

ProView[™] 2912 Universal IP Decoder

Installation Guide

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Trademark Acknowledgments

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Compliance and Approval

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the Federal Communications Commission (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. 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.

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.

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.

WEEE/RoHS Compliance Policy

Harmonic Inc. intends to comply fully with the European Union's Directive 2002/96/EC as amended by Directive 2003/108/EC, on Waste Electrical and Electronic Equipment, also known as "WEEE," and Directive 2002/95/EC, as amended, on the Restriction of use of Hazardous Substances, also known as "RoHS."

Harmonic will ensure that product which cannot be reused will be recycled in compliance with the WEEE Directive. To that end, users are advised that (1) Harmonic equipment is not to be discarded in household or office garbage, (2) Harmonic Inc. will pay the freight for shipment of equipment to be disposed of if it is returned to Harmonic, (3) customers should call the normal RMA telephone numbers to arrange for such shipment, and (4) for additional and updated information on this process customers may consult the Harmonic website: http://harmonicinc.com/ah_weee_recycle.cfm.

Harmonic will ensure that its products will be either reused or recycled in compliance with the WEEE Directive. For the latest information concerning Harmonic's WEEE/RoHS Compliance Policy and its Recycling and Take-Back process, please visit our web site.



产品中的有毒有害物质或元素的名称及含量表

Names and Contents of the Toxic and Hazardous Substances or Elements in the 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.

	有毒有害物质或元素 (Hazardous Substance)											
部件名称 (Part name)	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)	х	0	0	0	ο	0						
机械组件 (Mechanical Subassemblies)	х	0	0	0	Ο	Ο						
光学组件 (Optical Subassemblies)	х	0	0	0	Ο	Ο						
电源 (Power Supplies)	х	0	0	0	Ο	0						
缆线 / 线束 (Cables, Harnesses)	х	0	0	0	0	0						
屏幕 / 显示器 (Screens, Monitors)	х	0	0	0	0	0						
金属零件 (Metal Parts)	0	0	0	0	0	0						
塑料/ 发泡材料 (Plastics, Foams)	0	0	0	0	0	0						
电池 (Batteries)	х	0	0	0	0	0						

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.

Standards and Agency Approval

The following tables list regulatory standards and agency approvals:

North America

Standards	Agency Approval
EMI: FCC Part 15, Subpart B, ICES-003, Issue 2, Class A	FCC
Safety: UL 60950, CSA 60950	cTUV-us Mark

Europe

Standards	Agency Approval
EMI/EMC: EN55022, Class A, EN55024	CE
Safety: EN 60950	TUV-GS-Mark, CE

Japan

Standards	Agency Approval
EMI: VCCI V-3 / 2000.04	VCCI

Australia and New Zealand

Standards	Agency Approval
EMI: AS/NZS-3548: 1995 +A1: 1997 +A2: 1997	N/A

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INTRODUCTION

Harmonic Inc. takes great pride in delivery of its products and makes every endeavor to ensure its clients full satisfaction.

On behalf of the whole Harmonic Inc. team, we would like to extend our congratulations on your investment in the ProView 2912 Universal IP Decoder.

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MANUAL SCOPE AND STRUCTURE

The ProView 2912 Universal IP Decoder User Manual is comprised of the following chapters:

1. OVERVIEW

This chapter provides an introduction and product description, including ProView 2912 highlights and benefits, functional and mechanical description, redundancy options, and main capabilities and specifications.

2. INSTALLATION

This chapter includes installation and activation information. It details the following procedures:

- Site Preparation and requirements
- Installation in a 19" rack
- Cable connections
- Front and rear panels options and pin-out descriptions
- Initial settings
- Serviceability check

3. MANAGING THE DEVICE

This chapter provides details on ProView 2912 management and monitoring, using the device's web-based control interface.

Chapter 1. OVERVIEW

The PROVIEW 2912 Universal IP Decoder is designed to provide a cost-effective solution for the migration from current analog distribution networks to IP distribution networks together with saving rack space and power.

Based on its renowned expertise in decoding and top of the line networking solutions, Harmonic Inc. has designed the ProView 2912 that enables to concurrently decode up to 12 video programs from up to six different incoming transport streams, while ensuring professional video and audio quality provisioning.

The Sub-second link and logical redundancy technology used in the design of the ProView 2912 ensures the provision of blinking-speed image recovery for continuously maintaining top quality service. The ProView 2912 can easily managed and monitored using its easy-to-use and powerful web-based management tool.

Housed in a true 1RU slim-line chassis and featuring low power consumption, the PVR-2912 fully integrates with the Harmonic Inc. product platform.

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Figure 1-1: ProView 2912 Universal IP Decoder

1.1. HIGHLIGHTS AND BENEFITS

Main features and options include:

- 12 MPEG2 decoders in one true 1RU chassis
- Decoding of up to 6 concurrent Transport Streams over IP
- Superb 4:2:0 video decoding quality
- Multiple VBI standards (including TV-GPVR-2912E, AMOL I and AMOL II)
- Primary and secondary (SAP) audio stereo channels
- Dolby Digital (AC-3) Lt/Rt downmixing
- Dual GbE ports (1000Base-T and SFP) for dual-homing connection and for sub-second link redundancy
- Logical (source) sub-second redundancy
- IGMPv2
- IGMPv3 (SSM)
- Network de-jittering using size-configurable buffers
- Port filtering (L4 switching)
- 1 RJ-45 10/100Base-T Management port for remote management
- 1 RJ-45 10/100Base-T Service port for professional management support
- Dual ASI Input
- Telnet and web-based management
- Basic SNMP management
- Programmable GPI dry contacts
- Hot-swappable power supply (DC or AC)
- Hot-swappable dual-decoder cards
- EAS (Emergency Alert System SCTEM18)

1.2. FUNCTIONAL BLOCK DIAGRAM

This section details the functionality of the ProView 2912 main board and dual-decoder card

1.2.1. Main Board

The ProView 2912 main board is logically divided into two layers: the Video TS Data layer and the Management and Control layer (see Figure 1-2).



Figure 1-2: ProView 2912 Block Diagram

1.2.1.1. Video TS Data Layer

The ProView 2912 has four GbE interfaces: two copper (1000Base-T RJ-45) and two fiber (MM SR SFP from Agilent or Finisar; modules not included). By default, the ProView 2912 uses the two copper GbE interfaces. The MPEGoIP TS received through one or both RJ-45 (or SFPs) interfaces first enters the ProView 2912's Physical Layer (PHY). The PHY transforms the received signals into data bits. The Ethernet frames enter the L4 (Layer-4) switch. The L4 Switch applies a 96 Byte Classifier to the incoming TS. By performing UDP port filtering, it denies all IP frames that were not expected by the ProView 2912. This allows only the relevant IP frames to pass through the Switch. The L4 Switch then routes the filtered IP frames to one of twelve independent De-jittering blocks.

DE-JITTERING MECHANISM

The ProView 2912 contains 12 independent De-Jittering blocks (see figure 1-3).

The purpose of the De-Jittering mechanism is to receive the Ethernet frame, de-capsulate it into MPEG TS packets, eliminate the inherent jitter introduced by a typical IP network and transmit valid MPEG TS packets (in terms of PCR) to the next component. This mechanism practically acquires the source exact frequency and follows it.

There are IP over Ethernet frames containing MPEG packets that arrive at the De-Jittering blocks. First they enter an IP De-encapsulator that extracts the MPEG packets from the Ethernet frame. The de-encapsulated MPEG packets enter a configurable, 64Mbit-maximum De-jitter buffer. The buffer size configurability enables the user to optimize unit-performance according to needs. The larger the buffer, the longer is the jitter that can be eliminated (traded-off by longer latency). The PCR Estimator and Stream Verifier obtain the MPEG packets from the De-jitter process. The De-jitter process cleans the jittered clock provided by the PCR Estimator. The Stream Verifier ensures that the MPEG TS is valid.



Figure 1-3: De-Jittering Block Scheme

The De-jittered MPEG packets exit the De-jittering blocks and enter the Cross-Connect Matrix, that routes it to one or more of the six ProView 2912's dual-decoder cards.

1.2.1.2. Management and Control Layer

The Management and Control layer is comprised of the unit control interfaces, Processor, and System Monitor.

The unit control interfaces are:

- **Management 10/100Base-T** Management interface for remotely managing the ProView 2912 through the web management application.
- Service 10/100Base-T Used only by trained professionals.
- Terminal (RS-232) Used only by trained professionals.
- **GPI (Dry Contact)** Programmable Dry Contact relays that enables the operator to define events in which to output an electrical indication.

The processor controls and configures the following elements:

- PHY
- L4 switch
- De-jitter blocks
- Transport Stream Cross Connect Matrix
- Dual-decoder cards

Additionally, the processor performs the following tasks:

- Retrieves status from the dual-decoder cards
- Manages the ProView 2912 Real-Time Database (RTDB)
- Runs the web server for managing the ProView 2912
- Includes the SNMP agent
- Manages Status information received from the System Monitor
- Manages alarms and LED statuses

1.2.2. Dual-decoder Card

The dual-decoder card receives an MPEG TS as an input. The TS is analyzed, PSI/SI tables are parsed and up to two services are decoded simultaneously for each dual-decoder card. Each decoder in the dual-decoder card has its own video and two balanced stereo audio outputs (main and SAP)

Figure 1-4 illustrates a simplified block diagram of the ProView 2912 dual-decoder card.



Figure 1-4: ProView 2912 Dual-decoder Card Simplified Block Diagram

1.3. REDUNDANCY CAPABILITIES

In the ProView 2912 design, Harmonic Inc. is committed to the No Single Point of Failure (NSPF) architecture (see Figure 1-5 illustrating an NSPF network scheme). The design of the ProView 2912 allows setting up the device to provide fast redundancy in case of lost or incomplete IP transport streams. Figure 1-5 illustrates the ProView 2912's design that allows exploiting of the NSPF architecture.



Figure 1-5: No Single Point of Failure Network Scheme

1.4. THE REDUNDANCY MECHANISM

The ProView 2912 automatically identifies a damaged or missing transport stream, and almost instantly recovers the image (redundancy time of 7 to 8 seconds) with no need of operator intervention. The ProView 2912 can acquire the same transport stream contents from two different multicast sources and automatically switch between them when necessary.

The ProView 2912 handles two types of failures:

- Loss of physical link
- Damaged or lost multicast stream

The ProView 2912 identifies both situations, and automatically supplies the Physical Link or Logical (Source) redundancy solution.

1.4.1. Physical Link Redundancy

Physical Link Redundancy enables the recovery of data flow when the **Carrier Signal is lost**. In such case, there are no IP transport streams coming through the primary GbE port. The ProView 2912 automatically switches to the source arriving through the secondary GbE port.

1.4.2. Logical (Source) Redundancy

Logical (Source) Redundancy enables the recovery of data flow when the relevant multicast stream is not present or has significant packet loss (indicated by de-jittering buffer underflow). In such case, the ProView 2912 identifies the problem and switches to the secondary multicast address, carrying the redundant TS.

Notes

- The Primary and Secondary GbE ports sources are defined by the operator through the **IP Front-End** screen in the web management interface. See Section 1.7.1.
- It is recommended to configure the ProView 2912 secondary GbE port to receive a redundant multicast TS from a **different Multicast source** than the one used by the primary GbE port.

1.4.3. Local Redundancy Settings

Both ProView 2912 GbE ports can be constantly connected to the network. Each port manages a separate IP stack, making both GbE ports simultaneously active. Each GbE port has a unique MAC and IP addresses. The ProView 2912 redundancy abilities allow it to provide two types of local redundancy settings: **Single Homing Redundancy**, and **Dual Homing Redundancy**.

1.4.3.1. Single Homing Redundancy

The ProView 2912's ability to detect signal loss and automatically switch between its GbE sources enables it to overcome an unexpected disconnection of a RJ-45 (copper) or SFP (fiber or copper) data cables (see Figure 1-6). The ProView 2912 can be configured to automatically switch its data acquisition from GbE 1 to GbE 2 (or vice versa), providing sub-second image recovery.



Figure 1-6: Single Homing Redundancy

1.4.3.2. Dual Homing Redundancy

In case the local site uses two routers to connect one or multiple ProView 2912 devices to the network, the device's capabilities allow dual-homing redundancy. Each ProView 2912 is connected to both routers (see Figure 1-7), so that if one fails, all the ProView 2912 devices automatically switch to the other router through their secondary GbE port. All the ProView 2912 devices immediately start acquiring the IP TS from the other router.



Figure 1-7: Dual-Homing Router Redundancy

1.4.4. IGMP Join Methods

There are two methods for using the ProView 2912 redundancy capabilities:

- **IGMP Join When Active** The ProView 2912 is regularly joined only to the primary source. In this case, when an IP TS is lost or corrupted, the redundancy option is switching to a secondary network source by sending Join requests to that source. This process allows the use of less bandwidth, but at the same time causes long recovery time (recovery time can reach up to 90 seconds, depending on the number of hops between the ProView 2912 and secondary source).
- **IGMP Join Both Always** The ProView 2912 is regularly joined to both the primary and the secondary sources. In this case, when an IP TS is lost or corrupted, the redundancy option is switching to the secondary source that is already connected to the ProView 2912. Although this increases the use of bandwidth, it allows the ProView 2912 to provide subsecond redundancy when switching from the Primary to the Secondary source.

Νοτε

Switching from the primary source to secondary is completed automatically by the ProView 2912 after detecting lost/incomplete IP TS. For switching back to the primary source must be performed manually by the operator.

1.5. EMERGENCY ALERT SIGNALING

1.5.1. General description

By the FCC, all television providers are required to support EAS messaging to all their subscribers. EAS messages are used to notify viewers of current emergencies situations.

SCTE 18, supported by the PVR-2912, is a standard which defines a digital method for distributing EAS messages. The standard defines a *cable_emergency_alert()* message in the form of an MPEG-2 table section, compatible with MPEG-2 transport. It includes the following elements:

- Signaling scheme to identify the presence of an Emergency Alert
- Start time and expected duration of the alert event
- Textual description of the emergency alert
- Indication of the availability and location of the "details" channel, an audio/video service pertaining to the alert

The PVR-2912 supports three emergency alarm methods:

- Text crawl upon the occurrence of an event, a ticker is displayed on the screen delivering emergency alert text.
- Force tuning (Slate switching) upon the occurrence of an event, an emergency broadcast interrupts and replaces the existing program.

Figure 1-8 illustrates the system architecture of the EAS system using an out-of-band EAS messaging:



Figure 1-8: EAS System Architecture

Additionally, the message may contain the details of a multicast force tune channel to be displayed for this EAS message. These details are the stream's multicast group number, source IP in case of IGMPv3, UDP port and program number. If such information exists, the PVR-2912 switches to this program after a short delay (a few seconds, during which de-jittering is performed on the stream). The stream is transmitted by the PVR-2912 only through those decoders that have been configured for EAS transmission in the EAS configuration screen. If a text passage is included in the EAS message, then this text will appear and crawl on the screen, overlaid on the force-tuned program.

If the EAS message does not contain details of a multicast force tune channel, the details are taken from the Default EAS Stream (see section 3.8.2).

If a new EAS message is encountered while a previous message is being processed, it is managed by the PVR-2912 in the same way.

Each EAS message contains time duration at the end of which the PVR-2912 automatically switches back to the regular MPTS transmissions, which were interrupted by the EAS channel.

There is a user configurable option for an EAS message priority threshold any message above this priority will cause an interruption in the regular programs as described above. A lower priority EAS message will not affect regular programs.

1.6. MECHANICAL STRUCTURE

The ProView 2912 is housed in a rugged 1RU by 19" industrial chassis, (rack mount).



1.6.1. Front Panel

The ProView 2912 front panel contains network and management interfaces as well as status LEDs. Figure 1-9 shows a ProView 2912 DC front panel.



Figure 1-9: ProView 2912 Front Panel (Dual AC Power Supply)

FRONT PANEL FEATURES

- Dual hot-swappable, load-share DC or AC power supplies or Single AC power supply.
- 4 unit status LEDs
- 6 dual-decoder cards status LEDs
- Local terminal RS-232 DB-9 male connector.
- GPI dry contacts DB-9 male connector.
- Ethernet 10/100Base-T RJ-45 for web based and SNMP management.
- Ethernet 10/100Base-T RJ-45 for remote management services (for remote professional support).
- Dual 1000Base-T, MDI, MDIX, RJ-45 connectors.
- Dual 1000Base-X MM, SR, SFP housing (SFP modules not included).

The ProView 2912 front panel is divided into three sections:

• **Power Supply** – The ProView 2912 includes a hot-swappable Power Supply, located on the left side of the front panel (either a single or dual AC power supply, or dual DC power supplies). Every PS unit has two LED status indicators. See Section 1.6.1.1 for details.

- **Status-Indicator LEDs** The middle section of the front panel, contains four general Unit-Status Indicator LEDs and six dual-decoder-card Status-Indicator LEDs. For detailed information about LED status-indications see Section 2.4.1.2.
- **Data and Management Ports** The right section of the front panel, contains management ports, GbE data ports, and a GPI dry contact port. See Section 2.4.1.1 for details.

1.6.1.1. ProView 2912 Power Supply Options

The ProView 2912 is available with one of the following power supply units:

- Single AC power-supply
- Dual AC, hot-swappable power supply
- Dual DC, hot-swappable power supply
- Figure 1-10 shows the available types of the ProView 2912 PS Power Supply units.



DUAL DC DUAL POWER SUPPLY UNIT



AC DUAL POWER SUPPLY UNIT



SINGLE AC POWER SUPPLY UNIT

Figure 1-10: ProView 2912 Power Supply Options

All PS units have the following two status- LED Indicators on their front side:

- **Power** indicates the PS unit's connection-to-a-current-source status. It is lit green when the PS unit is connected to a current source. Otherwise, the LED is off.
- Fault indicates a fault in the PS unit.

All types of ProView 2912 power-supply units are easily replaceable.

POWER SUPPLY HOT-SWAP

When using a dual PS unit, the ProView 2912 is equipped with two identical power supply subunits. Regularly, both sub-units equally share the power-load.

When replacing one sub-unit, the other sub-unit immediately takes on 100% of the power-load. This enables the ProView 2912 to continue working with just one Power supply sub-unit, without a decrease in service quality.

The faulty sub-unit can then be replaced without powering down the device. After installing a replacement sub-unit, it automatically takes back 50% of the power-load.

The procedure of replacing a faulty power supply unit is almost effortless and only takes a few minutes. For more details, please refer to Section 2.5.4.

NOTE

Use only recommended and same power supply models for replacement.

1.6.2. Rear View

The ProView 2912 contains six hot-swappable dual 4:2:0 MPEG2 decoder cards. Figure 1-11 displays a rear view of the ProView 2912, containing the six dual-decoders' identical interfaces.



