

## Cisco D9887B HDTV Modular Receiver

### Description

The Cisco® D9887B HDTV Modular Receiver is designed to receive broadcasts using MPEG-2 4:2:0 or MPEG-4 AVC 4:2:0 digital compression technology. It is ideally suited for decoding digitally compressed signals for primary distribution and contribution applications. With modular inputs and outputs, the Cisco D9887B receiver can be configured to suit the specific needs of your application. An optional redundant IP input and output interface is available for IPTV applications.

### Secured Broadcast Reception

Availability of optional Basic Interoperable Scrambling System (BISS) conditional access (CA) with modes 1 and E help provide protected distribution of video, audio, and data broadcasts to multiple locations.

**Figure 1.** Cisco D9887B HDTV Modular Receiver



### Key Features

- Single or dual decoder configuration
- Choice of MPEG-2/DVB, MPEG-4 AVC 4:2:0, or MPEG-2/DVB 4:2:0/4:2:2 video decoding
- HDTV support for 1080i @ 25, 29.97, or 30 fps; 720p @ 50, 59.94, or 60 fps
- SD support for 480i @ 29.95 fps and 576i @ 25 fps
- 1-80 Mbps decodable video bit rate dependent on video decoder option
- 1-160 Mbps transport data rate dependant on selected input options
- Video resolution interpolation (letterbox, cropped, or anamorphic)
- Active Format Descriptor support for video down-conversion
- DVB-VBI and SCTE-127 decoding
- Decoding for overlay of DVB subtitles
- Configured and controlled via front panel LCD
- Two or four analog stereo outputs per program, with audio output card options
- SNMP control and monitoring
- ROSA® network management system (NMS) support
- Web-based management (10/100BaseT)

### Optional Features

- Four-channel audio output with Dolby® Digital pass-through and Dolby E dependent on video decoder option
- DVB-S QPSK input
- DVB-S2 QPSK, 8PSK input
- 8-VSB/QAM input
- DVB-T input
- Redundant MPEG over IP input with support for UDP, RTP, and PromPEG
- Redundant MPEG over IP output
- SD-SDI, HD-SDI switchable video outputs with embedded audio
- BISS-1/E and DVB-CI support
- Genlock
- ASI input and output

### Specifications

**Table 1.** Product Specifications

Feature	Description
<b>System</b>	
Video Decoding	MPEG-2/DVB compatible MPEG-2 4:2:0, SD or HD MPEG-4 part 10, SD or HD MPEG-2 4:2:0/4:2:2 SD (720 resolution only) or HD decoder option
Genlock Option	Genlock PAL/NTSC (Black & Burst) HD Tri-level
<b>Transport Stream Inputs and Outputs</b>	
<b>DVB Satellite – DVB-S (Option)</b>	Switchable dual RF input, unpowered
Modulation	QPSK
Frequency Range	950 - 2150 MHz
Symbol Rate Range	1.0 - 45 Msymbols/s
<b>DVB Satellite – DVB-S2 (Option)</b>	Switchable dual RF input, unpowered
Modulation	QPSK and 8PSK
Frequency Range	950 - 2150 MHz
Symbol Rate Range	QPSK: 1-36 Msymbols/s 8PSK: 1-30 Msymbols/s
<b>DVB-T (Option)</b>	Switchable dual RF input
Modulation	QPSK, QAM16, and QAM64
Frequency Range	49 - 861 MHz
Channel Bandwidth	6 MHz, 7 MHz, and 8 MHz
<b>8-VSB/QAM (Option)</b>	
Frequency Range	50 - 850 MHz
CATV Offsets	FCC, IRC, HRC
Channel Bandwidth	6 MHz

Feature	Description
QAM Mode	64 and 256
<b>ASI Input (Option)</b>	
Interface	Copper BNC
TS Bit Rate	Up to 160 Mbps
<b>ASI Output (Option)</b>	
Interface	Copper BNC
TS Bit Rate	Up to 160 Mbps
<b>MPEG over IP Input (Option)</b>	
Physical	Two 10/100/1000BaseT ports
Protocols	UDP, RTP, ProMPEG COP #3, IGMP v2 and v3
TS Bit Rate	Up to 160 Mbps
<b>MPEG over IP Output (Option)</b>	
Physical	Two 10/100/1000BaseT ports
Protocols	UDP, IGMP v2 and v3
TS Bit Rate	Up to 160 Mbps
<b>Video and Audio Outputs</b>	
<b>Video (Option)</b>	
Analog Video Interfaces	1 component and 2 composite
Digital Video Interfaces	2 x switchable SD-SDI HD-SDI with embedded audio EIA-608B closed caption support for MPEG-2 SD EIA-708B closed caption support for MPEG-2 HD
<b>Audio (Option)</b>	
Analog Audio	Up to 4 balanced stereo pairs <sup>1</sup>
Digital Audio	SPDIF/AES-3id
Embedded in SDI	Up to 4 stereo pairs <sup>1</sup>
Mode	Stereo, joint stereo, single channel
Max Output Level	+27 dBu analog, 0 dBFS digital
Audio Codecs	MPEG, Dolby Digital (AC-3), HE-AAC Dolby Digital, HE-AAC, and Dolby E pass-through
<b>VBI</b>	
Reinsertion	NTSC lines 10 to 22 fields 1 and 2 Line 21 closed captions NABTS, AMOL I and II (Nielsen), WSS PAL lines 7 to 22 fields 1 and 2 WST, WSS, VPS
<b>Conditional Access Option</b>	
DVB-CI	See list below for supported CAMs
Modes	BISS Mode-1 BISS-E
<b>Environmental/Physical</b>	
Operating Temperature	0 - 50°C (32 - 122°F)
Humidity	Less than 95% non-condensing
Physical Dimensions	1.75 in. H x 19.0 in. W x 19.0 in. D (4.4 cm H x 48.3 cm W x 48.3 cm D)
Weight	13.0 lbs (5.9 kg)

<sup>1</sup> Use of 4 audio pairs requires additional decoder board installed.

