

ProView™ 8100

COMMERCIAL INTEGRATED RECEIVER-DECODER



The first member of the all-new Harmonic ProView™ 8000 family of integrated receiver-decoders, the ProView 8100 single-channel commercial decoder and descrambler is a compact, fully featured unit for general-purpose primary distribution applications.

With the ProView 8100, migrating to an all-IP headend and powering the launch of value-added services has never been easier. Users can receive DVB-S/S2, IP or ASI signals, decode SD and HD MPEG-2 and MPEG-4 AVC transport streams to baseband, descramble encrypted programs, and output content to analog or digital. Reception of broadcast-quality video over the Internet is also supported. Harmonic's superior video quality and low latency ensure the timely distribution of content at resolutions up to 1080p50/60.

Workflow efficiency is a key trait of the ProView 8100. The unit provides simultaneous HD-SDI and SD-SDI output with high-quality HD-to-SD down-conversion, allowing operators to use the same device to feed both the HD and SD production chains. Built-in frame-rate conversion brings additional benefits, especially for multi-national program distributors, as it enables content shot at 50 Hz to be distributed at 60 Hz, or vice versa. With this capability, operators no longer need to purchase a separate, stand-alone frame-rate converter.

The 1-RU ProView 8100 supports a rich set of interfaces, including a choice of two or four independent RF ports, DVB-ASI and IP inputs and outputs, and 3G HD-SDI and HDMI outputs. This I/O flexibility allows the unit to integrate with any headend architecture and enables support for advanced content delivery redundancy schemes, such as primary satellite and backup IP network feeds. In addition to live broadcasting, the ProView 8100 supports extraction of encapsulated video content as Multiprotocol Encapsulation (MPE) data for offline distribution — a particularly valuable feature for distribution of syndicated content to network affiliates.

Simple front-panel controls on the ProView 8100 and an intuitive web-based interface let users quickly set all system parameters and store presets for fast recall. Integration with the Harmonic DMS™ video distribution management system allows users to deploy and manage a large pool of widely distributed ProView devices from a single interface, resulting in a highly flexible, cost-effective primary distribution solution.

Business Benefits

Lower CAPEX

The ProView 8100 receiver-decoder brings advanced features more often seen in high-end professional contribution IRD designs to the general-purpose distribution market. Integrating multi-format decoding and multi-program descrambling capabilities, the unit streamlines system architectures at an attractive price, making it an ideal choice for CAPEX investment.

HIGHLIGHTS

- Single-channel SD/HD MPEG-2/MPEG-4 AVC decoding and descrambling
- DVB-S/S2, DVB-ASI and IP inputs
- Choice of two or four independent RF ports
- Reception of broadcast-quality video over the Internet
- Simultaneous HD-SDI and SD-SDI output
- High-quality HD-to-SD down-conversion
- 3G HD-SDI output supports 1080p60 workflows
- ASI, IP, HDMI and analog video outputs
- 4:2:0 subsampling
- Integrated BISS and Verimatrix® support, dual DVB-CI slots
- Front-panel controls and intuitive, web-based GUI
- Compatible with Harmonic DMS video distribution management system

SPECIFICATIONS

TRANSPORT STREAM INPUT INTERFACES

DVB-S/S2	
RF Ports	Two (standard) or four (hardware option)
Inputs	Single Service
Constellation	DVB-S: QPSK DVB-S2: QPSK, 8PSK
Symbol Rate	1-45 Msym/s
Input Level	-65 to -25 dBm
Throughput Range	Up to 108 Mbps
Tuning Step Size	125 kHz
FEC	All ratios compliant with standard
FEC Blocks	Normal
Roll-Off	0.2, 0.25, 0.35 and 0.05
Modes	CCM, VCM
Pilots	On & off
DVB-ASI	
Connectors	One BNC, 75 Ω
Packet Length	188 or 204 byte packets
TS Max Input Bitrate	160 Mbps
MPEG over IP¹	
Connectors	Two 100/1000 Base-T RJ45 for redundancy
Sockets	Two SPTS/MPTS
Encapsulation Protocols	MPEG-2 TS over UDP, IPv4 Multicast/Unicast SMPTE 2022-1/2 SMPTE-2022 FEC
FEC ¹	Deep Packet Recovery (DPR) for public Internet delivery (optional) ¹

TRANSPORT STREAM OUTPUT INTERFACES

ASI	
Outputs	Single TS
Connectors	Two BNC, 75 Ω
Packet Length	188
TS Max Output Bitrate	160 Mbps
IP	
Ports	Two, mirrored
Connector	RJ45, 100/1000 Base-T
Sockets	Two
Maximum Socket Bitrate	120 Mbps
MPEG over IP	Pro-MPEG CoP3
Encapsulation	Multicast
IP Address Type	SPTS/MPTS
TS Type	