Figure 1-11: ProView 2912 Rear Panel

1.6.3. Dual-decoder Cards

The ProView 2912 contains six dual 4:2:0 decoder cards, allowing it to decode up to 12 video programs from the received transport streams. Each dual-decoder card has a dedicated control and management interface controlled by the processor on the main board.

1.6.3.1. Front Panel Indicators

The ProView 2912 front panel, under the title **'CARD STATUS'** (see Figure 1-12) have six numbered LED indicators. Each LED indicates the work status of a dual-decoder card. The different types of LED indications are detailed in Section 2.4.1.2.



Figure 1-12: Dual-decoder Cards Front Panel Status LEDs

1.6.3.2. Rear Panel

Most of the ProView 2912 rear panel surface is occupied by the six dual-decoder card connector interfaces (see Figure 1-11). Each dual-decoder card has four balanced analog audio stereo interfaces and two analog video interfaces.

1.7. MANAGEMENT

1.7.1. Web-Based Management

The ProView 2912 is controlled through a user-friendly web-based management GUI, supported by common web browsers. The web-based management tool enables the setting of ProView 2912 parameters (dual-decoder card parameters, de-jittering delay, general unit parameters, alarms definitions, etc.) as well as displays device statistics and statuses (device status, ports statuses, dual-decoder-cards statuses and so on).

1.7.2. Telnet Management

The ProView 2912 can be controlled and configured from a standard PC using Telnet (over Ethernet). Telnet provides access to control and monitoring functions for advanced users.

L CAUTION

It is strongly recommended that Telnet management is to be used only by advanced, trained users.

1.8. PROVIEW 2912 SPECIFICATIONS

1.8.1. Input/Output Specifications

FEATURE	SPECIFICATIONS		
MPEGoIP	• Receiving of up to 12 (6+6) TS over IP		
	Decoding of up to 6 concurrent TS over IP		
	 Maximum TS bit rate (when in 'IGMP Join When Active mode'): 54Mbps 		
	 Maximum TS bit rate (when in 'IGMP Join Always mode'): 40Mbps 		
	• Link redundancy recovery time (when in 'IGMP Join Always' working mode): less than 1 second.		
	 Logical (source) redundancy recovery time: less than 1 second (when in 'IGMP Join Always' working mode) 		
	• UDP		
	• IGMPv2		
	• IGMPv3 (SSM)		
	L3, L4 filtering (Port filtering)		
	• Size of configurable De-jittering buffers: 200-2000ms		
	• Fixed IP packet size (1-7 MPEG packets) support		
	Variable IP packet size support		
	RMON statistics (L2)		
	L3 Statistics		
	Interfaces:		
	 Dual 1000Base-T, RJ-45, Auto-Negotiation, Auto MDI/MDIX Crossover 		
	 Dual SFP, MM, SR (Agilent[™], Finisar[™]) 		
ASI INPUTS	Interfaces:		
	Dual ASI In:		
	- 75 Ω BNC connectors		
	- TS Bit rate up to 100 Mbps (Byte and Burst modes)		
	- Packet format: 188 bytes		

1.8.2. Dual-Decoder Card Specifications

FEATURE	SPECIFICATIONS
GENERAL	Hot-swappable
VIDEO OUTPUT	 2 Analog Video 75Ω BNC interfaces Video formats: NTSC PAL-B/G/I/M/N/D
	 Decoding: 4:2:0 MP@ML (1.5-15 Mbps) Video Resolution interpolations: Pan-scan Letter Box
	 Pass-through Aspect Ratio: 4:3 16:9 Graphic processing:
	DVB Subtitling EBU (Teletext) Subtitling
VBI RE-INSERTION IN COMPOSITE VIDEO	 WST Teletext and inverted Teletext WSS, VPS, VITC, CC, AMOL I, AMOL II (optional), V-CHIP, TV-GPVR-2912E Enhanced VITS with built-in generator

FEATURE	SF	SPECIFICATIONS		
AUDIO OUTPUT	•	4 Analog Audio Stereo balanced interfaces Pheonix		
	•	Micro Combicon 6-pin connector		
	•	Primary and secondary audio (SAP)		
	•	Modes:		
		Stereo		
		Joint stereo		
		Dual channel		
		Single channel		
	•	Maximum analog output level: +18dBu at 16Ω load		
	•	Attenuation control: 64dB to 0dB and Mute		
	•	Dolby Digital (AC-3) Lt/Rt Downmixing		

1.8.3. Control Specifications

FEATURE	SPECIFICATIONS		
CONTROL	• 10/100Base-T (RJ-45) Remote Management interface		
	Web Based Management		
	• 3 programmable GPI Dry Contacts (DB-9 Male)		
	 10/100Base-T (RJ-45) service interface 		
	RS-232 (DB-9, Male) local service interface		
	Software download:		
	FTP		
	TFTP		
	Local Service Interface		

1.8.4. Monitoring Specifications

FEATURE	SPECIFICATIONS		
MONITORING	Front panel status LEDs		
	Dual-decoder card status		
	Power supply status		
	Internal voltages		
	Temperature		
	Fans RPM		

1.8.5. Compliance Specifications

FEATURE	SPECIFICATIONS		
ЕМС	• FCC Part 15 (Class A)		
	• EN55022 (CISPR 22)		
	• EN55024 (CISPR 24)		
	• EN61000-3-2 (Class A)		
	• EN61000-3-3		
SAFETY	• UL60950		
	• EN60950		
	• CB (IEC60950)		
	• cTUVus		
	• GS		

1.8.6. Environmental Specifications

FEATURE	SPECIFICATIONS		
OPERATION	• Temperature: 0°C – 50°C		
	Humidity: 5% - 85% (non-condensing)		
STORAGE AND	• Temperature: -40°C – 70°C		
TRANSPORTATION	Humidity: 0% - 95% (non-condensing)		

1.8.7. Physical and Power Specifications

FEATURE	SPECIFICATIONS		
CHASSIS	 1 RU unit, 19" rack mountable 		
	• Dimensions (HxWxD):		
	1RU x 19" x 22"		
	44 mm x 482.6 mm x 562 mm		
	 Weight (fully equipped): 10.5Kg/23.1lbs 		

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POWER SUPPLY	•	Dual hot-swappable load shared 36V-72V DC
	•	Dual hot-swappable load shared 120-240 V AC, 50/60Hz, 2A
	•	Single 120 – 240V AC, 50/60Hz
	•	Max Power consumption: 120W (fully equipped)

Chapter 2. INSTALLATION

This chapter details the installation procedures of the ProView 2912 installation.

2.1. SAFETY PRECAUTIONS

To avoid injury or damage to the equipment, take the following precautions:

- Do not move or ship equipment unless it is correctly packaged in its original wrapping and shipping containers
- Allow only Harmonic Inc.-authorized personnel to perform equipment service and maintenance
- To prevent electric damage caused by lightning, ground the unit according to local regulations
- Allow only qualified personnel to operate the device.

2.2. INVENTORY CHECK

Before installing the unit, use the following checklist to verify that all the required equipment has arrived.

Examine all items for damages before proceeding with the installation.

CAUTION

If any of the items in the following table are missing or damaged, do not proceed with the installation. Contact your local distributor for assistance.

Ітем	QUANTITY
Fully equipped ProView 2912 Universal IP Decoder including:	1
AC power supply	
Or Dual AC power supply	
Or Dual DC power supply.	
Power cable (only with AC PS)	1
Pheonix Micro Combicon 6-pin connectors	24
Iı

EM	QUANTITY
oView 2912 User Manual (Printed/CD)	1

RACK INSTALLATION 2.3.

This section details the installation procedure of the device in a 19" rack.

2.3.1. Preparing the Site

The device must be installed within 1.5m (5 feet) from an easily accessible grounded AC outlet or a single or double DC outlet (depending on the type of existing power supply unit), capable of furnishing the required supply-voltage.

Νοτε

When the device is installed in a standard 19" rack, verify that the rack is fully prepared for the installation. To facilitate easy access during installation and maintenance, leave sufficient space for easy access behind the rack.

The use of a UPS (Uninterrupted Power Supply) and an AVR (Automated Voltage Regulation) is highly recommended to ensure uninterrupted operation of the device.

Ensure that a qualified electrician has installed the main power supply according to local power authority regulations. All powering should be wired with an earth leakage according to local regulations.

WARNING

- ENSURE THAT THE RACK HAS BEEN CORRECTLY GROUNDED BEFORE POWERING ON THE DEVICE.
- WHEN REMOVING THE UNIT, DO NOT REMOVE THE GROUND CONNECTION TO THE DEVICE UNTIL ALL CABLES FROM AND TO THE DEVICE HAVE BEEN DISCONNECTED, INCLUDING THE POWER CABLE.

2.3.2. Integrating the Device in a 19" Rack

Due to its considerable weight, the device must be placed on a pair of rack-slides, specially designed for Harmonic Inc. products (see Figure 2-1).

CAUTION

The rack-slides are intended to carry the device's weight. Do NOT rely only on the device's mounting brackets for supporting the weight. Doing so may result in damage to the rack, device, and other mounted devices.



Figure 2-1: Pair of Harmonic Inc. Rack Slides (Illustration)

The slides' structure is especially designed to ensure sufficient ventilation of Harmonic Inc. products, as it is consistent with the ventilation scheme of all Harmonic Inc. rack-mount devices.

CAUTION

USING RACK-SLIDES THAT ARE NOT SPECIALLY DESIGNED FOR HARMONIC INC. RACK-MOUNT DEVICES MAY RESULT IN OVERHEATING AND DAMAGE TO ONE OR MORE MOUNTED DEVICES.

Figure 2-5 provides the exact measurements of Harmonic Inc.' special rack-slides.



Figure 2-2: Harmonic Inc. Rack-Slide Measurement Specifications

- 1. Fasten the pair of rack slides to the rack's side rails in the device's designated location with four M6 screws (two on each side of the rack).
- 2. Tightly fasten the supporting rack-slides to the rack.
- 3. Lay the device on the rack-slides in its designated location within the rack. Figure 2-3 is a cutaway illustration, demonstrating the placing of the device on the rack-slides.



Figure 2-3: Laying the Device on the Rack-Slides

4. The device is supplied with two mounting brackets (see Figure 2-4). The mounting brackets are clipped to the device chassis on both sides before leaving the factory. Align the mounting bracket holes with the relevant holes in the rack's side rails.



Figure 2-4: Clipped Mounting Brackets

5. Fasten the mounting brackets to the rack's side-rails with four screws (two on each side). The device is now safely installed within the rack.

Figure 2-5 illustrates a view of the device, when installed within the 19" rack.



Figure 2-5: Device Mounted on a Pair of Rack-Slides

A single pair of rack-slides can carry a weight of up to 50Kg (110 lbs). This allows saving rack space by placing a number of Harmonic Inc. rack-mount devices one upon the other (user must be careful not to exceed the maximum weight specified previously).

MARNING

DO NOT APPLY OVER 50KG (110LBS) OF WEIGHT ON A SINGLE PAIR OF RACK-SLIDES. DOING SO MAY RESULT IN COLLAPSING OF THE RACK-SLIDES, SERIOUS INJURIES TO PERSONNEL, AND DAMAGE TO EQUIPMENT.



Figure 2-6 illustrates the mounting of several devices on a single pair of rack-slides.

Figure 2-6: Multiple Devices Mounted on a Single Pair of Rack-Slides

2.4. PORTS AND CABLES

This section details the ProView 2912's data and management ports and cable connections located on the front and rear panels.

2.4.1. Front Panel Connections

The front panel contains the ProView 2912 MPEGoIP data ports (GbE1 and GbE2 ports, two RJ-45 copper, two SFP MM SR fiber-optics modules) and the device management ports (two Fast Ethernet 10/100Base-T ports, one for management and one for remote service). The front panel also includes various LED status-indicators.

Figure 2-7 illustrates all ProView 2912 front panel ports. Table 2-1 details the interface connectors and cable types.



Figure 2-7: ProView 2912 Front Panel Data and Management Ports

Table 2-1: ProView 2912 Front Panel – Connectors and Cables

Port	CONNECTOR TYPE
Terminal	9 pin male D-type RS232
GPIO	9 pin male D-type RS232
Service	RJ-45
Management	RJ-45
1000Base-T	RJ-45
Fiber Optics	SFP, MM, SR (module not included)

2.4.1.1. GbE Port Connections

The ProView 2912 is equipped with four GbE interfaces: two RJ-45 (copper) ports and two SFP (fiber) ports. The two upper ports are labeled "**1**" and the lower two are labeled "**2**" (see Figure 2-8). "1" ports are connected to one of the two ProView 2912's PHY level circuits; "2" ports are connected to the second PHY.

Therefore, the two upper ports are referred to as Logical Port **GbE 1** and the lower two are called Logical Port **GbE 2**.

By default, the ProView 2912 uses IP data arriving from the RJ-45 connectors Still, the device can be configured to use the SFP connectors as the main data source.

Νοτε

Between the two SFP sockets there are four standard, triangle-shaped communication LED indicators (see Figure 2-8).Two orange LEDs, indicating 'Link' connection, and two green LEDs indicating 'Data' reception The two LEDs pointing upwards indicate GbE1 Port communication status. The two other LEDs (pointing upwards) indicate GbE2 Port communication status.



Figure 2-8: GbE 1 and GbE 2 Ports

Due to its overall **No Single Point of Failure** (NSPF) architecture, the ProView 2912 provides Sub-Second Link (Physical) Redundancy when using both RJ-45 (or both SFP ports) in receiving the same IP transport stream content from two independent multicast sources.

2.4.1.2. Status LED Indicators

There is a total of ten status LED indicators on the ProView 2912 front panel: four for indicating unit status, and six for indicating the six dual-decoder cards status. The ProView 2912 Unit Status LED indicators provide alarm indications in three (user-defined) severity levels. Table 2-2 and Table 2-3 detail the indications of all six dual-decoder cards and four unit status LEDs (in standard work state). The ProView 2912's ten front panel status LED indicators are shown in Figure 2-9.



Figure 2-9: ProView 2912 Status LEDs

Table 2-2: ProView 2912 Unit-Status Alarm Indications

ALARM SEVERITY LEVEL	LED COLOR
ALL OK	Green
MINOR	Light orange
MAJOR	Orange
CRITICAL	Red

Table 2-3: Dual-decoder Cards Status LED Indications

LED COLOR	INDICATION	
Green	Standard working state; the dual-decoder card receives a legal transport stream.	
Orange	 Indicates one of the following: Dual-decoder card is installed, but the main board could not connect to it (communication failure) Main board fails to configure the dual-decoder card 	
Red	Dual-decoder card is installed, but receives no transport stream	

Notes

- Each CARD STATUS indicator LED provides a work-status indication of the corresponding dual-decoder card (for example, CARD STATUS indicator LED number 3 represents the work-status of dual-decoder card number 3).
- When the dual-decoder card is not installed, the LED is not lit.
- The Unit Status LEDs can be configured to indicate the severity of data, connectivity and hardware fault issues within the ProView 2912, for alarm configuration, see Section 3.7.9

2.4.1.3. GPI Pin-out and Electrical Signaling

Figure 2-10 provides an illustration of the ProView 2912's GPI Dry Contact connector. The ProView 2912 GPI Dry Contact connector pin-out organization is detailed in Table 2-4.

Notice that the nine connector pins are arranged in groups of three, each containing one Common, one Normally-Closed, and one Normally-Open pin.

The GPI Dry Contact connector is set by default to **Normally Open** when the device is operating. Switching to Normally Closed is performed when the device is turned off or when an alarm is set to on.

When assigning a 3-bit word to a ProView 2912 pre-defined alarm, the MSB is outputted through the triplet marked with "3", the middle bit through the "2" triplet, and the LSB through the "1" triplet.

For example, assigning the binary word '011' to the alarm called ALARM_PHY_FAIL_GbE1_SFP will cause (when this alarm is set on) the "3" triplet to output 0, the "2" triplet to output 1, and the "1" triplet to output 1.



GPI Dry Contact Male Connector Pin-out

1

3



Figure 2-10: GPI Dry Contact Male Connector

- Normally Closed 1
- 2 Normally Open 1
 - Common 2
- 4 Normally Closed 3
- 5 Normally Open 3
- 6 Common 1
- 7 Normally Closed 2
- 8 Normally Open 2
- 9 Common 3

2.4.2. Rear Panel Connections

Most of the ProView 2912 rear panel surface is occupied by the six dual-decoder card-connector interfaces (see Figure 2-11). Each dual-decoder card has two Analog Video interfaces and four balanced Analog Audio Stereo interfaces (one analog video and two analog audio outputs per decoder).

The power socket is located on the right side of its rear panel.

Figure 2-11 illustrates the ProView 2912 DC rear panel. Figure 2-12 illustrates the dual-decoder card connectors.

Νοτε

Each decoder in a dual-decoder card has two analog audio outputs and one analog video output. Audio channels 1 and 2 are aligned with Video channel 1; Audio channels 3 and 4 are aligned with video channel 2.

The rear panel interfaces, connectors and cable types are detailed in Table 2-5.



Figure 2-11: ProView 2912 Rear Panel (DC Power Supply Version)





Table 2-5: ProView 2912 Rear Panel – Connectors and Cables

INTERFACE CONNECTOR TYPE		CABLE TYPE
Analog Audio Output	600 Ω terminal block (balanced)	Shielded audio cable
Composite Video Output, CVBS1, CVBS2	75Ω ΒΝϹ	RG-59

2.5. SETTING UP THE DEVICE

This section details the required procedures for setting-up the ProView 2912 and obtaining device serviceability.

2.5.1. Connecting the Cables

Before powering up the ProView 2912, connect the management and data cables as follows:

FRONT PANEL CONNECTIONS

- 1. Connect an RJ-45 cable to the *Management* port (the other end will be connected to an Ethernet port on the computer be used for ProView 2912 management)
- 2. Connect at least one MPEGoIP data cable (copper or fiber) to either of the two GbE ports

Νοτε

In order to support local dual-homing redundancy scheme, it is strongly recommended to connect MPEGoIP data cables to two similar GbE ports (either copper or fiber)

REAR PANEL CONNECTIONS

- 1. Connect the required video interfaces to the ProView 2912's analog video outputs (up to 12 BNC connectors; two on each dual-decoder card).
- 2. Connect the required audio interfaces to the ProView 2912's analog audio outputs (up to 24 Micro Combicon 6-pin connectors; four on each dual-decoder card).

2.5.2. Connecting the Combicon terminal block to audio XLR cable

The Combicon terminal block to audio XLR cable is used to mach between a Combicon terminal block audio connector and a XLR audio connector.

Νοτε

The following procedure described in this section mention the XLR connector; however, this procedure refers to other audio connectors as well.

The following describes the connecting procedure of the Combicon terminal block to audio XLR cable with the unit's Combicon connector.

To connect a Combicon terminal block-to-audio XLR wire to its relevant socket perform the following:

- 1. Hold one of the cable's six audio wires.
- 2. Use a screwdriver to depress the wire's relevant connector fastener (colored in orange). Keep it pressed down, see Figure 2-13.



