

HIGHLIGHTS

- Variety of inputs including multiple DVB-S/S2, ASI and IP inputs
- Two independent ASI outputs
- Dual IP outputs with 1+1 redundancy support
- Two integrated DVB common interfaces allow descrambling of two full transport streams
- Single/dual channel decoder in 1RU
- MPEG-4 AVC/MPEG-2 SD/HD decoding
- MPEG-1 Layer II (Musicam), Dolby Digital (AC-3), and AAC Audio decoding
- HD-SDI, SD-SDI, HDMI and analog video outputs
- Any to any re-multiplexing capabilities
- Regeneration of PSI/SI and MPEG tables
- Graphical user interface provides easy drag-and-drop management
- SNMP configuration and monitoring

Harmonic's ProView 7000 is the world's first single rack unit (1-RU) scalable receiver, DVB descrambler, multi-format video decoder and MPEG stream processor. The ProView 7000 is the perfect fit for digital turnaround processing, full transport stream descrambling and decoding applications.



Harnessing a flexible and modular design, the ProView 7000 cost-effectively addresses the vast spectrum of content reception applications, from single channel decoding to descrambling and re-multiplexing of multiple transport streams.

Leapfrogging best-in-class professional receivers, with an advanced and dense multi-channel descrambler, the ProView 7000 enables the deployment of or migration to an all-IP headend solution, and powers the launch of new added-value services such as HD.

The Harmonic ProView 7000 features broadcast quality Standard Definition and High Definition, MPEG-2 and AVC video decoders, engineered for distribution and contribution applications. The flexible hardware design can be easily reconfigured by a firmware upgrade, enabling seamless adaptation to new inbound video formats and codecs such as the transition from SD MPEG-2 to HD AVC.

The ProView 7000 supports a rich set of input options ranging from DVB-S/S2 to IP and DVB-ASI, allowing it to mesh with any headend architecture and enabling support for advanced content delivery redundancy schemes, such as primary satellite and backup IP network feeds.



High End Receiver Processor

- Contribution and distribution
- Decoding for re-encoding
- Digital turnaround
- All-IP headends

BUSINESS BENEFITS

- **Lower CAPEX** - Integrating and combining multi-format decoding, multi-program descrambling and re-multiplexing capabilities, the ProView 7000 dramatically streamlines system architecture. Its unequalled density and flexibility makes it the clear choice for CAPEX investment.
- **Business continuity** – The trend towards HD and AVC content distributing creates business continuity issues with legacy receivers. The ProView 7000 can be repurposed via firmware upgrades for different uses and new applications, such as migration from SD MPEG-2 to HD AVC.
- **Expanding channel line-up** – Integrating DVB-S/S2 demodulation and streaming descrambled content over IP, the ProView 7000 enables operators to quickly and cost-effectively launch new services leveraging their existing IP or legacy ASI infrastructure.
- **OPEX friendly** – Able to house up to 2 decoders and descramble up to 2 full Multi-Program Transport Streams (MPTS) in a 1-RU chassis, the ultra dense ProView7000 is perfectly suited for operators mindful of their energy cost and rack space.

TECHNICAL BENEFITS

- **Fully integrated platform** – Combines all headend reception functionality such as multiple TS descrambling, multi-format and codec decoding, as well as full re-multiplexing capabilities including PID filtering, remapping and table re-generation.
- **Versatile Video and Audio format and codec support** – The ProView 7000 is equipped with two decoding cards for Standard Definition, High Definition, MPEG-2 and AVC formats.
- **Expanded set of input options** – Able to simultaneously receive content over DVB-S/ S2, ASI and IP, the ProView 7000 allows operators to maximize flexibility and optimize redundancy schemes.
- **Support for all-IP infrastructure** – Harmonic pioneered IP-enabled video delivery with the industry's first encoders with native IP output. The ProView 7000, in combination with the integrated FLEX decoder, enables an all-IP headend architecture. The result is a more scalable and lower-cost transition to IP-based service.
- **Integrated broadcast quality down-conversion** - The ProView 7000 performs HD down-conversion and aspect ratio adaptation to generate professional quality baseband analog video and audio that can be easily integrated with existing cable network infrastructure.
- **Friendly management** – The ProView 7000 can be simply configured through a standalone interface or with Harmonic's NMX Digital Service Manager™ for mass configuring, monitoring and automated redundancy in centralized or distributed architectures.

