an installed firmware version.
- **BootP** – You can upgrade the device via BOOTP. If BOOTP is enabled, the BOOTP request is sent during the device power-up initialization.
  - **Disable** (Default)
  - **Enable**
- **GPI** – The ProView 8100 has three relays configured in the GPI port numbered 1–3 for sending alarm triggers.
  - **GPI 1-3** – Select a relay to configure.
    - **Mode** – There are three modes for each GPI relay, namely
      - On – Use this mode to manually switch the relay on.
      - Off – Use this mode to manually switch the relay off.
      - Alarm Triggering – Use this mode to enable individual alarms to toggle the relay.

- ❑ **Alarm Triggers** – Enable each alarm that should be able to toggle the relay. See [ProView 8100 Alarm List](#) for the list of alarms.
- **Date & Time** – You can view or configure the current date and time using the front panel or the unit can synchronize its clock with an NTP server using SNTP/NTP v2 or v3.
  - ❑ **Clock Sync**
    - ❑ **Internal Clock**
    - ❑ **NTP** – Network Time Protocol
  - ❑ **NTP Server**
    - ❑ **Server IP Address**
    - ❑ **Status**
  - ❑ **Date**
  - ❑ **Time**
  - ❑ **Time Zone**
- **Reboot** – Initiate a manual reboot.
- **Licenses**
  - ❑ **SW License** – Use this menu to display the ProView 8100 licenses. The features which can be licensed are:
    - ❑ **TS Descrambling**
    - ❑ **HD Decoding**
    - ❑ **AAC**
    - ❑ **IP Input**
    - ❑ **IP Input FEC**
    - ❑ **T2-MI**
    - ❑ **Program Redundancy**
    - ❑ **Frame Synchronizer**
    - ❑ **Simultaneous Decoding**
  - ❑ **Set License Key** – Harmonic supplies the licenses. Enter the new license in the License Key field. Licenses should correspond with the device serial number. Do not use the same key in another device. A reboot is required to complete a license update.
- **Device Name** – Use **Device Name** to define the name of the unit.
- **Routing Table** – Use the **Routing Table** to manage up to five routing destinations for GbE input when the IP address is on a different network.
  - ❑ **Add New**
    - ❑ **Destination Type**
      - ❑ Host
      - ❑ Network
  - ❑ **Edit**
  - ❑ **Remove**
- **Restore to Defaults** – Use this menu to restore the default configuration. IP management addresses are not changed.
- **LCD Contrast** – Use to set the front panel LCD contrast. You can use the up and down arrow buttons or enter a value. Valid range is 00 to 31, where 00 is lowest and 31 is highest contrast.

- **HW Inventory**
  - **Platform** – The **Platform** properties submenu displays the following information:
    - **S/N**
    - **P/N** – Model number
  - **Main Board** – The **Main Board** properties submenu displays the following information:
    - **S/N**
    - **P/N**
  - **FE Card** – The **FE Card** properties submenu displays the following information:
    - **S/N**
    - **P/N**

## DMS Menu

The DMS menu displays the following information:

- **DMS Info**
  - **DMS ID** – Displays the DMS ID.
  - **DMS Name** – Displays the DMS name.
  - **EMMs Statistics** – Displays EMM control statistics.
- **Authorized Programs** – Displays the list of programs authorized by the DMS.
- **Blacked-Out Programs** – Displays the list of events, containing blacked-out and alternative programs set by the DMS.

# Chapter 5

## Monitoring Using the Front Panel

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Topics:

- [Idle Screen](#)
- [Monitoring the DVB-S/S2 Input Port Properties](#)
- [Monitoring the Decoding](#)

### Idle Screen

In the idle state the front panel (FP) alternates between various displays that provide monitoring information. By default the FP alternates every 5 seconds. The keypad keys have the following functions on the idle screen:

- Enter  – to navigate to the main menu
- Right arrow  – to advance to the next alternating screen
- Left arrow  – to return to the previous alternating screen
- Up/down arrow   – to halt the alternating, press any other key to resume the alternating
- Esc  – to restart the alternating from the Welcome Screen

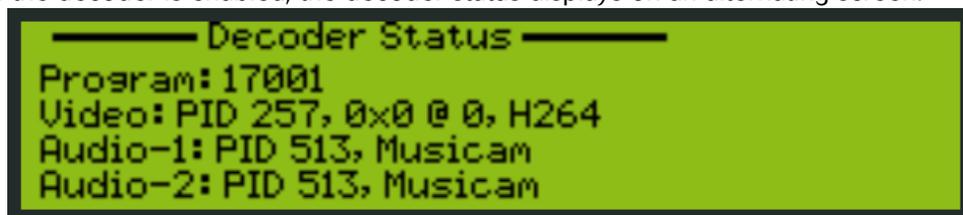
### Welcome Screen (Alternating)

The ProView 8100 displays the model number on the home screen.



### Decoder Status (Alternating)

If the decoder is enabled, the decoder status displays on an alternating screen.



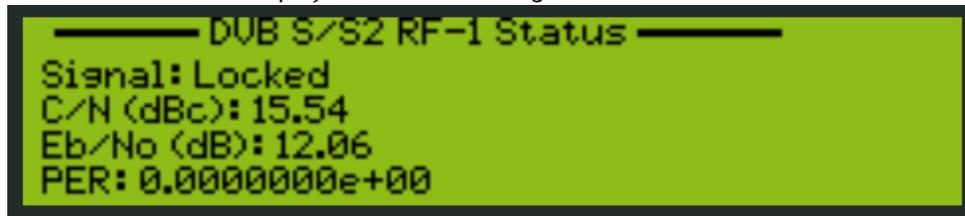
## DMS Status (Alternating)

If the device is connected or controlled by the DMS, the DMS status displays on an alternating screen.



## DVB-S/S2 Status (Alternating)

The DVB-S/S2 status displays on an alternating screen:



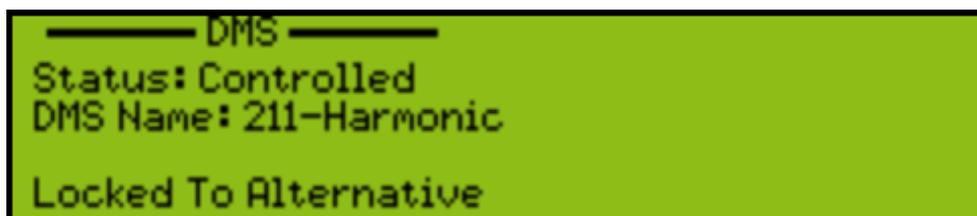
## Alarm Status (Alternating)

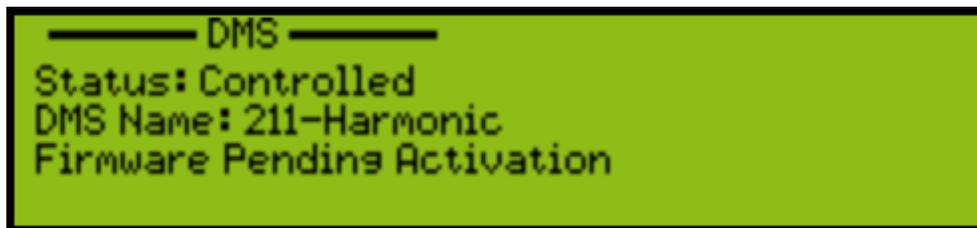
The active alarms display on an alternating screen. The alarm severity level, a brief description and the time the alarm was triggered display.

Severity	Alarm	Time
Major	Decoding Failure	16:30
Major	Decoding Failure	16:30
Major	Decoding Failure	16:30
Major	CAM Missing	09:11

## Additional Statuses (Alternating)

Additional statuses are:





## Alarms

Alarms alert the user to conditions that may require attention. The LCD and Warning LED is used to indicate alarms. The Warning LED on the front panel changes color according to the highest alarm severity, red, orange or yellow. Red is the highest severity.

### Active Alarms Menu

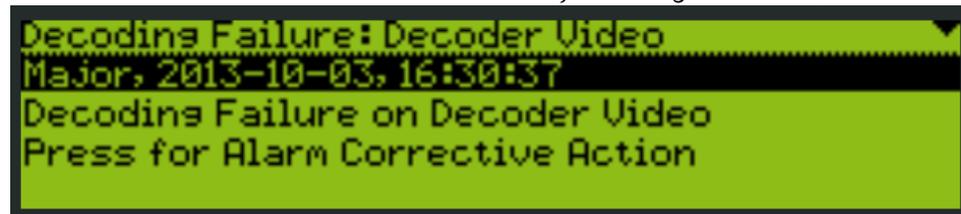
The **Active Alarms** menu displays all the active alarm messages triggered on the ProView 8100. The alarm severity level, a brief description and the time the alarm was triggered display.

To read the alarm messages:

1. Navigate **Root > Active Alarms**.

Severity	Alarm	Time
Major	Decoding Failure	16:30
Major	Decoding Failure	16:30
Major	Decoding Failure	16:30
Major	CAM Missing	09:11

You can view a detailed screen for each alarm by selecting the alarm on the FP.



The active alarm detailed screen provides the following information:

- The alarm brief description
- The alarm severity level and the full date and time the alarm was triggered
- A detailed description of the alarm

- Suggested corrective action option – select this option to display suggested corrective action  
See [Appendix F, ProView 8100 Alarm List](#) for the alarm list with corrective actions.

## Monitoring the DVB-S/S2 Input Port Properties

You can monitor all the ProView 8100 reception parameters under the **DVB-S/S2 Port Status** menu. To display the status menu:

- Navigate **Root > Input > DVB-S/S2 Port-<number> Status**.



**NOTE:** Some of the parameters apply to DVB-S or DVB-S2 modes only. They are displayed according to the mode used.

The **DVB-S/S2 Port Status** menu comprises the following:

- **RF Lock** – displays the locking status: Locked (Yes) / Unlocked (No)
- **Modulation Standard** – Displays the reception modulation type
- **C/N** – displays the measured carrier to noise ratio [dBc]
- **Eb/NO** – displays the measured energy per bit to noise power spectral density ratio [dB]
- **Link Margin** – displays the measured link margin level [dB]
- **PER** – DVB-S2 only. Display the packet error rate detected. The BER/PER error rate is a decimal number x 10-X (therefore, a.b E-X).
- **Tuned Frequency** – displays the reception tuned frequency [MHz]
- **Frequency Offset** – displays the reception frequency offset from configured frequency [MHz]
- **Spectral Inversion** – displays the spectral inversion function operational status. Options: Normal or Inverted
- **Modulation & FEC Rate** – displays the coding rate of the input modulation
- **Pilot Signal** – DVB-S2 only. Displays the pilot signals injection status (On/Off)
- **Roll-Off** – DVB-S2 only. Displays the roll factor.

## Monitoring the Decoding

You can monitor ProView 8100 decoding parameters under the **Decoding** menu. To display the **Decoding** menu:

- Navigate **Root > Decoding > Status**.

The **Decoding Status** page comprises the following:

- **Selected PIDs**
- **Video**
  - **Coding Format**
  - **Input Format**
  - **Input Aspect Ratio**
  - **Chroma Sampling**
- **Audio**
  - **Audio <number>**

- ❑ **Coding Format**
- ❑ **Language**
- ❑ **Input Channel Mode**
- ❑ **Decoding Type**
- ❑ **Sampling Rate**

# Chapter 6

## Remote Management Using SAG

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The ProView 8100 provides a web-based Stand-Alone GUI (SAG) for easy remote management of the ProView 8100 using a common browser.

Topics:

- [Configuring the IP Parameters](#)
- [Launching and Introducing the SAG](#)

### Configuring the IP Parameters

Before you can manage a ProView 8100 remotely, you must configure the IP parameters using the front panel.

To configure the IP parameters:

1. Press **Enter** on the front panel keypad.  
The root menu displays.
2. Navigate **Unit > Management Port > IP Configuration**.



3. Set the **IP Address**, **Subnet Mask** and **Default Gateway** for the port.

## Launching and Introducing the SAG

To begin managing a ProView 8100 remotely, enter the ProView 8100 IP address into the browser URL box and enter the relevant user name and password (Defaults are: Admin/Admin and Monitor/Monitor).

SAG displays the main device components (input and output ports, transport stream, programs, elementary streams, PIDs, Tables, CAMs and decoder) in a graphical hierarchy in four management panes for mapping, configuring and monitoring.

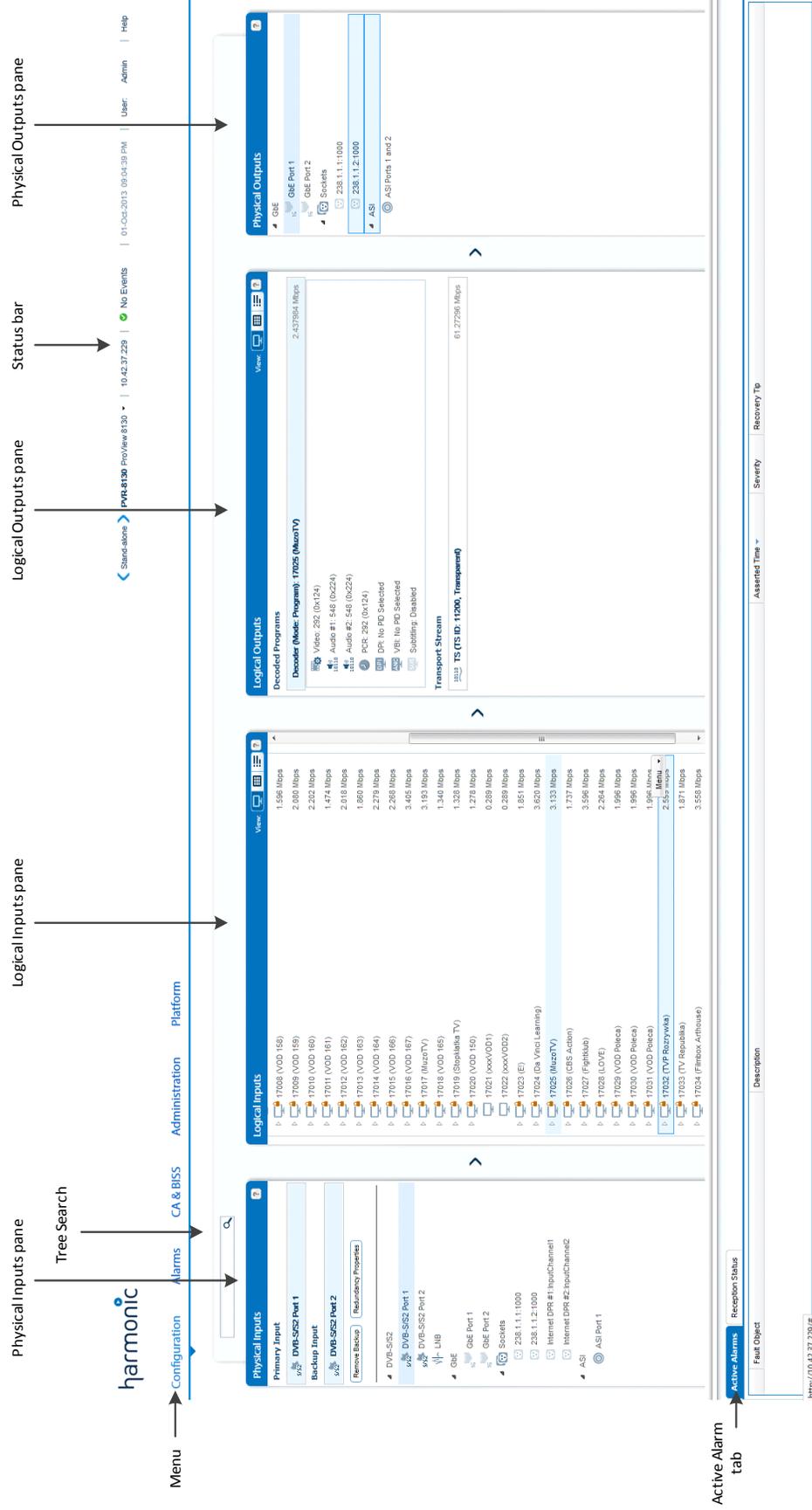


Figure 6-1: ProView 8100 SAG

## Status Bar

The Status bar comprises (refer [Figure 6-2](#)):

- < Device Control > – Status can be:
  - **Stand-alone** – Displays when the device is not controlled by DMS.
  - **Connected to <DMS name> DMS** – Displays when the device is connected to the DMS.
  - **Controlled by <DMS name> DMS** – Displays when the device is controlled by the DMS.
- Device name drop-down list
  - Properties – Short cut to **Platform > HW Inventory** submenu.
  - Identify Unit – Set to **On** to blink the backlight of the LCD panel to locate the unit in a rack
  - Reboot – Click to reboot the device, no confirmation is given.
- IP Address – The management IP Address.
- Alarm and Warning Count drop-down list – Click to display a list of the active alarms and warnings
- System Date and Time
- User – Displays the current logged in user
- Help



Figure 6-2: Status bar

## Management Panes

The four management panes are namely:

- The **Physical Inputs** pane – enables control and monitoring of the device physical input interfaces (see [Physical Inputs](#)).
- The **Logical Inputs** pane – enables control and monitoring of the input stream (see [Logical Inputs](#)).
- The **Logical Outputs** pane – enables control and monitoring of the output stream (see [Logical Outputs](#)).
- The **Physical Outputs** pane – details with the features of the device physical output interfaces (see [Physical Outputs](#)).

Right-click or double-click any object to see its drop-down menu or options (if available).

The ProView 8100 SAG uses a wide range of icons to identify elements, see [Appendix D, SAG Icons](#).

# Chapter 7

## Device Configuring Using SAG

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Topics:

- [Configuration Menu](#)
- [Alarms Menu](#)
- [CA & BISS Menu](#)
- [Administration Menu](#)
- [Platform Menu](#)
- [Changing Table Column Options](#)

### Configuration Menu

The panes on the **Configuration** menu enable you to manage the transport stream and the ProView 8100 ports.

Related Topics:

- [Physical Inputs](#)
- [DVB-S/S2 In Port Properties](#)
- [GbE Ports for Input](#)
- [CAM Slots](#)
- [BISS Keys Pane](#)
- [Advanced Pane](#)
- [Logical Inputs](#)
- [Logical Outputs](#)
- [Physical Outputs](#)

### Physical Inputs

The **Physical Inputs** pane presents a hierarchical tree-structure of the ProView 8100 physical inputs, it is located under the **Configuration** menu.

This pane comprises the physical input ports for the transport stream input.

#### DVB-S/S2

There are two DVB-S/S2 RF input ports. You can drop either DVB-S/S2 RF input port onto the transport stream in the Logical Input pane.

You can use the LNB with either DVB-S/S2 RF input port, but not both at the same time.

#### GbE

There are two MPEGoIP ports that you can use for transport stream input and output. Two input sockets are associated to either of the ports. You can drop either one onto the transport stream in the Logical Input pane. When you have a Internet DPR license, the device will also support two Internet DPR input sockets.

## ASI

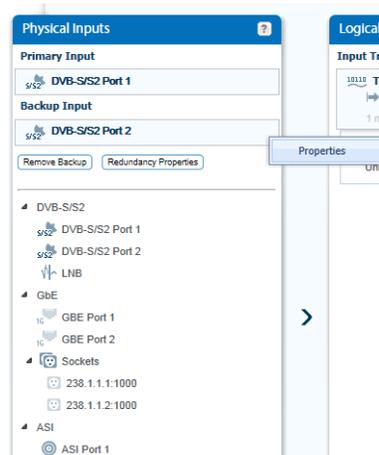
There is one ASI input port. You can drop this port onto the transport stream in the Logical Input pane. The selected primary input displays at the top of the pane. To view its properties, right-click and select **Properties**.

On this pane, you can use the buttons to add/remove the Backup Port and edit Redundancy Properties (See [Input Redundancy tab](#)).



**NOTE:** When Controlled by the DMS, you are unable to add the Backup Port.

The DVB-S/S2, GbE and Sockets have properties dialogs which you can display by right-clicking or double-clicking the icon.



## DVB-S/S2 In Port Properties

The **DVB-S/S2 In Port** dialog displays the basic features of the selected DVB-S/S2 Input Port element.