Figure 2-13: Combicon Connector

- 3. Insert the cable's audio wire into the relevant socket.
- 4. Release the pressure from the orange fastener.

To support left and right audio channels, perform the procedure described above for each of the six wires.

Νοτε

Make sure that the each wire is properly inserted into its appointed socket. For example: the left negative audio wire is inserted into the left (-) socket.

2.5.3. Powering Up the Device

To initialize the ProView 2912:

- 1. Verify that the rack is properly-grounded before connecting the ProView 2912 to a power source.
- 2. Connect the power cable to the ProView 2912's end.
- 3. Connect the other end of the power cable to the power source.

During power-up the ProView 2912 performs several initialization sequences. By the end of these sequences all six *CARD STATUS* LED and "*ALL OK*" indicators should be lit GREEN.

The following table describes the ProView 2912 initialization sequences.

Table 2-6:initialization sequence LED indications

SEQUENCE	UNIT STATUS LEDS	DUAL DECODER CARD LEDS (16)
OS initialization	all LEDs are lit	All LEDs are lit RED
Application initialization	'ALL OK' LED is blinking GREEN	All LEDs turn ORANGE
Acquire Configuration	'ALL OK' LED is GREEN (default)	Blinking GREEN – search, Constant GREEN – Configuration acquired
Acquire TS	' ALL OK' LED is GREEN (default)	Lit RED – search Lit GREEN – Transport Stream was acquired

When the **'ALL OK'** LED stops blinking; the web interface is ready for communication At this stage, the ProView 2912 should be fully operative, and can be configured.

Νοτε

Upon completing the 3rd sequence (Acquire Configuration), the ProView 2912 will attempt to lock each dual-decoder card to a transport stream according to its factory preset configuration. This may cause one or more of the dual-decoder cards to 'randomly' lock-onto a transport stream and the corresponding LED will turn green. Usually, all six CARD STATUS LED indicators remain RED until the Dual Decoder Card is fully configured.

2.5.4. Replacing the Power Supply Units

This following section details the procedures for replacing a faulty Power Supply unit.

The ProView 2912 is available with one of the following power supply units:

- Single AC power-supply
- Dual AC, hot-swappable power supply
- Dual DC, hot-swappable power supply

Identify the type of Power Supply unit before proceeding (AC, Dual AC or Dual DC).

CAUTION

- Before replacing a faulty Power Supply unit, verify that the rack is properly grounded.
- Use only recommended and same models of power supply for replacement.

2.5.4.1. Replacing a DC Power Supply Sub-Unit (Hot-Swap)

When using a dual DC PS unit, the ProView 2912 is equipped with two identical DC power supply sub-units. Regularly, both sub-units share the power-load equally. If required to replace one sub-unit, the other sub-unit immediately takes on 100% of the power-load. This enables the ProView 2912 to continue working with just one PS sub-unit, with no drop in quality of service. The faulty sub-unit can then be replaced without powering down the device. After installing a replacement sub-unit, it automatically takes back 50% of the power-load.

To replace a DC power supply sub-unit:

- 1. Unscrew the PS sub-unit two chassis-fastening screws (see Figure 2-14).
- 2. Firmly press the safety catch to release the lever (see Figure 2-14).
- 3. Verify that the lever is freed; then use your thumb to pull the left side of the lever towards you. Pulling the lever releases the sub-unit from the chassis.

- 4. Hold the lever with two fingers of your right hand and extract the sub-unit by pulling the lever towards you. If necessary, use your left hand by placing it on the chassis for support when pulling out the PS sub-unit.
- 5. Put aside the removed PS sub-unit.
- 6. Hold the PS sub unit to be installed in front of the cavity that was formed on the front panel.
- 7. Make sure the black lever is in the '*Pulled Out'* position.

Νοτε

If the sub-unit is inserted with the lever in the 'Closed' position, the sub-unit can not be connected to the chassis.

- 8. Slide the sub-unit into the cavity, making sure it slides into the railings on both sides of the cavity in the chassis.
- 9. When the sub-unit is almost completely inside the chasses (approximately 0.5cm of it still sticks out), dock the sub-unit by firmly pressing the black lever inwards until a click is heard and the safety catch is engaged.
- 10. Screw back the two screws to fasten the sub-unit to the chassis.



Two Chassis-Fastening screws

Figure 2-14: Dual DC Power Supply Sub-Unit Components

2.5.4.2. Replacing an AC Power Supply Unit

When the ProView 2912 is equipped with an AC Power Supply unit, replacement of a faulty PS unit requires power down of the device.

To replace an AC PS unit:

- 1. Disconnect the ProView 2912 from the power source.
- 2. Follow steps 1 to 10 in *Replacing a DC Power Supply Sub-Unit* (previous Paragraph. Figure 2-15 shows the ProView 2912 Hitron AC Power Supply unit.
- 3. Re-connect the ProView 2912 to the power source.
- 4. Wait for the ProView 2912 to initialize.
- 5. Perform a serviceability check (see Section 2.5.6).

Two Chassis-Fastening screws



Figure 2-15: AC Power Supply Unit Components

Νοτε

RESETTING THE SYSTEM RESULTS IN THE LOSS OF ALL PROVIEW 2912 FUNCTIONS FOR APPROXIMATELY 6 MINUTES

2.5.4.3. Replacing Dual AC Power Supply (Hot Swappable)

When using a dual AC PS unit, the ProView 2912 is equipped with two identical AC power supply sub-units. Regularly, both sub-units share the power-load equally. If required to replace one sub-unit, the other sub-unit immediately takes on 100% of the power-load. This enables the ProView 2912 to continue working with just one PS sub-unit, with no drop in quality of service. The faulty sub-unit can then be replaced without powering down the device. After installing a replacement sub-unit, it automatically takes back 50% of the power-load.



Figure 2-16: AC Dual Power Supply Unit Components

To replace a dual AC Power Supply Unit:

- 1. Disconnect the ProView 2912 from the power source.
- Follow steps 1 to 10 in *Replacing a DC Power Supply Sub-Unit* (see Section 2.5.4.1). Figure 2-16 shows the ProView 2912 Dual AC Power Supply unit.
- 3. Re-connect the ProView 2912 to the power source.
- 4. Wait for the ProView 2912 to initialize.
- 5. Perform a serviceability check (see Section 2.5.6).

2.5.5. Dual-Decoder Card Hot-Swap

The ProView 2912 contains up to 6 dual-decoder cards. Replacement of a dual-decoder card can be performed without power shut down and without interruption to the work of other-installed dual-decoder cards.

To replace a dual-decoder card:

1. Locate the card that needs to be replaced. Figure 2-17 shows the arrangement of the six dual-decoder cards on the rear panel of the ProView 2912.



Figure 2-17: **Dual-decoder Cards Arrangement – Rear Panel**

- 2. Disconnect any cables that might be connected to the dual-decoder card (two CVBS BNC connectors and four 6 pin audio connectors).
- 3. Release the two right-side screws and the one left-side screw (see Figure 2-18) and fasten the dual-decoder card to the ProView 2912 chassis.



Two right-side screws

Dual-decoder Card – Rear View Figure 2-18:

- 4. Push the silver extraction handle (see Figure 2-18) to the left to form a gap of approximately 1 to 2 mm between the dual-decoder card and the chassis.
- 5. Hold the extraction handle with two fingers and pull the card towards you.

WARNING

USE CAUTION WHEN PULLING THE EXTRACTION HANDLE. THE HANDLE HAS SHARP EDGES. PULLING IT CARELESSLY MAY RESULT IN CUTTING YOUR FINGER.

- 6. Hold the dual-decoder card to be installed in front of the cavity that was formed by extracting the old dual-decoder card.
- 7. Gently insert the dual-decoder card into the cavity, making sure it fits into the railings on both sides.
- 8. Push the card deep into the cavity until a gap of approximately 1 to 2mm remains between the card and the chassis.
- 9. Firmly push the card further in to dock it into place until the gap disappears.
- 10. Fasten the dual-decoder card to the ProView 2912 chassis with the two right-side screws, and the one left-side screw.
- 11. Re-connect the Video and Audio cables to the newly installed dual-decoder card.

Notes

- After extracting a dual-decoder card, the Multichannel Decoder Monitor screen in the web management interface removes the name of the card from the navigation tree and colors the title of the relevant dual-decoder monitor section in red. After the new card is inserted and the screen performed a refresh, the card name re-appears in the navigation tree and the title is painted back in green.
- After completing the dual-decoder card replacement procedure, the newly installed dualdecoder card automatically receives the same configuration as the card that was replaced.Connecting the Device to the Management Software

To establish and set up management connection

- 1. Connect an RJ-45 cable to the *Management* Ethernet port.
- 2. Run any standard web browser.
- 3. Verify that the web browser connectivity settings are correct. For example, when using Internet Explorer, under LAN settings, all Automatic Configuration and Proxy Server check boxes should be unchecked.
- Enter this management port IP address in the web browser's address bar: http://10.104.1.26 (factory default). The ProView 2912 web management interface's main screen is displayed.
- 5. Start configuring the ProView 2912. See Chapter 3 for complete configuration instructions.

Notes

- Connection can also be established using an RJ-45 cable connected to the Service port. In this case, use the following service IP Address as the web management address: 10.100.1.26
- After establishing connection, see Paragraph 3.7.2.3 to set a valid IP address to the Management port. Follow instructions in the paragraph 'Establishing Network Connection' to reconnect to the ProView 2912 through the Management port.
- The Service port should be regularly disconnected, since it is intended for receiving professional assistance.

2.5.6. Checking the Serviceability

After having installed, initialized and configured the device, please proceed with the following serviceability check:

- 1. The Unit Status 'All $\mathbf{OK'}$ LED is lit green.
- 2. The six Dual-decoder Status LEDs are lit green.
- 3. All statuses in the *ProView 2912 Status Monitor* screen in the web management interface are shown as functional.
- 4. The *Management*-port (or *Service* port, if this port is used for device management) 'Link' LED is lit green.
- 5. At least one GbE port is connected to a Multicast source, and its LED is lit orange.

2.5.7. Resetting the Unit

This screen enables the operator to perform two kinds of warm-reset: a complete system reset and a dual-decoder reset (separate reset for each dual-decoder card).

Figure 2-19 displays the Reset screen.

Scopus	Reset	
Video Networks	Reset System	
D [´] Config		
+ Status Reset	Reset Decoder 1	
	Reset Decoder 2	
	Reset Decoder 3	
	Reset Decoder 4	
	Reset Decoder 5	
	Reset Decoder 6	

Figure 2-19: Reset Screen

The Reset buttons are:

- **Reset System** allows the performing of a warm reset on the whole ProView 2912 system. Recovery time is approximately six minutes.
- **Reset Decoder 1 (to 6)** Clicking any of these six buttons allows the performing of a warm reset on the corresponding dual-decoder card. Recovery time is between 30 and 45 seconds.

Νοτε

In both reset options, a confirmation dialog is displayed before performing the reset.

L CAUTION

• RESETTING A DUAL-DECODER CARD RESULTS IN A LOSS OF THE DUAL-DECODER SIGNAL FOR UP TO 45 SECONDS.

2.5.8. Upgrading the ProView 2912 Software

This section details the required processes for performing ProView 2912 software upgrades. There are two types of software upgrades:

- ProView 2912 software upgrade
- Dual-decoder card software upgrade

2.5.8.1. Full Software Upgrade

This section describes the procedure upgrades the entire ProView 2912 software part of which, the decoder card SW version is upgraded as well.

To perform a full upgrade of the ProView 2912 software:

- Establish FTP connection with the ProView 2912 by entering *ftp://XXX.XXX.XXX.XXX* in the Internet browser address bar (XXX.XXX.XXX represents either the **Management** port IP address or the **Service** Port IP address).
- 2. Add the *uid.arj* file of the relevant software release to the PVR-2912 file system. Drag the file and drop it into the Internet browser FTP window.

Νοτε

All software releases are delivered as an ARJ file with a uniform name: **uid.arj**. For information about the exact contents of the new software versions provided by the **uid.arj** file, unpack it. The ARJ file should contain a file named **VerX.XX.txt** (X.XX represents the software version release number), containing the release notes.

3. Restart the unit. The software upgrade will proceed automatically.

Notes

1. Software upgrade takes longer than the routine ProView 2912 power up procedure.

2. It is strongly recommended to consult Harmonic Inc. Professional Services before performing any kind of software upgrade.

2.5.8.2. Dual-decoder Card Software Upgrade Only

The main ProView 2912 software always contains the most recent version of dual-decoder cards software. When the ProView 2912 software is upgraded, the device automatically checks the version of all dual-decoder cards, and automatically updates their software.

There is also an option of manual updating of the dual-decoder cards software.

To update all six dual-decoder cards software manually:

- Verify that you have the file named *irdSw_image_NN_NN.bin*; please consult Harmonic Inc. Professional Services about the way to obtain this file; NN_NN is the IRD SW release number.
- 3. Add the *irdSw_image_NN_NN.bin* file to the ProView 2912 root file system. Drag the file and drop it into the Internet browser FTP window.
- 4. Restart the PVR-2912 and wait for the dual-decoder card software upgrade to complete its course.

Νοτε

• Dual-decoder card upgrade takes between 5 and 10 minutes.

Chapter 3. CONFIGURING AND MANAGING THE DEVICE

The ProView 2912 is managed through a user-friendly, Web-based graphical interface. This chapter provides an extensive and detailed description of this tool, including all its control functions and monitoring capabilities.

The ProView 2912's web management tool is a user-friendly graphical web interface that allows easy control and configuration of the device through a remote computer. The web management interface is used for controlling, configuring, and monitoring the device, using a regular PC and any standard web browser. No other software is required. Managing the ProView 2912 using the Web-Management interface is as easy as point-and-click.

3.1. LOGGING IN

The ProView 2912 web interface requires log in using a user name and password. When entering the device's IP address in the web browser's address bar, the Login screen is displayed (the default IP address is detailed in Paragraph 2.5.4).

Figure 3-1 displays the Login screen.

L	ogin	
User Name		
Password		
	Login	

Figure 3-1: ProView 2912 Login Screen

To obtain the initial user name and password, contact your local distributor or the Harmonic Inc. Professional Services department.

After obtaining both the user name and password, enter them in their respective text boxes, and click **Login**.

The **System Status** screen is displayed and the device interface is available for use. Figure 3-2 is an example of the System Status screen.

Configuring and Managing the Device

Sconus		System Status	
Statem Config = Decoders = Unit = EAS	Versions HW Version 123456C SW Version 2.09(0) Serial Number 7777777	Status GU Fanr Statur OK Link Up Power Supply Status OK speed 1 (Duplex Fu Current Alarm State: OK	SE Port 1 GbE Port 2 D Up Sbps 1 Gbps Il Duples: Full Duples
Configuration-File Status System Monitor Alarms IP Front End Port Statistics Decoder Statistics EAS Log File Decot	Dual Decoder 4 Status	Dual Decoder 5 Status	Dual Decoder 6 Status
	TS Selection: Primary	TS Selection: Primary	TS Selection: Secondary
	Service 1: [0x1] SCOPUS-NET-TE	Service 1: [0x1] SCOPUS-NET-TE	Service 1: [0x1326] Diva Futura
	Service 2: [0x1] SCOPUS-NET-TE	Service 2: [0x1] SCOPUS-NET-TE	Service 2: [0x1ef] Sisel TV
	HW Version:	HW Version:	HW Version:
	SW Version: 1.50.0	SW Version: 1,50.0	SW Version: 1.50.0
- Log off	Dual Decoder 1 Status	Dual Decoder 2 Status	Dual Decoder 3 Status
	TS Selection: Primary	TS Selection: Secondary	TS Selection: Primary
	Service 1: [0x263] VIVA polska	Service 1: [0x8] Russia Today	Service 1: [0x5] Bloomberg English
	Service 2: [0x262] Super RTL CH	Service 2: [0x1] TRT-INT	Service 2: [0x1] Bloomberg Prench
	HW Version:	HW Version:	HW Version:
	SW Version: 1.50.0	SW Version: 1.50.0	SW Version: 1.50.0

Figure 3-2: Example of System Status Screen

3.2. CONTROLS AND DISPLAYS

The web interface contains standard interactive web elements. The elements and its functionalities are described in the following five sections:

- Web Interface Screen Structure
- Free Text Box
- Drop Down Menu
- Submit Button
- Refresh Button

3.2.1. Web Interface

Figure 3-3 is an example of a ProView 2912 web interface screen (the **Audio 1 Parameters** screen). All web interface management screens are similarly divided into two sections:

- Navigation Pane containing the Navigation tree menu.
- Control Pane holds ProView 2912 parameters and allows the user to set or change their values.

The example also contains common control elements, detailed in the following paragraphs.

Navigation Pane	Control F	ane
Scopus	♥ Au	dio 1
Video Networks System Config Decoders System Config Decoder-1 Service Video Audio Audio Audio2 Audio3 Audio4 Decoder-2 Decoder-3 Decoder-3 Decoder-5 Decoder-5 Configuration-File Status Reset	Decoder Mode AC3 Downmix Mode AC3 Operational Mode Pass Thru Sample Rate Volume Analog Output Analog Mixer Prefered language Submit	Dolby-AC3 Stereo Surround LIFH RF Remod Mode 48.0 (KHz) T dB Unmute (Play) Stereo (L & Fl) English-eng Retresh

Figure 3-3: Web Interface Example screen

3.2.2. Free Text box

Figure 3-4 is an example of a free text box (setting the Volume parameter value). To enter a value, click inside the text box, then type in the value.

Volume	-1	dB	
			ω.



3.2.3. Drop Down Menu

Figure 3-5 is an example of a drop-down menu (setting the Analog Output parameter value). To use this element, click the triangle-shaped, down-pointing arrow, and in the list of options, click the required value.

Analog Output	Unmute (Play) 💌
	Characterization and a state of the state of

Figure 3-5: Drop Down Menu

3.2.4. Submit Button

The Submit button is positioned in the lowest part of the web management control pane (the right pane of each window). Clicking this button makes any changes made on the management web page take effect. Figure 3-6 displays the Submit button.



Figure 3-6: The Submit Button

Νοτε

Although clicking the **Submit** button makes the ProView 2912 adopt the changes made in the web page, it does not change the device's preset scheme. This means that during the next power up, the ProView 2912 will revert to the saved Preset scheme values. For information about changing the Preset scheme values, see Section 3.7.5.

3.2.5. Refresh Button

The Refresh button is positioned in the lowest part of the web management control pane, to the right of the Submit button. Clicking this button queries the ProView 2912 for currently displayed parameter values. Figure 3-7 displays the Refresh button.

Refresh

Figure 3-7: Refresh Button

3.3. WEB INTERFACE LOGICAL STRUCTURE AND FUNCTIONS

The web management interface logical structure provides easy and efficient device operation.

A useful tool for understanding the logical structure of the interface is the **navigation tree** (see Section 3.3.1), which is always displayed on the left side of the ProView 2912 web management window.