Feature	Description
Power	Voltage Range: 95 - 135 VAC and 180 - 265 VAC Line Frequency: 50/60 Hz Power Consumption: 200 W maximum, 50 W typical

**Ordering Information**

Table 2. Ordering Information

**MPEG-2 and H.264 4:2:0 Decoders**

Part Number	Description								
	DVB-S/ S2 Input	ASI I/O	IP I/O	SD/HD SDI	Audio Pairs	Analog/ AES Audio	DVB-T	8VSB	BISS-1/E /DVB-CI
403355120640001		√	√	√	2	√			
403355120600001			√	√	2	√			
403355120610001	√		√	√	2	√			
403355120650001	√	√	√	√	2	√			
403355220600401			√	√	4	√			
403355120E50001	√	√	√	√	2	√			√
403355120450001	√	√		√	2	√			
403355120200001			√	√	2				
403355120410001	√			√	2	√			
403355220410401	√			√	4	√			
403355120680001			√	√	2	√	√		
403355120440001		√		√	2	√			
403355120460001		√		√	2	√		√	
403355120810001	√			√	2				√
403355120840001		√		√	2				√
403355120A00001			√	√	2				√
403355220E50401	√	√	√	√	4	√			√
403355120010001	√			√	2				
403355120060001		√		√	2			√	
403355240460001		√		2	4	√		√	
403355110660001		√	√		2	√		√	
403355120E80001			√	√	2	√	√		√
403355120C50001	√	√		√	2	√			√
403355120C40001		√		√	2	√			√
403355110600001			√		2	√			
403355220080001				√	4		√		

**MPEG-2 and H.264 4:2:0 Dual Split Decoders**

Part Number	Description								
	DVB-S/ S2 Input	ASI I/O	IP I/O	SD/HD SDI	Audio Pairs	Analog/ AES Audio	DVB-T	8VSB	BISS-1/E /DVB-CI
403355340200201			2	2	4				
403355340240241		2	2	2	4				
403355330420421					4	√		2	
403355340420421				2	4	√		2	
403355340620621			2	2	4	√		2	
403355340460461		2		2	4	√		2	

**MPEG-2 and H.264 4:2:0 Decoders w/Genlock**

Part Number	Description								
	DVB-S/ S2 Input	ASI I/O	IP I/O	SD/HD SDI	Audio Pairs	Analog/ AES Audio	DVB-T	8VSB	BISS-1/E /DVB-CI
403979720E50001	√	√	√	√		√			√
403979720460001		√		√		√		√	

**MPEG-2 4:2:0/4:2:2 Decoders w/Genlock**

Part Number	Description								
	DVB-S/ S2 Input	ASI I/O	IP I/O	SD/HD SDI	Audio Pairs	Analog/ AES Audio	DVB-T	8VSB	BISS-1/E /DVB-CI
403355400E00401			√	√	4	√			√
403355400E50401	√	√	√	√	4	√			√
403355400C40401		√		√	4	√			√
403355400E40401		√	√	√	4	√			√
403355400600401			√	√	4	√			
403355400440401		√		√	4	√			
403355400640401		√	√	√	4	√			
403355400C10401	√			√	4	√			√
403355400C50401	√	√		√	4	√			√
403355400200001			√	√	4				

**Chassis only No Decoder**

Part Number	Description								
	DVB-S/ S2 Input	ASI I/O	IP I/O	SD/HD SDI	Audio Pairs	Analog/ AES Audio	DVB-T	8VSB	BISS-1/E /DVB-CI
403443400060001		√						√	
403443400A80001			√				√		√

**Chassis only No Decoder Split Configuration**

Part Number	Description								
	DVB-S/ S2 Input	ASI I/O	IP I/O	SD/HD SDI	Audio Pairs	Analog/ AES Audio	DVB-T	8VSB	BISS-1/E /DVB-CI
403443500060061		2						2	
403443500220221			2					2	

Cisco D9887B HDTV Modular Receiver DVB-CI	Part Number
<b>Common Interface Modules<sup>2</sup></b>	
Aston Professional CAM, for Descrambling CONAX (maximum 12 Services)	4016669
Aston Consumer CAM for Descrambling CONAX (maximum 2 Services)	4016670
CAM for Descrambling CryptoWorks	V9523361
SMiT Professional CAM for Descrambling Irdeto (maximum 8 Services)	4037372
SMiT Consumer CAM for Descrambling Irdeto	4037371
Aston Professional CAM for Descrambling MediaGuard (maximum 12 Services)	V9528197
Aston Consumer CAM for Descrambling MediaGuard (maximum 2 Services)	V9528198
Aston Professional CAM for Descrambling Viaccess (maximum 12 Services)	V9528199
Aston Consumer CAM for Descrambling Viaccess (maximum 2 Services)	V9528240

<sup>2</sup> CAMs for Nagra have to be purchased from Conditional Access System vendors or the program provider. Cisco does not guarantee the operation of CAMs not sold by Cisco.

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