To display the **DVB-S/S2 In Port** properties:

1. Select the **DVB-S/S2 In Port** icon in the **Physical Inputs** pane. Right-click and select **Properties**.

The editable properties comprise the following:

<p><b>Modulation Standard</b> – Selects the L-Band modulation standard.</p>	<ul style="list-style-type: none"> <li>■ Automatic (default)</li> <li>■ DVB-S</li> <li>■ DVB-S2</li> </ul>
<p><b>Symbol Rate</b> – DVB-S and DVB-S2. Sets the L-band symbol rate.</p>	<p>The range is 1 to 45 Msym/s</p>
<p><b>Spectral Inversion</b> – DVB-S and DVB-S2. Selects the mode of operation for the spectral inversion function.</p>	<ul style="list-style-type: none"> <li>■ Automatic – Default</li> <li>■ Normal</li> <li>■ Inverted</li> </ul>
<p><b>Modulation &amp; FEC</b> – Selects the modulation type and coding rate, according to the modulation standard selected.</p>	<ul style="list-style-type: none"> <li>■ QPSK 1/2 (DVB-S, DVB-S2)</li> <li>■ QPSK 2/3 (DVB-S, DVB-S2)</li> <li>■ QPSK 3/4 (DVB-S, DVB-S2)</li> <li>■ QPSK 5/6 (DVB-S, DVB-S2)</li> <li>■ QPSK 7/8 (DVB-S)</li> <li>■ QPSK 3/5 (DVB-S2)</li> <li>■ QPSK 4/5 (DVB-S2)</li> <li>■ QPSK 8/9 (DVB-S2)</li> <li>■ QPSK 9/10 (DVB-S2)</li> <li>■ 8PSK 3/5 (DVB-S2)</li> <li>■ 8PSK 2/3 (DVB-S2)</li> <li>■ 8PSK 3/4 (DVB-S2)</li> <li>■ 8PSK 5/6 (DVB-S2)</li> <li>■ 8PSK 8/9 (DVB-S2)</li> <li>■ 8PSK 9/10 (DVB-S2)</li> <li>■ Automatic – Default.</li> </ul>

<p><b>Pilots</b> – DVB-S2 only. The Pilot feature should only be on when the signal has Pilot symbols, otherwise the demodulator will not lock onto the signal.</p>	<ul style="list-style-type: none"> <li>■ Automatic – Default</li> <li>■ On</li> <li>■ Off</li> </ul>
<p><b>Physical Layer Scrambling Seed</b> – DVB-S2 only. Sets the value for the physical layer scrambling seed.</p>	<p>Range: 0 to 262141, default is 0 (no scrambling).</p>
<p><b>Roll Off</b> – DVB-S2 only. Selects the roll factor.</p>	<ul style="list-style-type: none"> <li>■ Automatic – Default</li> <li>■ 20%</li> <li>■ 25%</li> <li>■ 35%</li> </ul>
<p><b>ISI</b> – Input Stream Identifier in hexadecimal. Use this parameter to select a specific transport stream from a multi-transport carrier.</p>	
<p><b>Frequency Drift Compensation</b></p>	<ul style="list-style-type: none"> <li>■ On – Default</li> <li>■ Off</li> </ul>
<p><b>Drop Erroneous Packets</b> – Use this parameter to instruct the demodulator not to pass any transport stream packets with errors. The default is to pass all TS packets</p>	<ul style="list-style-type: none"> <li>■ On</li> <li>■ Off – Default</li> </ul>
<p><b>Mute upon Errors</b></p>	<ul style="list-style-type: none"> <li>■ On</li> <li>■ Off – Default</li> </ul>
<p><b>Frequency</b></p>	<ul style="list-style-type: none"> <li>■ In L-Band – Sets the L-Band frequency. The range is 0.950 to 2.150 GHz, the default is 1.0 GHz.</li> <li>■ Carrier Frequency – Sets the receiving frequency according to the satellite LNB transmitting frequency.</li> </ul>

**LNB**

<b>Polarization</b> – Selects the polarization of the antenna in the satellite LNB.	<ul style="list-style-type: none"> <li>■ Off – Default</li> <li>■ Vertical (13V)</li> <li>■ Horizontal (18V)</li> </ul>
<b>LNB Type</b> – Selects the receiver frequency band according to the satellite Low Noise Block (LNB) transmitting frequency band.	<ul style="list-style-type: none"> <li>■ Universal (Low: 9.75, High: 10.6) – Default</li> <li>■ Universal Wide (Low: 9.75, High: 10.75)</li> <li>■ Ku Band – Range 8.500 to 13.00, Default 9.75.</li> <li>■ C Band – Range 5.000 to 6.000, Default 5.150.</li> </ul>
<b>Local Oscillator Frequency (GHz)</b>	<p>When the LNB Type is Ku:</p> <ul style="list-style-type: none"> <li>■ Configurable value 8.500 to 13.000. The resolution is GHz. The step is 125 kHz (Default is 9.750)</li> </ul> <p>When the LNB Type is C:</p> <ul style="list-style-type: none"> <li>■ Configurable value 5.000 to 6.000. The resolution is GHz. The step is 125 kHz (Default is 5.150)</li> </ul> <p>When the LNB Type is Universal:</p> <ul style="list-style-type: none"> <li>■ and 22 kHz Tone is Low Band (Off), the value is 9.750 (Display only)</li> <li>■ and 22 kHz Tone is High Band (On), the value is 10.600 (Display only)</li> </ul> <p>When the LNB Type is Universal Wide:</p> <ul style="list-style-type: none"> <li>■ and 22 kHz Tone is Low Band (Off), the value is 9.750 (Display only)</li> <li>■ and 22 kHz Tone is High Band (On), the value is 10.750 (Display only)</li> </ul>
<b>22 kHz Tone</b> – The receiver controls the LNB band by sending a 22 kHz signal. When the signal is sent, the LNB uses its High Band Local Oscillator (L.O.). When the signal is not sent, the LNB uses its Low Band L.O. The range is 10.700 to 11.900 GHz.	<ul style="list-style-type: none"> <li>■ High Band – (On)</li> <li>■ Low Band – (Off) Default</li> </ul>

**Signal Reception Adjustments**

<b>Attenuation Level (dB)</b> – Internal attenuation for saturated signals.	The range is 00.0 to 30.0 dB, the step is 0.5 dB, the default is 2 dB.
<b>18 dBm Gain</b> – Internal gain to improve signal strength.	<ul style="list-style-type: none"> <li>■ On – Default</li> <li>■ Off</li> </ul>

**Alarm Thresholds**

<b>BER - Bit Error Rate</b>	The range is 0.1 to 0.00000001. (Default is 0.0001.)
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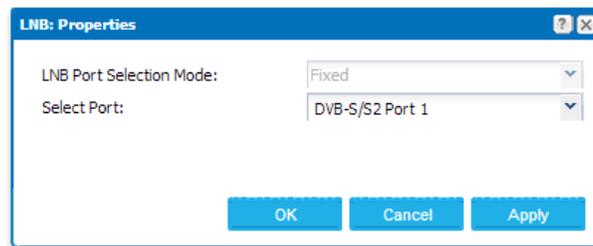
<b>PER - Packet Error Rate</b>	The range is 0.1 to 0.00001. (Default is 0.01.)
--------------------------------	---

## LNB

Use the LNB properties dialog to switch the LNB between the DVB-S/S2 ports. You can enable LNB for only one RF input. The default is RF-1.

To display the **LNB** properties:

1. Expand the DVB-S/S2 tree in the **Physical Inputs** pane.
2. Right-click **LNB** and select **Properties**.



## GbE Ports for Input

The GbE branch comprises four sockets and two GbE ports. All sockets are associated to both GbE ports by default.

Related topics:

- [GbE Aggregator Properties](#)
- [GbE Port Properties](#)
- [GbE Socket Properties](#)
- [Internet DPR Socket Properties](#)

## GbE Aggregator Properties

Use the GbE Aggregator Properties dialog to fast view and configure the GbE properties.

To display the GbE Aggregator properties:

1. On the **Physical Inputs** pane, double-click GbE. The **GbE Properties** dialog appears.

Input Redundancy Mode	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Off (Independent) – All input sockets are associated with GbE-1</li> <li>■ Hot-Standby (Default) – All input sockets are associated with the active port.</li> </ul> <p>When switching to Hot-Standby mode, by default, GbE-1 (the primary port) should be the active port and GbE-2 (the backup port) should be in standby.</p>
Output Redundancy Mode	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Off (Independent) – All output sockets are associated with GbE-2</li> <li>■ Mirror (Default) – All output sockets are associated with both ports.</li> </ul>

Redundancy Scheme	Options are: <ul style="list-style-type: none"> <li>■ Manual – You can manually switch between the primary port and the backup port regardless of their link status</li> <li>■ Manual Revert – The device switches from the primary port to the backup port when the primary port fails on the redundancy trigger and the backup port has no active alarms. You can revert from the backup port to the primary port manually.</li> <li>■ Automatic – The device switches to the standby port whenever the active port fails on one of the redundancy triggers and the standby port has no active alarms</li> <li>■ Automatic Revert – The device switches from the primary port to the backup port when the primary port fails on one of the redundancy triggers and the backup port has no active alarms. The device reverts to the primary as soon as the primary port has no active alarms</li> </ul>
Active Port	Options when Redundancy Scheme is Manual only: <ul style="list-style-type: none"> <li>■ Primary (GbE-1)</li> <li>■ Backup (GbE-2)</li> </ul>

## GbE Port Properties

Use the GbE Port Properties dialog to view and configure the selected GbE port.



**NOTE:** Changing GbE port properties reflects in the Physical Inputs and Physical Output panes.

To display the GbE Port properties:

1. On the **Physical Inputs** pane, select the required GbE Port icon.
2. Right-click and select **Properties** or double-click. The **GbE Port** dialog appears.

<b>Enabled</b>	You can enable either or both GbE ports. This parameter only works when the redundancy mode is manual. If both ports are enabled then only one port is active while the other one is in standby mode. By default Port 1 is active and Port 2 is on standby. The port on standby does not pass data. When the port is enabled and no link is detected, the device reports a Link Down alarm. Disable the port to mask this alarm. (Default is Disabled.)
<b>IP Address</b>	Each port must have a different IP Address. (Default is 127.127.X.X, where X is the port number+1.)
<b>Subnet Mask</b>	The IP mask. (Default is 255.255.255.0.)
<b>MAC Address</b>	Each port has its own MAC Address. They are factory set and cannot be changed.

### Port Redundancy

<b>Input Redundancy Mode</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Off (Independent) – All input sockets are associated with GbE-1</li> <li>■ Hot-Standby (Default) – All input sockets are associated with the active port.</li> </ul> <p>When switching to Hot-Standby mode, by default, GbE-1 (the primary port) should be the active port and GbE-2 (the backup port) should be in standby.</p>
<b>Output Redundancy Mode</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Off (Independent) – All output sockets are associated with GbE-2</li> <li>■ Mirror (Default) – All output sockets are associated with both ports.</li> </ul>
<b>Redundancy Scheme</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Manual – You can manually switch between the primary port and the backup port regardless of their link status</li> <li>■ Manual Revert – The device switches from the primary port to the backup port when the primary port fails on the redundancy trigger and the backup port has no active alarms. You can revert from the backup port to the primary port manually.</li> <li>■ Automatic – The device switches to the standby port whenever the active port fails on one of the redundancy triggers and the standby port has no active alarms</li> <li>■ Automatic Revert – The device switches from the primary port to the backup port when the primary port fails on one of the redundancy triggers and the backup port has no active alarms. The device reverts to the primary as soon as the primary port has no active alarms</li> </ul>
<b>Active Port</b>	<p>Options when Redundancy Scheme is Manual only:</p> <ul style="list-style-type: none"> <li>■ Primary (GbE-1)</li> <li>■ Backup (GbE-2)</li> </ul>

### Virtual IP

<b>Override Source IP</b>	Mark to enable.
<b>IP Address</b>	(Only shown when Override Source IP is enabled) You can define a virtual IP address on the GbE port for redundancy purposes. The virtual IP address overrides the source IP address on the IP header.

### PHY Configuration

<b>Autonegotiation</b>	You can enable and disable Autonegotiation. It enables devices to perform automatic configuration for best modes of operation over links and provide automatic speed matching for multi-speed devices.
<b>Speed (Mbps)</b>	You can configure the PHY speed when Autonegotiation is disabled. (Default is 1000.)
<b>Duplex</b>	Display only.

### GbE Socket Properties

Use the GbE Socket property dialog to view and configure the selected GbE socket. By default both sockets are associated with both GbE ports. The data on each socket is sent to both output ports. You cannot associate two sockets with identical destination port and IP addresses to the same GbE port.

To display the GbE Socket properties:

1. Select the required GbE Socket icon in the **Physical Inputs** pane.
2. Right-click and select **Properties** or double-click.

<b>Enabled</b>	Mark to enable.
<b>IP Type</b>	Options are: <ul style="list-style-type: none"> <li>■ Unicast</li> <li>■ Multicast</li> </ul>
<b>IP Address</b>	When the IP Type is Multicast, you must enter the multicast IP address (Default is 238.1.1.X (X is the socket number)).
<b>UDP Port</b>	You can configure the same IP Address and UDP Port for several sockets if you configure the Source Specific Multicast and each Source Specific Multicast IP Address is different. The source UDP range is 0 to 65535. (Default is 1000.)

### FEC/RTP

You can enable FEC (Forward Error Correction) for each socket individually. The device automatically detects the size of the matrix, you don't need to configure it.

<b>FEC</b>	Options are: <ul style="list-style-type: none"> <li>■ None</li> <li>■ 1D (Columns only)</li> <li>■ 2D (Rows and Columns)</li> </ul>
<b>Re-Ordering</b>	Enable Re-Ordering when packets are RTP encapsulated to correct packet ordering.
<b>Number of Re-Ordered Packets</b>	Display Only. (Only shown when Re-Ordering is enabled).
<b>Number of Out-of-Range Packages</b>	Display Only. (Only shown when Re-Ordering is enabled).

### De-Jittering

<b>De-Jittering Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ No De-Jittering</li> <li>■ Normal - Network jitter less than 50 msec (Default)</li> <li>■ Low Delay</li> <li>■ High Jitter – Network jitter less than 300 msec</li> <li>■ DVB-T SFN</li> <li>■ T2-MI</li> </ul>
<b>Average Input Bitrate (Mbps)</b>	(Only when De-Jittering Mode is No De-Jittering or T2-MI)
<b>Delay (ms)</b>	De-Jittering introduces a delay according to the configured mode. (Display only)
<b>De-Jittering Status</b>	Display only.

### Source Specific Multicast

<b>Enable</b>	Mark to enable – When enabled you can configure one source IP address. Only packets with this source address are processed. When disabled the device accepts all packets with destination IPs and ports that match the socket regardless of their source IP.
<b>IP Address</b>	(Only shown when Enable is marked).

### Internet DPR Socket Properties

Use the Internet DPR Socket property dialog to view and configure the selected Internet DPR socket. By default both sockets are associated with both GbE ports. The data on each socket is sent to both output ports.

To display the Internet DPR Socket properties:

1. Select the required Internet DPR Socket icon in the **Physical Inputs** pane.
2. Right-click and select **Properties** or double-click.

<b>Enabled</b>	Mark to enable.
<b>Source</b>	Options are: <ul style="list-style-type: none"> <li>■ Internet DPR Broadcaster – Used for a point-to-multipoint connection</li> <li>■ Internet DPR Feeder – Used for a point-to-point connection (contribution)</li> </ul>
<b>Broadcaster's IP</b>	The IP Type is Unicast. (Default is 10.10.10.10) (Only shown when source is Internet DPR Broadcaster)
<b>Broadcaster's UDP Port</b>	The source UDP port of the received packets. (Default is 2077) (Only shown when source is Internet DPR Broadcaster)
<b>Destination UDP Port</b>	The destination UDP port of the received packets. (Default is 1X000, where X is the Socket # - 1 and must be unique) (Only shown when source is Internet DPR Broadcaster)

<b>Channel Name</b>	The Channel name as configured in the Internet DPR Broadcaster/ Feeder. Length between 1-92 characters. (Default is InputChannelX, where X is the Socket #)
<b>Latency (ms)</b>	300-6000 ms. (Default is 4000) (Only shown when source is Internet DPR Broadcaster)

**Status** (all entries are Display only)

- **Connection Status**

For Feeder

- Connected
- Not Connected
- Off (When Properties are not Enabled)

For Broadcaster

- Connected
- Timed Out – Server not responding or no connection to the server was established
- Rejected by Server – Server rejected the connections because: it is full; incompatible versions between the server and the device; missing license on the server-side; etc.
- Channel not Found – The configured channel was not found on the server
- Off (When Properties are not Enabled)
- Not Connected

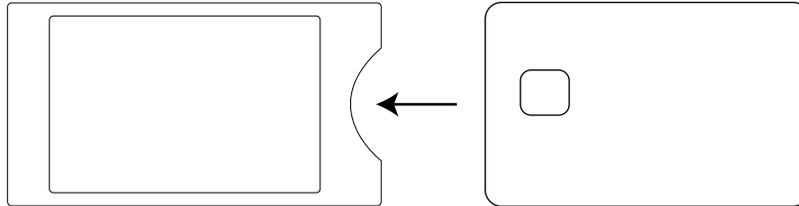
- **Input bitrate of the stream (in Mbps)**
- **The measured Jitter (ms)**
- **RTT (ms)**
- **Actual Latency (ms)**
- **Number of Overflows**
- **Number of Unrecovered Packets**
- **Number of Recovered Packets**  
(Due to FEC or Re-transmission)
- **Number of Re-Ordered Packets**
- **Number of Duplicate Packets**
- **Number of Re-Transmissions**
- **Clear Statistics (button)**

## CAM Slots

The ProView 8100 has two PCMCIA slots on the front pane. Each can accommodate a DVB-CI module with a smart card to descramble incoming programs, see [Figure 3-1](#) for the location.

## Inserting a CAM

1. Insert the smart card into a DVB-CI module with the contacts facing up and towards the front end.



2. Insert the DVB-CI module into one of the two PCMCIA slots with the up arrow pointing upwards and in the direction of insertion.



**CAUTION:** Do not remove or insert the DVB-CI module or the smart card while the ProView 8100 is powering up or initializing.

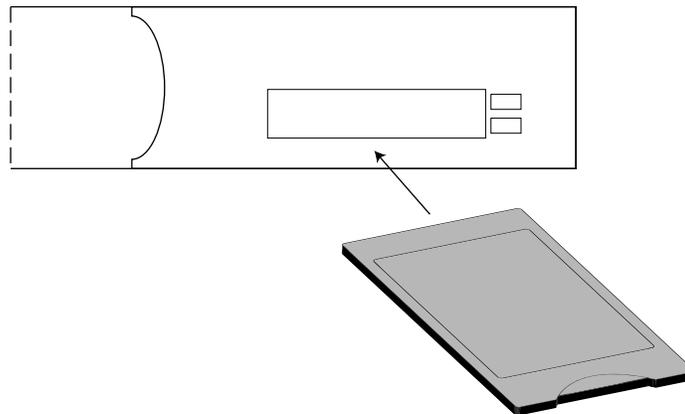


Figure 7–1: ProView 8100 with the DVB-CI module and Smart Card

When installed, the card is detected automatically by the ProView 8100 and enabled if the following conditions are met:

- The installed card must be EN50221 compatible
- Services have been selected
- A valid card license

## CAM Panes

The CAM panes are located under the CA & BISS menu.

### CAM Configuration

Automatic Error Recovery Policy

Mark a corresponding check box to enable automatic recovery. This resets the CAM when a corresponding alarm is triggered.

<b>CAM Processing Failure</b>	Enabled. (Default)
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<b>CAM Descrambling Failure</b>	Enabled. (Default)
<b>Packet Loss after CAM</b>	Disabled. (Default)

### CAM Information

<b>Reboot CAM</b>	Use the Reboot CAM button to force the CAM to reboot in the event of a failure.
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Displays the following CAM information:

<b>Name</b>	Vendor name of the CAM.
<b>Manufacturer</b>	Name of the vendor.
<b>Manufacturer Code</b>	Vendor code.
<b>CAS ID</b>	CAS IDs are supported by the CAM.

### BISS Keys Pane

The BISS panes are located under the **CA & BISS** menu.

The ProView 8100 features embedded BISS (Basic Interoperable Scrambling System).

Use the BISS Keys pane to create, edit, and delete BISS keys. The maximum number of BISS keys is 10.



**NOTE:** Changes to BISS keys that are assigned to programs interrupt the service.

#### BISS Keys table.

<b>Name</b>	Editable key name.
<b>Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ BISS-1</li> <li>■ BISS-E Buried</li> <li>■ BISS-E Injected ID</li> </ul>
<b>Key</b>	BISS key. The key length must meet the following criteria: <ul style="list-style-type: none"> <li>■ 12 hex characters for BISS-1</li> <li>■ 16 hex characters for BISS-E Buried</li> <li>■ 16 hex characters for BISS-E Injected</li> </ul>
<b>Injected ID</b>	The injected ID must be 14 hex characters.
<b>In Use</b>	Displays whether the key is assigned to a program or not.

### Verimatrix Pane

The Verimatrix pane is located under the **CA & BISS** menu. It contains the Virtual Smartcard (VSC) ID.

## Advanced Pane

The **Advanced** pane is located under the **CA & BISS** menu.

<b>Bypass Descrambling Engine</b>	Disabled. (Default) If marked, BISS scrambled programs are not opened.
<b>Max Bitrate to CAM</b>	This option sets the bitrate for both CAMs. Options are: <ul style="list-style-type: none"> <li>■ 72 Mbps – Compatible with most CAMs (Default)</li> <li>■ 96 Mbps – Use this bitrate if your CAM supports 96 Mbps</li> <li>■ 108 Mbps – Use this bitrate if your CAM supports 108 Mbps</li> </ul>
<b>CAM De-Jittering</b>	Enabled. – For both CAMs. (Default)

## Logical Inputs

**GUI location: Configuration > Logical Inputs**

This pane shows the input stream that are carried by each port listed in the **Physical Inputs** pane. The stream in the **Logical Inputs** pane can be passed to the **Logical Outputs** pane or selected programs in the **Logical Inputs** pane can be added to the stream in the **Logical Outputs** pane.

There are three view options:

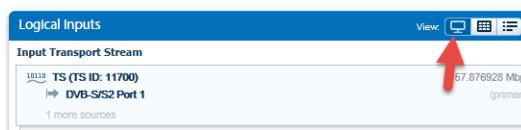
- Program View
- Table View
- PID View

The device has only one Input TS with a supported rate up to 200 Mbps. Only a CBR TS is supported.

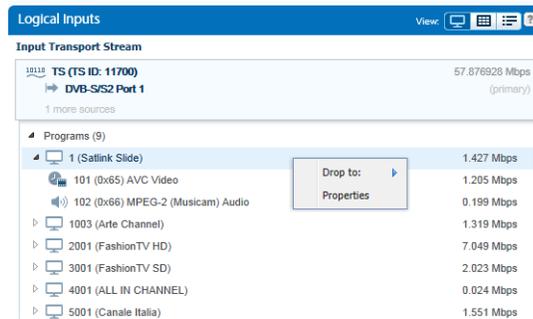
To change the primary input, drag and drop the appropriate **Physical Input** to the TS in the **Logical Input** pane or right-click the TS and select the appropriate **Physical Input** under Source. DVB-S/S2 Port 1 is selected by default for the **Primary Input**.

Customize the view to configure programs, tables, or PIDs.

Set the view at the top of the pane.



Right-click on any object to see the drop-down menu options. Select **Properties** to open the properties panel.



Alternatively you can also double-click the object to display its **Properties** dialog box.

Related topics:

- TS Properties in Logical Inputs Program View
- Program Properties in Logical Inputs Program View TS
- PID Properties in Logical Inputs Program/PID View TS
- TS Properties in Logical Inputs Table View

### TS Properties in Logical Inputs Program View

**GUI location:** Configuration > Logical Inputs > Program View > Transport Stream Properties

**Under the TS a list of programs display:**

Under each program a list of ESs display. The ES icon reflects its ES type.

The program icon indicates if the program is scrambled. A program is considered scrambled if it contains at least one CA descriptor (at any level).

The ES icon indicates if the ES is scrambled. An ES is considered scrambled according to the scrambling bit.

ECMs display according to their location in the PMT. Therefore CA descriptors in the program level display as ECMs under program and CA descriptors in the ES level display as ECMs under the relevant ES.

### Transport Stream Properties

The fields in the Transport Stream properties are the following:

<b>Enable</b>	Mark to enable the transport stream.
<b>TS ID</b>	The incoming transport stream ID from the PAT table. (Display Only)
<b>TS Description</b>	You can enter a description for the transport stream up to 39 characters long.
<b>Bitrate (Mbps)</b>	The incoming transport stream bitrate in Mbps. (Display Only)
<b>Padding (Mbps)</b>	The padding of the incoming transport stream in Mbps. (Display Only)
<b>Effective Rate (Mbps)</b>	Displays the bitrate minus any padding. (Display Only)
<b>Transport Errors</b>	Transport error count. (Display Only)

<b>CC Errors</b>	CC error count. (Display Only)
<b>Reset Counters</b>	You can reset the counters. The operation does not affect the traffic.

**Source:**

<b>Primary Source Port</b>	The port of the primary source.
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**Alarm Thresholds tab****MPEG Sync Loss Alarm**

<b>Primary Port</b>		
	Event Duration (sec)	When the duration of an MPEG Sync Loss on the primary port is longer than the defined threshold in seconds, the MPEG Sync Loss Alarm is displayed.
<b>Backup Port</b>	(Only when redundancy is enabled)	
	Event Duration (sec)	When the duration of an MPEG Sync Loss on the backup port is longer than the defined threshold in seconds, the MPEG Sync Loss Alarm is displayed.