3.3.1. Navigation Tree

The navigation tree has the following main purposes:

- For accessing all the ProView 2912 management and monitoring menus
- An effective orientation map for the operator to easily find his way around the different menus. Moreover, novice users will find this tool helpful for easily understanding the ProView 2912 logical structure.

Figure 3-8 is an example of the navigation tree.

Scopu	IS
System	
Config	
C Decoders	
🗄 Decoder-1	
E Service	
IE Video	
🗄 Audio	
# Decoder-2	
≇ Decoder-3	
Decoder-4	
i Tecoder~5	
🗄 Decoder-6	
III Unit	
# EAS	
Configuration-File	
Btatus	
System Monitor	
Alarms	
IP Front End	
Port Statistics	
Decoder Statistics	8
EAS	
Log File	
Reset	
Log off	

Figure 3-8: Navigation Tree

3.3.2. Web Interface Main Functions

The interface is comprised of the following main branches:

• **System** – a general, live ProView 2912 status monitor showing data such as GbE ports status, dual-decoder cards status and so on. This screen is displayed by default when the web browser connects with the device. See Section 3.4.

Configuration – manages the parameters of the PVR-2912 features and components. The configuration menu also allows managing the configuration files of the unit. The configuration menu contains the following sub-menus:

- **Decoders** this sub-menu contains all six dual-decoders control screens; it enables setting each dual-decoder's Service, Video, and Audio parameter values (See Section 3.6).
- **Unit** used for setting general ProView 2912 parameter values such as: de-jittering, IP front-end, cross-connection and so on, (see Section 3.7).
- **EAS (Emergency Alert System)** the ProView 2912 supports EAS (SCTE-18). See Section 3.8.
- **Configuration-File** this branch allows saving the ProView 2912's current configuration to the CF memory card, as well as copying, renaming, and deleting existing configuration-files (see Section 3.9).

- Status Monitors the different aspects in the unit, such as:
 - **System Monitor** displays fan statuses, as well as voltage and temperature measurements (see Section 3.10.1).
 - **Alarms** displays the status alarms table (see Section 3.10.2).
 - **IP Front End** displays the IP front end status table (see Section 3.10.3 **Error! Reference source not found.**3.10.3).
 - **Port Statistics** Displays general information and standard RMON counters statistics for GbE1, GbE2, and management ports (see Section 3.10.4).
 - **Decoder Statistics** displays each dual-decoder card's transport stream status information (see Section 3.10.5).
 - **EAS (Emergency Alert System)** displays the emergency alert system status information (see Section 3.10.6).
 - Log file displays the log file of the unit (see Section 3.10.7).
- **Reset** this branch is used for independently performing a soft-reset on the ProView 2912 dual-decoder cards separately. It also allows performing a soft reset of the entire ProView 2912. For detailed information, see Section 2.5.7.
- Log Off This link logs off from the existing ProView 2912 session.

3.4. SYSTEM STATUS SCREEN

The System Status screen is the interface window that is displayed immediately after logging into the device. It is located under **System** in the Navigation Tree. It displays general information regarding the ProView 2912 status, as well as statuses of all six dual-decoder cards. From this screen, the user can perform an automatic refresh approximately every 60 seconds.

Figure 3-9 is an example of the System Status screen.

Sconus	System Status						
System P Config # Decoders # Unit # EAS P Configure Elle	Versions HW Version 123456C SW Version 2.09(0) Serial Number 7777777	Status G Fan Status OK Link Uj Power Supply Status: OK speed 1 Duples: Fo Current Alarm State: OK	bE Port 1 GbE Port 2 p Up Gbps 1 Gbps 41 Duples: Full Duples				
Consignation of the end of the e	Dual Decoder 4 Status	Dual Decoder 5 Status	Dual Decoder 6 Status				
	TS Selection: Primary	TS Selection: Primary	TS Selection: Secondary				
	Service 1: [0x1] SCOPUS-NET-TE	Service 1: [0x1] SCOPUS-NET-TE	Service 1: [0x1325] Diva Futura				
	Service 2: [0x1] SCOPUS-NET-TE	Service 2: [0x1] SCOPUS-NET-TE	Service 2: [0x1ef] Sisel TV				
	HW Version:	HW Version:	HW Version:				
	SW Version: 1.50.0	SW Version: 1,50.0	SW Version: 1.50.0				
Log off	Dual Decoder 1 Status	Dual Decoder 2 Status	Dual Decoder 3 Status				
	TS Selection: Primary	TS Selection: Secondary	TS Selection: Primary				
	Service 1: [0x263] VIVA polska	Service 1: [0xe] Russia Today	Service 1: [0x5] Bloomberg English				
	Service 2: [0x262] Super RTL CH	Service 2: [0x1] TRT-INT	Service 2: [0x1] Bloomberg French				
	HW Version:	HW Version:	HW Version:				
	SW Version: 1.50.0	SW Version: 1.50.0	SW Version: 1,50.0				

Figure 3-9: System Status Screen Example

The System Status screen is divided into two major sections:

- System Status Monitor (upper section)
- Dual-decoder Cards Monitor (lower section)

These sections are detailed in the following sections of the User Manual.

3.4.1. System Status Monitor

The System Status monitor displays a summary of the ProView 2912's general function statuses. See Figure 3-10

		System Status				
Versions		Status			GbE Port 1	GbE Port 2
HW Version:	123456C	Fans Status:	OK	Link:	Up	Up
SW Version:	2.09(0)	Power Supply Status	OK	speed:	1 Gbps	1 Gbps
Serial Number	. 7777777			Duplex	Full Duplex	Full Duplex

Current Alarm State: OK

Figure 3-10: PVR-2912 System Status Monitor Display

The general functions displayed are (by column title):

- Versions
 - *HW Version* ProView 2912 current hardware version.
 - SW Version ProView 2912 current software version.
 - Serial Number the unit serial number for technical and maintenance help and support.
- Status
 - Fans Status displays **OK** if all fans work properly. Otherwise **FAILED** is displayed.
 - *Power Supply Status* displays **OK** if the power supply works properly. Otherwise **FAILED** is displayed.
- GbE Port 1..2
 - Link displays Up if a physical link is detected at the GbE Port input. Otherwise displays Down.
 - Speed displays the line speed of the connected cable.
 - *Duplex* –the port's duplex status (either Half Duplex, or Full Duplex).
- Current Alarm State displays OK if there are no raised alarms. Otherwise, displays the highest alarm severity (Minor, Major, or Critical). The current alarm state background color is set according to the worst-case scenario in the Alarm Configuration display (see Section 3.7.9).

3.4.2. Dual-decoder Cards Monitor

The Dual-decoder Cards monitor displays a summary of all six dual-decoders main functions current status. The monitor is comprised of six identical sub-monitors, each referring to one of the six dual-decoder cards. See figure 3-11

Νοτε

The display order of the dual-decoders in the web interface monitor represents their actual arrangement in the rear panel (for example, dual-decoder 1 is situated in the bottom left corner and under dual-decoder 4, in both the monitor and the device's rear panel).

Figure 3-11 shows an example of the Dual-decoder Cards monitor.

Dual Decoder 4 Status	Dual Decoder 5 Status	Dual Decoder 6 Status			
TS Selection: Primary	TS Selection: Primary	TS Selection: Primary			
Service 1: [8109] LibertyTV FR	Service 1: [8827] Bulgaria TV	Service 1: [8810] Canal Algerie			
Service 2: [8101] PINK PLUS	Service 2: [8801] SKYPLEX TXP9	Service 2: [8801] SKYPLEX TXP91			
HW Version:	HW Version:	HW Version:			
SW Version: 1.55.0	SW Version: 1.55.0	SW Version: 1.55.0			
C Dual Decoder 1 Status	Dual Decoder 2 Status	S Dual Decoder 3 Status			
TS Selection: Primary	TS Selection: Primary	TS Selection: Primary			
Service 1: [8983] Nile News	Service 1: [502] TERRA NOVA	Service 1: [301] R1			
Service 2: [8827] Bulgaria TV	Service 2: [502] TERRA NOVA	Service 2: [301] R1			
HW Version:	HW Version:	HW Version:			
SW Version: 1.55.0	SW Version: 1.55.0	SW Version: 1.55.0			

Figure 3-11: Dual-decoder Cards Monitor

Each sub-monitor displays the following information:

- Analog Decoder (1..6) Status The title of the sub-monitor displays the number of the monitored dual-decoder and its work status.
 - *Green* Dual-decoder card is locked on the transport-stream.
 - Red Dual-decoder card is not locked on it's transport stream, or is absent.
- **TS Selection** Displays the transport stream source and state as follows:
 - Primary Dual-decoder card manages the primary transport stream.
 - Secondary Dual-decoder card manages the secondary transport stream.
 - Unavailable Dual-decoder card is off and does not manage any transport stream.

- Service 1 and Service 2 Displays the service names for the two services in the dualdecoder card. The services are selected from the transport stream (see Section 3.6.1).
- **HW Version** Display the hardware version of the dual-decoder card.
- **SW Version** Displays the software version of the dual-decoder card.

3.5. CONFIGURATION MENU

The configuration menu allows managing configuration parameters in the ProView 2912, whether managing the unit or dual decoder cards. The configuration menu is composed of the following menus:

- **Decoders** Divided separately into each of the dual-decoder cards sub-menus (decoders 1 to 6). The Decoder menu allows the user to set service, video, and audio parameter for each dual-decoder card (see Section 3.6).
- **Unit** Composed of various screens and tables, the Unit menu allows the user to configure all unit functionality-related parameters, such as de-jittering, IP front-end, cross-connection, etc. (see Section 3.7).
- EAS (Emergency Alert System) Allows the user to set the emergency alert system in the device (see Section 3.8).
- **Configuration-File** Allows the user to save the configuration in an .ini configuration file or to save a changed configuration in a different .ini file name (see Section 3.9).

3.6. SETTING THE SERVICES

The decoders section holds all of the ProView 2912 service, video, and audio decoding controls. The ProView 2912 contains six identical dual-decoder cards. Each dual-decoder card concurrently decodes up to two video programs and up to four audio channels from the input transport stream.

Each dual-decoder card (denoted Decoder-1 to Decoder-6 in the control interface) has two identical sets of controls, one for each decoder. This means that each decoder is associated with one service, one video channel, one VBI, and two audio channels.

There are three groups of controls for every decoder:

- **Service** The Service Management screens that enable to select the programs for the dualdecoder card decodes and outputs (see Section 3.6.1).
- **Video** The Video management section is for setting the dual-decoder's video-decoding parameters and its VBI decoding parameter (see Section 3.6.2).
- **Audio** The Audio management section is for setting the dual-decoder's audio-decoding and audio-control parameters (see Section 3.6.3).

Figure 3-12 displays the arrangement within the navigation tree of these three dual-decoder control groups. This example shows all the controls of Dual-decoder 1 (the structure of all six dual-decoders controls is identical).

Sscopus	IP Front End									
Grandig			Multicast IP	Primary Purt	Interface	Multicast IP	Secondo Port	ry Interface	Redunda Mode	NCY.
Cecoders	TS1	Firs1	234123	1234	GBE1 1	2541.2.3	1234	GBE2 - Join	always	3
Service	2m		1	7		1		av - Sonin -	_	
TVI Selected Service TVI Selected Service	TS2	Pine	2341.2.3	1234	GBE1	2341.2.3	1234	GBE2 Join	alwayo	2
PID Select	Sec		ſ	-		1				
= Video = Audio = Decoder-2 = Decoder-3 = Decoder-5 = Decoder-6 = Unit = EAS = Configuration-File = Status Reset Log off	TS3	Paval	234123	1234	GBE1	234123	1234	GBE2 Jain	always	3
	Sec		1	1		1				and the second second
	TS4	Fired	234123	1234	GBE1	234123	1234	GBE2 Join	always	-
	Sec		1			1				
	TS5	Pint	2341.23	1234	G8E1	2341.2.3	1234	GBE2 - Join	alwayo	-
	Sec		1	1		1				_
	TS6	Fred	234123	1234	G8E1 3	234.1.2.3	1234	OBE2 Join	always	-
	Sec		[1		1				
					Submit	Rekesh				

Figure 3-12: Navigation Tree Arrangement of Dual-decoder 1 Controls
Νοτε

Dual-decoder 1 controls the two individual-decoders. Therefore, each sub-menu of Decoder 1 presents a duality, where the elements are related to a specific single decoder. For example, TV1 service, Video1, VBI1, and Audio1/Audio2 are related to the first single decoder, while the other elements are related to the second single decoder.

3.6.1. Defining a Service

Each dual-decoder can decode and output two different programs from the Transport Stream it receives.

The TV1 and TV2 Service Selection web pages enable you to:

- Select the program the dual-decoder will decode and output.
- Define whether to activate the PID List selection or not.

When the **PID List** option is set to **ON**, the decoding process may be fine tuned by selecting which of the elementary streams comprising the program that was selected will be decoded as Video/Audio/or other streams.

For example, the user can define that the selected TV1 service to decode will include the main Video ES but only one of the two Audio streams associated with it (for instance one language out of tree attached languages).

The TV1 Service Selection window can be accessed through the Web interface Config menu under the appropriate service and relevant Decoder.

Three modes are available for selecting the elementary streams to decode:

- Automatic PID selection this option uses default options.
- Manual PID selection enables setting manually the PIDs taken from the service PMT.
- Advanced PID selection enables setting manually the PIDs taken from any PMT within the same Transport stream.

3.6.1.1. Automatic PID Selection

This option uses the predefined default options according to the following rules:

- The default Video PID to be decoded is taken from the service PMT.
- The Audio 1 and Audio 2 streams of the service to be decoded are the PIDs that appear first in the service PMT.

When in Automatic PID Selection mode, the following web interface window is displayed.



Figure 3-13: TV1 Select Screen in Automatic PID Selection mode

To select the ESs to decode using Automatic PID selection

- 1. Set the **PID List** option to **Off**.
- 2. Select the required Service under the appropriate service (TV1 or TV2) decoder card.

Νοτε

When the PID List option is in the **Off** position, the selection of the streams to include in the service is limited to the default options that appear in Figure 3-13.

3. Click the **Submit** button.

The Service is created according to your definitions.

Νοτε

Both TV1 and TV2 screens, for all decoder menus, are identical.

This screen also provides an indication of the condition of the service TS received by the dualdecoder card. The available indications are:

- **TS is OK** The Decoder identified a proper transport stream (service).
- **TS Failure** The Decoder does is not receiving a proper transport stream (service).

3.6.1.2. Manual PID Selection Mode

Manual PID selection enables setting manually the PIDs that can be taken from the service PMT.

To select the program to decode using the Manual PID selection mode

1. Set the **PID List** option to **On**.

The following window is displayed.

Scopus	TV1 Service Selection
System Config Config Config Config Config Config Config Concoder=1 Concoder=2 Concoder=3 Concoder=3 Concoder=3 Concoder=3 Concoder=3 Concoder=3 Concoder=3 Concoder=3 Concoder=3 Concoder=6	PID Lat PCE 04203 Video 0x203 (Video) = Audio 1 0x200 (Audio) = Audio 2 None = Vbi 0x244 = Submiting None = TS is OK Submit Patrent

Figure 3-14: Manual PID Selection

2. Select the required Service (TV1 or TV2) under the appropriate decoder card.

Νοτε

When the PID List option is in the **On** position, the choice of elementary streams that will be decoded extends beyond the default options that appear in Figure 3-13 and enable adding any PID from the Service PMT.

- 3. In the Video field, set the appropriate video stream.
- 4. In the **Audio 1** field, select the appropriate audio stream.
- 5. In the Audio 2 field, select the appropriate audio stream.
- 6. In the **VBI** field, select the appropriate VBI option.
- 7. From the **Subtitling** field, select the appropriate stream.
- 8. Click the **Submit** button.

The Service is created according to your definitions.

3.6.1.3. Advanced PID Selection

The advanced PID Selection feature extends even more the capability of the user to control the choice of elementary streams to be decoded by the ProView 2912, by extending the choice of PIDs to any service PMT within the same Transport stream.

When Advanced PID Selection is activated, the decoder regards the Transport Stream as a group of Elementary streams (video, audio, VBI etc.), regardless of their association to services. This approach enables cross-connecting any PID from any service and associate it with any device port (audio, video, PCR, VBI etc).

This option can reveal useful when the PMT is not available or is defective.

To select a Program for decoding using the PID Selection feature

1. In the Navigation tree, select PID Select.

Two sections are displayed on the screen: **PID List** on the right, displaying the list of all available PIDs, and **PID Select** in the middle of the screen.

Sconus	PID Select	PID's List
System Config Config Decoders Decoder-1. Decoder-2. Decoder-3. Decoder-3. Decoder-4. Service TV1 Selected Service TV2 Selected Service Dis Select # Made # Audio Decoder-5. # Decoder-6	PCR 1 0x203 Vbi 1 0 PCR 2 0x202 Vbi 2 0 Video 1 0x203 Subtiting 1 0 Video 2 0x202 Subtiting 2 0 Audio 1 0x200 Subtiting 2 0 Audio 3 0x200 Audio 4 0x1F	x244 0x2A1 (Audio) x242 0x29B (Audio) 0x19B (Audio) 0xD0 x1F 0xD5 0x200 (Video) 0x200 (Video) 0x28A (Audio) 0x331 0xD6 0xD5 0xD7 0x28A (Audio) 0x281 (Video) 0x281 0x201 (Video) 0x281 0x281 (Audio) 0x331 0xD6 0x281 0x281 (Audio) 0x281 0x281 (Audio) 0x237
De-Jittering JP Front End JP Interface Configuration	Submit Retrest	0xD0 0xD5 0xD5 0xDE

Figure 3-15: PID Select window

Type the PID of the ES you want to decode with the service.

Note

The PIDs in the PID List on the right cannot be dragged or copied. You must enter manually the relevant PID into the appropriate box as it is displayed in the PID/s List.

- 2. In the **PCR 1** box, enter the PID of the PCR you want to include in the service.
- 3. In the **PCR 2** box, enter the PID of the PCR you want to include in the service.

- 4. In the **Video 1** box, enter the PID of the first video to include in the service.
- 5. In the **Video 2** box, enter the PID of the second video to include in the service.
- 6. In the **Audio 1**, **2**, **3**, and **4** boxes, enter the PID numbers of the audio streams you want to include in the service.
- 2. In the **Vbi 1** and **Vbi 2** boxes, enter the PIDs of the Vbi streams to include in the Transport Stream.
- 3. In the **Subtitling** box, enter the PID of the subtitling stream you want to add to the Service.
- 4. Click the **Submit** button.

The Service is created according to your definitions.

Νοτε

Clicking **Submit** *in the PID Select screen deactivates the Automatic PID selection mode and activates the PID Selection working mode (see Section 3.6.1.2)*

3.6.1.4. Switching back to Automatic PID Selection

To switch back to the Automatic PID selection mode

1. Go to the **TV1** or **TV2 Service selection** window and set the **PID List** field on top of the page to **OFF**. The appropriate options are displayed.

