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D9854 Advanced Program Receiver

The Cisco® D9854 Advanced Program Receiver is designed for satellite content distribution applications requiring DVB-S and DVB-S2 reception capabilities with advanced digital outputs for digital tier program distribution. A built-in decoder is capable of decoding an MPEG-2 or MPEG-4 AVC High Definition (HD) program from analog monitoring, or Standard Definition (SD) down-conversion for composite. Decoding of an MPEG-2 or MPEG-4 AVC SD program is also available for analog and SDI output. A high-quality SDI or HD-SDI output version of the D9854 is available for re-encode applications.

Digital Program Distribution
The ASI transport output or the optional MPEGoIP output provides a number of output modes, including the capability of carrying decrypted program for digital tier distribution. This helps ensure that compressed video programs are efficiently distributed to households equipped with digital set-top boxes.

Digital Program Mapping
Digital Program Mapping allows programmers to transparently substitute programs at the uplink. It maintains predictable and compliant transport output during service replacement, Network Information Table (NIT) retune, and channel changes, including force tunes. This feature remaps the packet identifier (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 for external ad insertion in compressed digital format.

KEY FEATURES

- Four L-band inputs
- DVB-S QPSK demodulation
- DVB-S2 QPSK/8PSK demodulation
- PowerVu® conditional access with DES or DVB descrambling
- Supports Basic Interoperable Scrambling System (BISS) conditional access
- DVB-CI support for CAM-based conditional access
- 4:2:0 HD MPEG-4 AVC and MPEG-2 1080i and 720p decoding
- 4:2:0 SD MPEG-4 AVC and MPEG-2 decoding
- Aspect ratio conversion (4:3, 16:9, 14:9) with Active Format Descriptor (AFD) control for SD programs
- AFD support for down-conversion of HD programs with aspect ratio conversion
- Closed Captioning support for EIA-608 and EIA-708
- MPEG and Dolby® Digital audio decoding
- DVB or Imitext subtitling
- Four audio outputs providing either two stereo pairs or four mono channels of balanced audio, each with the ability to use part of their output for applications such as SAP, cue tones, etc.
- Utility data up to 38.4 kbps via RS-232
- Uplink addressable decoder output control (VBI, audio routing, DPI, and ASI output)
- Fingerprint trigger
- Field upgradeable software and security
- SNMP for setup, control, and monitoring
- Front panel LCD for control and monitoring
- Web browser interface for easy setup, control, and monitoring
- DVB-VBI and SCTE-127 support
- CAM Interface software
- DTMF cue tone and cue trigger outputs for ad insertion
- Digital Program Mapping providing uplink control for service replacements in blackout areas

OPTIONAL FEATURES

- MPEGoIP output only available on the digital transport model
- User-switchable redundant ASI, SDI, or HD-SDI outputs
- SDI or HD-SDI video output with embedded audio
- AES-3id digital audio output