**CC Errors Alarm**

<b>Primary Port</b>		
	Number of Errors	Whether a CC Errors Alarm for the primary port is displayed depends on a combination of two threshold parameters. The number of errors (this field) and the time within which they occur.
	Within (sec)	Whether a CC Errors Alarm for the primary port is displayed depends on a combination of two threshold parameters. The number of errors and the time within which they occur (this field).
<b>Backup Port</b>	(Only when redundancy is enabled)	
	Number of Errors	Whether a CC Errors Alarm for the backup port is displayed depends on a combination of two threshold parameters. The number of errors (this field) and the time within which they occur.
	Within (sec)	Whether a CC Errors Alarm for the backup port is displayed depends on a combination of two threshold parameters. The number of errors and the time within which they occur (this field).

**PID Missing Alarm**

<b>Primary Port</b>		
	PID	Whether a PID Missing Alarm for the primary port is displayed depends on a combination of two threshold parameters. The PID (this field) and the amount of time the PID is missing.
	Missing for (sec)	Whether a PID Missing Alarm for the primary port is displayed depends on a combination of two threshold parameters. The PID and the amount of time the PID is missing (this field).
<b>Backup Port</b>	(Only when redundancy is enabled)	
	PID	Whether a PID Missing Alarm for the backup port is displayed depends on a combination of two threshold parameters. The PID (this field) and the amount of time the PID is missing.
	Missing for (sec)	Whether a PID Missing Alarm for the backup port is displayed depends on a combination of two threshold parameters. The PID and the amount of time the PID is missing (this field).

**Input Redundancy tab**

<b>Enable Redundancy</b>	<ul style="list-style-type: none"> <li>■ Mark to enable the redundancy. (This option is locked when the device is controlled by the DMS)</li> </ul> <p>Note: If the device is controlled by the DMS and the input profile on the DMS is set to local override, redundancy is working.</p>
<b>Redundancy Mode</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Hot-Hot – Both the primary and backup ports are enabled at all times</li> <li>■ Hot-Standby – The inactive port will be disabled (Only applicable for sockets/Internet DPR. ASI and RF ports will always be enabled)</li> </ul> <p>Note: The Hot-Standby mode is primarily intended for Internet DPR broadcaster redundancy. Primary and Backup are two Internet DPR sockets. Only the active port is connected to the Broadcaster. No data is flowing in the network between the broadcaster and the inactive Internet DPR socket.</p>
<b>Redundancy Scheme</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ Manual</li> <li>■ Manual Revert</li> <li>■ Automatic (Default)</li> <li>■ Automatic Revert</li> </ul>
<b>Backup Source Port</b>	The port of the backup source.
<b>Active Port</b>	<p>Only when Redundancy Scheme is Manual. Options are:</p> <ul style="list-style-type: none"> <li>■ Primary</li> <li>■ Backup</li> </ul>

**Redundancy Triggers**

<b>MPEG Sync Loss Alarm</b>	Mark to enable the MPEG Sync Loss Alarm. (Enabled by default)
<b>CC Errors Alarm</b>	Mark to enable the CC Errors Alarm.
<b>PID Missing Alarm</b>	Mark to enable the PID Missing Alarm.

**T2-MI tab****Primary Port**

<b>T2-MI Processing Mode</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ None (Default)</li> <li>■ Passthrough</li> <li>■ De-Framing</li> </ul>
<b>T2-MI PID</b>	T2-MI PID number. Range 0 - 8191 (Default 4096) (Only displayed when T2-MI Processing Mode is De-Framing)
<b>PLP</b>	0 - 255 (Steps 1) Default 0 (Only displayed when T2-MI Processing Mode is De-Framing)

**Backport Port** (Only available when **Redundancy** is not **Off**)

<b>T2-MI Processing Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None (Default)</li> <li>■ Passthrough</li> <li>■ De-Framing</li> </ul>
<b>T2-MI PID</b>	T2-MI PID number. Range 0 - 8191 (Default 4096) (Only displayed when T2-MI Processing Mode is De-Framing)
<b>PLP</b>	0 to 255 (Steps 1) Default 0 (Only displayed when T2-MI Processing Mode is De-Framing)

**Advanced** (Only displayed when the **T2-MI Processing Mode** is **De-Framing**)

<b>Descrambling</b>	Options are: <ul style="list-style-type: none"> <li>■ After De-Framing (Default)</li> <li>■ Before De-Framing</li> </ul>
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**De-Jittering****Primary Port**

<b>Enable De-Jittering</b>	Mark to enable De-Jittering.
<b>De-Jittering Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ Normal (Default)</li> <li>■ Low Delay</li> <li>■ High Jitter (Default when Internet DPR socket is used)</li> <li>■ DVB-T SFN</li> <li>■ T2-MI (Only displayed when De-Jittering is enabled)</li> </ul>
<b>Delay (ms)</b>	Display only (Only displayed when De-Jittering is enabled)
<b>Average Input Bitrate (Mbps)</b>	(Only when the De-Jittering Mode is T2-MI.)
<b>De-Jittering Status</b>	Display only (Only displayed when De-Jittering is enabled)

**Backport Port** (Only available when **Redundancy** is not **Off**)

<b>Enable De-Jittering</b>	Mark to enable De-Jittering.
<b>De-Jittering Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ Normal (Default)</li> <li>■ Low Delay</li> <li>■ High Jitter (Default when Internet DPR socket is used)</li> <li>■ DVB-T SFN</li> <li>■ T2-MI (Only displayed when De-Jittering is enabled)</li> </ul>
<b>Delay (ms)</b>	Display only (Only displayed when De-Jittering is enabled)

<b>Average Input Bitrate (Mbps)</b>	(Only displayed when the De-Jittering Mode is T2-MI)
<b>De-Jittering Status</b>	Display only (Only displayed when De-Jittering is enabled)

### Program Properties in Logical Inputs Program View TS

**GUI location:** Configuration > Logical Inputs > Program View > Transport Stream > Program Properties

The dialog box displays the following program properties of the selected program:

<b>Program Number</b>	Number of the program.
<b>Program Name</b>	When available, the program name is displayed.
<b>PMT PID</b>	The Program Map Table Program Identification.
<b>PCR PID</b>	The Program Clock Reference Identification.
<b>Bitrate (Mbps)</b>	The bitrate is the sum of PMT, ESs, and ECMs.

### PID Properties in Logical Inputs Program/PID View TS

**GUI location:** Configuration > Logical Inputs > Program/PID View > Transport Stream > PID Properties

The dialog box displays the following PID properties of the selected PID:

<b>PID</b>	The packet identification number.
<b>ES Type</b>	The elementary stream type.
<b>Scrambled</b>	The scrambled status of the PID.
<b>Bitrate (Mbps)</b>	PID bitrate.
<b>CC Errors</b>	The error count.
<b>CA System ID</b>	The CA system ID.

### TS Properties in Logical Inputs Table View

**GUI location:** Configuration > Logical Inputs > Table View > Transport Stream Properties

The Table view displays only PIDs that are tables (according to the table mode).

The fields in the Transport Stream properties are the following:

<b>Displayed Tables</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ None – No tables are parsed</li> <li>■ MPEG (PSI) – The device only parses the PAT, PMT, and CAT tables</li> <li>■ DVB (PSI/SI) – (Default) By default the device parses the following tables: <ul style="list-style-type: none"> <li>• PAT</li> <li>• PMT</li> <li>• CAT</li> <li>• SDT</li> <li>• NIT</li> <li>• TDT</li> <li>• EIT</li> <li>• MIP</li> </ul> </li> </ul>
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## Logical Outputs

### GUI location: Configuration > Logical Outputs

In this pane, you build the output transport streams. You perform the majority of your service configuration tasks in this pane. You configure programs in the TS by bringing the elementary streams from the **Logical Inputs** pane and setting the encoding parameters. Then, you define the packet table information and descriptors, and finally you manage the PID values.

The transport stream is represented in an expandable pane. The pane header shows:

- The TS name.
- The source/destination IP address. The primary source is always listed first.
- The total bandwidth in Mbps.
- Alarm indicator when any element in the TS has an alarm state.

Expand the TS pane to view:

- Each program carried in the TS.
- The elementary streams in each program.
- The ancillary streams and PSI elements in each program.
- The unreferenced PIDs.
- Alarm indicator for the individual ES and the program that carries it.

Customize the view to configure programs, tables, or PIDs.

Set the view at the top of the panel:



Right-click on any object to see the drop-down menu options. Select **Properties** to open the properties dialog box.

## Decoder Properties in Logical Outputs Program View

GUI location: **Configuration > Logical Outputs > Program View > Decoder Properties**

<b>Service Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ No Decoding – Use this mode to disable decoding. When the <b>Service Mode</b> is set to No Decoding, the rest of the decoder menus are hidden</li> <li>■ Program – Use this mode to set the decoder to manual program selection</li> <li>■ Fixed PID – Use this mode to set the decoder to manual PID selection</li> <li>■ Automatic – Use this mode for the device to automatically decode the first program in the TS (first in PAT)</li> </ul>
<b>Input Program</b>	You can only configure the input program when <b>Service Mode</b> is Program. It displays the input program number when <b>Service Mode</b> is Automatic.
<b>Program Name</b>	Name of the program.

## Descrambling tab

<b>CA Device</b>	Select a CA device for descrambling. (Default is CAM-1.) Options are: <ul style="list-style-type: none"> <li>■ None</li> <li>■ Verimatrix – Only for a device with Verimatrix.</li> <li>■ CAM-1</li> <li>■ CAM-2</li> <li>■ BISS</li> </ul>
<b>BISS Key</b>	BISS keys must first be created in the CA & BISS section.

## Redundancy tab

The content of the tab depends on the parameters of the Service Mode and Redundancy Control. When the Service Mode parameter is Program, the Redundancy Control parameter is off by default. Changing this parameter add content to the Redundancy tab.

<b>Redundancy Control</b>	Options are: <ul style="list-style-type: none"> <li>■ Off (Default)</li> <li>■ Input Redundancy</li> <li>■ Alarms</li> </ul>
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<b>Redundancy Scheme</b>	When Redundancy Control is Alarms, options are: <ul style="list-style-type: none"> <li>■ Manual</li> <li>■ Manual Revert</li> <li>■ Automatic (Default)</li> </ul>
<b>Active Program</b>	When Redundancy Scheme is Manual, options are: <ul style="list-style-type: none"> <li>■ Primary (Default)</li> <li>■ Backup</li> </ul> If the Redundancy Scheme is Manual Revert and Active Program is Backup, you can switch back to Primary.

### Backup

<b>Input Program Number</b>	Number of the input program.
<b>CA Device</b>	The selected CA device.

### Redundancy Triggers

<b>No PCR Detected Alarm</b>	Mark to enable the No PCR Detected Alarm.
<b>Video Decoding Failure Alarm</b>	Mark to enable the Video Decoding Failure Alarm.

### Advanced

<b>Pre-Descramble</b>	Mark to enable Pre-Descramble.
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### Video tab

Select the codec, display formats, and output parameters.

Section	Fieldname	Options	Description
<b>PID Selection</b>			
	Mode		Select the codec, display formats and output parameters.
		None	No PID selected. (When Service mode is Fixed PID, then the PID Selection Mode default is None.)
		Fixed PID	Select a video PID by its number (1-8190).
		Preferred Language	

Section	Fieldname	Options	Description
		Automatic	Selects the video PID with the lowest number in the PMT. PID selection occurs whenever there is any change in the PMT (When Service mode is Automatic, then the PID Selection Mode default is Automatic.)
<b>Decoding</b>			
	Codec		Selects the video decoding codec.
		MPEG-2	
		AVC	AVC is the default when the Service Mode is fixed PID.
		Automatic	(Default)
	DisplayFormat		Selects the display format.
		Automatic	The device automatically sets the output according to the inputs format (including resolution and frame rate). (Default)
		Automatic+SD	HD+SD simultaneous decoding (only on model 8130 with a license).
		HD	
		SD	
<b>HD Outputs</b>			This parameter appears when the Display Format is HD.
	HD Format		
		720p @ 50	
		720p @ 59.94	
		720p @ 60	
		1080i @ 25	(Default)
		1080i @ 29.97	
		1080i @ 30	
	Scaling to 16:9		
		Center-Cut	
		Pillarbox	(Default)
		Anamorphic	Stretched full screen
		AFD	

Section	Fieldname	Options	Description
<b>SD Outputs</b>			Set these parameters for the SD analog (CV) monitoring output and SD SDI.
	Aspect Ratio		
		4:3	
		16:9	
		Automatic	(Default)
	Scaling to 4:3		
		Center-Cut	(Default)
		Letterbox	
		Anamorphic	Stretched full screen
		AFD	
	Scaling to 16:9		
		Center-Cut	
		Pillarbox	(Default)
		Anamorphic	Stretched full screen
		AFD	
	Format for 625 Line Systems		
		PAL B/G	(Default)
		PAL I	
		PAL D	
		PAL N	
		French SECAM	
		Russian SECAM	Only on model 8130
	Format for 525 Line Systems		
		NTSC	(Default)
		PAL M	
<b>Advanced</b>			

Section	Fieldname	Options	Description
	Blanking		Select the option to output when there is no video.
		Black Frame	(Default)
		Mute	Select this option to have nothing on the SDI out port when there is no video input.
		Bar	
		Last Frame	
		Last Field	
	Video Errors Recovery Mode		
		The error definitions are:	
		1	Full (Default)
		2	Partial
		3	None
		4	High
	HDMI Port Format		
		HDM	
		DVI	

**Audio tab (with subtabs Audio #1, Audio #2, and Embedded Audio)**

Section	Fieldname	Options	Description
<b>PID Selection</b>			
	Mode		
		None	
		Fixed PID	Only when <b>Service Mode</b> is set to Fixed PID or program.
		Preferred Language	Only when <b>Service Mode</b> is set to Program or Automatic.
		By Priority	Select the priority of the PID (1-255). (When Service Mode is Program or Automatic.)
		Automatic	(Default)
	Preferred Language		Only when <b>Mode</b> is set to Preferred Language. You can select the preferred language either by choosing it from a list or by entering the 3 letters abbreviation manually. The list of the languages will be according to ISO 639 language codes. When <b>Audio #1/2</b> is configured to Preferred Language, the device automatically selects the first audio PID in the PMT that matches this language. If no such PID exists the selected PID is according to the same algorithm as in Automatic.
	PID		
		PID number	(1-8190)
<b>Decoding</b>			
	Codec		
		Automatic	(Default)
		MPEG-2 (MPEG-1 Layer II)	(Default in PID mode)
		AC-3	
		E-AC-3	
		AAC ADTS	
		AAC LATM	
		MPEG-1 (MPEG-1 Layer I)	

Section	Fieldname	Options	Description
	Processing Type		
		Passthrough	
		Downmix/2.0 Decode	The default is Downmix/2.0 Decode when the Codec is set to Automatic. For Audio #1 the default is Downmix/2.0 Decode when the Codec is set to Automatic or E-AC-3.
		5.1 Decode	Audio #2 only.
<b>AC-3 Down Mixing</b>			
	Downmix Mode		
		LoRo	
		LtRt	(Default)
	Dynamic Range Control		Only on model 8130.
		Line Out	(Default)
		RF Remode	
<b>Advanced</b>			
	Delay		To overcome audio/video sync problems, you can adjust the audio delay. Only on PVR-8130 model. Range -128 to 128 ms. (Default is 0.)
	Channel Mode		
		Stereo	(Default)
		Mono	Only on analog outputs.
		Both Left	
		Both Right	
	Digital Format		Only on model 8130.
		Professional	(Default)
		Consumer	
	Volume		Sets the audio volume. Range: -63 to 0 dB. (Default is 0.)

### Embedded Audio Subtab

Use Embedded audio to embed the audio channels into the SDI out ports. (Only on devices with a professional decoder.)

Section	Fieldname	Options	Description
	Group		
		1-4	Describes up to 4 supported SDI groups.
	Pair		
		1/2	Describes up to 2 pairs in SDI groups.
	Audio		You can select up to two decoded audio PIDs to embed.
		Mute	
		Audio #1/2	When Audio #1 is configured to Automatic, the device automatically selects the first audio PID in the PMT. When Audio #2 is configured to Automatic, the device automatically selects the 2nd audio PID in the PMT. If the PMT only contains one audio, that PID is selected. By default: <ul style="list-style-type: none"> <li>■ Audio #1 is inserted to Group 1 Pair 1</li> <li>■ Audio #2 is inserted to Group 1 Pair 2</li> </ul>
	Channel		
		L/R	
		C/LFE	Only when Processing Type is 5.1 Decode.
		Ls/Rs	Only when Processing Type is 5.1 Decode.

**PCR tab**

Section	Fieldname	Options	Description
<b>PID Selection</b>			
	Mode		
		Fixed PID	
		Automatic	PCR PID in the PMT is selected as the PCR for the decoded program.
	PID		
		Select to enter PID.	Only when Service Mode is Program or Fixed PID.
<b>General</b>			
	Clock Source		
		Original PCR	
		Decoder Clock	(Default)
		Frame Synchronizer	(Only supported on the Professional Decoder Models - Licensed)
	A/V Sync		
		Frame	(Default)
		Off	
<b>Frame Synchronizer</b>			Only when Clock Source in General is selected.
	SD Horizontal Delay (clocks)		Range: 0 to 1728 (Default is 0.)
	SD Vertical Delay (lines)		Range: -4 to 4 (Default is 0.)
	HD Horizontal Delay (clocks)		Range: 0 to 2640 (Default is 0.)
	HD Vertical Delay (lines)		Range: -4 to 4 (Default is 0.)
<b>Advanced</b>			
	Decoding Buffer Delay		Range: 1 to 300 ms. (Default is 100.)

**DPI tab**

Section	Fieldname	Options	Description
<b>PID Selection</b>			PID Selection can only be done on model 8130 and the Service Mode must be set to Program or Automatic.
	Mode		
		None	
		Fixed PID	Fixed PID is only available when Service Mode is set to Program.
		Automatic	Automatic is the default when Service Mode is set to Automatic or No Decoding.
	PID		
		Select to enter PID.	Only when Mode is Fixed PID.
<b>GPI</b>			
	Pre-Roll (Seconds)		Min. -10, Max. 10, Steps 1, Default is 0.
	Relay for Out-of-Network		
		None	(Default)
		GPI-1	
		GPI-2	
		GPI-3	
	Relay for Return-to-Network		
		None	(Default)
		GPI-1	
		GPI-2	
		GPI-3	
<b>VANC (SCTE 104)</b>			
	AS Index		Integer range. Min. 0, Max. 255, Steps 1, Default is 0.
	DPI PID Index		Integer range. Min. 0, Max. 65535, Steps 1, Default is 0.

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Section	Fieldname	Options	Description
	Insert to SD VANC		Mark the check box to insert to SD VANC.
	Line in SD Outputs		
	Insert to HD VANC		Mark the check box to insert to HD VANC.
	Line in HD Outputs		

## VBI/VANC tab

Section	Fieldname	Options	Description
<b>PID Selection</b>			
	Mode		
		None	The decoder is able to extract information from the incoming stream and re-insert it to the output (VBI or VANC). No decoding occurs.
		Fixed PID	
		Automatic	
	PID		
		Select to enter PID.	Only when Mode is Fixed PID.
	Encapsulation Standard		Only when Mode is Fixed PID.
		EN-301-775	
		SMPTE 2038	
<b>VBI/VANC Selection</b>			You can mark or clear insertion check boxes for common headers that have been added to the selection list to configure their insertion.
	Add		Use to add a common header. Select type, source and whether to insert.
		<ul style="list-style-type: none"> <li>■ VITS</li> <li>■ Closed Caption</li> <li>■ AMOL</li> <li>■ TV Guide (TVG)</li> <li>■ WSS</li> <li>■ SCTE 104</li> <li>■ Raw Data</li> <li>■ VPS</li> <li>■ AFD/VI</li> <li>■ Teletext</li> <li>■ VITC</li> </ul>	
	Remove		Mark the check box of a common header in the VBI/VANC Selection pane and then click Remove to remove it. Mark the check box in the list heading to select all the common headers and then click Remove to remove all the common headers.

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Section	Fieldname	Options	Description
VBI			Check boxes are synchronized with those in the VBI/VANC Selection pane. Mark or clear check boxes for common headers to change their insertion. Select an option in the table to display a drop down list of options for selection.
VANC in SD			Check boxes are synchronized with those in the VBI/VANC Selection pane. Select an option in the table to display a drop down list of options for selection.
VANC in HD			Check boxes are synchronized with those in the VBI/VANC Selection pane. Select an option in the table to display a drop down list of options for selection.

## OSD tab

Section	Fieldname	Options	Description
	Subtitling Type		Only when Service Mode is Program or Automatic.
		DVB Subtitling	
		VBI Teletext	
		None	(Default)
<b>PID and Page Selection</b>			Only when Subtitling Type is set to VBI Teletext.
	Mode		
		None	
		Fixed PID	Only when Service Mode is Program.
		Automatic	Only when Service Mode is Automatic.
	PID		
		Select to enter PID.	Only when Mode is Fixed PID.
	Page Selection Mode		
		Fixed Page	
		Preferred Language	
		Automatic	(Default)
	Page		Only when Page Selection Mode is Fixed Page.
	Language		Only when Page Selection Mode is Preferred Language.
<b>PID Selection</b>			Only when Subtitling Type is DVB Subtitling.
	Mode		
		Automatic	The device automatically selects the first subtitling PID in the PMT. (Default)
		Preferred Language	The device automatically selects the first subtitling PID in the PMT that matches this language.
		Fixed PID	(1 to 8190)

Section	Fieldname	Options	Description
<b>SD Outputs</b>			Only when Subtitling Type is DVB Subtitling or VBI teletext.
	Enable		(Default)
	Zoom Ratio		(Default is 1.) Zoom only available in certain modes.
	X Position Offset (pixels)		Range: -100 to 100 (Default is 0.)
	Y Position Offset (pixels)		Range: -100 to 100 (Default is 0.)
<b>HD Outputs</b>			Only when Subtitling Type is DVB Subtitling or VBI teletext.
	Enable		(Default)
	Zoom Ratio		(Default is 1.) Zoom only available in certain modes.
	X Position Offset (pixels)		Range: -100 to 100 (Default is 0.)
	Y Position Offset (pixels)		Range: -100 to 100 (Default is 0.)

**Show Status (button)**

Use to display the current status of the decoder parameters.

**TS Properties in Logical Outputs Program**

**GUI location:** Configuration > Logical Outputs > Program > Transport Stream Properties

The fields in the Transport Stream properties are the following:

<b>Enable</b>	Mark to enable this transport stream.
<b>TS Type</b>	Options are: <ul style="list-style-type: none"> <li>■ Multiplex – In Multiplex mode the device generates a new stream and we can select which programs to pass and modify the bitrate.</li> <li>■ Transparent – In transparent mode, the whole output stream is passed to the output unchanged.</li> </ul>
<b>TS ID</b>	Displays the transport stream ID. Configurable in Multiplex Mode.
<b>TS Description</b>	In Multiplex mode you can enter a description for the transport stream up to 39 characters long. In Transparent mode the TS Description is take from the Logical In TS Properties.
<b>Bitrate (Mbps)</b>	When the TS Mode is Multiplex, you can configure the bitrate of the TS.
<b>Source TS</b>	Displays the source transport stream. (Is displayed when TS Type is Transparent.)
<b>Bitrate (Mbps)</b>	The bitrate of the TS is displayed.