Sscopus	TV1 Service Selection
System Config Decoders # Decoder-5 # Decoder-3 Decoder-3 Decoder-4 Service FVL Selected Service FVD Select # Audo # Decoder-6 F Unit De-Sitening IP Front End SP Interface Configuration Cress Consection	PTD Lat De Set to DET, und click Subout. PCE 05203 Video 0×200 (Video) # Audia 1 0×200 (Video) # Audia 2 forme # Vin 0×244 # Subuting None # TS is OK Submit Rubush

Figure 3-16: Switching back to the Automatic PID Selection mode

2. Click the **Submit** button.

The system switches back to the Automatic PID Selection mode.

Sscopus	TV1 Service Selection
Evatem Evatem Conng Decoder-1 Prevent Provide Evaluation Provide Evaluation Pro	PID Lat Co TS is OK

Figure 3-17: Automatic PID Selection mode window

3.6.2. Setting the Video and Decoding Parameters

The Video management section is divided into two management screens per decoder:

- Video (1..2) Parameters for setting the video parameters (such as: format, interpolation, monitor aspect ratio etc.) of the decoded program (see Section 3.6.2.1).
- **VBI (1..2) Parameters** for setting the decoding parameters of the received VBI (Vertical Blanking Interval) data, see Section 3.6.2.2.

3.6.2.1. Setting the Video (1..2) Parameters

Each dual-decoder card contains two single decoders. The Video (1..2) Parameters screen is used for setting these single decoder video parameters. For example, to set the service output video parameters of the first decoder in the Dual-decoder #5, click **Decoder-5**-**Video-Video1** and then set the required parameters. To set the service output video parameters of the second decoder in the Dual-decoder #5, click **Decoder-5**-**Video-Video2** and then set the required parameters.

Figure 3-18 sows a sample Video Parameter display (Video 1 in Dual-decoder 1).

Scopus	Video 1	Parameters
System Config Decoders Decoder-1 Service Video Uvideo Decoder-2 Decoder-3 Decoder-4 Decoder-4 Decoder-6 Unit EAS Configuration-File Status	Format Interpolation Monitor Aspect Ra Lips-Sync Mode STC-PCR Delay Blanking Mode	PAL BG Pan-Scan Standard Lock 200 mSec Black Retresh

Figure 3-18: Video (1..2) Parameters Screen

The parameters in this screen are:

- Format selects the format of the video signal.
 Options are: NTSC, PAL M, PAL BG, PAL D, PAL N, SECAM.
- **Interpolation** sets the re-sampling method of the image (should be set according to the Aspect Ratio parameter setting, and according to the actual aspect ratio of the received video signal).

Options are:

- Pan-Scan Set interpolation to Pan and Scan
- Letter-Box Set interpolation to Letter-Box
- **Pass-Thru** No interpolation occurs.
- Monitor Aspect Ratio sets the intended image aspect ratio. It is used along with Interpolation to determine the required Aspect Ratio Conversion.

Options are:

• **Transparent** – The aspect ratio of the monitor connected to the PVR-2912 is expected to be identical to the aspect ratio of the PVR-2912's Source .

- **16:9** Monitor aspect ratio is set to 16:9.
- **16:9 Box** Monitor aspect ratio is set to 16:9 with letter-box.
- 4:3 Monitor aspect ratio is set to 4:3.
- 14:9 This option will be supported in future PVR-2912 versions.
- 14:9 Box This option will be supported in future PVR-2912 versions.
- **Lips-Sync Mode** sets the PVR-2912's required Lip-Sync method of operation. Possible options are:
 - **Standard Lock** Standard sync of video and audio data within ±40mSec.
 - **OFF** No Lip-Sync.
- STC-PCR Delay for setting the STC to PCR delay. Possible values range from 0 to 300 milliseconds.
- **Blanking Mode** sets the display mode of a service when reception stops. Options are:
 - **Black** –Video output signal is a black screen.
 - Last Field Video-output signal is the last field displayed.
 - **Last Frame** Video output signal is the last frame displayed.
 - **75% BAR** Video output signal is a colour-bar display.
 - Null Video outputs shut down no output signal.

3.6.2.2. Setting the VBI (1..2) Parameters

Each decoder has its own VBI (1..2) parameters screen. The VBI (1..2) parameters screen is used for setting the decoding and re-insertion methods of the received VBI data. Figure 3-19 shows an example of the VBI (1..2) parameters screen (VBI 1 in Dual-decoder 1).

Configuring and Managing the Device

Sscopus	VBI 1							
	VBI Type	VBI Seurce		Linel	Line2			
Curtam	CC (Closed Captioning)	Disclole	1	21				
System Sconfig	AMOL (Automated Measurement Of Line-ups)	Diseble	~	20	22			
C Decoders	VITS (Vertical Interval Test Signals)	Diseble 😤		17 -	18 -			
E Decoder-1	VITC (Ventical Interval Time Code)	Diseble 💌		12 -	14.~			
# Service	WSS (Wide Streen Signaling)	Diseble	4					
⊟ Video	TTX (Teletent-EBU)	Disable						
Video1	VPS (Video Program System)	Diseble	*	16				
CONT.	TVO (TV Guide)	Diseble	×					
VIDED2	VI (Video Indet)	Disable	~					
# Audio		Service of the						
# Decoder-2	Submit	Refresh						
# Decoder-3								
# Decoder-4								
# Decoder-5								
8 Decoder-6								
津 Unit								
III EAS								
Configuration-File								
# Status								
Reset								
Log off								

Figure 3-19: VBI (1..2) Parameters Screen

The parameters in the VBI (1..2) Parameters Screen are:

CC (CLOSED CAPTIONING)

The supported closed captioning modes are:

- **DISABLE** CC data is not decoded.
- E.S (EN-301-775) CC according to DVB EN 301-775 CC standard.
- **VIDEO** The decoder automatically identifies the CC standard, decodes it accordingly, and reinserts CC decoded data into line 21. The supported CC standards are:
 - CCube standard
 ATSC DVS-53 (Rev 57)
 - Harmonic Divicom standard
- caption type 4
- ATSC DVS-53 (Rev 57) EIA 608 GI DVS-157
- VIDEO (ATSC A/53) CC according to the ATSC A/53 standard.

AMOL (AUTOMATED MEASUREMENTS OF LINE-UPS)

The supported AMOL modes are:

- **Disable** AMOL reinsertion is disabled.
- E.S. (EN-301-775) DVB AMOL reinsertion in Lines 20 and 22 according to the E.S. (EN-301-775) DVB standard.

VITS (VERTICAL INTERVAL TEST SIGNALS)

The ProView 2912 decoders can re-insert six different types of VITS: 2 NTSC, and 4 PAL VITS. The decoder recognizes the type of VITS to-be-decoded by the selected video format.

The PAL and NTSC VITS signals are re-inserted in accordance with ITU-T J.63 standards:

- PAL:- Lines 17, 18, 330 and 331
- NTSC:- Line 17, Field 1; Line 17, Field 2

The supported VITS modes are:

- **DISABLE** VITS are not decoded.
- **INTERNAL** VITS are decoded according to ITU-T standard J. 63, and reinserted according to Line 1 and Line 2 settings.
- Line 1 & Line 2 for setting the VITS reinsertion lines. VITS are inserted differently upon selecting PAL or NTSC (PAL has four signals, while NTSC has 2). When PAL is decoded, setting Line 1 with the value 17, and Line 2 with 18, reinserts the VITS into Lines 17, 18, 330 and 331 (while selecting, for example, 17, 19 results in reinsertion into Lines17, 19, 330 and 332). When NTSC is decoded, VITS signals are always reinserted in Line 17-Field 1 and Line 17-field 2.

Possible values for Line 1 and Line 2 are between 0 and 23.

VITC (VERTICAL INTERVAL TIME CODE)

The supported VITC modes are:

- **Disable** VITC is not decoded.
- Internal VITC is decoded and reinserted according to Line 1 and Line 2 settings.
- Video VITC is decoded and reinserted automatically, according to the defined video format.

WSS (WIDE SCREEN SIGNALING)

The supported WSS modes are:

- **Disable** WSS is not decoded.
- TV Monitor WSS is decoded and reinserted according to the aspect ratio value entered by the operator.
- E.S. (en-301-775) DVB WSS is decoded and reinserted according to the E.N. 301-775 standard.
- **Video** WSS is decoded and reinserted according to the WSS information taken from the video header in the video elementary stream.

TTX (TELETEXT-EBU)

The supported TTX modes are:

- **DISABLE** Teletext is not decoded.
- E.S (EN-301-775) -Teletext is decoded and reinserted according to the EN 301-775 standard.

VPS (VIDEO PROGRAM SYSTEM)

The supported VPS modes are:

- **DISABLE** VPS is not decoded.
- E.S (EN-301-775) VPS is decoded and reinserted according to the EN 301-775 standard.

TVG (TV GUIDE)

The supported TVG modes are:

- **DISABLE** TVG is not decoded.
- E.S (EN-301-775) TVG is decoded and reinserted according to the EN 301-775 standard.

VI (VIDEO INDEX)

The supported VI modes are:

- DISABLE VI is not decoded
- E.S (EN-301-775) VI is decoded and reinserted according to the EN 301-775. standard
- Video VI is decoded and reinserted automatically, according to the defined video format

Notes

- All four **Line1** and **Line2** drop-down menus are identical in form and in values (all allow selecting a value between 0 and 23). See Figure 3-20.
- To reveal hidden values in the drop down menu, use the drop down menu scroll bar; then click a numerical value to select it.



Figure 3-20: VBI Parameters – Line 1 and Line 2 Drop Down Menu

3.6.3. Setting the Audio Parameters

A Dual-decoder can decode up to four audio channels from the input TS, two channels per service and with a similar audio management screen format (**Audio 1..4** parameters screen, see Figure 3-21).

Each **'Decoder'** entry in the tree shown in Figure 3-21 represents a dual decoder card. Audio channels 1&2 are associated with the first decoder in each of the Dual decoder cards, as Audio channels 3&4 are associated with the second decoder in each of the Dual decoder cards.



Figure 3-21: Audio (1..4) Parameters Screen

The parameters in this screen are:

DECODER MODE

This parameter sets the audio decoding scheme.

Possible options are:

- Musicam
- Dolby-AC3
- Linear-PCM

Automatic - detects and decodes the audio scheme automatically

AC-3 DOWNMIX MODE

This parameter sets the AC-3 downmix method.

Options are:

Mono

- Stereo LoRo
- Stereo Surround LtRt

AC-3 OPERATIONAL MODE

This parameter sets the AC-3 operational mode.

Options are:

- **Custom Mode 0** (Dolby-Digital-defined standard)
- **Custom Mode 1** (Dolby-Digital-defined standard)
- Line Out Mode
- RF Remod Mode

Νοτε

AC-3 Operational mode is set by default to **RF-Remod mode**.

VOLUME

This parameter sets the attenuation level of the decoded audio data. Possible values range from -64 to 0 dB.

ANALOG OUTPUT

This parameter controls the decoded audio channel muting.

Options are:

- **Mute** Audio channel is muted.
- Unmute (play) Audio channel output is enabled.

ANALOG MIXER

This parameter allows directing the decoded analog audio signals in one of the following possible options:

- Stereo (L & R) sends stereo output signals to the respective left and right output channels.
- **Mono Mixer** Performs a downmix on both right and left channels and sends the resulting signal, as mono, to the right and left output channels.
- Swap (R & L) Swaps the left and right channels on output.
- **Both Right** Outputs right on both left and right channels.
- Both Left Outputs left on both left and right channels.

PREFERRED LANGUAGE

This parameter assigns a preferred language to each of the Audio channels, as well as to the available VBIs and Subtitling.

Options are:

Albanian - alb	French - fra	Multiple - mul
English Old - ang	French - fre	Norvegian - nor
Arabic - ara.	Gaelic - gae	Turkish - ota
Armenian - arm.	German - ger	Persian - per
Byelorussian - bel.	Greek Modern - gre	Polish - pol
Bulgarian - bul.	Hebrew - heb	Portuguese - por
Chechen - che	Hindi - hin	Romany - rom
Chinese - chi	Hungarian - hun	Romanian - ron
Check - cze	Indonesian - ind	Russian - rus
Danish - dan	Irish - iri	Spanish - spa
German - deu	Italian - ita	Swedish - sve
Dutch - dut	Japanese - jpn	Swedish - swe
Egyptian - egy	Latin - lat	Tamil -tam
English - eng	Macedonian - mac	Thai - tha
Spanish - esl	Miscellaneous - mis	Zuylu - zul
Finnish - fin		

3.7. SETTING THE UNIT PARAMETERS

The Unit section contains the following management screens.

- **De-Jittering** sets the de-jittering delay value in mSec (see Section 3.7.1).
- **IP Front-End** enables the user to define each transport stream's Primary and Secondary multicast sources (as well as an IGMPv3 Source-Specific Multicast address) and their IGMP Join policy (see Section 3.7.2).
- **IP Interface Configuration** –used for setting the IP addresses, Gateway addresses and Subnet mask of the ProView 2912 data and management ports (see Section 3.7.3).
- **Cross-Connection** enables the cross-connection of transport streams to dual-decoder cards (see Section 3.7.4).
- **SNMP Traps** sets the SNMP traps destination settings IP address, port, description, and community (see Section 3.7.5).
- **Program Names** sets the program names, viewed in the decoder cards monitor section in the System Status screen (see Section 3.7.6).
- **UTC** sets the ProView 2912 inner clock and synchronization source, either automatically using NTP or manually (see Section 3.7.7).
- Log File sets the parameters required for the log file chronicle. For developers use only (see Section 3.7.8).
- Alarm configuration lists all the supported alarms in the unit, detailing then current state as well as allowing the user to set their severity level and GPIO alert (see Section 3.7.9).

System 🖻 Config Decoders 🖯 Unit De-Jittering IP Front End IP Interface Configuration Cross Connection SNMP Traps Program names UTC Log File Alarm Configuration

Figure 3-22 displays the Unit menu tree structure.

```
Figure 3-22: Unit Menu Tree
```

3.7.1. De-Jittering

Reset Log off

The De-Jittering screen enables the operator to set the De-Jittering Delay parameter value. Dejittering value range is 200 to 2000 milliseconds. Figure 3-23 shows the De-jittering screen.



Scopus	De-Jittering
System Config	Dejittering Delay 1000 mSec
Decoders	
^m De-Jittering	
IP Front End	
IP Interface Configuration	
Cross Connection	
SNMP Traps	
Program names	
UTC	
Log File	
Alarm Configuration	
EAS	
🗄 Configuration-File	
🖻 Status	
Reset	
Log off	

Figure 3-23: De-jittering screen

3.7.2. IP Front-End

The IP Front End table enables the operator to allocate a Primary and Secondary multicast sources for each of the six transport streams to be acquired by the ProView 2912. The table displays the active IP Front End source with an orange frame as the redundant IP Front End source is displayed with dark green frame.

The IP Front-End management screen displays the **TS Source-Allocation** and **Redundancy Mode** table. Each row in the table is associated with one of six transport streams. The table is divided to primary and secondary columns. Both columns have **Multicast IP** and **Port** fields for a TS source, and a GbE **Interface** allocation field.

The secondary column has an additional **IGMP Redundancy** field. It enables setting the Secondary source IGMP Join policy for each transport stream. The selected IGMP Join policy defines the speed of image recovery in the ProView 2912 due to the need to switch between multicast sources (IGMP Redundancy).

Figure 3-24 IS an example of the IP Front-End screen.

Scopus					IP Fr	ont End				
Video Networks					13MP Versor	IGMPV2	9			
ystem Config			Multicast IP	Primary Fort	Interface	Multicast IP	Secondar Port	y Interface	Redund Mode	uney
Cecoders	TSI	Paol	234123	1234	GEIE1	2143.2.3	1234	GBE2 -	oin always	1
(E Service	TISI	Paid	234.1.2.3	1224	GEE1	2141.2.3	1234	GBE2 -	oin always	
TV1 Selected Service TV2 Selected Service	T53	[Pan3]	234125	1234	0.001	214123	1234	GBE2	oin always	3
PID Select	TS4	Parel	234123	1234	GBE1 2	214123	1234	GRET 2	oin always	-
Video 1	T25	Fwr6	2341.2.3	1234	CRE1 2	2141.2.3	1234	GBE2	on slways	-
VBI1 Video2	TS6	Parti	234123	1234	OBET 1	2941.2.3	1234	G882 - 7	on always	-
Viceo2 VEZ * Audio Audio1 Audio3 Audio4 * Decoder-3 * Decoder-3 * Decoder-4					Subrret	Partent.				

Figure 3-24: IP Front-End Screen

3.7.2.1. TS-Source-Allocation and Redundancy Mode Table

The TS Source-Allocation and Redundancy Mode table enables the operator to use the ProView 2912's redundancy abilities. Figure 3-25 is an example of the TS Source-Allocation and Redundancy Mode table.

	IP Front End											
	IGMP Version IGMPv2											
		Multicast IP	Primary Port	Interface	Multicast IP	Seconda Port	y Interface	Redundancy Mode				
TS1	Prim-1	234.1.2.3	1234	GBE1 -	234.1.2.3	1234	GBE2 🗾 Joir	n always 🔽				
TS2	Prim-2	234.1.2.3	1234	GBE1 -	234.1.2.3	1234	GBE2 🗾 Joir	n always 💽				
TS3	Prim-3	234.1.2.3	1234	GBE1 -	234.1.2.3	1234	GBE2 🗾 Joir	n always 💽				
TS4	Prim-4	234.1.2.3	1234	GBE1 -	234.1.2.3	1234	GBE1 🗾 Joir	n always 💽				
TS5	Prim-5	234.1.2.3	1234	GBE1 🔹	234.1.2.3	1234	GBE2 🗾 Joir	n always 💽				
TS6	Prim-6	234.1.2.3	1234	GBE1 -	234.1.2.3	1234	GBE2 🗾 Joir	n always 💽				
				Submit	Refresh							



The table defines each ProView 2912 internal TS (TS1 to TS6) with two different multicast transport stream sources allocated. The left multicast source is defined as Primary and the right

is defined as Secondary. When the ProView 2912 detects the need to switch between sources, it automatically releases the Primary source and switches to the Secondary.

Νοτε

After the ProView 2912 performs an automatic switch from its Primary to Secondary source, it relies on its Secondary source until the operator manually switches the ProView 2912 back to its Primary source (see section 3.7.2.2).

Additionally, since both ProView 2912 GbE ports should always be physically connected (normally, to two unrelated IP sources, broadcasting the same video content), this screen also defines the GbE port from which to acquire the specified IP transport stream.

