

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



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.

Reduced OPEX

Housing a multi-format decoder and descrambler in a 1-RU chassis, the ProView 8100 is perfectly suited for operators mindful of their energy costs and rack space.

Business Continuity

The trend towards HD and MPEG-4 AVC content distribution creates business continuity issues with legacy receivers. The ProView 8100 can be repurposed via firmware upgrades for different uses and new applications, such as migration from SD MPEG-2 to HD AVC.

Expanding Channel Lineups

Integrating DVB-S/S2 demodulation and the ability to stream descrambled content over IP, the ProView 8100 enables operators to quickly and cost-effectively launch new services by leveraging their existing IP or legacy ASI infrastructure.

Workflow Flexibility

The general-purpose design of the ProView 8100 allows the unit to be used in a wide range of solutions, including basic monitoring up to and including end-point delivery in distribution networks.

Distribution over the Internet

With support for the reception of broadcast-quality video over the Internet, ProView 8100 alleviates a dependence on satellite and fiber transport, dramatically altering the economics of video distribution.

TECHNICAL BENEFITS

Expanded Input Options

Able to simultaneously receive SD and HD MPEG-2 and MPEG-4 AVC content over DVB-S/S2, ASI and IP, the ProView 8100 allows operators to maximize flexibility and optimize redundancy schemes.

Output Format Freedom

The ProView 8100 offers a range of output options, including ASI and IP transport stream, MPE data, 3G HD-SDI, SD-SDI, HDMI, two AES balanced analog audio outputs, two AES digital audio outputs (unbalanced BNC) and genlock.

Friendly System Management

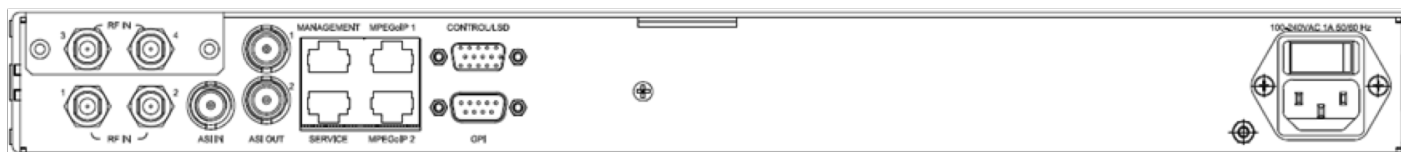
Control options on the ProView 8100 include an easy-to-use front panel with back-lit LCD status display and LED indicators, and an intuitive, web-based GUI. Large ProView 8100 populations can be remotely controlled with Harmonic's DMS video distribution management system.

Peace of Mind

To assure the security of content, ProView 8100 offers integrated BISS and Verimatrix descrambling, as well as two CAM slots for use of your preferred DVB-CI vendor.

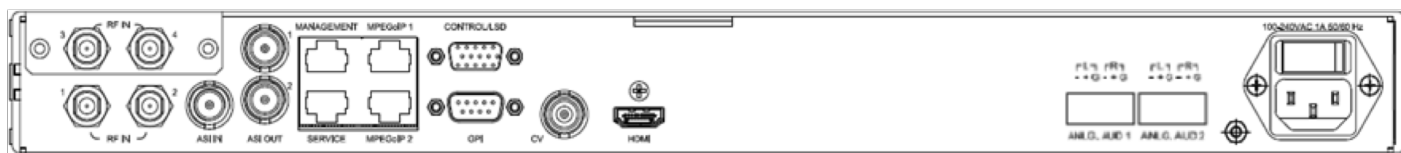
CONFIGURATIONS

Three ProView 8100 configurations are available to meet a variety of customer applications and price points.



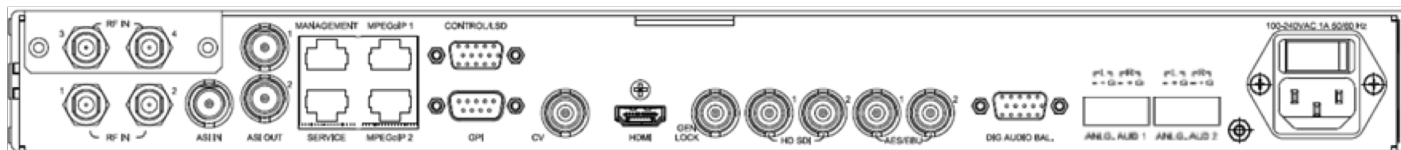
ProView 8105 Descrambler

ASI, IP and MPE data outputs



ProView 8110 Descrambler and Analog Decoder

ASI, IP, MPE data, composite video, HDMI and two balanced analog audio outputs



ProView 8130 Descrambler and Analog/Digital Decoder

ASI, IP, MPE data, composite video, SDI, HDMI, genlock, two balanced analog and two balanced digital audio outputs



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 Mbps |
| 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 Encapsulation | Pro-MPEG CoP3 |
| IP Address Type | Multicast |
| TS Type | SPTS/MPTS |

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 4:2:0 ¹ | MP@HL |
| MPEG-4 AVC SD | MP@L3 |
| MPEG-4 AVC HD ¹ | 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 |



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 decode ¹ AC-3/E-AC-3 5.1 down-mix, passthrough AAC/HE-AAC, LC stereo decode ¹ AAC/HE-AAC, LC 5.1 decode, down-mix, passthrough ¹ |

VIDEO AND AUDIO INTERFACES

| | |
|--------------|---|
| Video Input | Frame sync ¹ : 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