<b>Mute upon Input Loss</b>	Mark to mute (disable) the output when MPEG Sync Loss alarm is asserted on the active port of the Input TS. Once the alarm is remitted the device will un-mute the output. (Cleared by default)
<b>Padding (Mbps)</b>	The padding of the incoming transport stream in Mbps. (Display Only)
<b>Effective Rate (Mbps)</b>	Displays the bitrate minus any padding. (Display Only)
<b>Transport Errors</b>	Displays the transport error count.
<b>CC Errors</b>	Displays the CC error count.
<b>Reset Counters</b>	Only available in Program View.

### Program Descrambling

Displays when TS Type is Transparent.

<b>Input Program</b>	The input program identification.
<b>Input CAS Status</b>	Options are: <ul style="list-style-type: none"> <li>■ FTA</li> <li>■ CAS</li> </ul>
<b>CA Device</b>	Name of the CA device.
<b>BISS Key</b>	BISS key used for program descrambling.

### Add New Program (button)

Displays when TS Type is Transparent.

<b>Input Program</b>	The input program identification.
<b>CA Device</b>	Name of the CA device. Options: <ul style="list-style-type: none"> <li>■ Verimatrix – Only for a device with Verimatrix.</li> <li>■ CAM-1</li> <li>■ CAM-2</li> <li>■ BISS</li> </ul>
<b>BISS Key</b>	BISS key used for program descrambling.

### Program Properties in Logical Outputs Program View TS

**GUI location:** Configuration > Logical Outputs > Program View > Transport Stream > Program Properties

The dialog box displays the following program properties of the selected program when the TS is Transparent:

<b>Program Name</b>	Name of the program.
<b>Program Number</b>	Program number.
<b>PMT PID</b>	The Program Map Table Program Identification.
<b>PCR PID</b>	The Program Clock Reference Identification.

<b>Bitrate (Mbps)</b>	The current bitrate of the Program.
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The dialog box displays the following program properties of the selected program when the TS is Multiplex:

<b>Program Name</b>	Name of the program.
<b>Program Number</b>	Range: 1 to 65534, default 1.

#### Source

<b>Input Program Number</b>	Range: 1 to 65534, default 1.
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#### Descrambling

<b>CA Device</b>	Options are: <ul style="list-style-type: none"> <li>■ None</li> <li>■ Verimatrix – Only for a device with Verimatrix.</li> <li>■ BISS</li> <li>■ CAM-1</li> <li>■ CAM-2</li> </ul>
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#### Forwarding tab

<b>PID Remapping</b>	Options are: <ul style="list-style-type: none"> <li>■ No Remapping (Default)</li> <li>■ Offset from Input PID</li> </ul>
<b>Offset</b>	Range: -4096 to 4096, default 0. Only when <b>Offset from Input PID</b> is selected in <b>PID Remapping</b> .
<b>Forwarding and Descrambling</b>	Options are: <ul style="list-style-type: none"> <li>■ Pass All (Default)</li> <li>■ Selective – When selected, you can Add Components (enter Component Type (Video, Audio, DPI, Subtitling, Data, VBI/Teletext, MPE), Rule Type (ES Type, Language, Type &amp; Language, Priority, Type &amp; Priority, Input PID), and Input PID), and Delete Components from the Components Selection.</li> </ul>

#### Redundancy tab

<b>Redundancy Control</b>	Options are: <ul style="list-style-type: none"> <li>■ Off (Default)</li> <li>■ Input Redundancy</li> <li>■ Alarms</li> </ul>
<b>Redundancy Scheme</b>	When Redundancy Control is Alarms, the options are: <ul style="list-style-type: none"> <li>■ Manual</li> <li>■ Manual Revert</li> <li>■ Automatic (Default)</li> <li>■ Automatic Revert</li> </ul>

<b>Active Program</b>	When Redundancy Scheme is Manual, options are: <ul style="list-style-type: none"> <li>■ Primary (Default)</li> <li>■ Backup</li> </ul> If the Redundancy Scheme is Manual Revert and Active Program is Backup, you can switch back to Primary.
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### Backup

<b>Input Program Number</b>	Range: 0 to 65534, default 1.
<b>CA Device</b>	Options are: <ul style="list-style-type: none"> <li>■ None</li> <li>■ Verimatrix – Only for a device with Verimatrix.</li> <li>■ BISS</li> <li>■ CAM-1</li> <li>■ CAM-2</li> </ul>

### Redundancy Triggers

<b>PCR PID Missing Alarm</b>	Mark to Enable (Default).
<b>Video PID Missing Alarm</b>	Mark to Enable (Default).
<b>CC Errors Alarm</b>	Mark to Enable.

### CC Errors Alarm Threshold

<b>Number of Errors</b>	Range: 1 to 1000000, default 5.
<b>Within (sec)</b>	Range: 0.5 to 86400, default 1.

### Advanced

<b>Pre-Descramble</b>	Mark to Enable.
<b>PID Aliassing</b>	Mark to Enable.
<b>Backup Program Service Name</b>	Options are: <ul style="list-style-type: none"> <li>■ As Primary (Default)</li> <li>■ As Source</li> </ul>

### TS Properties in Logical Outputs Table View

GUI location: Configuration > Logical Outputs > Table View > Transport Stream Properties

The fields in the Transport Stream properties are:

<b>Displayed Tables</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ None – No tables are parsed</li> <li>■ MPEG (PSI) – The device only parses the PAT, PMT, and CAT tables</li> <li>■ DVB (PSI/SI) – (Default) By default the device displays the following tables: <ul style="list-style-type: none"> <li>• PAT</li> <li>• PMT</li> <li>• CAT</li> <li>• SDT</li> <li>• NIT</li> <li>• TDT</li> <li>• EIT</li> <li>• MIP</li> </ul> </li> </ul>
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### Transitioning between Table Modes

Transitioning between the tables display modes affects which tables are generated, passed or neither (None).

- **MPEG > DVB:** no changes in the MPEG table generation modes. DVB table generation modes are set to defaults
- **None > DVB:** all MPEG and DVB tables modes are set to defaults
- **MPEG/DVB > None:** All table generation modes are set to None
- **DVB > MPEG:** MPEG table generation mode is preserved. All others are set to None
- **None > MPEG:** MPEG table generation mode is set to defaults. All others are set to None



**NOTE:** Changing the Table Mode can create a PID conflict in the output.

### PAT Properties in Logical Outputs Table View TS

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > PAT Properties

The fields in the PAT properties are the following:

<b>PAT Mode</b>	<p>Options are:</p> <ul style="list-style-type: none"> <li>■ None – Device does not generate or pass the PAT</li> <li>■ Generate – Device generates the PAT (Default)</li> <li>■ Pass – Device passes the PAT without any changes</li> </ul>
<b>Repetition Rate (ms)</b>	Range 50 to 1000ms, Step 10 ms. (Default is 300.)
<b>TS ID</b>	The TS ID that carries the PAT. In Generate mode the TS ID in the PAT is as configured by the user.

**Source (when PAT Mode is Pass)**

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 0 to 8190, Default is 0.)

**PMT Properties in Logical Outputs Table View TS**

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > PMT Properties

The field in the PMT properties contains the following:

<b>Repetition Rate (ms)</b>	Range 50 to 1000 ms. Step 10 ms. (Default 300 ms)
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**Program Properties in Logical Outputs Table View TS PMT**

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > PMT > Program Properties

The fields in the PMT Program properties are the following:

<b>Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not generate or pass PMT</li> <li>■ Generate – Device generates PMT (Default)</li> <li>■ Pass – Device passes the PMT without any changes</li> </ul>
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**Source**

Source is a program level property and is only available when the PMT mode is Pass.

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 1 to 8190, Default is 32.)

**CAT Properties in Logical Outputs Table View TS**

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > CAT Properties

The fields in the CAT properties are the following:

<b>CAT Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not generate or pass the CAT</li> <li>■ Generate – Device generates the CAT. The CAT references EMMs that are configured to be passed (Default)</li> <li>■ Pass – Device passes the CAT without any changes</li> </ul>
<b>Repetition Rate (ms)</b>	Range 50 to 1000 ms, Step 10 ms. (Default is 500.)

**Source (when CAT Mode is Pass)**

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required (Range 1 to 8190, Default is 1)

**SDT Properties in Logical Outputs Table View TS**

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > SDT Properties

ProView creates a Service Description Table (SDT). This table contains data describing the services, including the names of services and the service provider. The SDT only includes services that are referenced in the output PAT.

The fields in the SDT properties are the following:

<b>SDT Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not generate or pass the SDT</li> <li>■ Generate – Device generates the SDT (Default)</li> <li>■ Pass – Device passes the SDT without any changes</li> </ul>
<b>Original Network ID</b>	The ID of the originating delivery system. In Generate mode you can configure the Original Network ID. (Range 0 to 65535, Step 10 ms, Default is 1.)
<b>Repetition Rate (ms)</b>	Range 50 to 2000ms, Step 10 ms. (Default is 500.)

**Source (when SDT Mode is Pass)**

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 1 to 8190, Default is 17.)

**NIT Properties in Logical Outputs Table View TS**

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > NIT Properties

The fields in the NIT properties are the following:

<b>NIT Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not pass the NIT</li> <li>■ Pass – Device passes the NIT without any changes (Default)</li> </ul>
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**Source (when NIT Mode is Pass)**

<b>Input TS</b>	The current logical input TS (Display only).
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 1 to 8190, Default is 16.)

**TDT/TOT Properties in Logical Outputs Table View TS**

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > TDT/TOT Properties

The fields in the TDT/TOT properties are as follows:

<b>TDT/TOT Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not pass the TDT/TOT</li> <li>■ Pass – Device passes the TDT/TOT without any changes (Default)</li> </ul>
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#### Source (when TDT/TOT Mode is Pass)

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 1 to 8190, Default is 20.)

#### EIT Properties in Logical Outputs Table View TS

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > EIT Properties

The field in the EIT properties is as follows:

<b>EIT Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not pass the EIT</li> <li>■ Pass – Device passes the EIT without any changes (Default)</li> </ul>
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#### Source (when EIT Mode is Pass)

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 1 to 8190, Default is 18.)

#### MIP Properties in Logical Outputs Table View TS

**GUI location:** Configuration > Logical Outputs > Table View > Transport Stream > MIP Properties

The field in the MIP properties is as follows:

<b>MIP Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ None – Device does not pass the MIP</li> <li>■ Pass – Device passes the MIP without any changes (Default)</li> </ul>
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#### Source (when MIP Mode is Pass)

<b>Input TS</b>	The current logical input TS. (Display only.)
<b>Input PID</b>	In Pass mode the Input PID is required. (Range 1 to 8190, Default is 21.)

#### PID Properties in Logical Outputs PID View Transport Stream

**GUI location:** Configuration > Logical Outputs > PID View > PID Properties

The dialog box displays the following PID properties of the selected PID:

<b>PID</b>	The packet identification number.
<b>ES Type</b>	The elementary stream type

<b>Scrambled</b>	The scrambled status of the PID.
<b>Bitrate (Mbps)</b>	The current bitrate of the PID.
<b>CC Errors</b>	The error count.

## Physical Outputs

### GUI location: Configuration > Physical Outputs

This pane shows the output ports in the device. You should configure the port properties to prepare them for carrying output services. All enabled Physical outputs transmit the TS.

### GbE

There are two MPEGoIP ports that you can use for either transport stream input or output.

### ASI

There are two ASI output ports (mirrored).

The ASI ports transmit only 188 byte TS packets.

## Port Properties in Physical Inputs/Outputs GbE

### GUI location: Configuration > Physical Inputs/Outputs > GbE Port Properties

Use the GbE Port property dialog box to view and configure the selected GbE port.

<b>Enabled</b>	You can enable either or both GbE ports. This parameter only works when the redundancy mode is manual. If both ports are enabled then only one port is active while the other one is in standby mode. By default Port 1 is active and Port 2 is on standby. The port on standby does not pass data. When the port is enabled and no link is detected, the device reports a Link Down alarm. Disable the port to mask this alarm. (Default is Disabled.)
<b>IP Address</b>	Each port must have a different IP Address. (Default is 127.127.X.X, where X is the port number+1.)
<b>Subnet Mask</b>	The IP mask. (Default is 255.255.255.0.)
<b>MAC Address</b>	Each port has its own MAC Address. They are factory set and cannot be changed.

### Port Redundancy

<b>Input Redundancy Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ Off (Independent) – All input sockets are associated with GbE-1</li> <li>■ Hot-Standby (Default) – All input sockets are associated with the active port.</li> </ul> When switching to Hot-Standby mode, by default, GbE-1 (the primary port) should be the active port and GbE-2 (the backup port) should be in standby.
<b>Output Redundancy Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ Off (Independent) – All output sockets are associated with GbE-2</li> <li>■ Mirror (Default) – All output sockets are associated with both ports.</li> </ul>
<b>Redundancy Scheme</b>	Options are: <ul style="list-style-type: none"> <li>■ Manual – You can manually switch between the primary port and the backup port regardless of their link status</li> <li>■ Manual Revert – The device switches from the primary port to the backup port when the primary port fails on one of the redundancy triggers and the backup port has no active alarms. You can revert from the backup port to the primary port manually</li> <li>■ Automatic – The device switches to the standby port whenever the active port fails on one of the redundancy triggers and the standby port has no active alarms</li> <li>■ Automatic Revert – The device switches from the primary port to the backup port when the primary port fails on one of the redundancy triggers and the backup port has no active alarms. The device reverts to the primary as soon as the primary port has no active alarms</li> </ul>
<b>Active Port</b>	Options when Redundancy Scheme is Manual only: <ul style="list-style-type: none"> <li>■ Primary (GbE-1)</li> <li>■ Backup (GbE-2)</li> </ul>

### Virtual IP

<b>Override Source IP</b>	Mark to enable.
<b>IP Address</b>	(Only shown when Override Source IP is enabled) You can define a virtual IP address on the GbE port for redundancy purposes. The virtual IP address overrides the source IP address on the IP header.

### PHY Configuration

<b>Autonegotiation</b>	You can enable and disable Autonegotiation. It enables devices to perform automatic configuration for best modes of operation over links and provide automatic speed matching for multi-speed devices.
<b>Speed (Mbps)</b>	You can configure the PHY speed when Autonegotiation is disabled. (Default is 1000.)
<b>Duplex</b>	Display only.

### Socket Properties in Physical Outputs GbE

GUI location: Configuration > Physical Outputs > Socket Properties

Use the GbE Socket property sheet to configure outputted multicast parameters. By default both sockets are associated with both GbE ports. The data on each socket is sent to both output ports. You cannot associate two sockets with identical destination port and IP addresses to the same GbE port.

<b>Enable</b>	Mark to enable the socket.
<b>Multicast IP Address</b>	When the IP Type is Multicast, you must enter the multicast IP address. (Default is 255.1.1.X (X is the socket number).)
<b>UDP Port</b>	You can configure the same IP Address and UDP Port for several sockets if you define the Source Specific Multicast and the Source IP Addresses are different. The source UDP range is 0 to 65535. (Default is 1024.)
<b>Source UDP Port</b>	
<b>Encapsulation Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ UDP</li> <li>■ RTP</li> </ul>

#### Advanced

<b>IP Packet Size (Bytes)</b>	Size in bytes of the IP Packets. The size depends on the amount of TS packets (1-7) that are encapsulated in the IP packet.
<b>Time to Live</b>	The range is 1 to 255. (Default is 64.)

#### Port Properties in Physical Outputs ASI

GUI location: Configuration > Physical Outputs > ASI > Port Properties

<b>Source TS</b>	Displays the current source Transport Stream
------------------	--

#### MPE Properties in Physical Outputs

GUI location: Configuration > Physical Outputs > MPE Properties

<b>Enable</b>	Mark to enable. (Default is Disabled)
---------------	---------------------------------------

**PID Selection Mode (radio button)**

<b>By Input Program Number</b>	When clicking the radio button, select the Input Program Number.
<b>By Input PID</b>	When clicking the radio button, select the Input PID

**Status**

<b>Selected PID</b>	Display only.
<b>Status</b>	Display only.

## Alarms Menu

### Active Alarms

**GUI location:** Alarms > Active Alarms

The **Active Alarms** table shows details about the alarms that are actively asserted on the device. When an alarm is remitted it is removed from this table. The alarm's date and time is taken from the device's internal clock.

Table columns are:

<b>Description</b>	Displays the description of the triggered alarm.
<b>Fault Object</b>	Displays the instance of the device modules on which the alarm is triggered.
<b>Asserted Time</b>	Displays the date and time when the alarm was triggered.
<b>Severity</b>	Options: <ul style="list-style-type: none"> <li>■ Warning</li> <li>■ Major</li> <li>■ Critical</li> </ul>
<b>Recovery Tip</b>	Displays more information on the triggered alarm and further actions that you can take.



**NOTE:** Click a column heading to sort a table according to the column. Click the column heading a second time to change the sort direction. You can also change the sort direction and additionally hide or display columns by using the column drop down list gadget. For more information on this feature, see [Changing Table Column Options](#).

### Alarm Log

**GUI location:** Alarms > Alarm Log

The **Alarm Log** displays all the alarms that have been triggered.

<b>Save Log</b>	Use this button to save the following fields in a log file: <ul style="list-style-type: none"> <li>■ Description</li> <li>■ Fault Object</li> <li>■ Assert Time</li> <li>■ State</li> <li>■ Severity</li> <li>■ Alarm ID</li> </ul>
<b>Clear Log</b>	Use this button to clear the log.
<b>Automatic Refresh</b>	Mark to refresh the current alarm log automatically.

## CA & BISS Menu

### CAM-1/2

GUI location: CA & BISS > CAM-1/2

#### CAM Configuration

##### Automatic Error Recovery Policy

Mark a corresponding check box to enable automatic recovery. This resets the CA for which triggers are set. reset).

<b>CAM Processing Failure</b>	Enabled. (Default)
<b>CAM Descrambling Failure</b>	Enabled. (Default)
<b>Packet Loss after CAM</b>	Disabled. (Default)

<b>Reboot CAM</b>	Use the Reboot CAM button to force the CAM to reboot in the event of a failure.
-------------------	---

#### CAM Information

Displays the following CAM information fields:

<b>Name</b>	Vendor name of the CAM.
<b>Manufacturer</b>	
<b>Manufacturer Code</b>	
<b>CAS ID</b>	CAS IDs are supported by the CAM.

### BISS

GUI location: CA & BISS > BISS

The ProView 8100 features embedded BISS (Basic Interoperable Scrambling System).

Use the BISS Keys pane to create, edit, and delete BISS keys. The maximum number of BISS keys is 10.



**NOTE:** Changes to the BISS keys interrupts the service.

### BISS Keys (table)

<b>Name</b>	Editable key name.
<b>Mode</b>	Options are: <ul style="list-style-type: none"> <li>■ BISS-1</li> <li>■ BISS-E Buried</li> <li>■ BISS-E Injected ID</li> </ul>
<b>Key</b>	BISS key. The key length must meet the following criteria: <ul style="list-style-type: none"> <li>■ 12 hex characters for BISS-1</li> <li>■ 16 hex characters for BISS-E Buried</li> <li>■ 16 hex characters for BISS-E Injected</li> </ul>
<b>Injected ID</b>	The injected ID must be 14 hex characters.
<b>In Use</b>	Displays whether the key is in use for descrambling or not.

## Verimatrix

**GUI location:** CA & BISS > Verimatrix



**NOTE:** Only for a device with Verimatrix..

The Verimatrix pane displays a table with the Virtual Smartcard (VSC) ID.

## Advanced

**GUI location:** CA & BISS > Advanced

The Advanced pane comprises the following parameters:

<b>Bypass Descrambling Engine</b>	Disabled. (Default) If Enabled, BISS scrambled programs are not opened.
<b>Max Bitrate to CAM</b>	This option sets the bitrate for both CAMs. Options are: <ul style="list-style-type: none"> <li>■ 72 Mbps – Compatible with most CAMs (Default)</li> <li>■ 96 Mbps – Use this bitrate if your CAM supports 96 Mbps</li> <li>■ 108 Mbps – Use this bitrate if your CAM supports 108 Mbps</li> </ul>
<b>CAM De-Jittering</b>	Enabled. (Default)

# Administration Menu

## Global Settings

**GUI location:** Administration > Global Settings

## General

Use this pane to configure global settings.

<b>Device Name</b>	You can give the device a unique name up to 31 characters long for identification. (Default is the device model name.)
<b>BOOTP</b>	Use to enable BOOTP for firmware upgrades after the following: <ul style="list-style-type: none"> <li>■ BOOTP server is up and running</li> <li>■ TFTP server is up and running</li> <li>■ New version is placed in the TFTP server directory</li> <li>■ Power up the device</li> </ul> (By default, BOOTP is disabled.)



**NOTE:** See [Firmware Upgrade](#) for instructions on upgrading the firmware.

## Licensing

**GUI location:** Administration > Licensing

Use this pane to manage and monitor the licenses.

### FW Licenses

This table displays a list of licenses already installed.

<b>P/N</b>	License part number.
<b>Description</b>	License description.
<b>Installed</b>	Number of installed licenses.
<b>In Use</b>	Number of licenses that are in use.
<b>Expiration</b>	Permanent – Does not expire.

### Install New Licenses

Use this dialog box to install new licenses.

<b>Enter License Key</b>	Harmonic supplies the licenses and you can Copy and Paste them in the License Key field. Licenses should correspond with the device serial number. Do not use the same key in another device. A reboot is required to complete a license update.
--------------------------	--



**NOTE:** Click a column heading to sort a table according to the column. Click the column heading a second time to change the sort direction. You can also change the sort direction and additionally hide or display columns by using the column drop down list gadget. For more information on this feature, see [Changing Table Column Options](#).

## Date & Time

**GUI location:** Administration > Date & Time

Use this pane to manage Date & Time and NTP.

## Date & Time

<b>Date</b>	The date set on the device. The calendar icon can be used to make date changes. Format: DD-MMM-YYYY, for example: 30-Aug-2013.
<b>Time</b>	The time set on the device. Set Local Time can be used to set the time according to your PC's time. Format: hh:mm:ss AM/PM, for example: 12:34:56 PM
<b>Time Zone</b>	The time zone set on the device.

## NTP

Use this dialog box to synchronize the ProView 8100 clock with the Network Time Protocol clock according to SNTP/NTP v2 or v3 versions. Communication is done over the management Ethernet port.

