Synamedia

Secure Content Distribution with Versatile Receiver

The PowerVu Professional Receiver is a versatile solution designed to support high-efficiency video coding (HEVC) over both satellite and IP content distribution networks. Part of Synamedia's leading end-to-end video distribution offering, the future-proof receiver is ideal for the upcoming network expansion plans of content providers. You can configure the PowerVu Professional Receiver either as a single-stream receiver for decoding to baseband analog/digital video, or as a multi-stream variant for bulk decryption and high-density transcoding applications.

Key Functionalities

Extensive content-ingest options for seamless migration to IP distribution

- Offers MPEGoIP for fiber-based applications and adaptive bit rate (TSoHTTP) HLS, Zixi, or SRT for transmission over content delivery networks (CDN) and the public Internet

- Maintains output transparency via digital program mapping so output applications can be served with new input sources

- Receives IP inputs in parallel with DVB-S2x four-tuner satellite inputs that can be configured as primary or disaster recovery inputs

- Supports 400Mbps aggregate input and 800Mbps aggregate output

Flexible decoding and transcoding across single or multiple streams for greater control

Decoding

- Decodes MPEG-2, advanced video coding (AVC), or HEVC video-encoded service, and outputs as serial digital interface (SDI) or composite uncompressed video

- Simultaneously outputs up to ultra-high definition (UHD)and down converts to standard definition (SD)

Transcoding/Decryption (multi-stream chassis)

- Targets applications requiring decryption and/or transcoding on multiple video services within single or multiple transport streams

- Decrypts up to 32 PowerVu services and transcodes up to 16 HD/SD AVC services to HD/SD MPEG-2 or AVC to facilitate a large number of channels

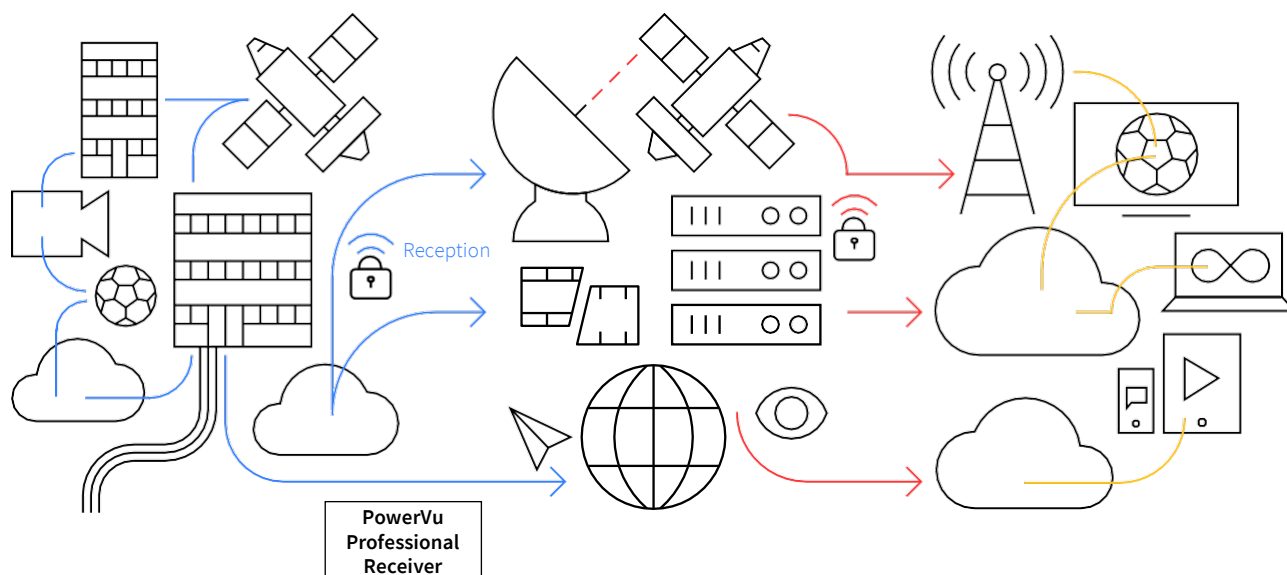- Transcodes via optional high density HEVC card up to 12 HD/SD HEVC channels to HD/SD MPEG-2 or AVC

Technical Advantages

- Scalable platform with MPEG-2, AVC and HEVC decoding support, and high-density HEVC and AVC transcoding support

- DVB-S2x four-tuner satellite input options

- Extensive IP delivery support options – MPEGoIP with FEC, Zixi, SRT, and ABR including HLS either concurrently or as disaster recovery inputs

- PowerVu and optional DVB-CI conditional access support

- Integrated with Synamedia's PowerVu Network Center, including PowerVu Insight monitoring

- Zixi ZEN Master Control Plane support

- Live Event Control (LEC) support

- Advanced Input Control (AIC) support

Advanced decryption for enhanced content protection

- Adds latest AES128 PowerVu decrypt capabilities, while maintaining backward compatibility to provide a seamless transition path for existing systems

