

Model D9850 Program Receiver

Description

The PowerVu® Program Receiver is designed for satellite content distribution applications requiring 4:2:0 video decoding. The receiver offers the capability to receive digitally encrypted video, audio, utility data, and VBI.

Analog Cable Program Distribution

Composite video and balanced audio outputs can be connected to analog modulators for analog cable distribution. Four mono audio channels or two stereo pairs are available for primary audio programs and/or secondary audio programs (SAP). For example, primary program audio could be carried on one of the stereo pairs, while SAP audio is carried on the other stereo pair.

Digital Cable Program Distribution

An uplink-addressable transport output provides MPEG program streams for digital tier program delivery. This ensures that the highest quality video programs are efficiently distributed to households equipped with digital cable set-top boxes.

Cable Headend Ad-insertion

To support flexibility in ad-insertion configurations, this receiver provides four types of outputs:

- DTMF cue tone
- cue trigger support, consisting of eight open collector outputs
- one contact closure
- DPI messaging via ASI output

Data Output

An asynchronous utility data up to 38.4 kb/s is available via RS-232 interface.

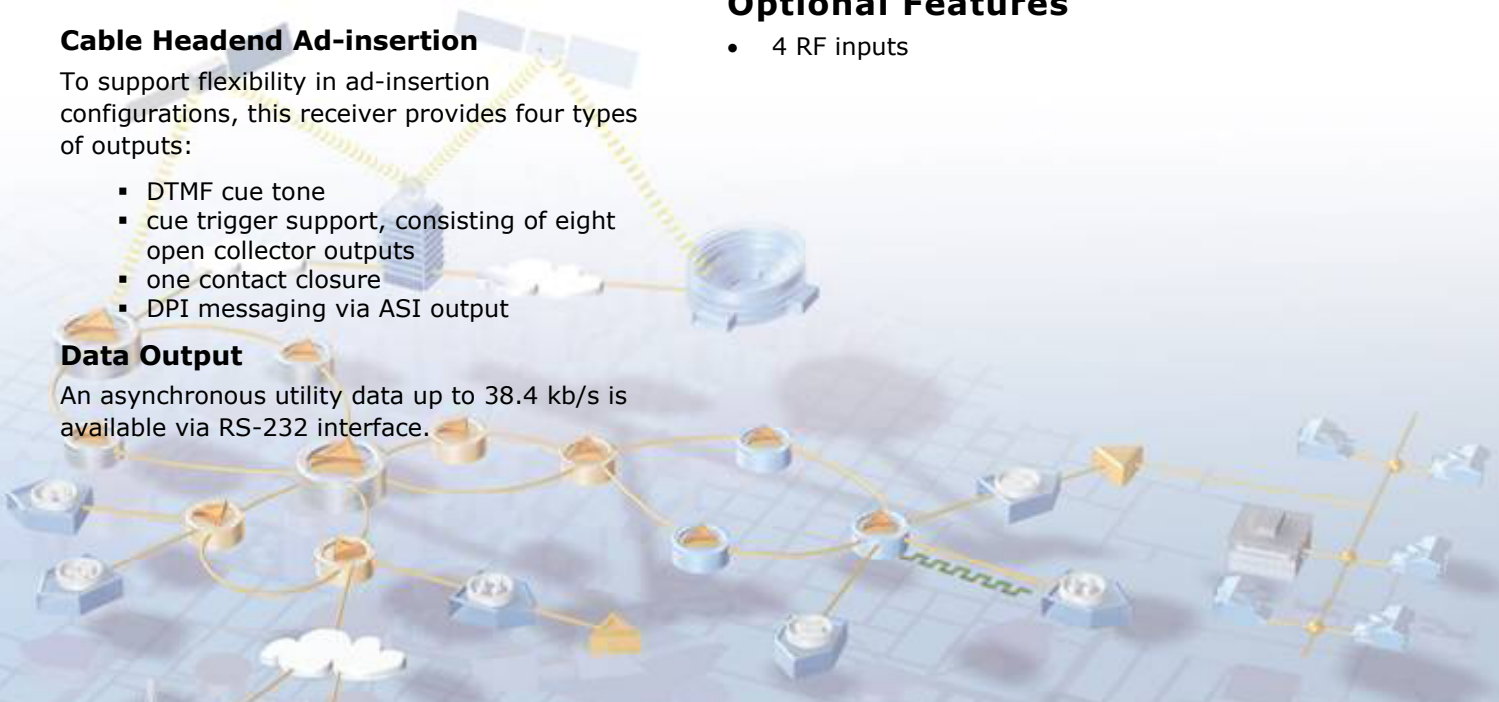


Key Features

- Variable QPSK symbol rates from 1 to 45 Msymbols/s
- PowerVu conditional access with DES or DVB de-scrambling
- 4:2:0 NTSC & PAL(B/G/I/D) video decoding
- MPEG & Dolby Digital® (AC-3) audio decoding
- Four audio outputs providing either two stereo pairs of balanced audio or four mono channels; each with the ability to use part of their output for applications such as SAP (Secondary Audio Program), DTMF, etc.
- Utility data via RS-232
- PowerVu VBI (including NABTS, WST)
- DTMF Cue Tone & cue trigger outputs for ad-insertion
- Field upgradeable software and security
- Front Panel LCD for control & monitoring
- Uplink addressable transport output via DVB-ASI