For each of processed TS (TS1 to TS6), the table contains the following parameters:

- **Primary Multicast IP** IP address of the primary multicast source.
- **Primary Port** UDP port number of the primary source.
- **Primary Interface** GbE port from which to acquire the specified multicast TS source (GbE1 or GbE2).
- Secondary Multicast IP the IP address of the secondary multicast source.
- **Secondary Port** the UDP port number of the secondary source.
- **Secondary Interface** the GbE port from which to acquire the specified multicast TS source (GbE1 or GbE2).
- **IGMP Mode** defines the IGMP Join policy, with 3 options:
 - OFF -secondary IP TS source is disabled; an IGMP Join request is never sent.
 - Join When Active send a Join request only when ProView 2912 decides to switch between Primary and Secondary sources. Selecting this option results in slower recovery of the image (up to approximately 90 seconds, depending on the number of hops between the ProView 2912 and the secondary source).
 - Join Always the secondary IP TS source is always joined. This option allows subsecond redundancy and image recovery within less than a second.

Notes

- Although selecting **Join When Active** results in a longer wait for image recovery, it uses half the bandwidth relative to **Join Always** (only the Primary source is received in standard process).
- Selecting **Join Always** supplies sub-second redundancy, but takes twice the bandwidth relative to **Join When Active** (the ProView 2912 continuously receives TS from the Primary and Secondary sources).
- SRC (IGMPv3 SSM) IP address of the specific source, transmitting the required transport stream

Νοτε

SSM valid IP addresses are only between 232.0.0.0 and 232.255.255.255.

3.7.2.2. Switching Back From Secondary to Primary Source

When a certain transport stream is being acquired through the defined Secondary source, switching back to Primary is performed by clicking the relevant **Prim (1..6)** button. Figure 3-26 demonstrates a situation where TS2 is being acquired and sent to the decoder through the defined Secondary source. Clicking the *Prim-2* button will cause the ProView 2912 to switch back to the Primary multicast source, and to start sending its data to the decoder.

Νοτε

Make sure to switch back to Primary only when the Primary multicast source is available (green frame).

TS2 [Pim-2] 232.100.2.22 2002 GBE2 💙 232.100.2.28 2008 GBE1 💙 Join always 👻

The Prim button

Figure 3-26: Switching Back to the Primary Source - The Prim Button

3.7.2.3. Multicast-Source Availability and Status

For each of the six transport streams, the ProView 2912 distinguishes between the following possible three statuses:

- Active The ProView 2912 is locked onto the transport stream, and the transport stream is being sent to the decoder for decoding. The indication for this condition is an orange frame around the relevant source-parameters section in the table (Primary/Secondary).
- Locked (multicast source available but not active) The ProView 2912 is locked onto the transport stream, but the TS is linked to a redundant decoder. The indication for this condition is a dark green frame around the relevant source-parameters section in the table (Primary/Secondary).
- Unlocked (multicast source unavailable) The ProView 2912 cannot lock onto the transport stream (caused by a missing, or illegal TS). The indication for this condition is a light yellow frame around the relevant source-parameters section in the table (Primary/Secondary).

Figure 3-27 demonstrates the three previously-mentioned transport-stream source statuses and their respective color indications.

				10MP Verno	a IGMPv2	3				
		Multicast IP	Primary Port	Interface	Multicast IP	Secondary Port	Interfac	IGMP • Redundancy		
TSI	Poe-1	232.100.2.21	2001	GBEZ 🐱	232 100 2 27	2007	GBE1 🖃	Join always	-	Locked (inactive) sourc
TS2	Pm-2	232.100.2.22	2002	GBE2 🛃	232.100.2.26	2008	GBE1 🚽	Join always	8	Active source
TS3	(Pm-1)	232.108.2.23	2003	GBE2 💌	232.108.2.29	2009	Of 🔫	Join elweys	×	Unlocked source
TS4	Pin-4	232.108.2.24	2004	GBE2 🕷	232 108 2 38	2010	CR 🚽	Join always	1	
TSS	(Pim-5)	232.108.2.25	2005	G8E2 🛥	232.109.2.31	2011	01 -	Join elways	1	
TS6	Pun-6	232.100.2.26	2006	GBE1 💌	232 100 2 32	2012	Of -	Join always	*	

Figure 3-27: Multicast-Source Availability and Status

3.7.2.4. Switching Between IGMPv2 and IGMPv3-SSM Modes

The ProView 2912 supports both IGMPv2 and IGMPv3-SSM protocols.

The IGMPv3-SSM attribute extends IGMPv2 by adding Source-Specific Multicast filtering support. This allows the ProView 2912 to receive a transport stream from a specific source and not from all the sources transmitting to the multicast group.

To switch between IGMPv2 and IGMPv3-SSM Modes:

1 Click the *IGMP Version* drop-down menu at the top of the screen.

IGMP Version IGMPv3-SSM 💌

2 Select the required IGMP version – IGMPv2 or IGMPv3-SSM

Figure 3-28 shows an example of the IGMPv2 TS source-allocation and IGMP-redundancy table.

Figure 3-29 shows an example of the IGMPv3-SSM extended table.

ProView 2912 Universal IP Decoder

	IP Front End										
System © Config			1 Multicast IP	Primary Port	Interface	Multicast IP	Secondary Port	Interface	IGMP Redundan	cy.	
# Decoders	TSI	Pin-1	232.100.2.21	2001	GBE1 🔹	232.100.2.27	2007	GBE2 💌	Join always		
De-Jittering	TS2	Pin-2	232.100.2.22	2002	GBE1 💌	232.100.2.28	2008	GBE2	Join always	•	
IP Front End IP Interface Configuration	TS3	Prm-3	232 100 2 23	2003	GBE1 •	232.100.2.29	2009	GBE2 -	Join always		
Cross Connection	TS4	Pin-4	232:100.2.24	2004	GBE1 -	232 100 2 30	2010	GBE2 .	Join always	٠	
Program names	TS5	Pin-5	232 100.2.25	2005	GBE1 •	232.100.2.31	2011	GBE2	Join always	•	
UTC Log File	TS6	Pin-6	232 100 2 26	2006	GBE1 .	232.100.2.32	2012	GBE2	Join always		
Alarm Configuration # EAS # Configuration-File # Status Reset Log off					Submi	Retresh					

Figure 3-28: IGMPv2 TS Source-Allocation and IGMP-Redundancy Table



Figure 3-29: IGMPv3-SSM TS Source-Allocation and Redundancy Table

3.7.3. IP Interface Configuration

The IP interface configuration table enables to connect the ProView 2912 to various networks, using different protocols.

The ProView 2912 has four Ethernet ports. These ports are used for multicast transport stream reception (through Gigabit Ethernet) and ProView 2912 management (Fast Ethernet, using a web browser interface). The ProView 2912 Ethernet ports are:

- **GbE Port (1..2)** used for receiving Gigabit Ethernet multicast transport streams from ProView 2912-defined multicast sources. GbE Port 1 and GbE Port 2 have separate controls.
- Service the service port should be used only:
 - As an alternative option to the Management port when setting up initial communication and device configuration.
 - When receiving professional assistance from trained personnel.
- **Management** for standard ProView 2912 management, using a remote PC.

The IP Interface Configuration screen allows the operator to set the IP address, Gateway address, and Subnet mask of these four ProView 2912 Ethernet interfaces.

Figure 3-30 shows an example of the IP Interface Configuration screen.

Scopus	IP Interface Configuration					
Video Networks		GhE Port 1	GhE Purt 2	Management Port	Service Port	
System	P address	10 15 0 100	10.16.0.101	10.98.8.4	10.100.1.25	
Config	Jateway address	1015.0.1	10.16.0.1	10.96.0 1		
* Decoders	Sabuet mark	255.255.255.0	255 255 255 0	255.255.255.0		
SNNP Traps Program names UTC Log File Alam Configuration						

Figure 3-30: IP Interface Configuration Screen

All ports have the following parameters:

- **IP Address** the IP addresses of the Ethernet port. Consult your system administrator regarding each of the four IP addresses.
- **Gateway address** –used when there is a need to manage the ProView 2912 through a computer that is located outside of the local subnet. Consult your system administrator regarding the contents of this field.
- **Subnet mask** –consult your system administrator regarding the contents of this field.

Notes

- The Gateway address of the Management port and the Service port are always identical in the ProView 2912. For Thus their values are hidden in the Service port address columns.
- The subnet mask values of GbE port 1, GbE port 2 and management port may differ from each other.
- When connecting to the device for the first time, the operator should use the Management port's factory default IP address: 10.104.1.26. See Section 2.5.4
- Always consult your system administrator before configuring the ProView 2912 interface IP addresses, Gateway addresses, and Subnet mask
- The two GbE port MAC addresses are read-only parameters.

3.7.4. Cross-Connection

The Cross-Connection management screen is used for assigning de-jittered MPEG TS (or TS arriving through the ProView 2912 ASI In interface) to any number of dual-decoder cards. This feature provides great flexibility and ease when creating the required cross-connection scheme.

Figure 3-31 is an example of the Cross-Connection screen.

		Cross Connection	D
System	Decoder 4 TS 4 💌	Decoder 5 TS 5 💌	Decoder 6 TS 6 💌
Decoders			
🕂 🕀 Unit			
De-Jittering	Decoder 1 TS 1 💌	Decoder 2 TS 2 💌	Decoder 3 TS 3 💌
IP Front End			
IP Interface Configuration			
- Cross Connection			
SNMP Traps			
Program names		Submit Refresh	
UTC			
Log File			
Alarm Configuration			
EAS			
🗉 Configuration-File			
🖻 Status			
Reset			
^I Log off			

Figure 3-31: Cross-Connection Screen

Νοτε

The default settings are as follows: `TS1 \rightarrow Dual-decoder 1, TS2 \rightarrow Dual-decoder 2...' and so on. This applies also to the ProView 2912 software version.

3.7.4.1. Assigning Transport Streams to Dual-decoders

To assign a transport stream to a dual-decoder card:

- 1. Click the relevant dual-decoder card FROM drop-down list.
- 2. Select the required TS (TS1 to TS6 or ASI In) to be assigned to that dual-decoder.
- 3. Click Submit.

3.7.5. SNMP Traps

The ProView 2912 supports a number of SNMP traps. The available traps are:

entConfigChange

scAlarmOn

linkDown

• scAlarmOff

• linkup

For detailed information refer to the ProView 2912 MIB files.

The SNMP traps must be configured with a destination to send the traps. The SNMP Traps screen allows the user to set these destination configurations.

Figure 3-32 displays the SNMP Traps Destination Configuration screen.

Video Networks	SNMP Traps Destination Configuration			
System	IP address 10.101.1.26			
E Config	UDP Port 162			
Decouers De Unit	Description My PC			
De-Jittering	Community public			
- IP Front End	2			
IP Interface Configuration				
Cross Connection				
SNMP Traps	Rubmit Dottook			
Program names	Subinic Reliesh			
- итс				
Log File				
Alarm Configuration				
⊞ EAS				
E Configuration-File				
₽ Status				
Reset				
Log off				

Figure 3-32: SNMP Traps Destination Configuration Screen

The SNMP Traps Destination Configuration screen parameters are:

- IP Address the IP address of the destination to which the trap is sent.
- UDP Port the UDP port of the destination to which the trap is sent.
- **Description** a textual description of the destination to which the trap is sent. This field contains free text of up to 25 characters.

• **Community** – the ProView 2912 trap community string. This is essentially the password that allows remote SNMP devices to receive traps from the ProView 2912.

3.7.6. Program Names

This screen enables the operator to set a textual descriptor for each of the ProView 2912's twelve decoded channels. The default descriptors are "Service 1" and "Service 2" for each of the six dual-decoders, Decoder 1 and Decoder 2 correspondingly. The Program Names screen enables to replace these descriptors to any alphanumeric text. The descriptors can be up to 10 characters long.

Program names copus Decoder 1 channel 2 Decoder 1 channel 1 System Decoder 2 channel 1 Decoder 2 channel 2 Config · Decoders Decoder 3 channel 1 Decoder 3 channel 2 i⊖-Unit De-Jittering Decoder 4 channel 1 Decoder 4 channel 2 **IP Front End** Decoder 5 channel 1 Decoder 5 channel 2 **IP Interface Configuration Cross Connection** Decoder 6 channel 1 Decoder 6 channel 2 SNMP Traps Program names Submit Refresh UTC Log File Alarm Configuration + EAS Configuration-File * Status Reset Log off

Figure 3-33 is an example of the 'Program names' screen.

Figure 3-33: Program Names Screen

- **Decoder (1..6) channel 1** for entering a new descriptor to the signal decoded by the selected Dual-decoder's first decoder.
- Decoder (1..6) channel 2 for entering a new descriptor to the signal decoded by the selected Dual-decoder's second decoder.

To set a new descriptor, type in the describing text in the relevant textbox and click **Submit**.

3.7.7. UTC (Universal Time Coordinated)

The ProView 2912 uses UTC protocol for accurate EAS performances.

The ProView 2912' UTC can be configured by manual setting UTC time, or by allowing the device to automatically update its date and time, using NTP (Network Time Protocol).

3.7.7.1. Setting the Date & Time Automatically (NTP)

To select NTP mode of operation, in the **UTC setup** drop-down menu at the top of the UTC screen select **Automatic using NTP**.

Figure 3-34 shows an example of the UTC screen, when the NTP option is selected.

Sscopus	UTC attup Automatic using NTP	
System Config # Decoders Unit De-Jittening JP Frant End	NTP Host IP 1080.221 Local Time - Thu May 11 12:11:19	
IP Interface Configuration Cross Connection SNMP Traps Program names Und Log File Alarm Configuration	Submit Refresh	
FRS P Configuration-File Status Reset Log off		

Figure 3-34: Setting Date and Time Automatically Using NTP

To set the Date and Time using NTP:

- 1. In the **NTP Host IP** text box, enter the IP address from which to obtain the synchronization data.
- 2. Click **Submit**; the ProView 2912 will now automatically update its date and time according to the selected host.
- 3. Select the appropriate time zone from the Time Zone drop-down menu.

3.7.7.2. Manually Setting the Date and Time (UTC)

To select UTP manual mode, in the **UTP setup** drop-down menu at the top of the UTC screen select **Manual**.

Figure 3-37 displays the UTC screen, when the manual UTP option is selected.

Chapter 3 Configuring and Managing the Device

Scopus	UTC st	UTC	I
System			
(B) Decoders	Year	2006	
E Unit	Month	5	-
De-Jittering	Month D.	ay 11	-
IP Front End	Hour	12	-
IP Interface Configuration	Month	44	
Cross Connection	Count	50	
SNMP Traps	Second	123	
Program names			
1 In The	ne Zone (GMT -12.00) Eniwet	ok, Kwajalein	-
Log File			
Alarm Configuration			
# EAS	8	Submit Refresh	
2 Configuration-File			
# Status			
Reset			
Log off			

Figure 3-35: Setting Date and Time Manually (UTP)

1. To manually set the date and time data, first enter the following information in the appropriate text boxes:

- Year current year
- Month current month
- Month Day current day of the month
- **Hour** current hour
- Minute current minute
- Second current second

2. After entering the date and time data, wait for the appropriate second within the entered minute, and click **Submit**. The ProView 2912 immediately updates its date and time data instantly.

3. Select the appropriate time zone from the Time Zone drop-down menu.

3.7.8. Setting the Log File Parameters

The **Log File** screen, allows the user to set the required parameters for identifying the Logger by the unit.

To access the Log file menu navigate to: **Config→Unit→Log File** (see Figure 3-36).

L CAUTION

The **Log File** feature is intended for advanced users only and should be configured by authorized personnel.

Video Networks System Config Config Decoders Unit De-Jittering IP Front End IP Interface Configuration Cross Connection SNMP Traps Program names UTC Alarm Configuration E EAS	Logger			
System Console Config Decoders Unit De-Jittering IP Front End IP Interface Configuration Cross Connection SNMP Traps Program names UTC Log File Alarm Configuration	Valid	Severity Threshold		
Config Decoders Unit De-Jittering IP Front End IP Interface Configuration Cross Connection SNMP Traps Program names UTC Log File Alarm Configuration E EAS Log File Log Fil	Yes 💌	Minor 💌		
Unit De-Jittering IP Front End IP Interface Configuration Cross Connection SNMP Traps Program names UTC Log File Alarm Configuration EEAS	Yes 💌	Warning 💌		
De-Jittering IP Front End IP Interface Configuration Cross Connection SNMP Traps Program names UTC Log File Alarm Configuration BEEAS	Yes 💌	Info 💌		
Configuration-File Status	er IP addr Submit Save to	ress: 10.98.0.6 Refresh		

Figure 3-36: Log File Display

The Log-file screen includes the following:

• **Logger destination table**- Allows the user to enable or disable logger destinations, and set a severity threshold. Table 3-1 details the Logger destination table screen.

Table 3-1:Logger destination table

PARAMETER AVAILABLE VALUES		
Destination – lists the available logger destinations.	 Console - When valid, all logs will be transmitted from the unit through the RS232 port, to a connected computer logger. Log File - When valid, all logs will be transmitted to the unit's Log-File located under web_files/web/evl_logfile.htm. Network - When valid, all logs will be transmitted to the IP address, defined in the Network Logger IP address. 	
Valid – this parameter allows the user to enable or disable the logger destinations.	 Yes - when selected the relevant destination is valid No - when selected, the relevant destination is not valid. 	
Severity Threshold – this parameter allows the user to set the logger activation threshold to each destination, from which logs will be transmitted.	 Info - when selected, only events defined as Info or higher are logged. Warning - When selected, only events defined as Warning or higher are logged. Minor - When selected, only events defined as Minor or higher are logged. Major - When selected, only events defined as Major or higher are logged. Major - When selected, only events defined as Major or higher are logged. Critical When selected, only events defined as Critical are logged. 	

Table 3-1:Logger destination table

Νοτε

Using the Network destination requires the installation of Harmonic Inc.' Logger application. The Logger application is provided by demand.

- **Network Logger IP address** allows the user to set an IP address for a network logger.
- **Operation Buttons** The logger configuration is stored separately from other PVR-2912 configurations. The operational buttons allows the user to save or drop the current logger configuration. There are three operational buttons:
 - **Submit** applies the current logger configurations to the current session only and dropped after reset.
 - **Refresh** drops the current logger configuration.
 - Save to file save the current logger configuration for permanent use

3.7.9. Alarm Configuration

The ProView 2912 automatically detects various faults pertaining to either connectivity and data issues, or hardware issues within the device. It is able to announce each of these faults by setting a pre-defined alarm. The Alarm Configuration table has the following three columns (see Figure 3-37):

- Alarm Name short description of the alarm.
- Current State displays the current state of each alarm (On, or Off).
- **Assigned-Severity** the severity-level assigned to this alarm. There are four alarm-severity levels: **Not Reported**, **Minor**, **Major**, and **Critical** (in ascending order).
- **GPIO** a three-bit word (ranging from 000 to 111) that is assigned to the alarm and is outputted through the GPI Dry Contact when the alarm is set on.