RF INPUT INTERFACES – DVB-S/DVB-S2

Up to 2x L-Band RF input with LNB control	
Connector	F-type, 75 ohm
Frequency Range	950 - 2150 MHz
RF Input Level	(-65) to (-25) dBm
LNB Power	13 VDC, 18 VDC / 350 mA

TRANSPORT STREAM INPUT INTERFACES

DVB-S Inputs	
Constellation	QPSK
Symbol Rate	1 - 45 Msym/s
FEC	All ratios compliant with standard
DVB-S2 Inputs	
Constellation	QPSK, 8PSK (16APSK Optional in 1 input)
Symbol Rate	1 - 45 Msym/s
FEC	All ratios compliant with standard
FEC Blocks	Short and normal
Roll Off	0.2, 0.25 and 0.35
Mode	CCM (VCM Optional in 1 input)
Pilots	On & off
ASI Input	
Number of Inputs	4 independent inputs (optional)
Connector	4x BNC, 75 ohm
Packet Length	188 byte packets
TS Max Bit Rate	108 Mbps
Compliant with CENELEC EN 50083-9	
MPEG over IP Input	
SPTS / MPTS	
Encapsulation Protocols	MPEG-2 TS over UDP over IP v4
Multicast	
Dual Connectors	100/1000Base-T, RJ-45 for redundancy

TRANSPORT STREAM OUTPUT INTERFACES

ASI Output	
Number of Outputs	2 (independent outputs)
Connector	2x BNC, 75 ohm
Packet Length	188
TS Maximum Output Bit Rate	108Mbps
Compliant with CENELEC EN 50083-9	
MPEG Over IP Output	
Number of Simultaneous IP Streams	4
SPTS / MPTS	
Encapsulation Protocols	MPEG-2 TS over UDP over IP v4
1+1 Physical Layer Redundancy Support	
Multicast	
Connector	100/1000Base-T, RJ-45

TRANSPORT STREAM PROCESSING

Stream, service and component level re-multiplexing from any input to any output
PID and service level filtering
High accuracy PCR re-stamping
PSI / SI processing and regeneration
Auto generation or pass through of PSI/SI tables
CA signaling removed when descrambling

CONDITIONAL ACCESS

DVB-CI Interface	Two independence CI slots EN-50221
CA Methods	Multicrypt, Simulcrypt
CAS	Viaccess®, Irdeto®, Conax®, Nagravision® (partial list)

VIDEO DECODING

Video Decoding	
Number of Decoders	2
Decoding Formats	
	MPEG-2 SD 4:2:0 MP@ML
	MPEG-2 HD 4:2:0 MP@HL
	MPEG-4 AVC SD MP@L3
	MPEG-4 AVC HD MP@L4.0 / HP@4.0
Maximum Video Rate	
	MPEG-2 SD - 15Mbps
	MPEG-2 HD - 50Mbps
	MPEG-4 AVC SD - 10Mbps
	MPEG-4 AVC HD - 20Mbps (MP), 25Mbps (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

VIDEO PROCESSING

HD video down-converted to SD with aspect ratio conversion	Letter Box, Center Cut
Aspect Ratio Conversion	16:9 to 4:3
VBI reinsertion in composite video and embedded in SDI	

AUDIO DECODING

2 stereo pairs audio decoding per video channel	
MPEG-1 Layer-II	
Dolby Digital® stereo down-mix	
Dolby Digital® 5.1 pass-through	
Dolby® E pass-through	
Linear PCM (per SMPTE 302M-2007)	
AAC-LC, HE-AAC v1 ¹	

Note:

1. Contact Harmonic

VIDEO AND AUDIO INTERFACES

Video Outputs

Up to 2 pairs of composite video interfaces (2 outputs per video channel)
Up to 2 pairs of SD/HD SDI with embedded audio (2 outputs per video channel)
1x Analog video RGB-HD. 15 pin D-connector

Audio Outputs

2 stereo pairs per video channel
Up to 4 analog audio stereo pairs, balanced
Up to 4 digital audio (AES/EBU-S/P-DIF)
2 Balanced digital audio interfaces
Modes Stereo, joint stereo, dual channel, single channel

CONTROL AND MONITORING

Web browser interface
Ethernet - RJ45 10/100BaseT control interface
Front panel keypad and LCD
SNMP traps and alarms
Telnet
Terminal via RS-232 or RS-485

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

ENVIRONMENTAL

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

PHYSICAL

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