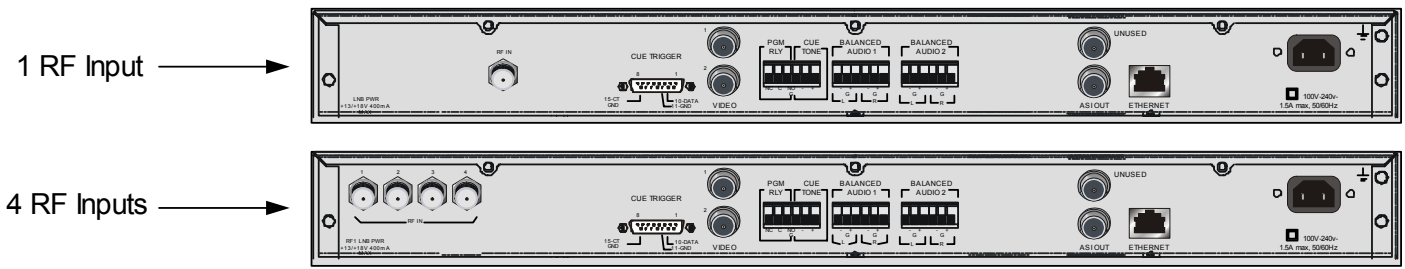
Optional Features

- 4 RF inputs



Technical Specifications

System	MPEG-2/DVB Compatible EN 300 421, EN 300 468	De-modulation: QPSK FEC: Variable (1/2, 2/3, 3/4, 5/6, or 7/8)
Tuner	Input Level: -25 dBm to -65 dBm per carrier Frequency Range: 950 MHz to 2150 MHz Tuning Step Size: 125 kHz Symbol Rate Range: 1.0 to 45 Msymbols/s	Carrier Capture Range: ± 3.0 MHz (5-45 Msym) Satellites: C-band and Ku-band Impedance: 75Ω
Analog Outputs	Analog Video Output Number of Channels: One (two identical outputs) Video Decompression Type: MPEG-2 4:2:0 Level: 1.0Vpp ± 5% Video Standard: NTSC & PAL B/G/I/D Frequency Response: ±1.5 dB at 4.8 MHz, 720 x 480/576 resolution Maximum Video Resolution: 720 x 576 Maximum Video Bit rate: 15 Mb/s Chroma-luma Delay: ± 30 ns Field Time Distortion: ≤ 3% Line Time Distortion: ≤ 3% Short Time Distortion: ≤ 2% Luminance Non-linearity: ≤ 5% Differential Gain: ≤ 3% Differential Phase: ≤ 3° Signal-to-Noise Ratio: ≥ 55 dB	Analog Audio Output Number of Channels: Two stereo pairs/four mono channels Audio decompression: Dolby Digital or MPEG Output Level: Balanced, adjustable audio outputs are factory set for unity gain (0 dBm out for 0 dBm in). Output is adjustable at the front panel by ± 6.0 dB. Factory calibrated to +18 dBu (at full scale). Frequency Response: ± 0.5 dB, 20 Hz to 20 kHz Total Harmonic Distortion: < 0.3% at 1 kHz Dynamic Range: 85 dB (CCIR/Arm weighting) Crosstalk: 80 dB
VBI	NTSC lines 10 to 22 fields 1 and 2 NABTS, AMOL I and II (Nielsen)	PAL lines 7 to 20 fields 1 and 2 WST
Data Outputs	RS-232 asynchronous data at rates up to 38.4 kb/s Rates: 300/1200/2400/4800/9600/19,200/38,400 b/s	
Other Outputs	Cue Trigger Outputs Number of Outputs: 8 Type: Open Collector Cue Tone Output Balanced audio output: -3.0 dBu ± 3 dB Output Impedance: < 50 Ohms Programmable Relay Output Alarm or configurable to one of the 8 open collector outputs	Ethernet Output for Control & Monitoring RJ-45, 10/100BaseT MPEG-2 Transport Output EN 50083-9, DVB-ASI coaxial, 188 Byte Packets
Optional Inputs/Outputs	Multiple RF inputs (Optional) Number of Inputs: 1 or 4	
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 15 in. D (4.4 cm H x 48.3 cm W x 38.1 cm D) 1RU high, 19 in. EIA rack mountable Weight: 10 lbs (4.5kg) approx.
Power	Voltage Range: 100V to 240V ac Line Frequency: 50/60 Hz	Power Consumption: 50W max. LNB Power on RF#1: +13V/+18V @ 400 mA max.



Ordering Information	
Part Number	Description
6996968	Single RF Input
4003152	Single RF Input (NAP* ISE)
6996997	Quadruple RF Input
4003386	Quadruple RF Input (NAP* ISE)

* NAP is for Programmers sharing decoder authorization



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