<b>Enable NTP Sync</b>	Use to enable or disable NTP. (Default is disabled.)
<b>Server IP</b>	Enter the IP address of the NTP server. (Only when NTP Sync is enabled.)
<b>Connection Status</b>	Displays the current connection status. Options are: <ul style="list-style-type: none"> <li>■ Off – NTP Sync disabled.</li> <li>■ Connected – The NTP server has responded to the last issued NTP request.</li> <li>■ Disconnected.</li> </ul>

## GPI

**GUI location: Administration > GPI**

### GPI Relays

The ProView 8100 has three relays configured in the GPI port numbered 1–3 for sending alarm triggers.

<b>Relays</b>	Selected relay that can be configured.
<b>Usage</b>	There are three modes for each GPI relay, namely: <ul style="list-style-type: none"> <li>■ On – Use this mode to manually switch the relay on</li> <li>■ Off – Use this mode to manually switch the relay off</li> <li>■ Alarm Triggering. Use this mode to select individual alarms to toggle the relay. In this mode a list of alarms displays. Mark the corresponding check box for each alarm that should toggle the selected relay</li> </ul>

## SNMP

**GUI location: Administration > SNMP**

### Trap Listeners

ProView 8100 supports up to 5 trap listeners. The following parameters are configurable for each listener:

<b>IP Address</b>	IP address of the Trap Listener.
-------------------	----------------------------------

<b>UDP Port</b>	The port the Trap Listener uses.
<b>Community Name</b>	Description of the community.
<b>Description</b>	Description of the Trap Listener.

## User Management

### GUI location: Administration > User Management

To enhance the safety of the device, it is recommended to change the default passwords as soon as you log into the device.

<b>User Name</b>	The user name.
<b>Privilege Level</b>	The role of the user.
<b>Change Password</b>	Click to open the Change Password dialog.

### Change Password.

<b>Current Password</b>	The current password.
<b>New Password</b>	The new password.
<b>Re-type Password</b>	Re-type the new password.

## Platform Menu

### Firmware Upgrade

#### GUI location: Platform > Firmware Upgrade

The SAG enables you to manage (Install, Activate, and Delete) the firmware.

The ProView 8100 can store at least 5 different firmware versions. Configuration parameters are preserved when upgrading from an older version. See [Appendix G, Firmware Management](#) for step-by-step instructions.



**NOTE:** The activation process may affect the service up to one minute.

#### Activate Installed Firmware

<b>Active Firmware</b>	Version of the current firmware.
<b>Select Firmware</b>	Select the required firmware version from the drop-down list of installed versions.



**NOTE:** Click Activate to activate the selected firmware version from the drop-down list.

### Install New Firmware

<b>Select File</b>	Use Browse to browse for a firmware package.
--------------------	--



**NOTE:** Click Install to install a firmware package and activate it at a later stage or click Install And Activate to install and activate it as soon as the installation is completed.

### Manage Installed Firmware Versions

<b>Select Firmware</b>	Select the required firmware version from the installed version.
------------------------	--



**NOTE:** Click Delete to delete the selected firmware version from the drop-down list.

## HW Inventory

**GUI location:** Platform > HW Inventory

The ProView 8100 hardware inventory pane shows Platform Properties, Mainboard Card Properties and rear panel operational state.

### Rear Panel Figure

The Rear panel figure shows the operational state of the rear panel ports.

### Platform Properties

<b>Device Model</b>	Model type of the ProView 8100. (Display only)
<b>Firmware Version</b>	The currently installed firmware version. (Display only)
<b>Device Name</b>	You can give the device a unique name, up to 31 characters long, for identification. (Default is the device model name.)
<b>Part Number</b>	The part number of the ProView 8100. (Display only)
<b>Serial Number</b>	The serial number of the ProView 8100. (Display only)
<b>Fan Speed Control</b>	Options are: <ul style="list-style-type: none"> <li>■ Automatic (Default)</li> <li>■ Maximum</li> </ul>

Changes are applied after clicking **Apply**.

### Mainboard Card Properties

<b>Part Number</b>	The part number of the ProView 8100 Mainboard Card. (Display only)
<b>Serial Number</b>	The serial number of the ProView 8100 Mainboard Card. (Display only)

## Management Port

**GUI location:** Platform > Management Port

The ProView 8100 uses one Ethernet port for remote management. On this pane, you can configure the IP Address, Subnet Mask, and Default Gateway. Changes are only applied when Apply is pressed. The location of the management port is indicated in green on the rear panel illustration.

### Management Port

<b>IP Address</b>	Default is 127.0.0.X.
<b>Subnet Mask</b>	Default is 255.255.255.0.
<b>Default Gateway</b>	Default is 0.0.0.0.
<b>MAC Address</b>	Display only.
<b>Auto Negotiation</b>	This is performed every time the link becomes active. (Display only)
<b>Speed (Mbps)</b>	Not user configurable.
<b>Duplex</b>	Not user configurable, always Full.

### Presets

#### GUI location: Platform > Presets

The ProView 8100 can create configuration presets that can be uploaded to a PC in XML format. This enables you to select and download a specific preset configuration to a ProView 8100. The device can store at least 10 configurations.

Activating, downloading and restoring does not overwrite the following:

- The IP addresses, PHY configuration, admin status and auto-negotiation of all the ports
- The device's licenses
- The FP contrast level
- Device Name
- Routing Table
- Date, Time
- Users and their passwords

## Presets

<b>Create</b>	Create presets for later activation or uploading to a PC. The Preset name length limit is 74 characters (including .xml suffix).
<b>Activate</b>	Activate a selected preset in the list above that resides in the device. The device activates only files that are generated by devices that match its exact HW model (XML elements). <sup>1</sup>
<b>Delete Selected</b>	Delete a selected preset in the list above that resides in the device.
<b>Upload to PC</b>	Upload a selected preset to an XML file on your remote PC. <sup>1</sup>

1. When the device is controlled by the DMS, this action cannot be performed.

## Download Preset to the Device

<b>Select File</b>	Use Browse to browse for a preset.
--------------------	------------------------------------



**NOTE:** Click Download to download a preset and activate it at a later stage.

## Backup Device Configuration to a File

Click **Backup** to save the running configuration to your remote PC in one step. The configuration is automatically named RunningPreset.xml and will be located at the browser's default download location and this file is added to the presets on the device. <sup>1</sup>

## Restore Configuration From a File

<b>Select File</b>	Use Browse to browse for a preset.
--------------------	------------------------------------



**NOTE:** Click Restore to restore and activate a preset in one step.

## Restore to Default Configuration

Click **Restore** to restore the default configuration.

## Routing Table

### GUI location: Platform > Routing Table

Use the Routing Table menu to manage up to five routing destinations for GbE input when the IP address is on a different network.

<b>Add New</b>	Use Add New to add a new routing entity.
<b>Delete Selected</b>	Delete a selected routing entity the list above.

When selecting **Add New**, enter the following information:

- Destination Type – Network (Default) or Host

1. When the device is controlled by the DMS, this action cannot be performed.

- Destination Address – Default is 127.127.127.0
- Mask – Default is 255.255.255.0
- Gateway – Default is 127.127.3.3
- Interface – GbE Port 1 (Default) or GbE Port 2

## DMS

**GUI location: Platform > DMS**



**NOTE:** Information on this pane is Display Only.

Use the DMS pane to display information related to the DMS control of the ProView 8100 device. It contains the following dialog boxes:

- **DMS**
- **DMS EMMs**
- **Authorized Programs**
- **Blacked-Out Programs**

### DMS

<b>DMS Control Status</b>	Status indication whether the DMS is controlling the device. Status can be: <ul style="list-style-type: none"> <li>■ Not connected</li> <li>■ Connected to &lt;DMS name&gt; DMS</li> <li>■ Controlled by &lt;DMS name&gt; DMS</li> </ul>
<b>DMS ID</b>	ID of the connected or controlling DMS.
<b>DMS Name</b>	Name of the connected or controlling DMS.

The **Abort Scanning** button stops scanning for the DMS in case of Disaster Recovery.

### DMS EMMs

<b>EMM</b>	EMM components: Command, Authorization, and Configuration.
<b>Version</b>	Command, Authorization, and Configuration version.
<b>Packet Counter</b>	Command, Authorization, and Configuration packet counter.

### Authorized Programs



**NOTE:** Displayed when the device is controlled by the DMS.

<b>Program Name</b>	Name of the program.
<b>Output Program #</b>	Output program number.

<b>Processing Type</b>	Processing type. Options are: <ul style="list-style-type: none"> <li>■ Pass</li> <li>■ Decode</li> </ul>
------------------------	--

### Blacked-Out Programs

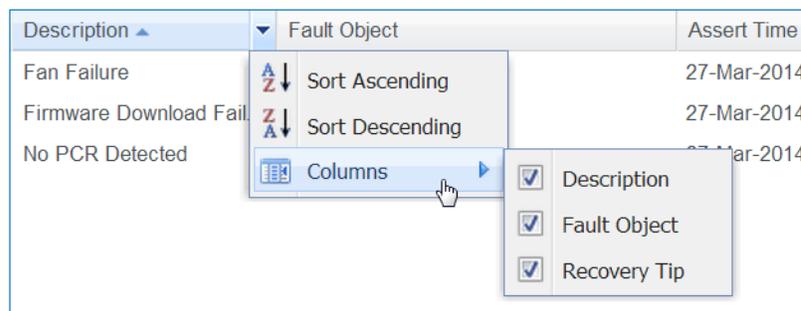


**NOTE:** Displayed when the device is controlled by the DMS

<b>Program Name</b>	Blacked-out program name.
<b>Program #</b>	Blacked-out program number.
<b>Alternative Program Name</b>	Name of the alternative program.
<b>Alternative Program #</b>	Alternative program number.

## Changing Table Column Options

Apart from clicking a column heading to sort a table according to the column, you can also change the sort direction and additionally hide or display columns by using the column drop down list gadget.



To hide or display optional columns:

1. Select the column drop-down list gadget.
2. Select the **Columns** list item.
3. Mark or clear the column check boxes.

## Tree Search Capability

The Tree Search field enables you to look for information within the Physical Inputs and Outputs panes and Program Views in the Logical Inputs and Outputs panes.

To search for information:

1. Start entering information in the search field.
2. Select the relevant suggestion in the drop-down list.

The associated node will be highlighted.

# Chapter 8

## Monitoring Using SAG

Use the bottom pane with the **Active Alarms** and **Reception Status** tabs to monitor the ProView 8100.

Topics:

- [Reception Status](#)
- [Alarms](#)
- [Alarm Log](#)
- [DVB-S/S2 Input Port Properties Status](#)
- [Decoder Properties Status](#)

### Reception Status

Use the **Reception Status** tab to display the current reception status.

The **Reception Status** tab can be made visible under the **Configuration** menu.

Port	RF Status	C/N (dBc)	Eb/No (dB)	Link Margin (dB)	BER	PER	Modulation Standard	Carrier Frequency (GHz)	L-Band Frequency (GHz)
DVB-S/S2 #1	Locked	12.99	10.11	6.37	N/A	0	DVBS2	9.817000	1.101964
DVB-S/S2 #2	Locked	12.34	9.47	5.72	N/A	0	DVBS2	9.816000	1.101963

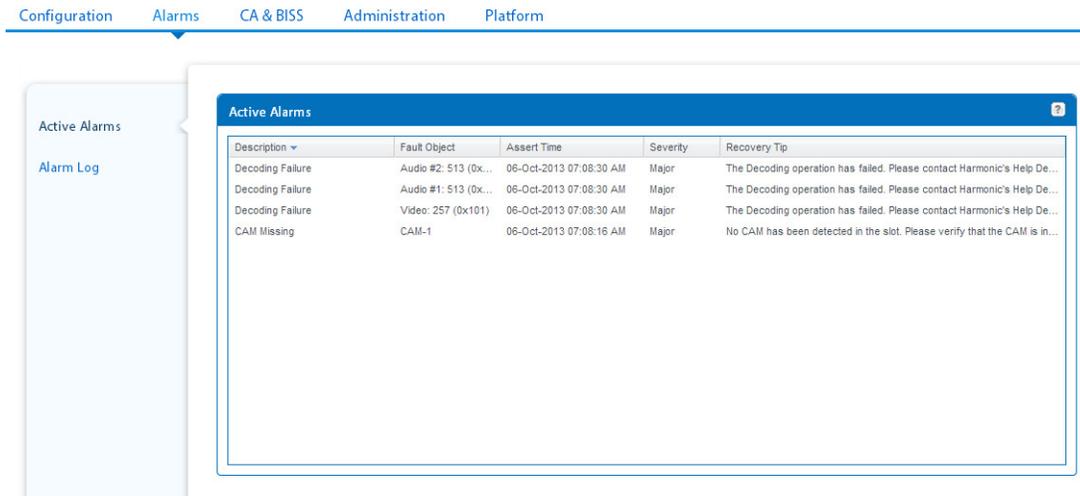
### Alarms

Use the **Active Alarms** tab to display the active alarms. Alarms alert the user to conditions that may require attention.

The **Active Alarms** tab is always visible under the **Configuration** and **Alarms** menus.

Description	Fault Object	Assert Time	Severity	Recovery Tip
Lock Failure	DVB-S/S2 Port 2	02-Oct-2013 02:06:51 AM	Major	Failed to gain RF lock. Verify that the reception par correctly.
MPEG Sync Loss on Backup Port	TS (TS ID: 11700)	02-Oct-2013 02:06:50 AM	Warning	The device cannot sync to the input stream. Verify MPEG transport stream.

## Active Alarms pane under Alarms menu.



The information provided for each alarm displayed consists of the following:

<b>Description</b>	The alarm identification and description information.
<b>Fault Object</b>	The object to which the alarm is related.
<b>Assert Time</b>	Alarm generation date and time (dd-mmm-yyyy hh:mm:ss format).
<b>Severity</b>	The alarm severity level. The alarm severity levels are: <ul style="list-style-type: none"> <li>■ Critical</li> <li>■ Major</li> <li>■ Warning</li> </ul>
<b>Recovery Tip</b>	Hover over an individual Recovery Tip to display the full text.

See [Appendix F, ProView 8100 Alarm List](#) for the alarm list with corrective actions.

## Alarm Log

Use the **Alarm Log** pane to view a record of alarms triggered. You can export the alarm history in CSV format.

The **Alarm Log** pane is located under the **Alarms** menus.

The information provided for each alarm displayed consists of the following:

<b>Description</b>	The alarm identification and description information.
<b>Fault Object</b>	The object to which the alarm is related.
<b>Assert Time</b>	Alarm generation date and time (dd-mmm-yyyy hh:mm:ss format).
<b>State</b>	<ul style="list-style-type: none"> <li>■ <b>On</b> – Indicates that the alarm is still in a triggered state.</li> <li>■ <b>Off</b> – Indicates that the alarm has been cleared.</li> </ul>

<b>Severity</b>	The alarm severity level. The alarm severity levels are: <ul style="list-style-type: none"> <li>■ <b>Critical</b></li> <li>■ <b>Major</b></li> <li>■ <b>Warning</b></li> </ul>
-----------------	--

See [Appendix F, ProView 8100 Alarm List](#) for the alarm list with corrective actions.

## DVB-S/S2 Input Port Properties Status

To display the DVB-S/S2 Input Port properties:

1. Select the DVB-S/S2 Input Port icon in the **Physical Inputs** panel.
2. Right-click and select **Properties**.
3. Click **Show Status** in the **DVB-S/S2 In Port Properties** dialog.

The current status of the receiver module displays on the right hand side of the dialog. Thus, changing parameters affects the status report only after the changes are applied to the device (by clicking **Apply** or **OK**).

The reception status is displayed whether the physical port is connected or not connected to the TS in the **Logical Inputs** pane. The information displayed on the status properties section is refreshed every few seconds. Some of the following properties are relevant to only one modulation standard (DVB-S or DVB-S2) and displayed accordingly:

<b>Reception</b>	<ul style="list-style-type: none"> <li>■ <b>RF Status</b> – Lock status.</li> <li>■ <b>C/N</b> measured value (in dBc)</li> <li>■ <b>Eb/NO</b> (in dB)</li> <li>■ <b>Link Margin</b> (in dB)</li> <li>■ <b>PER</b> – applicable to DVB-S2, as decimal number a.b E-X)</li> </ul>
<b>Carrier</b>	<ul style="list-style-type: none"> <li>■ <b>Modulation Standard</b></li> <li>■ <b>Carrier Frequency</b> (in Ghz)</li> <li>■ <b>Frequency Offset</b> (in kHz)</li> <li>■ <b>Spectral Inversion</b></li> <li>■ <b>Modulation &amp; FEC</b></li> <li>■ <b>Symbol Rate</b></li> <li>■ <b>Pilots</b></li> </ul>

## Decoder Properties Status

To display the decoder properties **Status**:

1. Right-click the decoder in the **Logical Outputs** pane under the **Configuration** menu.
2. Select **Properties**.
3. Click **Show Status**.

The Status section displays.

**Decoder: Properties**

Service mode: Program  
 Input Program: 17001

**Descrambling** | Video | Audio | PCR | DPI | VBI/VANC | OSD

Descrambling  
 CA Device: CAM-1

**Program**  
 Input Program: 17001  
 PCR PID: 257 (0x101)

**Video**  
 Video PID: 257 (0x101)  
 Input Coding Format: AVC  
 Input Format: Not Detected  
 Input Aspect Ratio: Other  
 Chroma Sampling: Not Detected

	Audio #1	Audio #2
PID	513 (0x201)	513 (0x201)
Input Coding Format	4 (Dx4) MPEG-2 (Musicam) Audio	4 (0x4) MPEG-2 (Musicam) Audio
Language	NO_LANG	NO_LANG
Input channel Mode	Unknown	Unknown
Decoding Type	Downmix/2.0 Decode	Downmix/2.0 Decode

**Others**  
 DPI PID: No PID Selected  
 VBI PID: No PID Selected

Hide Status | OK | Cancel | Apply

# Appendix A

## Contacting the Technical Assistance Center

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Harmonic Global Service and Support has many Technical Assistance Centers (TAC) located globally, but virtually co-located where our customers can obtain technical assistance or request on-site visits from the Regional Field Service Management team. The TAC operates a Follow-The-Sun support model to provide Global Technical Support anytime, anywhere, through a single case management and virtual telephone system. Depending on time of day, anywhere in the world, we will receive and address your calls or emails in one of our global support centers. The Follow-the-Sun model greatly benefits our customers by providing continuous problem resolution and escalation of issues around the clock.

**Report an issue online at:**

<http://harmonicinc.com/webform/report-issue-online>

**Table A-1: Technical Support Phone Numbers and Email Addresses**

Region	Telephone Technical Support	E-mail
Americas	888.673.4896 (888.MPEG.TWO) or +1.408.490.6477	<a href="mailto:support@harmonicinc.com">support@harmonicinc.com</a>
Europe, Middle East, and Africa	+44.1252.555.450	<a href="mailto:emeasupport@harmonicinc.com">emeasupport@harmonicinc.com</a>
India	+91.120.498.3199	<a href="mailto:apacsupport@harmonicinc.com">apacsupport@harmonicinc.com</a>
Russia	+7.495.926.4608	<a href="mailto:rusupport@harmonicinc.com">rusupport@harmonicinc.com</a>
Mainland China	+86.10.6569.5580	<a href="mailto:chinasupport@harmonicinc.com">chinasupport@harmonicinc.com</a>
Japan	+81.3.5565.6737	<a href="mailto:japansupport@harmonicinc.com">japansupport@harmonicinc.com</a>
Asia Pacific – Other Territories	+852.3184.0045 or 65.6542.0050	<a href="mailto:apacsupport@harmonicinc.com">apacsupport@harmonicinc.com</a>

**The Harmonic Inc. support website is:**

<http://www.harmonicinc.com/content/technical-support>

**The Harmonic Inc. software download locations are:**

All Harmonic software except Cable Edge software	<a href="https://harmonic.force.com/SWAccess/SWDownloadLogin">https://harmonic.force.com/SWAccess/SWDownloadLogin</a>
Cable Edge software	<a href="ftp://ftp.harmonicinc.com">ftp://ftp.harmonicinc.com</a>

**The Harmonic Inc. corporate address is:**

Harmonic Inc.  
4300 North First St.  
San Jose, CA 95134, U.S.A.  
Attn: Customer Support

The corporate telephone numbers for Harmonic Inc. are:

Tel. 1.800.788.1330 (inside the U.S.)  
Tel. +1.408.542.2500 (outside the U.S.)  
Fax.+1.408.542.2511

# Appendix B

## Safety and Regulatory Compliance Information

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**Legal Disclaimer:** Information in this document is provided in connection with Harmonic products. Unless otherwise agreed in writing Harmonic products are not designed nor intended for any application in which the failure of the product could cause personal injury or death.



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**NOTE:** The information in this appendix may apply to purchased products only.

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### Important Safety Instructions

This section provides important safety guidelines for operators and service personnel. Specific warnings and cautions are found throughout the guide where they apply, but may not appear here. Please read and follow the important safety information, noting especially those instructions related to risk of fire, electric shock or injury to persons. You must adhere to the guidelines in this document to ensure and maintain compliance with existing product certifications and approvals. In this document, we use “product,” “equipment,” and “unit” interchangeably.

This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if it is not installed and used in accordance with the instructions in this manual. Operation of this equipment in a residential area is likely to cause harmful interference. If this occurs, the user will be required to correct the interference at his or her own expense.

In event of conflict between the information in this document and information provided with the product or on our website for a particular product, this product documentation takes precedence.

### Safety Symbols & Translated Safety, Warning & Caution Instructions (English)

To avoid personal injury or property damage, before you begin installing or replacing the product, read, observe, and adhere to all the following safety instructions and information. Harmonic products and/or product packaging may be marked with the safety symbols used throughout this document, when it is necessary to alert operators, users, and service providers to pertinent safety instructions in the manuals.

