

PowerVu Model D9858-1 Advanced Receiver Transcoder

Description

The PowerVu® Model D9858-1 Advanced Receiver Transcoder provides the ability to deliver MPEG-4 HD services to MPEG-2 CATV headends. The D9858-1 receiver extends the distribution options for MPEG-4 AVC HD from solely MPEG-4 environments to existing MPEG-2 networks. The

D9858-1 receiver shares the same capabilities of the award winning D9858 Advanced Receiver Transcoder as a single channel receiver for applications which require less density. The D9858-1 can be utilized to provide a down-converted Standard Definition (SD) MPEG-2 program instead of the HD transcoded program, utilizing either manual or Active Format Descriptor (AFD) control of the aspect ratio conversion. Video and two audio outputs are available for analog down-conversion of the decrypted incoming MPEG-4 HD program.

Figure 1. Model D9858-1 Advanced Receiver Transcoder



Digital Program Distribution

The ASI and MPEGoIP transport outputs are individually configurable and provide the capability of carrying a decrypted transcoded program for digital tier distribution. This helps the compressed video programs to be efficiently distributed to subscribers equipped with digital set-top boxes. Digital audio pass-through is synchronized to the transcoded program output. Compliant PSI/SI regeneration provides integration into a digital tier distribution network for a transcoded program.

Digital Program Mapping

Digital Program Mapping allows programmers to substitute programs at the uplink. It maintains predictable and compliant transport output during service replacement, Network Information Table (NIT) retune, channel changes, including force tunes. This feature remaps the PID information from the primary service to an alternate service allowing downstream devices to continue to operate without headend operator intervention. This helps ensure availability of alternate programming in the digital tier.

Digital Ad-insertion

Digital Program Insertion (DPI) information is available along with the video and audio PIDs (Packet Identifiers) for external ad insertion in compressed digital format on the transcoded program.

Key Features

- Four L-Band inputs
- DVB-S Demodulation for QPSK
- DVB-S2 Demodulation for QPSK and 8PSK
- PowerVu conditional access with DES or DVB descrambling
- Supports Basic Interoperable Scrambling System (BISS) conditional access
- Decryption and transcoding of a single program for digital transport output
- Program transcoding to support down-conversion of a MPEG-4 HD program to a MPEG-2 SD program
- PSI/SI regeneration
- 4:2:0 High Definition 1080i and 720p video decoding
- AFD support for down-conversion of an HD program with aspect ratio conversion
- Dolby® Digital (AC-3) audio decoding
- Closed Captioning pass-through of EIA-608 and EIA-708 for a transcoded program
- Audio pass-through synchronization for a transcoded program
- Additional ASI outputs for redundancy
- MPEGoIP output for network connectivity
- DVB subtitle pass-through with a transcoded program
- Contact closure terminals for simple alarm monitoring

Key Features, continued

- DTMF cue tone & cue trigger outputs for ad-insertion
- SNMP for setup, control and monitoring
- Field upgradeable software
- Front panel LCD for control & monitoring
- Web browser interface for easy setup, control and monitoring
- Uplink addressable decoder output control (VBI, audio routing, DPI, and ASI output)
- Digital Program Mapping providing uplink control for service replacements in blackout areas