When an alarm is on, the ProView 2912 checks its assigned severity, and lights the corresponding unit status LED on the front panel (see 2.4.1.2). For example, if a fan stops working, the FANS alarm is set to **On** in the Alarm Status screen. If, for example, the predefined FANS alarm severity level is set to **Critical**, then the 'CRITICAL' unit status LED on the front panel will be lit in red.

Additionally, the ProView 2912 enables the operator to assign a 3-bit word (ranging from 000 to 111) to each of the alarms. When an alarm is set on, this 3-bit word is sent through the GPI Dry Contact interface. This allows the operator to incorporate additional (custom) alarm-indicators, according to their needs.

See Appendix D for GPI connector pin-out and electrical alarm signalling.

CAUTION

The user can disable the front-panel LED indicators alarm by assigning the value '**Non-Reported**' to an alarm. When disabling the reporting of an alarm use discretion; not doing so may result in reduced quality of service or damage to equipment.

Sscopus	Alarm Configuration				
System	Alarm Name	Current State	Assigned Severity	GPIO	-
2 Config	ALARM_PHY_FAIL_GET_COPPER	ON	Non-Reported	001 💌	
D unit	ALARM_PHY_FAIL_G0E2_COPPER	ON	Non-Reported	010 +	
De-Jittering	ALARM_PHY_FAIL_GoE1_SFP	NOTCLEAR	Non-Reported -	011 .	
IP Front End	ALARM_PHY_FAIL_G6E2_SFP	NOT CLEAR	Non Reported *	100 +	
IP Interface Configuration	ALARM_PHY_FAIL_MNG	OFF	Non-Reported .	701 ×	-
Cross Connection	ALARM PRIM IP STREAM FAIL 1	OFF	Non-Reported *	110 -	
SNMP Traps	ALARM PRIM IP STREAM FAIL 2	NOT CLEAR	Non-Reported .	111 +	
Program names	ALARM FRIM IP STREAM FAIL 3	OFF	Non-Reported *	001 -	
Log File	ALARM PRIM IP STREAM FAIL 4	OFF	Non-Reported .	010 +	
Memi Configuration	ALARM PRIM IP STREAM FAIL 5	OFF	Non-Reported *	011 *	
IT EAS	ALARM FRIM IP STREAM FAIL 6	NOT CLEAR	Non-Reported *	100 -	
The Configuration-File	ALARM SEC IP STREAM FAIL 1	OFF	Non-Reported *	101 *	
* Status Reset	ALARM_SEC_IP_STREAM_FAIL_2	OFF	Non-Reported	110 .	*1
Log off	Subm	r Retresh	1		-

Figure 3-37: Alarm Status Screen (Upper Part)

Sscopus	Alarm Configuration			
System I Config	ALARM_SEC_D_STREAM_FAIL_1	OFF	Non-Fleponed *	101
Decoders Unit	ALARM_SEC_IP_STREAM_FAIL_3	OFF	Non-Reported	111 •
De-Jittering IP Front End	ALARM SEC IP_STREAM_FAIL_4 ALARM SEC_IP_STREAM_FAIL_5	OFF	Non-Reported *	001 •
IP Interface Configuration Cross Connection	ALARM_SEC_IP_STREAM_FAIL_6	OFF	Non-Reported •	011 -
- SNMP Traps - Program names	ALARM_FANS	OFF	Non-Reported *	101 -
Log File	ALARM_DECODER_1_OUT ALARM_DECODER_1_NO_COMM	OFF	Non-Reported *	000 •
#EAS	ALARM_DECODER_1_TS_FAIL	OFF	Non-Reported *	000 -
# Configuration-File Status	ALARM_DECODER_2_NO_COMM	OFF	Non-Reported •	000 -
Reset Log off	ALARM_DECODER_2_TS_FAIL	OFF	Non-Reported *	000 -

Figure 3-38: Alarm Status Screen (Middle Part)

5 scopus	Alarm Configuration			
iystam Config	ALARM_DECODER_3_OUT	OFF	Non-Reported	000 •
# Decoders	ALARM_DECODER_3_NO_COMM	OFF	Non-Reported	000 💌
🗄 Unit	ALARM_DECODER_3_TS_FAIL	OFF	Non-Reported .	000 💌
De-Jittering	ALARM_DECODER_4_OUT	OFF	Non-Reported .	000 💌
IP Front End	ALARM_DECODER_4_NO_COMM	OFF	Non-Reported -	000 •
Cross Connection	ALARM_DECODER_4_TS_FAIL	OFF	Non-Reported	000 -
SNMP Traps	ALARM_DECODER_5_OUT	OFF	Non-Reported •	000 💌
Program names	ALARM_DECODER_S_NO_COMM	OFF	Non-Reported .	000 💌
UTC	ALARM_DECODER_5_TS_FAIL	OFF	Non-Reported	000 •
Log File	ALARM_DECODER_6_OUT	OFF	Non-Reported	000 •
Alterational and	ALARM_DECODER_6_NO_COMM	OFF	Non-Reported .	000 -
* configuration-File	ALARM_DECODER_6_TS_FAIL	OFF	Non-Reported .	000 •
Status	ALARM_PSU_1_FAIL	OFF	Non-Reported	000 💌
Reset	ALARM_PSU_2_FAIL	OFF	Non-Reported	000
Log off	Submit	7 Rotrest	व	

Figure 3-39: Alarm Status Screen (Lower Part)

The alarms are:

- **PHY_FAIL_GbE1_COPPER** no link attached to the RJ-45 GbE-1 interface.
- **PHY_FAIL_GbE2_COPPER** no link attached to the RJ-45 GbE-2 interface.
- **PHY_FAIL_GbE1_SFP** no link attached to the fiber GbE-1 interface.
- **PHY_FAIL_GbE2_SFP** no link attached to the fiber GbE-2 interface.
- **PHY_FAIL_MNG** no link attached to the Management Ethernet interface.
- **PRIM_IP_STREAM_FAIL_(1...6)** underflow or overflow has been detected by the primary de-jittering block.
- **SEC_IP_STREAM_FAIL_(1...6)** underflow or overflow has been detected by the secondary de-jittering block.
- **POWER** an unusual (more than 10%) drop in one or more voltage levels (measured on the ProView 2912 main board) has been detected.
- FANS failure in one or more of the 6 ProView 2912 fans has been detected.
- ALARM_DECODER_(1..6)_OUT dual-decoder card not connected.
- ALARM_DECODER_(1..6)_NO_COMM the CPU cannot communicate with dualdecoder card.
- ALARM_DECODER_(1..6)_TS_FAIL dual-decoder card cannot lock onto transport stream.
- ALARM_PSU_(1..2)_FAIL a drop of more than 10% in any of the output voltages of the power supply unit or an input voltage drop below 90VAC has been detected (both internal measurements performed by the PSU).

3.7.9.1. Setting an Alarm's Severity Level

To set an alarm's assigned severity level:

- 1. Click the relevant alarm's Assigned Severity drop-down menu.
- 2. Select a required severity level.
- 3. Click **Submit** at the bottom of the panel.

3.8. EAS (EMERGENCY ALERT SYSTEM)

The ProView 2912 supports (out-of-band) EAS according to the J-STD-042-2002 (SCTE-18) standard. There are three EAS-related screens in the ProView 2912 web management interface:

- Configuration screen Used for the following tasks:
 - Setting the EAS management and data parameters.
 - Enabling and disabling EAS transmission through each dual decoder.
 - Setting EAS actions of each priority level.
- **Default Stream** Default stream specifies the multicast IP stream used for full video and audio replacement in course of the force-tune EAS operation (see Section 3.8.2).
- **Status screen** located under the status menu (see Section 3.10.6).
3.8.1. EAS (SCTE-18) Configuration Screen

Figure 3-40 displays the EAS Configuration screen.

conuc			EA	S (SCTE-18) Configuration				
SCOPUS Video Networks	Our Of Band Interface	Control GBE	. e	OSD Duplay	E	tigh 💌	EAS Configur	ation
n fig ecciders ret	Out Of Band Control Interi Address	iac # IP 172.16.1	14	State - Coloredo			\nearrow	
AS Sontouration	Out Of Band Port	Control UDP	5055	County Code (0	-999)	3	/	
Force Tune Stream onfiguration File lus	Out Of Band Control Strea Address	n IP 232.1 24	5	County sub-finisi	oa. All or unspe	eched 🌱		
at off	EAS Transpo Interface	et Stream	GBE 1 👱	EAS Tables PID	C	VIFFC 💌	EAS Enabl	ing
	Decoder care	I EAS	On 🛩	Decoder card 2	EAS	0	/	
	Decoder card	I 3 EAS	On 💌	Decoder card 4	EAS	01 -		
	Decoder care	15 EAS	On 🛩	Decoder card 6	EAS	01 💌	EAS Priority	Action
	Priority 0 action	Text Crewi	×	Priority 1 action	Text Crawi	Pi at	tority 2 Test Crewi	*
	Priority 3 action	Text Crewl		Priority 4 action	Text Crewi	Pi At	tion Taxt Crawl	2
	Priority 5 action	Text Crawl	*	Priority 7 action	Text Oraw!	P)	tion Text Crewl	
	Priority 9 action	Text Crowl	×	Priority 10 action	Text Crow!	P I	Text Crowl	
	Priority 12 action	TextCrowl	*	Priority 13 action	Text Crowl	2 Pr 14	sotty Faction	×
	Priority 15 action	Text Crowl	*					
	action			Submit	Pavesh			+

Figure 3-40: EAS Configuration Screen

The EAS management parameters are divided into three groups:

- **EAS Configuration** This group is located at the upper part of the screen. This group of parameters is used for setting the general EAS parameters. For details see section 3.8.1.1.
- **EAS Enabling** This group located at the middle part of. This group of parameters is used for enabling or disabling EAS transmission for each dual-decoder separately.
- **EAS Priority Action Setting** This group is located at the lower part of the screen. This group of parameters is used for setting the required action to each EAS priority level.

3.8.1.1. EAS Configuration Parameters:

The **EAS Configuration** Parameters are used for setting the general EAS and include the following:

OUT-OF-BAND CONTROL INTERFACE

The ProView 2912 IP interface through which EAS management data will be received. Each of the device's IP ports is a valid option for this purpose. The available options are:

- GBE1
 Management
- GBE2
 Service

OUT-OF-BAND CONTROL INTERFACE IP ADDRESS

This parameter allows the user to set the selected management interface IP Address.

OUT OF BAND CONTROL UDP PORT

This parameter allows the user to set the device's UDP port through which EAS management data will be received.

OUT OF BAND CONTROL STREAM IP ADDRESS

This parameter allows the user to set the multicast group to which the EAS server sends its notifications.

EAS TRANSPORT STREAM INTERFACE

The ProView 2912 interface through which the EAS data stream (containing the actual alert data to be displayed) will be received. The options are:

- GBE1
- GBE2

OSD DISPLAY

This parameter allows the user to set the location of the OSD when enabled.

The available options are:

- **High** When selected, the OSD is displayed at the top of the screen.
- Low When selected, the OSD is displayed at the bottom of the screen.
- Default When selected, the OSD will be displayed according to the OSD-X and the OSD-Y parameters stored at the uid.ini system log file. The default values are:OSD-X=50, OSD-Y=440
- **State** EAS transmissions can be intended for a specific state within the US. Selecting a specific state (from the drop-down list) allows only EAS transmissions intended for that state to be processed by the ProView 2912.

Selecting **All** instructs the ProView 2912 to process all EAS transmissions, with no reference to the state for which they may be intended.

Νοτε

When selecting the "All" option from the state menu the County Code and County Subdivision fields are not applicable.

County Code (0-999) – EAS transmissions can be intended for a specific county within a state in the US. This field specifies a 3-digit code (in the range 0 to 999) of the county and instructs the ProView 2912 to process only EAS transmissions that are intended for that county. The county code is according to State and Territory Federal Information Processing Standard (FIPS) number codes maintained by the National Institute of Standards and Technology (NIST) in FIPS PUB 6-4.

Entering a value of 0 instructs the ProView 2912 to process all EAS transmissions, with no reference to the county for which they may be intended.

 County Subdivision – Similarly to the State and County Code parameters, the County Subdivision parameter is also an EAS-transmissions filter. This parameter only allows the processing of EAS transmissions that are intended for a specific subdivision within the specified county.

Here also, selecting **Unspecified** instructs the ProView 2912 to process all EAS transmissions (according to the filtering that was defined above this level), with no reference to the subdivision for which they may be intended.

- **EAS Tables PID** the PID of the EAS packets to be processed by the ProView 2912. There are two PIDs designated for EAS data transmission, as defined in the SCTE-18 standard. The EAS-designated PIDs are:
 - 0x1FFB
 - 0x1FFC

3.8.1.2. EAS Enabling Parameters:

The **EAS Enabling** parameters are used for enabling or disabling EAS transmission for each dual-decoder separately. The following are the **EAS Enabling** parameters:

DECODER CARD (1..6) EAS

This parameter allows the user to enable or disable EAS transmissions through each dualdecoder card. The available options are:

- **On** enables EAS transmission through the dual-decoder.
- Off disables EAS transmission through the dual-decoder.

3.8.1.3. EAS Priority Action

The **EAS Priority Action** parameters are used for setting the required action to each on of the sixteen EAS priority levels available.

PRIORITY (0..15) ACTION

This parameter allows the user to set an action for each priority level. There are four options available:

- **No Action** The default parameter, which means that the EAS massage is ignored.
- **Text Crawl** The EAS message is active and a ticker is displayed on the screen delivering emergency alert text.
- **Forced Tune** The EAS message is active and an emergency broadcast interrupts and replaces the existing program.

Figure 3-41 shows an example of an EAS priority action setting.

enting 0	Text Crawl	
acuon	No action	
Priority 3	Text Crawl	
1 HOINY D	Force Tune	

Figure 3-41: EAS Priority Action Setting Screen

3.8.2. Force Tune Stream

The Force Tune Stream Configuration EAS screen allows the user to set default force tune stream parameters for the EAS. In case the emergency alert system is raised and the SCTE-18 protocol lacks certain descriptors and information, the ProView 2912 uses these default stream settings for the missing information.

Figure 3-42 shows an example of the force tune stream configuration screen.



Figure 3-42: Force Tune Stream Configuration screen

There are two setting cases for the force tune TS:

NONE

This option allows the user to manually set the force tune TS parameters. When selecting **None** at the Force Tune TS parameters, the screen showed in Figure 3-43 appears.

UDP Port Service ID	2012 528	
Service ID	528	
Force Tune TS	None 🝸	
Submit	Refresh	
	Submit	Submit Refresh

Figure 3-43: Force Tune Stream Configuration screen (None)

The available force tune TS parameters are:

- Multicast IP Address Allows the user to set an EAS Multicast IP address.
- **UDP Port** Allows the user to set a UDP port for the EAS.
- Service ID Allows the use to set a service ID for the EAS.
- Force tune TS Allows the user to set a different force tune TS.
- Submit Clicking this button will enable all changes performed in the screen.
- **Refresh** Clicking this button undo all changes performed till last submit.

TS1 TO **TS6**

This option allows the user to set one of the available transport streams (TS1 to TS6) as the force tune stream. The selected TS parameters can be configured from the EAS (SCTE-18) Configuration screen (for details see section 3.8.1).

Νοτε

Working with this mode results in fast-slate switching time.

When selecting one of the available transport streams (TS1 to TS6) at the Force Tune TS parameters, the screen showed in Figure 3-44 appears.

	Force Tune EAS (SCTE-18) Stream Configuration
System © Config © Decoders © Unit © EAS Configuration Force Tune Stream © Setup © Status	Service ID 528 Force Tune TS TS 1 • Submit Refresh
Reset Log off	

Figure 3-44: Force Tune Stream Configuration screen (TS1 to TS6)

The available force tune TS parameters are:

- Service ID Allows the use to set a service ID for the EAS.
- Force tune TS Allows the user to set a different force tune TS.
- **Submit** Clicking this button will enable all changes performed in the screen.
- **Refresh** Clicking this button undo all changes performed till last submit.

3.9. CONFIGURATION-FILE

This section explains the storage and recovery of the ProView 2912's configuration schemes. The ProView 2912 allows the operator to rename, save the current configuration scheme, or recall a stored scheme into the device. All configuration schemes are stored on the ProView 2912's 128Mb Compact Flash memory card.

CAUTION

The ProView 2912' configuration file must be handled with special care by a qualified personel only. IF NOT TREATED CORRECTLY THE CONFIGURATION FILE MAY INDUCE OPERATIONAL MALFUNCTIONS OF THE ProView 2912.

The '**UID.INI**' FILE IS REQUIRED FOR THE PROVIEW 2912' INITIALIZATION AND OPERATION PROCESSES. IF THIS FILE IS DAMAGED, RENAMED, OR LOST, THE START-UP SEQUENCE AND OPERATION MAY BE JEOPARDIZED. BEFORE USING ANY OF THE CONFIGURATION-FILE FUNCTIONS, IT IS STRONGLY RECOMMENDED TO BACK UP THE UID.INI FILE. FOR UID.INI BACKUP INSTRUCTIONS, SEE 3.9.1.

3.9.1. Backing-up the uid.ini File

To start the procedure an ftp connection must be verified before starting.

To back up the uid.ini file:

- 1. Verify that the ProView 2912's Management 10/100Base-T port is connected to your computer.
- 2. Run your ftp application.
- 3. Connect to the ProView 2912 Compact-Flash memory card by entering the device's ftp address (for example, when using the ProView 2912's Management port default IP address, enter: *ftp://10.104.1.26*).
- 4. Locate the '*uid.ini*' file.
- 5. Copy this file to a folder on your computer, and write-protect it.

3.9.2. Save Current

The save current configuration command allows the user to overwrite the current ProView 2912 configuration file.

Figure 3-45 shows the Save current configuration screen and location.

	Save Current Configuration
System	
₽ ⁻ Config	
🕒 Decoders	
🖭 Unit	
EAS	
🗄 Configuration-File	
Save Current	
Save Current As	
Recall	
🗄 Status	
Reset	
Log off	

Figure 3-45: Save Current Configuration Screen

Clicking **Save** saves the prevailing configuration scheme to the ProView 2912 CF card, under the name *uid.ini*.

CAUTION

CLICKING **SAVE** OVERWRITES THE UID.INI FILE! VERIFY THAT THE EXISTING UID.INI FILE IS BACKED-UP BEFORE CLICKING **SAVE**.

3.9.3. Save Current As

This screen enables saving a modified configuration file under a new name. The saved .ini file is copied to the ProView 2912's CF card.

Figure 3-46 is an example of the Save Configuration File screen.

	Save Current As
System	Submit Refresh
🛱 Config	
⊕ Decoders	
⊕ Unit	
[⊞] EAS	
🗄 Configuration-File	
Save Current	
Save Current As	
Recall	
🖲 Status	
Reset	
Log off	

Figure 3-46: Save Current As Configuration File Screen

To Save Current configuration in a different file name:

- 1. In the **File Name** field, type or select (from the dropdown menu) the new name of the file to save.
- 2. Click **Submit.** The selected file is saved as a new *ini file*, and stored on the ProView 2912 CF card.