Mark	Notes
 <p>Warning</p>	<p><b>Installing or Replacing the Product Unit Warning</b></p> <ul style="list-style-type: none"> <li>■ Only trained and qualified service personnel should be allowed to install, replace, or service this unit (refer AS/NZS 3260 Clause 1.2.14.3 Service Personnel).</li> <li>■ Read the installation instructions before connecting the system to the power source.</li> <li>■ When installing or replacing the unit, always make the ground connection first and disconnect it last.</li> <li>■ Installation of the unit must comply with local and national electrical codes.</li> <li>■ This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of special tool, lock and key or other means of security.</li> <li>■ Use only specified replacement parts.</li> <li>■ Do not use this unit in or near water. Disconnect all AC power before installing any options or servicing the unit unless instructed to do so by this manual.</li> </ul>
 <p>Warning</p>	<p><b>Rack Mount Warning</b></p> <ul style="list-style-type: none"> <li>■ To prevent bodily injury when mounting or servicing this unit in a rack, special precautions must be taken to ensure your safety and stability of system:</li> <li>■ Conform to local occupational health and safety requirements when moving and lifting the equipment.</li> <li>■ Ensure that mounting of the unit by mechanical loading tools should not induce hazardous conditions.</li> <li>■ To avoid risk of potential electric shock, a proper safety ground must be implemented for the rack and each piece of equipment installed on it.</li> </ul>
 <p>Warning</p>	<p><b>Chassis Warning</b></p> <ul style="list-style-type: none"> <li>■ Before connecting or disconnecting ground or power wires to the chassis, ensure that power is removed from the DC circuit.</li> <li>■ To prevent personal injury or damage to the chassis, lift the unit only by using handles that are an integral part of the chassis, or by holding the chassis underneath its lower edge.</li> <li>■ Any instructions in this guide that require opening the chassis or removing a board should be performed by qualified service personnel only.</li> <li>■ Slots and openings in the chassis are provided for ventilation. Do not block them. Leave the back of the frame clear for air exhaust cooling and to allow room for cabling - a minimum of 6 inches (15.24 cm) of clearance is recommended.</li> </ul>

Mark	Notes
 <p>Warning</p>	<p><b>Electric Shock Warning</b></p> <ul style="list-style-type: none"> <li>■ This unit might have more than one power cord. To reduce the risk of electric shock, disconnect the two power supply cords before servicing the unit.</li> <li>■ Before working on a chassis or working near power supplies, unplug the power cord on AC units.</li> <li>■ Do not work on the system or connect or disconnect cables during periods of lightning activity.</li> <li>■ This unit is grounded through the power cord grounding conductor. To avoid electric shock, plug the power cord into a properly wired receptacle before connecting the product input or outputs.</li> <li>■ Route power cords and other cables so that they are not likely to be damaged. Disconnect power input to unit before cleaning. Do not use liquid or aerosol cleaners; use only a damp cloth to clean chassis.</li> <li>■ Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on. Do not insert anything into either of the system's two power supply cavities with power connected</li> <li>■ Never install an AC power module and a DC power module in the same chassis.</li> <li>■ Do not wear hand jewelry or watch when troubleshooting high current circuits, such as the power supplies.</li> <li>■ To avoid fire hazard, use only the specified correct type voltage and current ratings as referenced in the appropriate parts list for this unit. Always refer fuse replacement to qualified service personnel.</li> <li>■ This unit relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).</li> <li>■ To avoid electrocution ensure that the rack has been correctly grounded before switching on the unit. When removing the unit remove the grounding connection only after the unit is switched off and unplugged.</li> </ul>
 <p>Caution</p>	<p><b>Electrostatic Discharge (ESD) Caution</b></p> <ul style="list-style-type: none"> <li>■ Follow static precaution at all times when handling this unit.</li> <li>■ Always wear an ESD-preventive wrist or ankle strap when handling electronic components. Connect one end of the strap to an ESD jack or an unpainted metal component on the system</li> <li>■ Handle cards by the faceplates and edges only; avoid touching the printed circuit board and connector pins.</li> <li>■ Place any removed component on an antistatic surface or in a static shielding bag.</li> <li>■ Avoid contact between the cards and clothing.</li> <li>■ Periodically check the resistance value of the antistatic strap. Recommended value is between 1 and 10 mega-ohms (Mohms).</li> </ul>

Mark	Notes
  Warning	<p><b>Laser Radiation Warning</b> Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Never operate a unit with a broken fibre or with a separated fiber connector.</p>
  Warning	<p><b>Lithium Battery Handling Safety Instructions</b></p> <ul style="list-style-type: none"> <li>■ CALIFORNIA PERCHLORATE ADVISORY: Some lithium batteries may contain perchlorate material. The following advisory is provided: "Perchlorate Material - special handling may apply, see: <a href="http://www.dtsc.ca.gov/hazardous_waste/perchlorate/for_information">www.dtsc.ca.gov/hazardous_waste/perchlorate/for_information</a>".</li> </ul>
  Caution	<ul style="list-style-type: none"> <li>■ Risk of explosion if battery is replaced incorrectly or with an incorrect type</li> <li>■ Dispose of used batteries according to the manufacturer's instructions</li> <li>■ There are no user-serviceable batteries inside Harmonic products. Refer to Harmonic qualified personnel only to service the replaceable batteries</li> </ul>

## Symboles de sécurité et traduits de sécurité, d'avertissement et Attention Instructions (français)

Pour éviter des blessures ou des dommages matériels, avant de commencer l'installation ou le remplacement du produit, lire, observer, et de respecter toutes les instructions et informations de sécurité suivantes. Produits harmoniques et / ou l'emballage du produit peuvent être marqués avec les symboles de sécurité utilisés dans le présent document, lorsque cela est nécessaire pour alerter les opérateurs, les utilisateurs et les fournisseurs de services de consignes de sécurité pertinentes dans les manuels.

Mark	Notes
 Avertissement	<p><b>Installation ou remplacement de l'unité de produit Avertissement</b></p> <ul style="list-style-type: none"> <li>■ Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés. (voir AS / NZS 3260 article 1.2.14.3 du personnel de service).</li> <li>■ Avant de brancher le système sur la source d'alimentation, consulter les directives d'installation.</li> <li>■ Lors de l'installation ou le remplacement de l'appareil, la mise à la terre doit toujours être connectée en premier et déconnectée en dernier.</li> <li>■ L'équipement doit être installé conformément aux normes électriques nationales et locales.</li> <li>■ Cet appareil est à installer dans des zones d'accès réservé. Ces dernières sont des zones auxquelles seul le personnel de service peut accéder en utilisant un outil spécial, un mécanisme de verrouillage et une clé, ou tout autre moyen de sécurité.</li> <li>■ Utilisez uniquement des pièces de rechange spécifiées.</li> <li>■ Ne pas utiliser ce produit dans l'eau ni à proximité de l'eau. Débrancher toutes les prises d'alimentation secteur avant d'installer des options ou d'effectuer l'entretien de l'unité, à moins d'instructions contraires dans le présent manuel.</li> </ul>
 Avertissement	<p><b>Rack Monture Avertissement</b></p> <p>Pour éviter les blessures corporelles lors du montage ou l'entretien de cet appareil dans un rack, des précautions particulières doivent être prises pour assurer votre sécurité et la stabilité du système:</p> <ul style="list-style-type: none"> <li>■ Conformez-vous aux exigences de médecine du travail et de sécurité lorsque vous déplacez et soulevez le matériel.</li> <li>■ Assurez-vous que le montage de l'appareil par des outils de chargement mécaniques ne doit pas induire des conditions dangereuses.</li> <li>■ Pour éviter tout risque d'électrocution, le rack et chaque élément de l'équipement installé dans le rack doivent être correctement reliés à la terre.</li> </ul>
 Avertissement	<p><b>Châssis Avertissement</b></p> <ul style="list-style-type: none"> <li>■ Avant de connecter ou de déconnecter les câbles d'alimentation (pôles et terre) du châssis, vérifiez que le circuit de courant continu est hors tension.</li> <li>■ Pour éviter toute blessure ou des dommages au châssis, soulevez l'unité uniquement par les poignées du châssis lui-même ou en portant celui-ci par le bord inférieur.</li> <li>■ Toutes les opérations du présent guide nécessitant l'ouverture du châssis ou le retrait d'une carte doivent être uniquement effectuées par du personnel d'entretien qualifié.</li> <li>■ Le châssis est muni de fentes et d'ouvertures d'aération. Ne pas les bloquer. Dégager l'arrière du cadre pour permettre le refroidissement de l'évacuation d'air et laisser de la place au câblage; un dégagement d'au moins 15.24 cm (6 po) est recommandé.</li> </ul>

Mark	Notes
 <p data-bbox="347 489 521 516">Avertissement</p>	<p data-bbox="558 285 943 312"><b>Choc électrique Avertissement</b></p> <ul style="list-style-type: none"> <li data-bbox="558 317 1414 407">■ Il est possible que cette unité soit munie de plusieurs cordons d'alimentation. Pour éviter les risques d'électrocution, débrancher les deux cordons d'alimentation avant de réparer l'unité.</li> <li data-bbox="558 411 1425 501">■ Avant de travailler sur un châssis ou à proximité d'une alimentation électrique, débrancher le cordon d'alimentation des unités en courant alternatif.</li> <li data-bbox="558 506 1419 569">■ Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.</li> <li data-bbox="558 573 1414 695">■ Ce unité est mis à la terre par le conducteur de protection intégré au cordon d'alimentation. Pour éviter les chocs électriques, brancher le cordon d'alimentation dans une prise correctement cable avant de raccorder les entrées ou sorties du unité.</li> <li data-bbox="558 699 1455 821">■ Installer les cordons d'alimentation et autres cables de sorte qu'ils ne risquent pas d'être endommagés. Couper l'alimentation avant nettoyage. Ne pas utiliser de nettoyant liquide ou en aérosol; utiliser seulement un linge humide.</li> <li data-bbox="558 825 1463 978">■ Des courants électriques dangereux circulent dans cet appareil. Afin d'éviter les lessures, ne pas toucher les connexions et composants exposés lorsque l'appareil est sous tension. Ne rien insérer dans l'une ou l'autre des cavités des prises de courant du système lorsque l'appareil est sous tension.</li> <li data-bbox="558 982 1317 1045">■ N'installez jamais un module d'alimentation AC et un module d'alimentation DC dans le même châssis.</li> <li data-bbox="558 1050 1463 1113">■ Ne pas porter de bijoux aux mains ni de montre durant le dépannage des circuits à haute tension, comme les transformateurs.</li> <li data-bbox="558 1117 1463 1236">■ Pour prévenir les risques d'incendie, n'utiliser que le type, la tension et le courant nominal spécifiés dans la nomenclature des pièces de ce unité. Toujours confier le remplacement des fusibles à du personnel d'entretien qualifié.</li> <li data-bbox="558 1241 1455 1394">■ Pour ce qui est de la protection contre les courts-circuits (surtension), ce produit dépend de l'installation électrique du local. Vérifier qu'un fusible ou qu'un disjoncteur de 120 V alt., 15 A U.S. maximum (240 V alt., 10 A international) est utilisé sur les conducteurs de phase (conducteurs de charge).</li> <li data-bbox="558 1398 1463 1518">■ Pour éviter l'électrocution, assurez-vous que le rack a bien été mis à la terre avant de mettre l'unité en marche. Lors du retrait de l'unité, retirer le raccordement de terre seulement après avoir mis l'unité à l'arrêt et l'avoir débranchée.</li> </ul>

Mark	Notes
 Attention	<p><b>Les décharges électrostatiques (ESD) Attention</b></p> <ul style="list-style-type: none"> <li>■ Respecter systématiquement les précautions relatives aux charges électrostatiques durant la manipulation de cet unité.</li> <li>■ Portez toujours un poignet ou la cheville bracelet antistatique préventive lors de la manipulation des composants électroniques. Branchez une extrémité de la sangle à une prise ESD ou d'un composant métallique non peinte sur le système.</li> <li>■ Manipulez les cartes en les faces avant et les bords seulement; éviter de toucher la carte de circuit imprimé et les broches du connecteur.</li> <li>■ Placer un composant retiré sur une surface antistatique ou dans un sac de protection statique.</li> <li>■ Éviter tout contact entre les cartes et les vêtements.</li> <li>■ Vérifier périodiquement la valeur de résistance de la sangle antistatique. Valeur recommandée est comprise entre 1 et 10 méga-ohms (Mohms).</li> </ul>
 Avertissement	<p><b>Rayonnement laser Attention</b></p> <ul style="list-style-type: none"> <li>■ Rayonnement laser invisible peut être émis à partir de fibres ou les connecteurs débranchés. Ne pas regarder en faisceaux ou regarder directement avec des instruments optiques. Ne jamais faire fonctionner une unité en cas de bris d'une fibre ou de séparation d'un connecteur de fibre.</li> </ul>
 Avertissement	<p><b>Batterie au lithium Manipulation instructions de sécurité</b></p> <ul style="list-style-type: none"> <li>■ Perchlorate pour la Californie Consultatif: Certaines batteries au lithium, peuvent contenir du perchlorate. le texte qui suit consultatif est prévu: "Présence de perchlorate - une manipulation spéciale peut s'appliquer, voir: <a href="http://www.dtsc.ca.gov/hazardous_waste/perchlorate/for_information">www.dtsc.ca.gov/hazardous_waste/perchlorate/for_information</a>".</li> </ul>
 Attention	<ul style="list-style-type: none"> <li>■ Il y a danger d'explosion si la batterie est remplacée de manière incorrecte ou par une batterie de type incorrect.</li> <li>■ Mettre au rebut les batteries usagées conformément aux instructions du fabricant.</li> <li>■ Les batteries des produits Harmonic ne peuvent pas être réparées ni entretenues par l'utilisateur. Ne confier l'entretien des batteries remplaçables qu'à du personnel compétent de Harmonic.</li> </ul>

## Sicherheit Symbole und übersetzt Sicherheit, Achtung & Vorsicht Anleitung (Deutsch)

Um Verletzungen oder Sachschäden zu vermeiden, bevor Sie mit der Installation oder Austausch des Produkts zu beginnen, zu lesen, zu beobachten, und sich an all den folgenden Sicherheitshinweise und Informationen. Harmonic Produkte und / oder Produktverpackungen können mit den Sicherheitssymbole in diesem Dokument verwendet werden, markiert, wenn es notwendig ist für die Betreiber, Anwender und Dienstleister, um relevante Sicherheitsanweisungen in den Handbüchern zu alarmieren.

Mark	Notes
 Warnung	<p><b>Installation oder den Austausch des Produkts Einheit Warnung</b></p> <ul style="list-style-type: none"> <li>■ Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden (siehe AS / NZS 3260 Clause 1.2. 14.3 Servicepersonal)</li> <li>■ Lesen Sie die Installationsanweisungen, bevor Sie das System an die Stromquelle anschließen.</li> <li>■ Der Erdanschluß muß bei der Installation der Einheit immer zuerst hergestellt und zuletzt abgetrennt werden.</li> <li>■ Die Installation der Geräte muss den Sicherheitsstandards entsprechen.</li> <li>■ Diese Einheit ist zur Installation in Bereichen mit beschränktem Zutritt vorgesehen. Ein Bereich mit beschränktem Zutritt ist ein Bereich, zu dem nur Wartungspersonal mit einem Spezialwerkzeugs, Schloß und Schlüssel oder anderer Sicherheitsvorkehrungen Zugang.</li> <li>■ Verwenden Sie nur die angegebenen Ersatzteile</li> <li>■ Das Gerät in oder in der Nähe von Wasser verwenden. Trennen Sie vor der Installation von Optionen oder Wartung des Gerätes, es sei denn, dies wurde von diesem Handbuch alle Netz.</li> </ul>
 Warnung	<p><b>Rack-Montage-Warnung</b></p> <p>Zur Vermeidung von Körperverletzung beim Anbringen oder Warten dieser Einheit in einem Gestell müssen Sie besondere Vorkehrungen treffen, um sicherzustellen, daß das System stabil bleibt:</p> <ul style="list-style-type: none"> <li>■ Entsprechen den lokalen Arbeitsschutzanforderungen beim Bewegen und Heben der Ausrüstung.</li> <li>■ Stellen Sie sicher, dass die Montage des Gerätes durch mechanische Belastung Werkzeuge sollten nicht gefährlichen Bedingungen zu induzieren.</li> <li>■ Um das Risiko von möglichen elektrischen Schlag zu vermeiden, muss mit einer angemessenen Erdung für Rack und jedes Gerät installiert ist implementiert werden.</li> </ul>
 Warnung	<p><b>Chassis Warnung</b></p> <ul style="list-style-type: none"> <li>■ Gleichstrom-Unterbrechung Bevor Sie Erdungs- oder Stromkabel an das Chassis anschließen oder von ihm abtrennen, ist sicherzustellen, daß der Gleichstrom-Stromkreis unterbrochen ist.</li> <li>■ Um Verletzungen und Beschädigung des Chassis zu vermeiden, sollten Sie das Chassis nicht an den Henkeln auf den Elementen (wie z.B. Stromanschlüsse, Kühlungen oder Karten) heben oder kippen; oder indem Sie es unterhalb der Unterkante packen.</li> <li>■ Alle Hinweise in diesem Handbuch, die das Öffnen benötigen Sie das Gehäuse oder das Entfernen eines Board sollte nur von qualifiziertem Fachpersonal durchgeführt werden.</li> <li>■ Für Schlitze und Öffnungen im Chassis vorgesehen. Blockieren Sie sie nicht. Lassen Sie die Rückseite des Rahmens frei für Abluftkühlung und um Platz für die Verkabelung ermöglichen - ein Minimum von 6 Zoll (15,24 cm) Abstand wird empfohlen</li> </ul>

Mark	Notes
 <p data-bbox="347 485 456 516">Warnung</p>	<p data-bbox="521 281 818 312"><b>Elektroschock-Warnung</b></p> <ul style="list-style-type: none"> <li data-bbox="521 317 1409 407">■ Diese Einheit hat möglicherweise mehr als ein Netzkabel. Zur Verringerung der Stromschlaggefahr trennen Sie beide Netzgerätekabel ab, bevor Sie die Einheit warten.</li> <li data-bbox="521 411 1295 470">■ Vor der Arbeit an einem Chassis für Arbeiten in der Nähe Stromversorgung, ziehen Sie das Netzkabel mit Netzeinheiten.</li> <li data-bbox="521 474 1365 533">■ Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.</li> <li data-bbox="521 537 1419 630">■ Dieses Gerät ist über das Netzkabel Erdungsleiter geerdet. Um einen Stromschlag zu vermeiden, stecken Sie das Netzkabel in eine Steckdose richtig verdrahtet, bevor Sie das Produkt Eingang oder Ausgänge.</li> <li data-bbox="521 634 1386 753">■ Verlegen Sie Netzkabel und andere Kabel, so dass sie wahrscheinlich nicht beschädigt werden. Trennen Eingangsleistung Einheit vor der Reinigung. Verwenden Sie keine flüssigen oder Aerosolreiniger; nur mit einem feuchten Tuch zu reinigen Chassis.</li> <li data-bbox="521 758 1427 913">■ Gefährliche Spannungen vorhanden sind an mehreren Stellen in diesem Produkt. Um Verletzungen zu vermeiden, berühren Sie nicht freiliegenden Anschlüsse und Komponenten während schaltet ist. Sie keine Gegenstände in einem der beiden Stromversorgungs Hohlräume des Systems mit Strom verbunden einführen.</li> <li data-bbox="521 917 1382 976">■ Ein Wechselstromsmodul und ein Gleichstrommodul dürfen niemals in demselben Chassis installiert werden.</li> <li data-bbox="521 980 1398 1039">■ Tragen Sie keine Hand Schmuck oder schauen Sie bei der Fehlersuche hohen Stromkreise, wie beispielsweise die Stromversorgung.</li> <li data-bbox="521 1043 1427 1163">■ Um die Brandgefahr zu vermeiden, verwenden Sie nur den genannten richtige Art von Spannung und Strom Ratings als in der entsprechenden Stückliste für diese Einheit verwiesen. Beziehen sich immer auf Austausch der Sicherung von qualifiziertem Fachpersonal.</li> <li data-bbox="521 1167 1427 1323">■ Dieses Produkt ist darauf angewiesen, daß im Gebäude ein Kurzschluß- bzw. Überstromschutz installiert ist. Stellen Sie sicher, daß eine Sicherung oder ein Unterbrecher von nicht mehr als 240 V Wechselstrom, 10 A (bzw. in den USA 120 V Wechselstrom, 15 A) an den Phasenleitern (allen stromführenden Leitern) verwendet wird.</li> <li data-bbox="521 1327 1377 1455">■ Um einen Stromschlag zu vermeiden, sicherzustellen, dass die Zahnstange wurde korrekt vor dem Einschalten des Gerätes geerdet. Beim Entfernen der Einheit entfernen Sie die Masseverbindung nur, nachdem das Gerät ausgeschaltet und der Netzstecker gezogen.</li> </ul>

Mark	Notes
 Vorsich	<p><b>Elektrostatische Entladung (ESD) Vorsicht</b></p> <ul style="list-style-type: none"> <li>■ Folgen Sie statische vorsorglich zu jeder Zeit beim Umgang mit diesem Gerät.</li> <li>■ Tragen Sie immer einen ESD-präventive Handgelenk oder Knöchel-Riemen beim Umgang mit elektronischen Komponenten. Schließen Sie ein Ende des Bandes an einem ESD-Buchse oder ein unlackiertes Metallteil auf dem System.</li> <li>■ Hand Karten nur durch die Faceplates und Kanten; Berühren Sie die bedruckte Leiterplatte und Steckerstifte.</li> <li>■ Legen Sie alle entfernten Komponenten auf eine antistatische Oberfläche oder in einem Statik-Beutel.</li> <li>■ Kontakt zwischen den Karten und Kleidung vermeiden.</li> <li>■ Den Widerstandswert der gegen statische Gurt in regelmäßigen Abständen überprüfen. Empfohlener Wert ist zwischen 1 und 10 Mega-Ohm (MOhm).</li> </ul>
 Warnung	<p><b>Laserstrahlungen Warnung.</b></p> <p>Unsichtbare Laserstrahlung kann von getrennten Fasern oder Stecker emittiert werden. Nicht in die Strahlen blicken oder direkt mit optischen Instrumenten. Niemals ein Gerät mit einem gebrochenen Faser oder mit einem Glasfaseranschluss getrennt.</p>
 Warnung	<p><b>Lithium-Batterie Handhabung Sicherheitshinweise</b></p> <p>CALIFORNIA PERCHLORATE ADVISORY: Einige Lithium-Batterien kann Perchlorat enthalten. Die folgende Beratungs gesetz: "Perchlorat - Sonderbehandlung kann erforderlich sein, finden Sie unter: <a href="http://www.dtsc.ca.gov/hazardous_waste/perchlorate/for_information">www.dtsc.ca.gov/hazardous_waste/perchlorate/for_information</a>".</p>
 Vorsich	<ul style="list-style-type: none"> <li>■ Bei Einsetzen einer falschen Batterie besteht Explosionsgefahr</li> <li>■ Entsorgen Sie die benutzten Batterien nach den Anweisungen des Herstellers.</li> <li>■ Es gibt keine zu wartenden Akkus im Harmonic Produkte. Siehe Harmonic qualifiziertes Personal, um die austauschbare Batterien Service</li> </ul>

## Site Preparation Instructions



**NOTE:** Only trained and qualified service personnel (as defined in IEC 60950 and AS/NZS 3260) should install, replace, or service the equipment. Install the system in accordance with the U.S. National Electric Code if you are in the United States.

1. Preparing & Choosing a Site for Installation
  - ❑ To ensure normal system operation, plan your site configuration and prepare the site before installation.
  - ❑ Install the unit in a restricted access area.