PROCESSING/REMULPLEXING

Stream and service level remultiplexing with service/unreferenced PID remultiplexing
Service filtering and remapping
ES PID remapping
Unreferenced PID filtering and remapping
High-accuracy PCR restamping
PSI/SI processing and regeneration
CA signaling removed when descrambling

DESCRAMBLING

Embedded Descrambling	BISS, Verimatrix
DVB-CI Interface	Two independent CI slots, EN-50221
CA Methods	Multicrypt, Simulcrypt
Supported CAMs	Aston® Multi™ for Conax™, Irdeto™ and Viaccess-Orca™ Aston Multi for BISS™ Aston Duo for Conax, Irdeto and Viaccess-Orca SmarDTV® EuroCAM for Irdeto SmarDTV WorldCAM™ for Nagra™ (Mediaguard and Aladdin)® SCM® Viaccess-Orca SMIT® Professional 4/6/8 programs: Irdeto, Viaccess-Orca, Conax, Cryptoworks, NDS™ and Verimatrix Phillips® Cryptoworks™ Rosscrypt® CAMs and encryption Neotion® Viaccess-Orca DreCrypt® CAMs and encryption
Multi-Channel Descrambling ¹	Variable, depending on the CAM (e.g., Aston Professional enables descrambling of up to 12 services and up to 24 PIDs)

VIDEO DECODING

Number of Channels	One
Decoding Formats	
MPEG-2 SD 4:2:0	MP@ML
MPEG-2 HD 4:2:01	MP@HL
MPEG-4 AVC SD	MP@L3
MPEG-4 AVC HD1	MP@L4.0, HP@4.0
Maximum Video Rate	
MPEG-2 SD	15 Mbps
MPEG-2 HD	50 Mbps
MPEG-4 AVC SD	10 Mbps
MPEG-4 AVC HD	20 Mbps (MP), 25 Mbps (HP)
Video Formats	1080i @ 29.97, 30, 25 fps 720p @ 59.94, 50, 60 fps 480i @ 29.97 fps 576i @ 25 fps 480p @ 59.94 fps
Analog Video Output	PAL-B/G/I/M/N/D NTSC SECAM

VIDEO PROCESSING

HD video down-converted to SD with aspect ratio conversion
Aspect ratio conversion: 16:9 to 4:3
Simultaneous HD-SDI and SD-SDI output ¹
VBI reinsertion in composite video and embedded in SDI
CC CEA 608/708 re-insertion in composite video and SDI VANC

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AUDIO DECODING

Audio PID Decoding	Two audio PIDs
Decoding Formats	Stereo down-mix MPEG-1 Layer II (Musicam) Dolby® Digital (AC-3)/Dolby Digital Plus (E-AC-3) stereo decode AC-3/E-AC-3 5.1 decode¹ AC-3/E-AC-3 5.1 down-mix, passthrough AAC/HE-AAC, LC stereo decode¹ AAC/HE-AAC, LC 5.1 decode, down-mix, passthrough¹

VIDEO AND AUDIO INTERFACES

Video Input	Frame sync¹: SD/HD, digital/analog
Video Output	One composite (PAL/NTSC) Two 3G HD-SDI with embedded audio; each can be SD-SDI or HD-SDI HDMI
Audio Output	Two analog audio stereo pairs, balanced, 15-pin D-connector Two digital audio (AES/EBU-S/P-DIF), embedded SDI Two digital audio, balanced, 15-pin D-connector

CONTROL AND MONITORING

HTTP browser interface
Ethernet: RJ45 10/100BaseT control interface
Front-panel keypad and LCD
SNMP traps and alarms
XML interface for control and monitoring
Harmonic DMS video distribution management system
Control
GPI

PHYSICAL

Dimensions (H x W x D)	1.75 in x 19 in x 15.5 in (1 RU) 4.4 cm x 48.3 cm x 39.37 cm
Weight	11 lbs / 5 kg
Power Voltage	100 V-240 V AC, 50/60 Hz
Power Consumption	Up to 100 W max

ENVIRONMENTAL

Operating Temperature	0-50° C
Operating Humidity	5-90% (non-condensing)
Storage and Transportation Temperature	-40° C - 70° C
Storage and Transportation Humidity	0-95% (non-condensing)

COMPLIANCE

EMC	EN61000-3-2;-3 EN55022 (CISPR 22) EN55024 (CISPR 24) FCC part 15 (class A)
Safety	EN60950 CB (IEC60950) UL60950 ROHS Directive 2002/95/EC

Notes:

1. Licensed feature