- Features optional DVB-CI common interface for 2 CA module slots to enable multicrypt and simulcrypt environment positioning

- Provides extensive, fully-integrated toolset for VideoGuard (VG) CA pairing, fingerprinting, on-screen messaging, and transport/decode controls, as well as rapid watermarking support across single-stream variant

Video Network Chain

Distribution	Processing	Delivery

Product Specifications

System	
Video Standards	• MPEG-2 4:2:0, MPEG-4 AVC 4:2:0, H.265 HEVC 4:2:0

Tuner RF Inputs	
Number of RF Inputs	• 4 (default 1 active at a time, or can be licensed as individual tuners for MS unit)
RF Demodulation	• DVB-S QPSK, DVB-S2 QPSK, 8PSK, 16/32APSK, DVB-S2x (with GEN2 Tuner)

ASI	
ASI Ports	• Configurable dual input or output

IP Ports	
Ethernet	• RJ-45, 100BASE-T Ethernet and 1000BASE-T Ethernet (3 ports for SS, 5 standard ports for MS)
Input/Output Modes	• UDP, RTP(SMPTE2022-7:2019), FEC (SMPTE2022), ABR input, Zixi input, and SRT input support

Analog SD Video Output	
Number of Channels	• Single-channel decode
Video Decompression Type and Standard	• MPEG-2 4:2:0, MPEG-4 AVC 4:2:0, H.265 HEVC 4:2:0. NTSC and PAL B/G/I/D/M/N

Audio Outputs	
Number of Channels	• 2 stereo pairs or 4 mono channels and 5.1 channel down-mix,4 stereo pairs or 8 mono channels (with license)

Digital Video Outputs	SDI (optional HW)	
Number of Video Channels	• Single-channel decode	
SDI Output Ports	• 2 BNC ports, either mirrored output or simultaneous 1 port SD and 1 port HD output	
Digital HDMI Video only Output	• HDMI 2.0a (no HDCP) with HLG HDR and 4K/UHD support (licensed)	

HD & SD Video Transcode TS Output	
Output Compression Format	• MPEG-2 and MPEG-4 (optional)

Decryption and Transcoding	
Transcode Density	• Up to 16 AVC including up to 12 HEVC
Decrypt Density	• Up to 32 services of PowerVu

Conditional Access	
Synamedia PowerVu CA	• 56bit/AES128 bit decryption
DVB-CI	• 2 common interface slots: EN 50221 (optional module), multicrypt and simulcrypt support
VideoGuard	• VideoGuard (VG) pairing, VG fingerprinting, VG on-screen messaging, VG transport/decode controls
Other	• BISS mode 1/E

Monitoring and Management	
Interface	• Fully documented REST API allowing integration with third-party components and basic SNMP traps/mibs
Interface Capabilities	• Syslog, ELK Stack/ Kibana, FluentBit/ InfluxDB/ Grafana

Device Specifications	
Chassis Mechanical Specs	• Height: 1.72 in. (4.37cm) 1RU high, 19 in. EIA rack mountable, Width: 17.35 in. (44.07cm), Depth: 20.25 in. (51.44cm)
	• Weight: 15 lb (6.8kg) for single stream chassis, 22 lb (10kg) for multi-stream chassis (approx.)

Ordering Information

Synamedia PowerVu Professional Receiver Single-Stream Base HW Chassis	Part Number
1RU PowerVu Professional Receiver Base Chassis with ASI and MPEGOIP Input/Output	D9800-SS-MPEGOIP
Synamedia PowerVu Professional Receiver Multi-Stream Base HW Chassis	**Part Number**
1RU PowerVu Professional Receiver Base Chassis with ASI and MPEGOIP Input/Output	D9800-MS-MPEGOIP
1RU PowerVu Professional Receiver Base Chassis with ASI and MPEGOIP Input/Output and Analog/SDI Decoder Card	D9800-MS-MPEGOIP-D

Services & Support

Synamedia provides a broad portfolio of services and support to increase your network's business value and return on investment. We take a customer-centric approach, aligning our level of support to your technological requirements and network complexity. That way, you can successfully operate our products and solutions to ensure that you achieve optimal performance throughout your network's life cycle.

Warranty & Contact Information

Read our detailed warranty information.

Learn more about Synamedia's video network distribution solutions.

For more information, contact your account manager or visit our site.

About Synamedia Video Network Distribution Solution

Synamedia offers a comprehensive distribution solution for content providers to securely deliver video to multichannel programming video distributors (MPVDs). Part of Synamedia's end-to-end video network portfolio, the solution is anchored by a converged platform enabling the distribution of linear channels via satellite and/or terrestrial networks. Our cost-effective solution leverages network control, reception and managerial capabilities to ensure the reliable delivery of premium quality video through flexible transmission options tailored to your working environment.