- Choose a site with a dry, clean, well-ventilated and air-conditioned area.
  - Choose a site that maintains an ambient temperature of 32 to 104°F (0 to 40°C)
2. Creating a Safe Environment
- Connect AC-powered systems to grounded power outlets or as per local regulations.
  - Do not move or ship equipment unless it is correctly packed in its original wrapping and shipping containers.
  - Only allow Harmonic trained personnel to undertake equipment service and maintenance. Do not permit unqualified personnel to operate the unit.
  - Wear ear protection when working near an NSG Pro platform for a longer period of time.
3. Rack Mounting the Unit
- Install the system in an open rack whenever possible. If installation in an enclosed rack is unavoidable, ensure that the rack has adequate ventilation.
  - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips). This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
  - When mounting this unit in the partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
  - If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
  - The rack must be anchored to an immovable support to prevent it from tipping when the unit is mounted on it. The rack must be installed according to the rack manufacturer's instructions.
  - Disconnect all power and external cables before lifting the unit. Depending on the weight of the unit, more than one person might be required to lift it.
4. Power Considerations
- a. AC Power
- Adding to the system a UPS (Uninterrupted Power Supply) and an AVR (Automated Voltage Regulator) is highly recommended.
  - Installing the main power supply by a qualified electrician, according to power authority regulations. Make sure all powerings are wired with an earth leakage, according to local regulations.
  - It is recommended to install the encoder within 1.5m (approximately 5 feet) from an easily accessible grounded AC outlet.
  - When the encoder is rack-mounted, ensure that the rack is correctly grounded.
- b. DC Power
- Ensure a suitable overcurrent device is in-line between the equipment and the power source.
  - Connect DC-input power supplies only to a DC power source that complies with the safety extra-low voltage (SELV) requirements in the UL60950-1, CAN/CSA-C22.2 No. 60950-1-03, AS/NZS 60950-1, EN/IEC 60825-1, 21 CFR 1040, EN 60950-1, and IEC 60950-1 standards.
  - Ensure that power is removed from the DC circuit before installing or removing power supplies
5. Handling Fiber Channel Cables
- Always read and comply with the handling instructions on the shipping container.
  - Follow all ESD precautions and approved fiber cleaning procedures.

- ❑ The fiber is made of a very pure, expensive glass and should be treated with great care. Handle fibers only in areas that are very clean and do not contain sharp objects.
  - ❑ Wear finger cots or gloves as dirt and oils can damage the fiber and contaminate connectors.
  - ❑ Do not allow kinks or knots to develop in the fiber. If tangles occur, carefully work out the tangles avoiding pulling or bending the fibre beyond its bend radius.
  - ❑ Always use the correct tools for stripping and cleaving the fiber. It will save time and reduce breakage caused by scratches.
  - ❑ If you must secure a bundle of fiber cables together, avoid plastic and metal tie wraps; secure with velcro instead.
6. Disposing of the Unit
- ❑ Dispose of the unit and its components (including batteries) as specified by all national laws and regulations.

## Product End-of-Life Disassembly Instructions

For disassembly instructions, please call the technical support in order to remove components requiring selective treatment, as defined by the EU WEEE Directive (2012/19/EU). See [Contacting the Technical Assistance Center](#).

### Product Disassembly Process

1. Disassemble equipment at a dedicated area only, gather the needed tools for disassembly.
2. Remove covers, housing, etc.
3. Remove and separate sub-assemblies (i.e. cables, metals, displays, fans, etc.).
4. Separate hazardous materials from the remainder of the material.
  - a. Sort hazardous materials into their different types (i.e., batteries, hazardous liquids, hazardous solids, fiberglass, etc.).
  - b. Proceed with hazardous waste management processes only.
5. Identify re-usable materials/sub-assemblies and separate these from the rest of the material.
6. Identify and separate recyclable materials as per below examples:
  - a. Scrap material to be sent to smelter(s).
  - b. E-waste such as displays, CPU's, cables and wires, hard drives, keyboards, etc.
  - c. Metals such as steel, brass, and aluminum.
  - d. Plastics such as fan casings, housings, covers, etc.
  - e. Fiber optics and plastic tubing not containing electrical or data wiring.

### Safety Rules (English)

Recycler personnel are to wear personal protective equipment including proper eye protection, proper hand protection, and proper breathing protection if needed.

Recycler personnel shall be experienced with using the proper tools required for disassembling equipment. Untrained personnel shall not disassemble Harmonic products. Unfamiliarity with tools can cause damage and injury.

### Règles de sécurité (French)

Le personnel du recycleur doit porter de l'équipement de protection individuelle, y compris des lunettes, des gants et un masque de protection appropriés au besoin.

Le personnel du recycleur doit avoir de l'expérience des outils de démontage de l'appareil. Les produits Harmonic ne doivent pas être démontés par du personnel non qualifié. Une mauvaise connaissance des outils peut causer des dommages et des blessures.

## EU Manufacturer's Declaration of Conformity

This equipment is in compliance with the essential requirements and other provisions of Directives 73/23/EEC and 89/336/EEC as amended by Directive 93/68/EEC.



**NOTE:** For specifics, about which standards have been applied, refer to the Declaration of Conformity of the product on Harmonic website at [Product Regulatory Compliance](#) or contact Harmonic Compliance Team at [regulatory.compliance@harmonicinc.com](mailto:regulatory.compliance@harmonicinc.com)

## Electromagnetic Compatibility Notices – Class A

### a. FCC Verification Statement (USA)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case users will be required to correct the interference at their own expense.

Connections between the Harmonic equipment and other equipment must be made in a manner that is consistent with maintaining compliance with FCC radio frequency emission limits. Modifications to this equipment not expressly approved by Harmonic may void the authority granted to the user by the FCC to operate this equipment and you may be required to correct any interference to radio or television communications at your own expense.

### b. ICES–003 Statement (Canada)

**English:** This Class A digital apparatus complies with Canadian ICES-003.

**French:** Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

### c. CE Declaration of Conformity (European Union)

This product has been tested in accordance too, and complies with the Low Voltage Directive (2014/30/EU) and EMC Directive (2014/35/EU). The product has been marked with the CE Mark to illustrate its compliance.

d. VCCI Class A Warning (Japan)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

English translation of the notice above:

This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) from Information Technology Equipment. If this equipment is used in a domestic environment, it may cause radio interference. When such trouble occurs, the user may be required to take corrective actions.

e. BSMI EMC Notice (Taiwan)

**警告使用者：**  
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策

English translation of the notice above:

This is a Class A Information Product, when used in residential environment, it may cause radio frequency interference, under such circumstances, the user may be requested to take appropriate counter measures.

f. Class A Warning (Korea)

주의 A급 기기 이 기기는 업무용으로 전자파 적합 등록을 한 기기이  
오니 판매자 또는 사용자는 이 점을 주의하시기 바라며 만약  
잘못 판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

English translation of the notice above:

This is a Class A device and is registered for EMC requirements for industrial use. The seller or buyer should be aware of this. If this was sold or purchased by mistake, it should be replaced with a residential-use type.

g. Class A Statement (China)

中华人民共和国“A类”警告声明

声明  
此为A级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

English translation of the notice above:

When labeled with the CCC marking, the product meets the applicable safety and EMC requirements for China. This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

h. Class A Warning – CISPR 22 (AS/NZS)

Warning (English)

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Attention (French)

Il s'agit d'un produit de classe A. Dans un environnement local, ce produit peut entraîner des perturbations radioélectriques, auquel cas l'utilisateur devra éventuellement prendre des mesures adéquates.

## Product Regulatory Compliance

Harmonic products are typically tested to the latest safety and electromagnetic compatibility (EMC) specifications and test methods, and are marked with one or more of the following regulatory/certification markings. Some of the certification markings will vary depending on what certifier was used to obtain a certification.

Please visit Harmonic [Product Regulatory Compliance](#) page to view information on applied safety & EMC standards and regulatory marks on Harmonic products. You can also email us at [regulatory.compliance@harmonicinc.com](mailto:regulatory.compliance@harmonicinc.com) for assistance on regulatory compliance for Harmonic products.

## Product Regulatory Compliance Markings

Table B-1:Regulatory Compliance Markings

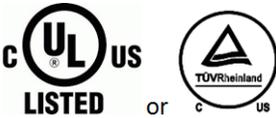
Country/Region	Testing Standard/Specification	Certification Type	Regulatory Mark Name	Product Marketing
USA/Canada	EN 60950-1:2006+A11:2009+A1:2010+A12:2011; CAN/CSA C22.2 No. 60950-1-07+A1:2011/UL 60950-1:2011	Safety	NRTL (National Recognized Test Laboratory)	
USA/Canada	FCC CFR 47 Part 15, Class A ICES-003: Issue 5, 2012; Class A	EMC	FCC Class A Statement	<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</p> </div>

Table B-1: Regulatory Compliance Markings

Country/Region	Testing Standard/Specification	Certification Type	Regulatory Mark Name	Product Marketing
European Union	RoHS: EN 50581:2012; EN55022:2010/ CISPR 22:2008; EN55024:2010/ CISPR 24:2010; EN61000-3-2:2006+A1:2009+A2:2009; EN61000-3-3:2008; Class A	Safety and EMC	CE / Low Voltage Directive	
Germany	EN 60950-1; EN60825-1 (for laser)	Safety	GS	
Mexico	NOM-019-SCFI-1998	Safety	NOM	
Taiwan	CNS 14336-1:2010 CNS 13438:2006; Class A	Safety and EMC	BSMI Certification (RPC) Number & Class A Warning	 R3A001 警告使用者： 這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。
Japan	VCCI V-3/2013.04; CISPR 22:2008, Class A	EMC	VCCI	
Australia and New Zealand	AS/NZS CISPR22:2009+A1:2010; Class A	Safety	C-Tick	
Korea	KN22 Class A and KN 24	EMC	KC	

**Table B-1: Regulatory Compliance Markings**

Country/Region	Testing Standard/Specification	Certification Type	Regulatory Mark Name	Product Marketing
China	GB4943.1-2011 GB9254-2008 GB17625.1-2012	Safety and EMC	CCC	
India	IS 13252 (Part 1): 2010	Safety	BIS Compulsory Registration	"Self Declaration - Conforming to IS 13252 (Part 1):2010, R-XXXXXXX"

## Product Environmental Compliance

Harmonic manufactures high quality and innovative IT and telecommunications equipment, video delivery infrastructure solutions and services for its customers worldwide. Harmonic is committed to providing our customers with safe and environmentally friendly products that are compliant with all relevant regulations, customer specifications, and environmental legislation, including the directives described below.

### EU RoHS

In July 2006, the European Union’s (EU) Directive (2002/95/EC) on the Restriction of the use of certain Hazardous Substances (RoHS) in Electrical and Electronic Equipment (EEE) went into effect, and in July, 2011, the European Union’s RoHS Recast Directive (2011/65/EU) also known as RoHS II entered into force.

Harmonic understands the environmental risks associated with the substances covered by the RoHS Directive and has committed to eliminating or reducing the use of these, as well as other environmentally sensitive substances in our products. Harmonic also continues to comply with the requirements under RoHS II.

For more information, please visit EU RoHS directive page at official EU website.

[http://ec.europa.eu/environment/waste/rohs\\_eee/legis\\_en.htm](http://ec.europa.eu/environment/waste/rohs_eee/legis_en.htm)

### Restricted Substance Statement

Harmonic products contain less than the permitted limits for the six restricted substances except where exemptions published in the RoHS2 Directive are applicable. This statement is based on vendor-supplied analysis or material certifications, and/or lab test results of the component raw materials used in the manufacture of Harmonic products.

**Table B-2: Restricted Substances**

Restricted Substance	Permitted Limit*
Cadmium (Cd)	≤ 0.01%
Lead (Pb)	≤ 0.1%
Chromium (VI) (Cr (VI))	≤ 0.1%
Mercury (Hg)	≤ 0.1%

**Table B-2:Restricted Substances**

Restricted Substance	Permitted Limit*
Polybrominated biphenyls (PBBs)	≤0.1%
Polybrominated diphenyl ether (PBDE)	≤0.1%
*Homogeneous material definition as per the EU Directive.	

## EU REACH

REACH (Registration, Evaluation, Authorization and restriction of Chemicals) (EC 1907/2006) is a European Union's regulation on chemicals and their safe use which came into force in June, 2007.

Harmonic supports the basic aim of REACH in improving the protection of human health and environment through the better and earlier identification of intrinsic properties of chemical substances. Harmonic products are considered "articles" under REACH; therefore, we are required to provide recipients of our products with information on Substance of Very High Concern (SVHC) present in concentration above 0.1% (w/w).

Substances in our products are not intended to be released under normal or reasonably foreseeable conditions of use; therefore, the registration requirement in REACH Article 7(1) does not apply to our products.

For more information, please visit REACH regulation page at official EU website.

[http://ec.europa.eu/environment/chemicals/reach/reach\\_en.htm](http://ec.europa.eu/environment/chemicals/reach/reach_en.htm)

## China RoHS

China's regulation on restriction of the use of certain hazardous substances commonly (China RoHS), is applicable to all Electronic and Information Products (EIPs) and parts sold in China after March 01, 2007. China RoHS regulation restricts the use of the same six substances as the European Union's ROHS, but has requirements for product labeling and regulated substance information disclosure.

Harmonic complies with China RoHS Phase I for labeling and information disclosure requirements and continues to monitor new developments in China RoHS Phase II towards substance restriction and certification program.

For more information, please visit China RoHS regulation page at official US export website.

<http://www.export.gov/china/doingbizinchina/>

## China RoHS Disclosure Report

Below table shows the presence of hazardous substances, or elements in Harmonic products, if the part is present.

该表显示哈雷公司产品中可能含有的有毒有害物质元配件的信息，除了来源于元配件供应商的物料成分资料，亦来自其它相关的机构与资料。哈雷产品不一定使用这些元配件。

This table shows those components where hazardous substances may be found in Harmonic products based on, among other things, material content information provided by third party suppliers. These components may or may not be part of the product.

除非特殊注明，哈雷公司产品的环保使用期限 均为 20 年。该环保使用期限的有效条件为：必须遵循该产品使用手册的规定，对该产品进行使用或存储。

The Environmental Protective Use Period for Harmonic products is 20 years unless displayed otherwise on the product. The EPUP period is valid only when the products are operated or stored as per the conditions specified in the product manual.

部件名称 (Part name)	有毒有害物质或元素 (Hazardous Substance)					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CrVI)	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷线路板 (Printed Circuit Assemblies)	X	O	O	O	O	O
机械组件 (Mechanical Subassemblies)	X	O	O	O	O	O
光学组件 (Optical Subassemblies)	X	O	O	O	O	O
电源 (Power Supplies)	X	O	O	O	O	O
缆线 / 线束 (Cables, harnesses)	X	O	O	O	O	O
屏幕 / 显示器 (Screens, Monitors)	X	O	O	O	O	O
金属零件 (Metal Parts)	X	O	O	O	O	O
塑料 / 发泡材料 (Plastics, foams)	O	O	O	O	O	O
电池 (Batteries)	O	O	O	O	O	O

O: 表示在该部件的所有均质材料中，此类有毒有害物质的含量均小于 SJ/T11363-2006 标准所规定的限量。

O: Indicates the content of the toxic and hazardous substances at the homogeneous material level of the parts is below the limit defined in SJ/T11363 2006 standard.

X: 表示至少在该部件的某一均质材料中，此类有毒有害物质的含量超出 SJ/T11363-2006 标准规定的限量。

X: Indicates that the content of the toxic and hazardous substances in at least one of the homogeneous materials of the parts is above the limit defined in SJ/T11363 2006 standard.

## Other RoHS and REACH type Regulations

Harmonic will comply with RoHS and REACH type regulations evolving in other countries, if they become relevant to our products or in markets where we sell our products.

## Waste Electrical and Electronic Equipment (WEEE)

European Parliament and the Council of the European Union's WEEE Directive (2002/96/EC) came into force on August, 2005 and, were more recently amended in July, 2012. This directive encourages the reuse, recycling, and recovery of WEEE and to improve the environmental performance of all operators involved in the life cycle of electrical and electronic equipment, especially those dealing with WEEE. Harmonic ensures that all requirements for registration, reporting, design and data tracking are complied with to meet the objectives of the WEEE directive.

For more information, please visit WEEE directive page at official EU website.

[http://ec.europa.eu/environment/waste/weee/legis\\_en.htm](http://ec.europa.eu/environment/waste/weee/legis_en.htm)

## Battery Directive

In September 2006, the European Union's Directive 2006/66/EC (Battery Directive) came into force with an aim to prohibit the sale of batteries and accumulators containing hazardous substances and to set rules and promote collection, treatment, recycling and disposal of waste batteries and accumulators. This directive applies to spent batteries collected together with WEEE and requires their removal and separate collection. Once removed from WEEE, spent batteries are governed by the Battery Directive. Harmonic uses lithium batteries in its products and our responsibility under the Battery Directive is taken care of under our WEEE Take-Back program.

For more information, please visit Batteries and Accumulators directive page at official EU website.

<http://ec.europa.eu/environment/waste/batteries/>

Harmonic is committed to manufacturing environmentally safe products for the community, and will make reasonable efforts and required adjustments to its practices, if necessary, to comply with various environmental directives and industry initiatives on the elimination of hazardous substances, labeling, marking, certification and registration as required in markets where we sell our products.

Download Harmonic's Environmental Compliance Statement at the following location:

<http://www.harmonicinc.com/sites/default/files/Environmental%20Compliance%20Statement.pdf>

## WEEE Take-Back Request Program

In order to assist EU member states to preserve, protect and improve the quality of the environment, protect human health and utilize natural resources prudently and rationally, Harmonic strives to recycle in compliance with the WEEE Directive any of its products that cannot be re-used.

Harmonic's customers should:

- Not discard equipment in household or office garbage
- Arrange proper recycling of unneeded equipment. For the take-back of Harmonic equipment, customers must:
  - Collect the information required to complete Harmonic's WEEE Take-Back Request form

- ❑ Complete and submit the online WEEE Take-Back Request form. Please note that forms must be fully completed in order to prevent process delays
- ❑ Receive instant online confirmation indicating the reference number
- ❑ Receive the End of Life (EOL) asset return authorization number and instruction for EOL asset return
- Not ship EOL product to Harmonic without a Harmonic-provided EOL asset return authorization number

The crossed-out wheeled bin symbol on a Harmonic-branded commercial product indicates that the product should not be disposed of along with municipal waste, but invites our customers to return the product to us under Harmonic's WEEE Take-Back program for product disposal.



Harmonic will pay for the cost of shipping and will provide a Certificate of Recycling or a Certificate of Destruction upon request. For more information on collection, reuse and recycling or to initiate the WEEE take-back process, please complete the form at <http://www.harmonicinc.com/webform/weee-takeback-request> or contact [Harmonic Technical Assistance Center \(TAC\)](#) or email RMA team at [rma.emea@harmonicinc.com](mailto:rma.emea@harmonicinc.com).

## Compliance with additional country specific environmental, safety, and EMC standards

In addition to above listed standards and compliance regulations, Harmonic products may also be compliant with other country specific environmental, safety and EMC requirements. Please contact Harmonic Compliance Team at [regulatory.compliance@harmonicinc.com](mailto:regulatory.compliance@harmonicinc.com) or your local sales representative for more information about compliance with particular country or standard.

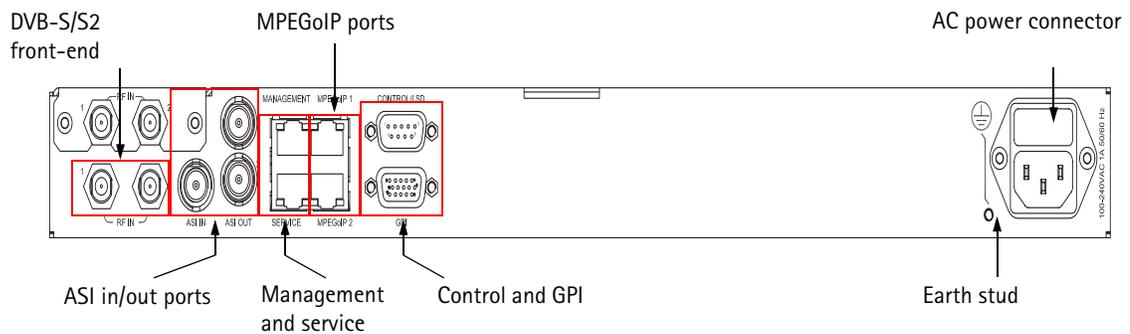
# Appendix C Connectors

Topics:

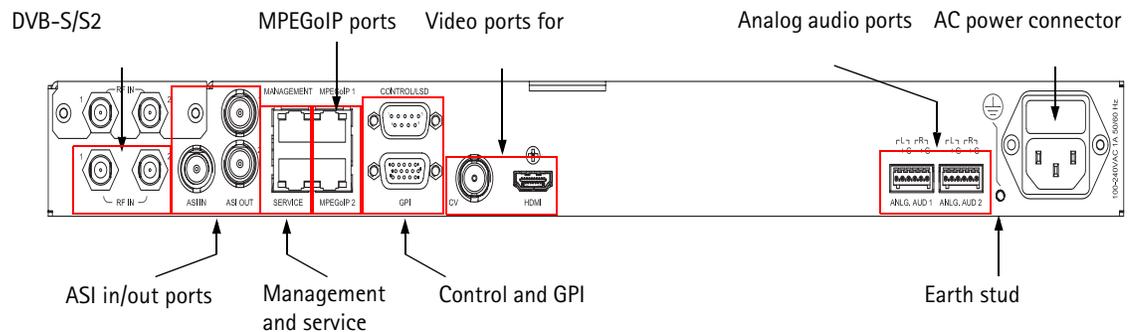
- [Overview of Rear Panel Ports and Connectors](#)
- [ProView 8100 GPI Port Pin Configuration](#)
- [GPI Relay Position Names](#)

## Overview of Rear Panel Ports and Connectors

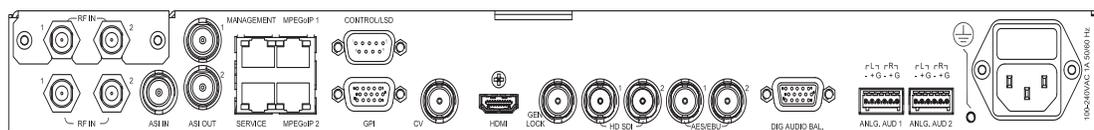
Figures B–1–3 illustrate the different ProView 8100 rear panels and [Table C–4](#) details the ports and connectors provided on the rear panels.