Νοτε

The selected name for **save as** must have an 'ini' extension.

3.9.4. Recall

This screen allows the user to recall an existing configuration file.

Figure 3-47 shows an example of the Recall Configuration File screen.



Figure 3-47: Recall Configuration File Screen

To recall a configuration file:

- 1 Click **Recall** drop-down menu and select the *.ini* file to recall
- 2 Click **Submit.** The selected file is recalled.

Νοτε

The new name of the file must have an 'ini' extension.

3.10. STATUS MENU

The Status menu allows the user to view the configuration parameters information, as well as monitoring the state of various system mechanisms (for example, the EAS status menu).

The Status menu contains the following sub-menus:

- **System Monitor** displays information about physical conditions in the ProView 2912. It supplies live data on fan speeds, voltages, and temperatures in different areas inside the chassis (see Section 3.10.1).
- Alarm Status list all supported alarms and details the alarm states.
- **IP Front End** displays the IP Front-End table status.
- **Port Statistics** displays general information and standard RMON counters regarding the GbE1, GbE2, and Management ports.
- Decoder Statistics displays the status and rate of the transport streams in the six dualdecoder cards.
- **EAS** displays the emergency alert system status and information.
- Log File chronicles the actions of the device, for developers use only.

3.10.1. System Monitor

The System Monitor screen displays information about physical conditions in the ProView 2912. It supplies live data on fan speeds, voltages, and temperatures in different areas inside the chassis.

This screen performs an automatic refresh approximately every 20 seconds.

Figure 3-48 shows an example of the System Monitor screen.

			System	Monitor			
System						Tempe	ratures
🕆 Config	(RPM)		Sensor 1 (Volt)	Sensor 2 (Volt)		°F	°C
🖯 Status	FAN 1 9045	25V	2.45	2.43	Zone 1	98	37
System Monitor	FAN 2 8866	Vcc	1.48	1.46	Zone 2	107	42
Alarms	FAN 3 8837	Vccp	3.20	3.18	Zone 3	105	41
- IP Front End	FAN 4 8695	5 V	4.93	4.90	Zone 4	105	41
Port Statistics	FAN 5 8881	12 V	11.88	11.63			
Decoder Statistics	FAN 6 8940						
Log File							
Reset							
Log off							

Figure 3-48: System Monitor Screen

The monitored parameters are:

- FAN (1..6) This section displays each of the ProView 2912's six fans live speed (in RPM). The maximum speed of the ProView 2912 fans is approximately 9000 RPM. Speeds change according to the device's inner temperature as follows (all temperatures are stated in Celsius):
 - Below 35 degrees 50% of maximum speed.
 - 35 to 42 degrees automatic speed (CPU controlled).
 - Above 42 degrees maximum fan speed.
- **Voltage Table** This table reports live data of five different voltages outputted by the PS unit. There are two test points for each source:
 - **Sensor 1** This sensor is located in proximity to the physical output of the PS unit. Sensor 1 measurements should not display less than 90% of the registered voltages (specified in the left yellow column of the table) in standard operation.
 - Sensor 2 located farther away from the PS unit and meant for monitoring the voltage levels closer to most of the ProView 2912 main board's electronic components. A voltage drop, compared to Sensor 1 measured levels is normal, but should not exceed 10%.
- **Zone Temperatures** temperature measurements take place in four different locations within the ProView 2912 chassis. Any temperature of **up-to** 70 degrees Celsius (158 Fahrenheit) is normal.

Zone temperature should not exceed 70° C (158° F)! If temperature rises (in one zone or more) above 70° C, immediately contact your local distributor's Professional Services department for further instructions.

3.10.2. Alarms

The Alarms screen displays the Alarms Status table, listing all the supported alarm, detailing their state of operation. For a complete list of alarms and further information about the supported alarms in the PVR-2912, see Section 3.7.9.

This screen performs an automatic refresh approximately every 10 seconds.

Figure 3-49 displays the Alarms screen.

	NAME	STATE	ACTION
em nfig	PHY FAIL GEE1 COPPER	OFF	
atus	PHY FAIL GLE2 COPPER	ON	Clear
System Monitor Alarms	PHY FAIL GbE1 SFP	OFF	
IP Front End	PHY FAIL GLE2 SFP	NOT CLEARED	Clear
Port Statistics Decoder Statistics	PHY FAIL MNG	Not reported	
EAS	PRIM IP STREAM FAIL 1	OFF	
.og File	PRIM IP STREAM FAIL 2	OFF	
set a off	PRIM IP STREAM FAIL 3	OFF	
3	PRIM IP STREAM FAIL 4	Not reported	
	PRIM IP STREAM FAIL 5	Not reported	
	PRIM IP STREAM FAIL 6	Not reported	
		·	

Figure 3-49: Alarms Status Screen

The table presents the following columns:

- **Name** details the alarm name and type
- **State** details the alarm status. Can be On, Off, or Not reported.
- Action when an alarm state is 'ON' or 'NOT CLEARED', this column has a 'Clear' button. Clicking this button turns off the alarm.

Each state in the table has an associated color of severity. The highest severity color is displayed on the System Status screen, as **Current Alarm State** value. The following list details the meaning of the alarm severity colors:

- Pale Alarm state is Not Reported. Current alarm state is OK.
- **Green** Alarm state is Off, there is no current alarm. This state is activated when an alarm of state **Not Cleared** or **On** is cleared, using the Clear button (see the following paragraphs for information). The current alarm state is OK.
- **Red** Alarm state is On. The alarm is active and raised. The current alarm state is On.
- **Yellow** Alarm state is Not Cleared. An alarm was raised due to malfunction. The alarm was neutralized, yet not acknowledged by the user. The user must click **Clear** to return the alarm back to Off. The current alarm state is OK.

On the Action column the Clear button is enabled when an alarm state is set to **On** or **Not Cleared** (red or orange). This button allows the user to clear the alarm.

Clearing an alarm considers the alarm as observed and acknowledged. The alarm state is then set to **Off** (green) and will remain so until the next occurrence of the alarm.

Νοτε

Clearing a raised alarm without neutralizing it still considers the alarm acknowledged and it will return to On at the next refresh.

3.10.3. IP Front End Status

The IP Front End status screen displays a static TS Source-Allocation and IGMP-Redundancy table. This table presents the same parameters as in the configuration IP front-End screen as read-only parameters.

This screen performs an automatic refresh approximately every 10 seconds.

Sscopus	IP Front End							
System / Canfig		Multicast IP	Primary Part	Interface	Multicast IP	Secondary Port	Interfa	Redundancy ce Made
Decoders	THI	234123	1234	GBE1	234.1.2.3	1234	GRE2	Join always
() Service	TS2	25412.3	1234	0861	2943-2.3	1234	OBE2	Join elweys
TVI Selected Service TV2 Selected Service	753	234123	1234	(GBE1	234123	[12)4	GRE2	Juin elweys
PID Select	TS4	2343.2.3	1234	OBEI	234123	1234	CHET	/ckt always
Video1	755	23412.3	1234	GBE1	23412.)	1234	GRE2	Join always
VB11 Video2	T56	234123	1234	GBE1	23412.3	1234	GBE2	Join always
VB22 W Audio Audio1 Audio1 Audio1 Audio4 # Decoder-3 # Decoder-4 # Decoder-5					Flettenh			

Figure 3-50 is an example of the IP Front End status screen.



Νοτε

The IP Front-End screen performs a refresh approximately every 10 seconds. The refresh is performed automatically. This enables the operator to monitor all 12 multicast source statuses, as well as any switches of multicast sources that may have occurred.

3.10.4. Port Statistics

This screen displays standard RMON (Remote Network Monitoring) counters, detailing GbE1, GbE2, and the Management ports communication data.

Figure 3-51 and Figure 3-52 show all GbE1-Port RMON counters (GbE2 and the Management ports have the same RMON counters).

Sconus	Port Statistics						
Video Networks	GbE Port1 . Su	bmit Reset	10/05/06 12:37:51				
Sustem	Lask	Ūp	Speed	1000 -			
B Config	Duplex	FD	FC	FC-On			
🖯 Status	Bytes Sent	73536	Bytes Received	1592072500			
System Monitor	Total Bytes Received	1592072500	Unicast Frames Sent	0			
IP Front End	Non-Unicast Frame Sent	1149	Frames Received	219638153			
	Total Frames Received	1534345	L64 Frames	4531			
Decoder Statistics	L65-127 Frames	991	L128-255 Frames	79			
Log File	L256-511 Frames	130	L512-1023 Frames	13809			
Reset Log off	L1024-1528 Frames	7477	Multicast Frames Received	26702			
	Broadcast Frames Received	315	FC Sett	0			
	PC Frames Received	0	Jabber Frances	0			
		+					

This screen performs an automatic refresh approximately every 20 seconds.

Figure 3-51: GbE1 Port Statistics Screen – RMON Counters

Scopus	00000	Port S	statistics		
Rideof Retworks			1000000 12:30.11	14.14	
ystem	L65-127 Frames	994	L128-255 Frames	81	-
Config	L256-511 Frames	131	L512-1023 Frames	18755	
System Monitor Alarms IP Front End	L1024-1528 Frames	58858	Multicast Frames Received	17508	
	Broadcast Frames Received	317	FC Sent	a,	
Decoder Statistics	FC Frames Received	0	Jabber Frames	0	
- EAS	Oversize Frames	0	Undersize Frames		
Reset	Frame Send Fail	0	Fragment	0	
Log off	Akgnment Error	0	CRC	0	
24 C	Short Event	0	Collision	0	
	QT Congestion Drop	0	Search Engine Filter	10887	
	MAC Received Discard	0	Late Collision	0	-

Figure 3-52: GbE1 Port Statistics Screen– More RMON counters

To select a port to monitor:

- 1. Select the required port from the drop-down menu, located on the top-left side of the pane.
- 2. Click **Submit**, to the right of the drop down list; the selected port's statistics screen is displayed.

There are four parameters that are Harmonic Inc.-defined. They are the top four parameters in the table, all highlighted in orange, and the only ones in the table that are not counters. They supply general information about the port's connectivity characteristics.

These four parameters are:

- Link the port's Link connection status; can be either Up or Down
- Duplex the port's connection mode of operation; can be either Full Duplex (FD) or Half Duplex (HD)
- **Speed** the port connection speed. Both GbE ports support 1000Mbps, and the Management port supports 10/100Mbps.
- FC –Flow Control status; can be either **On** or **Off.** Should be **Off** normally.

All other parameters are standard RMON counters, detailed as follows:

- **Bytes Sent** the total number of bytes transmitted by this port.
- **Bytes Received** the number of bytes received from well-formed frames on this port.
- **Total Bytes Received** the total number of bytes of data (including those in broken packets) received on the network (excluding framing bits but including FCS octets.
- **Unicast Frames Sent** the total number of unicast frames transmitted by this port.
- Non-Unicast Frames Sent the total number of non-unicast frames transmitted by this port.
- Frames Received the number of well-formed frames received on this port.
- **Total Frames Received** the total number of packets (including broken packets, broadcast packets, and multicast packets) received.
- **L64 Frames** the total number of packets (including broken packets) received that were 64 bytes in length (excluding framing bits but including FCS octets).
- **L65-127 Frames** the total number of packets (including broken packets) received that were between 65 and 127 bytes in length inclusive (excluding framing bits but including FCS bytes).
- **L128-255 Frames** the total number of packets (including broken packets) received that were between 128 and 255 bytes in length inclusive (excluding framing bits but including FCS bytes).
- **L256-511 Frames** the total number of packets (including broken packets) received that were between 256 and 511 bytes in length inclusive (excluding framing bits but including FCS bytes).
- L512-1023 Frames the total number of packets (including broken packets) received that were between 512 and 1023 bytes in length inclusive (excluding framing bits but including FCS bytes)."
- **L1024-1528 Frames** the total number of packets (including broken packets) received that were between 1024 and 1518 bytes in length inclusive (excluding framing bits but including FCS bytes).

- Multicast Frames Received the total number of valid packets received that were directed to a multicast address. Note that this number does not include packets directed to the broadcast.
- **Broadcast Frames Received** the total number of valid packets received that were directed to the broadcast address. Note that this does not include multicast packets.
- **FC Sent** the number of Flow Control frames sent by the ProView 2912 according to the IEEE 802.3x standard.
- **FC Frames Received** the number of flow control frames received according to the IEEE 802.3x standard.
- Jabber Frames the total number of packets received that were longer than 1518 octets (excluding framing bits, but including FCS octets), and had either a bad Frame Check Sequence (FCS) with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
- **Oversize Frames** the total number of packets received that were longer than 1518 bytes (excluding framing bits, but including FCS octets) and were otherwise well formed.
- **Undersize Frames** the total number of packets received that were less than 64 bytes long (excluding framing bits, but including FCS octets) and were otherwise well formed.
- **Frame Send Fail** the total number of events in which packets were dropped by the probe due to lack of resources. Note that this number is not necessarily the number of packets dropped; it is just the number of times this condition has been detected.
- **Fragment** the number of frames received with size between 4 bytes and the minimum Ethernet frame size and with bad CRC.
- **CRC & Alignment Error** the total number of packets received that had a length (excluding framing bits, but including FCS octets) of between 64 and 1518 bytes inclusive, but had either a bad Frame Check Sequence (FCS) with an integral number of bytes (FCS Error) or a bad FCS with a non-integral number of bytes (Alignment Error).
- **Short Event** the total number of frames received with size less than 4 bytes.
- **Collision** the best estimate of the total number of collisions on this Ethernet segment.
- **QT Congestion Drop** the total number of frames dropped because of congestion at the egress port.
- **Search Engine Filter** the number of times a frame is dropped because it is filtered by the search engine or flow engine (counted at source port).
- **MAC Received Discard** the number of times a frame is dropped, because of not enough room in the MAC-module receive FIFO.
- Late Collision the number of collision events that occurred late (after 64 Bytes).

Clicking the **Reset** button, located to the right of the **Submit** button, resets all counters (sets all counter values to zero).

3.10.5. Decoder Statistics

Each of the ProView 2912's six dual-decoders can be assigned a transport stream; at least one dual-decoder must have an input transport stream for the ProView 2912 to decode services. The Dual-decoder Statistics screen shows statuses of all input transport streams assigned to the six dual-decoder cards (see Figure 3-53).

This screen performs an automatic refresh approximately every 20 seconds.

	Decoder Statistics				
Şystem		Status	Rate		
Dual	-Decoder 1	locked	42.238541 Mbps		
System Monitor Dual	-Decoder 2	locked	38.014694 Mbps		
Alarms Dual	-Decoder 3	locked	38.014797 Mbps		
IP Front End Dual	-Decoder 4	locked	38.011543 Mbps		
Decoder Statistics Dual	-Decoder 5	locked	42.238487 Mbps		
EAS	-Decoder 6	locked	3.999997 Mbps		
Log File Reset Log off					

Figure 3-53: Dual-decoder Statistics Screen

The monitored elements are:

- **Status** the status of the input transport stream that was defined for this dual-decoder. Possible values are:
 - **disable** no TS is assigned to this dual-decoder.
 - **acquiring** the ProView 2912 is attempting to lock onto the defined TS.
 - locked the ProView 2912 is locked onto the defined TS (this is the normal working status).
- **Rate** –the input TS bit-rate (Mbps); available only in '*locked'* Status.

3.10.6. EAS Status Screen

The EAS Status screen is used for monitoring the current EAS status in the ProView 2912. This screen shows whether or not an alert is currently being processed by the device. When an alert

is being processed, this screen displays the nature of the alert, its originator, and other informative alert details.

This screen performs an automatic refresh approximately every 10 seconds.

Figure 3-54 displays the EAS Status screen.

Scopus	EAS (SCTE-18) Status				
J Video Netrebelo	Alert State	OFF	EAS Originator Code		
ystem Config	EAS Event Id	ļ0	EAS Event Code		
Status	Mature of activation				
Alarms	IGMP Group IP Address 0.000		IGMPr3 Source IP Address 0.0.0		
IP Front End Port Statistics	UDP Port Number	0	Program ID	0	
Oecoder Statistics	Alert Priority	[û	Remaning Seconds	D	
Log File Reset Log off	Retent				

Figure 3-54: EAS Status Screen

The EAS Status screen parameters are generally divided to two, the *Alert State* parameter and the other ten parameters. These two groups are described in the following paragraphs.

- Alert State indicates whether or not the ProView 2912 is in EAS Alert state. Possible
 options are:
 - **OFF** the ProView 2912 is not in Alert state.
 - **ON** the ProView 2912 is in Alert state.

Notes

- The ProView 2912 will respond to an EAS alert and go into an ON state only if the priority of the received alert is above the threshold that was set in the Priority parameter in the EAS Configuration screen (see Section 3.8.1.
- If an alert of higher priority than was set in the Priority parameter was received, the EAS Alert state turns to ON even if the alert fails to pass through the other alert "filters" (State, County Code, County Subdivision, and EAS Tables PID). In such a case, the Alert State parameter will display 'ON', but the alert will not be passed on to the dual-decoders.
- **EAS Event Id** the EAS event unique ID. This is a 16-bit value that identifies the particular EAS event.
- **IGMP Group IP Address** a multicast IP address to which, at the moment of EAS, all decoders switch to instead of their regular transport streams addresses.
- **UDP Port Number** the UDP port which, along with IGMP group IP address and IGMPv3 source IP address, specifies the exact location from which the alert transport stream is taken.

• Alert Priority – the priority code of the received EAS event. Table 3-2 details the Alert Priority codes and their meanings.

CODE	ALERT PRIORITY
0	Test message
3	Low priority
7	Medium priority
11	High priority
15	Maximum priority

Table 3-2:Alert Priority Codes

 EAS Originator Code – a code defined by 47 CFR FCC Part 11, indicating the entity that originally initiated the activation of the EAS event. Table 3-3 details the EAS Originator codes and their meanings.

Table 3-3:	EAS Originator Codes	
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CODE	ORIGINATOR
EAN	Emergency Action Notification Network
PEP	Primary Entry Point System
WXR	National Weather Service
CIV	Civil Authorities
EAS	Broadcast station or cable system

- **EAS Event Code** a code defined by FCC Part 11, indicating the nature of the EAS activation (for example "**HUW**").
- **Nature of activation** –an accompanying text description to the EAS Event Code, detailing the type of EAS event (for example, "Hurricane Warning").
- **IGMPv3 Source IP Address** in case IGMPv3-SSM is used, this parameter shows the IP address of the source from which the EAS event was received.
- **Program ID** the PID of the received EAS event packets (either 0x1FFB or 0x1FFC, as defined in the SCTE-18 standard).
- **Remaining Seconds** displays the time left (in seconds) until the end of the EAS event.

3.10.7. Log File Status

The Log File screen lists and chronicles all actions performed by the ProView 2912. This information is used by developers only.

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