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SPECIFICATIONS

Parameter	Value
System	
Standards:	MPEG-2/DVB Compatible EN 300 421, EN 300 468
Demodulation:	DVB-S QPSK, DVB-S2 QPSK and 8PSK
Tuner	
Number of RF Inputs:	4 (1 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
Carrier Capture Range:	≥ ±3.0 MHz (1-10 MSymbols) ≥ ±5.0 MHz (10-30 MSymbols)
Satellites:	C-band and Ku-band
Input Impedance:	75 Ω
Analog HD Video Output	
Number of Channels:	1
Video Decompression Type:	MPEG-2 4:2:0 and MPEG-4 AVC 4:2:0
Video Standard	1080i @29.97, 1080i @ 25, 720p @ 59.94, 720p @ 50
Horizontal Video Resolutions:	1080i: 1920, 1440, 1280 720p: 1280, 960, 640
Analog SD Video Output	
Number of Channels:	1
Video Decompression Type:	MPEG-2 4:2:0and MPEG-4 AVC 4:2:0
Video Standard:	NTSC and PAL B/G/I/D/M/N
Maximum Video Resolution:	720x480/576 digital audio/video output (future)
Analog Audio Output	
Number of Channels:	2 stereo pairs / or 4 mono channels, 5.1 channel down-mix
Audio Decompression:	MPEG or Dolby® Digital (AC-3). HE-AAC single stereo pair or Dolby® Digital Plus single stereo pair available in anticipated software release.
Output Level:	Balanced, adjustable audio outputs are factory set for unity gain (0 dBm out over 600 ohms for 0 dBm in). Output is adjustable at the front panel by ±6.0 dB (ref., 100 kilohms) Factory calibrated to +18 dBu (at full scale).
Frequency Response:	±0.5 dB, 20 Hz, to 20 kHz (ref. 100 kilohms)
Total Harmonic Distortion:	<0.3% at 1 kHz (ref. 100 kilohms)
Dynamic Range	85 dB (CCIR/ARM weighting)
Crosstalk	80 dB at 1 kHz (typical)
Digital Outputs (optional)	
Digital HD Video Output	
Number of Channels:	1
User Selectable Output Ports:	2
Output Type:	BNC
Output Format:	HD-SDI, SMPTE-292M SDI, SMPTE-259M
Embedded Audio:	2 audio programs, PCM or pass-through 2 digital audio outputs (1 stereo ch. each) BNC, AES-3id, SMPTE 276M
Aspect Ratio	
Display Aspect Ratios:	4:3, 16:9
Aspect Ratio Conversions for Down-Conversion:	4:3 : 16:9 Letterbox, 14:9 Letterbox, Center Cutout 16:9 : Center Cutout
Aspect Ratio Conversions for SD Programs:	4:3 : 16:9 Letterbox, 14:9 Letterbox, Center Cutout, None 16:9 : Scale to 16:9

Parameter	Value
VBI	
NTSC:	Lines 10 to 22 fields 1 and 2 Line 21 closed captions NABTS, AMOL I and II (Neilsen), VITC, WSS
PAL:	Lines 7 to 22 fields 1 and 2 WST, WSS, VPS, VITC
Data Outputs	
RS-232 Asynchronous Data	
Rates:	300, 1200, 2400, 4800, 9600, 19,200, 38,400 b/s
Ethernet Output for IP Data	
Connector:	RJ-45, 10/100BaseT
Rates:	Up to 10 Mbps
Conditional Access	
PowerVu CA:	DES or DVB
DVB Descrambling:	BISS Mode 1/E
DVB-CI	
Interface:	2 CI Slots - EN 50221
CA Method:	Multicrypt, Simulcrypt
CAS:	Irdeto, Viaccess, Nagravision, Conax MediaGuard, Cryptoworks available in an anticipated future software release
Other Outputs	
MPEG-2 Transport Input:	EN50083-9, DVB-ASI coaxial, 188/204 byte packets
MPEGoIP	
Physical:	RJ-45
Ethernet:	10/100/1000BaseT
Output Modes:	UDP Raw, RTP
Ethernet Output for Control and Monitoring:	RJ-45, 10/100/1000BasteT
MPEG-2 Transport Output:	EN 50083-9, DVB-ASI coaxial, 188 byte packets
Programmable Relay Output:	Alarm or configurable to one of the 8 open collector outputs
Cue Tone Output	
Balanced Audio Output:	-3.0 dBu ±3 dB, 600 ohms
Output Impedance:	<50 ohms
Cue Trigger Outputs	
Number of Outputs:	8
Type:	Open Collector
Environmental Specifications	
Operating Temperature:	0°C - 50°C (32°F - 122°F)
Storage:	-20°C - 70°C (-4F° - 158°F)
Chassis Mechanical Specifications	
Dimensions (WxDxH):	17.35 x 13.78 x 1.72” 44.07 x 35.0 x 4.37 cm
Weight:	10 lbs (4.5 kg) approx.
Power	
Voltage Range:	100 V to 240 VAC
Line Frequency:	50/60 Hz
Power Consumption:	37 W max.
LNB Power on Satellite Input:	+13 V/+18V @400 mA max.

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