Specifications

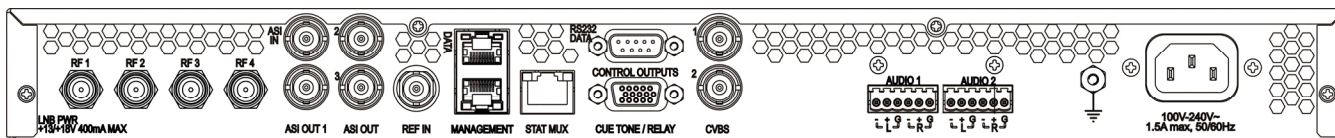
Table 1. Product Specifications

| Features | Description | |
|-----------------------------------|--|---|
| System | MPEG-2/DVB Compatible EN 300 421, EN 300 468 | De-modulation: DVB-S QPSK, DVB-S2 QPSK & 8PSK |
| Tuner | Number of RF Inputs: 4 (one active at a time) Input Level: -25 dBm to -65 dBm per carrier Frequency Range: 950 MHz to 2150 MHz | Symbol Rate Range: DVB-S: 1.0 to 45 MSymbols/s DVB-S2: 10.0 to 30 MSymbols/s 1.0 to 10 MSymbols/s - contact SA Carrier Capture Range: ≥ ±3.0 MHz (1-10 Msym) ≥ ±5.0 MHz (10-30 Msym) Satellites: C-band and Ku-band Input Impedance: 75 Ω |
| Analog Outputs | Analog SD Video Output Number of Channel: down-converted source HD program Video Decompression Type: MPEG-4 4:2:0 Output Level: 1.0 V pp ± 5% Output Impedance: 75 Ω | Analog Audio Output Number of Channels: Two stereo pairs/ four mono channels Audio decompression: MPEG or Dolby Digital (AC-3) |
| Transcoder Channel Inputs | HD Video Input Compression Format: MPEG-4 part 10 V Resolutions: 1080, 720 H Resolutions: 1080i: 1920, 1440 720p: 1280, 960 Input Bit rate: 3 Mb/s to 20 Mb/s Main Profile 3 Mb/s to 25 Mb/s High Profile | Audio Input Number of Channels: Two Audio Channels Compression Format: MPEG or Dolby Digital (AC-3) VBI Data Input Transmission Format: EIA-708 and 608 |
| Transcoder Channel Outputs | HD Video Output Compression Format: MPEG-2 V Resolutions: Same as input H Resolutions: 1080i: 1920, 1440 720p: 1280, 960 Output Bit rate: 10 Mb/s to 25 Mb/s Down-Converted SD Video Output Compression Format: MPEG-2 V Resolutions: 480, 576 H Resolutions: 720/704/544/528 Output Bit rate: 2 Mb/s to 15 Mb/s SD Output Aspect Ratios: 4:3, 16:9 Aspect Ration Conversions: 4:3 : 16:9 Letterbox, 14:9 Letterbox, Center Cutout 16:9: Center Cutout | Audio Output Number of Channels: Two Audio Channels Compression Format: Same as input VBI Data Output Transmission Format: EIA-708 and 608 |

Product Specifications, continued

| Features | Description | |
|------------------------------------|--|--|
| Environmental/ Physical | Operating Temperature: 0°C to 50°C (32°F to 122°F) Storage Temperature: -20°C to 70°C (-4°F to 158°F) | Physical Dimensions: 1.75 in. H x 19.0 in. W x 20.5 in. D (4.4 cm H x 48.3 cm W x 52.1 cm D) 1RU high, 19 in. EIA rack mountable Weight: 16 lbs (7.2 kg) approx. |
| Power | Voltage Range: 100 to 240 VAC Line Frequency: 50/60 Hz | Power Consumption: 110 W max. LNB Power on RF#1: +13 V/+18 V @ 400 mA max. |
| Inputs/Outputs | MPEG-2 Transport Input EN50083-9, DVB-ASI coaxial, 188/204 byte packets | MPEG-2 Transport Output EN50083-9, DVB-ASI coaxial, 188 byte packets MPEGoIP Output Ethernet Type: 1000 Base-T Format: UDP/IP or RTP IP Addressing: Multicast TS Streaming: MPTS |
| Other Outputs | Cue Trigger Outputs Number of Outputs: 8 Type: Open Collector Cue Tone Output Balanced audio output: -3.0 dBu ±3 dB, 600 Ω Output Impedance: < 50 Ω | Programmable Relay Output Alarm or configurable to one of the 8 open collector outputs |

Figure 2. PowerVu Model D9858-1 Advanced Receiver Transcoder



Ordering Information

Table 2. Ordering Information

| Description | Part Number |
|--|-----------------|
| Single-channel Transcode 4 RF Inputs, ASI In, 3 ASI out MPEGoIP out, NA ² power cord. | 402476602010001 |
| Single-channel Transcode 4 RF Inputs, ASI In, 3 ASI out MPEGoIP out, (ATP ³ ISE) NA power cord. | 402476603010001 |

1) The last two digits of part number denote the power cord. When ordering, refer to the table below for your country-specific power cord.

2) NA – North American

3) ATP – Advanced Transcoder Pool

Table 3. Country-Specific Power Cords

| Description | Part Number |
|---------------------|-------------|
| No power cord | 00 |
| North American (NA) | 01 |
| Japan | 02 |
| China | 03 |
| Australia | 04 |
| European (EU) | 05 |
| Russia | 06 |
| Brazil | 07 |
| Chile | 08 |
| India | 09 |
| South Africa | 10 |
| Israel | 11 |
| Mexico | 12 |
| Argentina | 13 |
| UK | 14 |
| Ireland | 15 |
| Singapore | 16 |
| Taiwan | 17 |
| Switzerland | 18 |
| Korea | 19 |



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