**Figure C–1: ProView 8105 Rear Panel**



**Figure C–2: ProView 8110 Decoder Monitor Rear Panel**



**Figure C–3: ProView 8130 Professional Decoder Rear Panel**

Table C-4: Rear Panel Ports and Connectors

Interface	Description	Connector Type
<b>DVB-S/S2 Front-end</b>		
RF IN <sup>1</sup>	2 x DVB-S/S2 RF modulated input stream (2 optional)	F-Type 75 Ohm
<b>ASI In/out Ports</b>		
ASI IN	1 x ASI input stream	BNC 75 Ohm
ASI OUT	2 x ASI output stream (mirrored)	BNC 75 Ohm
<b>MPEGoIP Ports</b>		
MPEGoIP 1 & 2	2 x GbE data ports <sup>2</sup>	100/1000 Base-T, RJ-45
<b>Management related ports</b>		
MANAGEMENT	External access to the device for control and monitoring	RJ-45
CONTROL/LSD	RS-232 interface connector	D-Type, 9-pin
GPI	General Purpose Interface connector, provides dry contacts (relays) to drive external alarms 2 x dry contacts	D-Type, 15-pin
<b>Decoder, Audio/video Output Ports</b>		
CV	1 x Analog video output (8110 and 8130 models)	BNC, 75 Ohm
HDMI	1 x HD monitoring interface, Audio 1 (stereo) embedded, supports HDMI and DVI modes (8110 and 8130 models)	HDMI
GEN LOCK	Frame Synchronizer (8130 model)	
HD SDI	2 x 3G SD/HD SDI (8130 model)	BNC, 75 Ohm
AES/EBU	2 x AES/EBU digital audio outputs (8130 model)	BNC, 75 Ohm
DIGITAL AUDIO BAL.	2 x Digital audio stereo output (balanced) (8130 model)	D-Type, 15-pin condensed, XLR harness with 4 XLR connectors included
ANLG. AUD	2 x Analog audio stereo output (8110 model)	2 x Terminal blocks D-Type 15-pin condensed

Table C-4: Rear Panel Ports and Connectors

Interface	Description	Connector Type
<b>Power related interfaces</b>		
Earth stud	Earth stud for connecting the earth cable	Screw stud
AC Power Socket	100–240 VAC 50/60Hz external power supply connector (for 18AWG three wire cord)	Kettle cord type socket

1. For best performance connect 75 Ohm terminators on all unused RF ports.
2. IP input requires a license.

## ProView 8100 GPI Port Pin Configuration

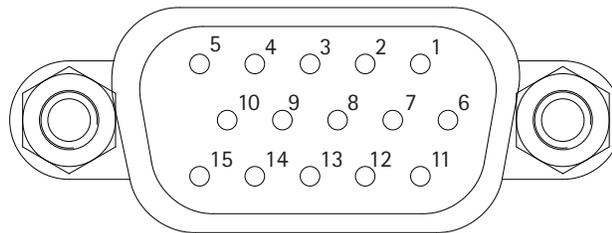
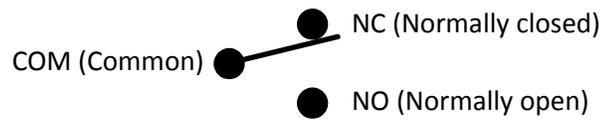


Figure C-5: D-Sub 15 Socket Pinouts

Table C-6: D-Sub 15 Socket Pinout Names

Pin No.	Signal
1	COM1
2	COM2
3	COM3
4	
5	
6	NC1
7	NC2
8	NC3
9	
10	
11	NO1
12	NO2
13	NO3
14	
15	

## GPI Relay Position Names



# Appendix D

## SAG Icons

Table D-1: ES/PIDS

Type	Clear (FTA)	Scrambled	Descrambled	PID Missing
Audio				
AVC				
Data				
DPI				
ECM		N/A	N/A	
EMM		N/A	N/A	
Ghost	?	N/A	N/A	?
M2				
MPE				
PCR				
PCR Emb on Aud				
PCR Emb on Vid				
Program				
Subs				
TXT				
VBI				
Video				

Table D-2: Tables/Programs/Processing

Item	Normal	Disabled	Missing
Audio TX			

**Table D-2: Tables/Programs/Processing**

Item	Normal	Disabled	Missing
Descriptor		N/A	N/A
Table			
Tables (Container)			
TS			
Video TX			

**Table D-3: Ports**

Port	Enabled	Disabled
1G RJ-45		
ASI		
DVB-S/S2		
HDMI		
LNB		
RJ-45		
Socket		
Sockets Container		

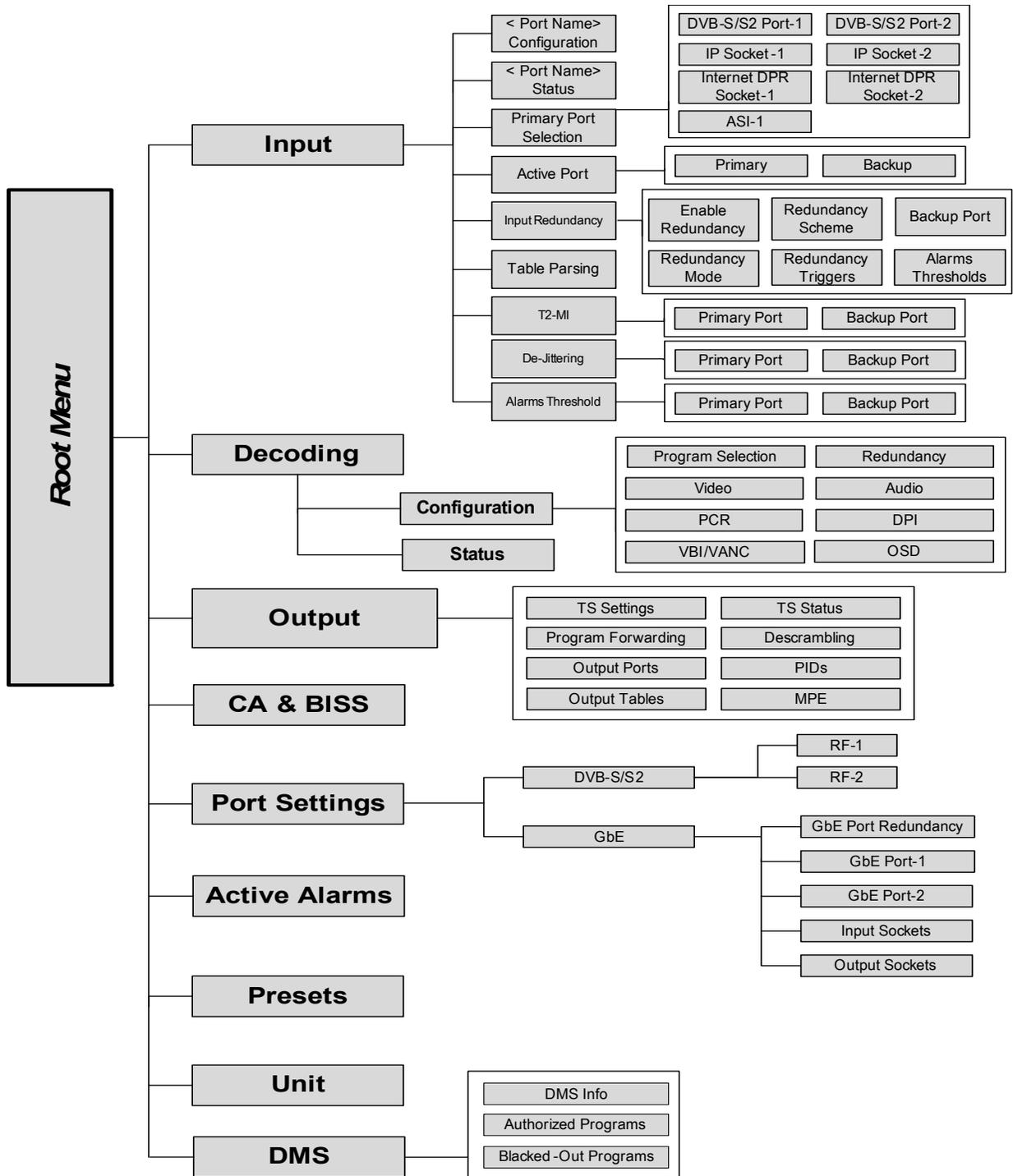
**Table D-4: Baseband/Decoder**

Engine	Normal	Disabled
Video		
Digital Audio		
Embedded Audio		
VBI		
VANC		

**Table D-4: Baseband/Decoder**

Engine	Normal	Disabled
Subs		
PCR		

# Appendix E Front Panel Menu Tree



**NOTE:** Some menus only display on certain models or with certain menu settings.

# Appendix F

## ProView 8100 Alarm List

The following table lists the ProView 8100 alarms and the information provided on the property sheet.

Short Description	Severity	Description/Action
Backup Input Port Activated	 Warning	The Backup Input Port has been activated. <ul style="list-style-type: none"> <li>■ It is recommended to revert to the Primary Port as soon as possible</li> </ul>
Backup Program Activated	 Major	The Backup Program has been activated due to failure of the Primary Program.
BER Too High	 Warning	The BER is too high. <ul style="list-style-type: none"> <li>■ Verify the reception conditions and the wiring</li> </ul>
CAM Descrambling Failure	 Major	The CAM has failed to descramble the configured programs. Try the following: <ul style="list-style-type: none"> <li>■ Re-insert the CAM</li> <li>■ Reset the CAM</li> </ul> If the problem persists, contact your CAM vendor.
CAM Input Bitrate Overflow	 Major	The input bitrate to the CAM is too high. <ul style="list-style-type: none"> <li>■ Consider to reduce the input bitrate</li> <li>■ For further instructions, contact Harmonic's Technical Assistance Center</li> </ul>
CAM Missing	 Major	No CAM has been detected in the slot. <ul style="list-style-type: none"> <li>■ Verify that the CAM is inserted properly</li> </ul>
CAM Processing Failure	 Major	No bitrate was detected after the CAM. Verify the following: <ul style="list-style-type: none"> <li>■ The input bitrate does not exceed the CAM limit</li> <li>■ The CAM supports the number of descrambled programs</li> </ul> If the problem persists, contact your CAM vendor.
CC Errors on Backup Port	 Warning	CC errors have been detected on the Backup Port. <ul style="list-style-type: none"> <li>■ Improve the reception conditions</li> </ul>
CC Errors on Backup Program	 Major	CC errors have been detected on the Backup Program. <ul style="list-style-type: none"> <li>■ Improve the reception conditions</li> </ul>
CC Errors on Primary Port	 Major	CC errors have been detected on the Primary Port. <ul style="list-style-type: none"> <li>■ Improve reception conditions</li> </ul>
CC Errors on Primary Program	 Major	CC errors have been detected on the Primary Program. <ul style="list-style-type: none"> <li>■ Improve the reception conditions</li> </ul>

Short Description	Severity	Description/Action
Critical High Temperature Detected	 Critical	A critical high temperature has been detected. <ul style="list-style-type: none"> <li>Make sure the fans are operating and are not blocked</li> <li>Turn off the device</li> </ul> If the problem persists, contact Harmonic's Technical Assistance Center.
Critical HW Failure	 Critical	<ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
Critical SW Failure	 Major	<ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
De-Jittering Failure	 Major	The device has not been able to de-jitter the input stream correctly. <ul style="list-style-type: none"> <li>Refer to the de-jittering status indication</li> </ul>
De-Jittering Failure on Backup Port	 Warning	The device has not been able to correctly de-jitter the input stream. <ul style="list-style-type: none"> <li>Refer to the de-jittering status indication</li> </ul>
De-Jittering Failure on Primary Port	 Major	The device has not been able to correctly de-jitter the input stream. <ul style="list-style-type: none"> <li>Refer to the de-jittering status indication</li> </ul>
Decoder Input Bitrate Overflow	 Major	The input bitrate is too high. <ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
Decoding Failure	 Major	The decoding operation has failed. <ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
Disaster Recovery Activated	 Major	Disaster Recovery has been activated. <ul style="list-style-type: none"> <li>Verify reception conditions</li> <li>Contact your broadcaster for further assistance</li> </ul>
Eb/NO Value Too Low	 Warning	The Eb/NO value is too low. <ul style="list-style-type: none"> <li>Verify the reception conditions and wiring</li> </ul>
Embedded Descrambler Overflow	 Major	The input bitrate is too high. <ul style="list-style-type: none"> <li>Either reduce the bitrate or consider bypassing the embedded descrambler</li> </ul>
ES Decoding Failure – Unsupported	 Major	The program cannot be decoded since the encoded content is currently not supported. <ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
Fan Failure	 Major	At least one of the fans has stopped operating. <ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
Failed to Connect to Zixi Broadcaster	 Major	Connection to the Internet DPR Broadcaster could not be established. <ul style="list-style-type: none"> <li>Refer to the Connection Status indication</li> </ul>

Short Description	Severity	Description/Action
Firmware Download Failure	 Warning	Firmware download has failed. Verify the following: <ul style="list-style-type: none"> <li>■ The correct file was selected</li> <li>■ There are no network disconnections</li> </ul> If the problem persists, contact Harmonic's Technical Assistance Center.
Firmware Upgrade Failure.	 Warning	Firmware upgrade has failed. <ul style="list-style-type: none"> <li>■ Upgrade again or revert to the previous version</li> </ul>
Frame Sync Failure	 Major	The program cannot be decoded properly because the decoder is not able to sync it to the input Genlock signal. Verify the following: <ul style="list-style-type: none"> <li>■ The Genlock input is properly wired</li> <li>■ The decoder display is configured correctly</li> </ul>
GbE Backup Port Activated	 Warning	The GbE Backup Port has been activated. <ul style="list-style-type: none"> <li>■ It is recommended to revert to GbE-1 as soon as possible</li> </ul>
GbE Input Port Failed	 Critical	Both GbE inputs have failed. Verify and consider the following: <ul style="list-style-type: none"> <li>■ The cables are properly connected on both ends</li> <li>■ The ports on both ends are enabled</li> <li>■ Adjust the redundancy mode</li> </ul>
High Temperature Warning	 Warning	A high temperature has been detected. <ul style="list-style-type: none"> <li>■ Make sure the fans are operating and are not blocked</li> <li>■ Turn off the device</li> </ul> For further support, contact Harmonic's Technical Assistance Center.
Input Failure	 Critical	Both source inputs have failed. <ul style="list-style-type: none"> <li>■ Verify that the cables are properly connected on both ends</li> <li>■ Verify the reception conditions</li> <li>■ Consider adjusting the Redundancy Mode or Triggers</li> </ul>
Link Down	 Major	Link down has been detected. Verify the following: <ul style="list-style-type: none"> <li>■ The cable is properly connected on both ends</li> <li>■ The ports on both ends are enabled</li> </ul>
Lock Failure	 Major	Failed to gain an RF lock. <ul style="list-style-type: none"> <li>■ Verify that the reception parameters are configured correctly</li> </ul>
Locked to an Alternative Link	 Major	Disaster Recovery has been activated. The device has locked onto an alternative link.

Short Description	Severity	Description/Action
MPEG Sync Loss on Backup Port	Warning	The device cannot sync to the input stream. <ul style="list-style-type: none"> <li>Verify that the input contains a valid MPEG transport stream</li> </ul>
MPEG Sync Loss on Primary Port	Major	The device cannot sync to the input stream. <ul style="list-style-type: none"> <li>Verify that the input contains a valid MPEG transport stream</li> </ul>
MPEG TS Output Overflow	Major	The Output effective bitrate is too high. <ul style="list-style-type: none"> <li>Consider either to increase the TS bitrate or to reduce the effective bitrate</li> </ul>
No PCR Detected	Warning	No PCR has been detected in the decoded stream. This may cause AV sync issues. <ul style="list-style-type: none"> <li>Check the PCR PID configuration</li> </ul>
Output Program Failure	Major	Both Primary and Backup Programs have failed. <ul style="list-style-type: none"> <li>For more details, refer to the Primary and Backup Program alarms' corrective action</li> <li>Consider adjusting the Redundancy Control Mode, Scheme, or Triggers</li> </ul>
Packet Loss Detected after CAM	Major	Packets were dropped by the CAM. Verify the following: <ul style="list-style-type: none"> <li>The input bitrate does not exceed the CAM limit</li> <li>The CAM supports the number of descrambled programs</li> </ul> If the problem persists, contact your CAM vendor.
PCR Missing on Backup Program	Major	The PCR of the Backup Program is not received. <ul style="list-style-type: none"> <li>Verify that the input stream is received</li> <li>Re-check the configuration in the upstream device</li> </ul>
PCR Missing on Primary Program	Major	The PCR of the Primary Program is not received. <ul style="list-style-type: none"> <li>Verify that the input stream is received</li> <li>Re-check the configuration in the upstream device</li> </ul>
PER Too High	Warning	The PER is too high. <ul style="list-style-type: none"> <li>Verify the reception conditions and wiring</li> </ul>
PID Conflict	Major	More than one PID is mapped to the same output PID. <ul style="list-style-type: none"> <li>Review the output configuration</li> </ul>
PID Missing on Backup Port	Warning	No bitrate has been detected on this PID. Problem originating upstream.
PID Missing on Primary Port	Major	No bitrate has been detected on this PID. Problem originating upstream.

Short Description	Severity	Description/Action
Program Descrambling Failure	Major	Program descrambling has failed. <ul style="list-style-type: none"> <li>Verify that the number of programs descrambled is supported by the CAM or contact your CAM vendor</li> </ul>
Searching for an Alternative Link	Major	Disaster Recovery has been activated. The device is searching for an alternative link.
Source Unreachable	Major	The Sender's IP address is unreachable. <ul style="list-style-type: none"> <li>Add IP Routes from the GbE ports to that IP address</li> </ul>
T2-MI De-Framing Failure on Backup Port	Warning	The device cannot sync to a valid T2-MI stream. <ul style="list-style-type: none"> <li>Confirm that the T2-MI PID configuration is correct</li> </ul>
T2-MI De-Framing Failure on Primary Port	Major	The device cannot sync to a valid T2-MI stream. <ul style="list-style-type: none"> <li>Confirm that the T2-MI PID configuration is correct</li> </ul>
T2-MI Not Detected on Backup Port	Warning	The device cannot sync to a valid T2-MI stream. <ul style="list-style-type: none"> <li>Confirm that the T2-MI PID configuration is correct</li> </ul>
T2-MI Not Detected on Primary Port	Major	The device cannot sync to a valid T2-MI stream. <ul style="list-style-type: none"> <li>Confirm that the T2-MI PID configuration is correct</li> </ul>
T2-MI PID Missing on Backup Port	Warning	The configured T2-MI PID is absent. <ul style="list-style-type: none"> <li>Confirm that the T2-MI PID configuration is correct</li> </ul>
T2-MI PID Missing on Primary Port	Major	The configured T2-MI PID is absent. <ul style="list-style-type: none"> <li>Confirm that the T2-MI PID configuration is correct</li> </ul>
Video PID Missing on Backup Program	Major	The Video PID of the Backup Program is not received. <ul style="list-style-type: none"> <li>Verify that the input stream is received</li> <li>Re-check the configuration in the upstream device</li> </ul>
Video PID Missing on Primary Program	Major	The Video PID of the Primary Program is not received. <ul style="list-style-type: none"> <li>Verify that the input stream is received</li> <li>Re-check the configuration in the upstream device</li> </ul>
VMX Descrambler Initialization Failure	Major	<ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>
VMX Descrambler Over-Provisioned	Major	The Verimatrix descrambler configuration has exceeded its specifications. <ul style="list-style-type: none"> <li>Contact Harmonic's Technical Assistance Center</li> </ul>

Short Description	Severity	Description/Action
Voltage Error	 Critical	■ Contact Harmonic's Technical Assistance Center

# Appendix G

## Firmware Management

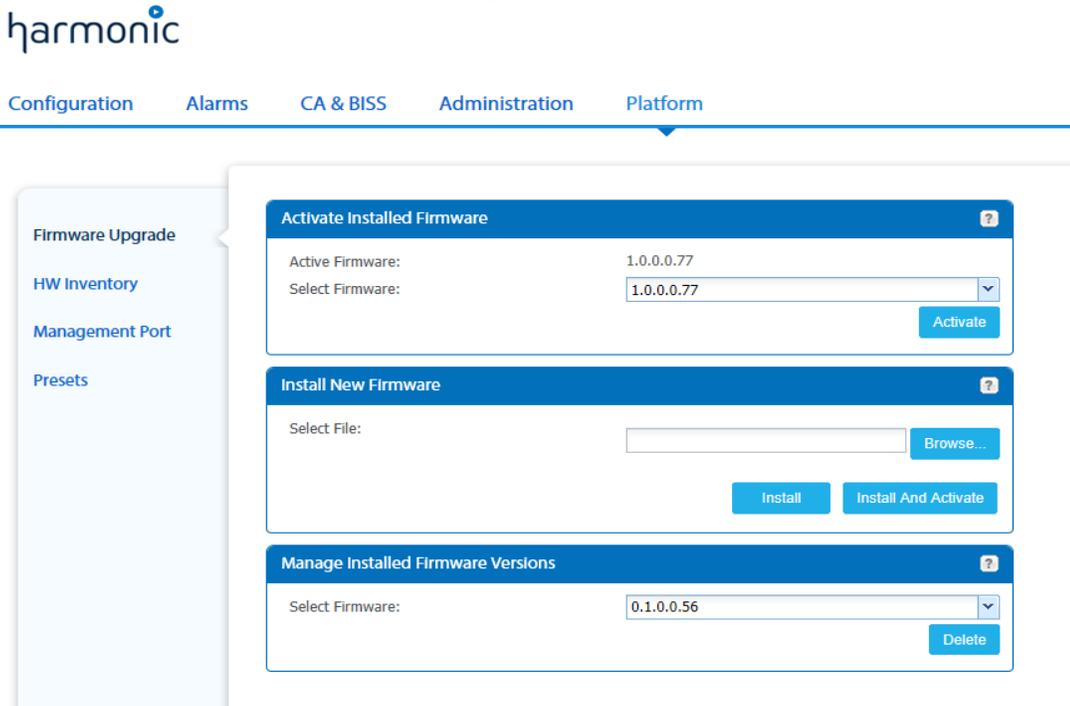
The current and last firmware versions of the ProView 8100 are stored in the unit. The SAG enables you to manage (Install, Activate, and Delete) the firmware. The process of changing the active firmware version takes several minutes and requires a reboot.

**CAUTION:** The BOOTP software upgrade option should be turned off when using the SAG to upgrade the ProView 8100 unit. See [Global Settings](#).

### Opening the Firmware Upgrade Pane

To open the Firmware Upgrade submenu from the SAG Platform menu:

1. Open the SAG in your browser.
2. Navigate **Platform > Firmware Upgrade**.



The Firmware Upgrade submenu shows three dialog boxes:

- Activate Installed Firmware
- Install New Firmware
- Manage Installed Firmware Versions

### Activating Installed Firmware

The Activate Installed Firmware dialog box shows the active firmware version and a drop-down list from which you can select another firmware version.

To change the active firmware version, in the Activate Installed Firmware dialog box, select the required version from the drop-down list and click **Activate**.

## Installing New Firmware

The **Install New Firmware** dialog box enables you to browse for a firmware version and to install or install and Activate it.



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**NOTE:** For information on downloading a firmware package, contact Harmonic Technical Assistance Center.

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**NOTE:** The new firmware file has the extension .zip and should be located on your PC or network.

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**NOTE:** When the device is controlled by the DMS, Activation cannot be performed.

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To install new firmware:

1. In the **Install New Firmware** dialog box, click **Browse** and browse for the firmware file.
2. Select the file and click **Open**.
3. Click either **Install** or **Install and Activate**.
  - a. When clicking **Install**, you will have to perform the activation process as described in [Activating Installed Firmware](#).
  - b. When clicking **Install and Activate**, the selected firmware version is installed, the unit reboots, and the new firmware becomes the active firmware version.

## Managing Installed Firmware Versions

The **Manage Installed Firmware Versions** dialog box enables you to delete installed firmware versions.

To delete installed firmware versions:

- In the **Manage Installed Firmware Versions** dialog box, select the required firmware version from the drop-down list and click **Delete**.

