

## Cisco 8685DVB (CT8685) High-Definition Hybrid Set-Top

The Cisco® 8685DVB High-Definition Hybrid Set-Top for Virgin Media offers subscribers some of the latest enhancements in cable television viewing. It combines multiple compelling video services into one integrated unit. This three-video tuner digital video recorder (DVR) features MPEG-4 Part 10/H.264 standard-definition (SD) and HD capabilities and robust interactive capabilities using the DOCSIS® and EuroDOCSIS2.0+ cable modem. The Cisco 8685DVB (Figure 1) offers consumers a rich home entertainment experience with HD picture clarity, the movie theatre experience of surround sound, personalized recording with personal video recording (PVR) control, and the convenience of on-demand services such as video on demand (VoD).

The Cisco 8685DVB is compliant with DVB-C, MPEG-2, and MPEG-4 standards; supports PAL video formats; and complies with required safety, emissions, and immunity specifications (according to the mandatory laws that may be applicable to Cisco. With its smartcard reader, the set-top is built to support renewable security.

**Figure 1.** Cisco 8685DVB DVR



**Note:** Images in this document may vary from actual product and specification.

### Features

- Multiformat video decoder capable of HD MPEG-2, MPEG-4 Advanced Video Coding (AVC), and H.264 decoding
- Support for multiple output formats (576i, 576p, 720p, 1080i, and 1080p60) to allow outstanding picture performance with both standard TVs and HDTVs
- Internal 1-TB hard disk drive
- Embedded DOCSIS and EuroDOCSIS 2.0 cable modem with support for downstream channel bonding
- Three DVB-C video tuners and separate data tuner for cable modem
- Connection from an HDTV to the set-top through the high-definition multimedia (HDMI) connector

- Digital audio output that allows easy connection to high-end audio equipment
- SCART output to connect to SD TVs or VCRs
- Ethernet port for connection to video source or connected home residential gateway
- Dual USB 2.0 ports for connectivity

**Figure 2.** Cisco 8685DVB DVR Front Panel



## Front-Panel Features

Table 1 provides information on the features of the Cisco 8685DVB DVR front panel (Figure 2).

**Table 1.** Front-Panel Features

Feature	Description
<b>Controls</b>	10 buttons: Power, home, TV, back, increase volume, decrease volume, increase channel, decrease channel, select, and record
<b>Indicators</b>	7 LED indicators: Power or standby, connectivity status, remote control activity, 4 recording-in-process
<b>Other</b>	IR receiver

**Figure 3.** Cisco 8685DVB DVR Back Panel



## Back-Panel Features

Table 2 provides information on the features of the Cisco 8685DVB DVR back panel (Figure 3).

**Table 2.** Back-Panel Features

Feature	Description
<b>Connections In</b>	<ul style="list-style-type: none"> <li>• Cable in (75 ohm female IEC connector)</li> <li>• DC power</li> </ul>
<b>Connections out</b>	<ul style="list-style-type: none"> <li>• HDMI</li> <li>• TV SCART</li> <li>• S/PDIF digital audio (optical)</li> <li>• 10BASE-T and 100BASE-T Ethernet</li> <li>• Dual USB 2.0 host ports</li> </ul>
<b>Other</b>	ISO7816 smartcard
<b>Power switch</b>	On or off rocker switch

## Product Specifications

Table 3 provides product specifications for the Cisco 8685DVB DVR.

**Table 3.** Product Specifications

Specification	Value
<b>Audio and Video Outputs</b>	
<b>Inputs and outputs</b>	<ul style="list-style-type: none"> <li>• 75 ohm female IEC connector RF input</li> <li>• HDMI output</li> <li>• TV SCART output</li> <li>• Digital audio output - optical type</li> </ul>
<b>HDMI 1.3a output with High-Bandwidth Digital Copy Protection (HDCP) and 3D television (3DTV) extensions</b>	<ul style="list-style-type: none"> <li>• HDMI provides uncompressed digital video and audio in a simple, user-friendly connector</li> <li>• HDMI combined with HDCP is designed to provide an outstanding, secure connection to an HDTV that supports the HDMI with HDCP interface</li> <li>• Support for 3DTV extensions from HDMI 1.4a</li> </ul>
<b>USB 2.0 high-speed data outputs rear panel</b>	480-Mbps output for connection to devices such as external hard drives <sup>*</sup> <sup>*</sup> USB support requires middleware and application support for functionality
<b>Tuning and Decoding</b>	
<b>Multiformat video decoder</b>	<ul style="list-style-type: none"> <li>• Decoding and presentation of audio and video in both MPEG-2 and MPEG-4 Part 10 formats</li> <li>• SD formats: MPEG-2 MP@ML, MPEG-4 Part 10 MP@ Level 3.0, and HP@ Level 3.0</li> <li>• HD formats: MPEG-2 MP@ML and MP@HL; MPEG-4 Part 10 MP@ Level 3.0, 4.0, and 4.1; and HP@ Level 3.0, 4.0, and 4.1</li> <li>• Support for multiple decoding formats (576i, 576p, 720p, 1080i, or 1080p25) to allow exceptional picture performance with both SD TVs and HD TVs</li> </ul>
<b>Multiformat audio decoder</b>	Tuning of digital audio MPEG-1 layer I and II, MP3, MPEG-2 layer II, AC3 Dolby Digital and MPEG-4 AAC audio formats
<b>Embedded DOCSIS and EuroDOCSIS 2.0 cable modem with dedicated 324-MHz processor</b>	<ul style="list-style-type: none"> <li>• IP-based, real-time, two-way communications is supported between the set-top and the headend</li> <li>• The cable modem has a processor separate from the main CPU to achieve optimum performance without affecting set-top functions</li> <li>• Downstream channel bonding of tuners is supported to allow video over DOCSIS implementations</li> </ul>
<b>10BASE-T and 100BASE-T Ethernet output</b>	The Ethernet port can provide high-speed cable modem data service when connected to a PC. The Ethernet port can also be used to provide connection to other in-home IP devices (this capability is application software dependent)
<b>Powerful graphics engine</b>	<ul style="list-style-type: none"> <li>• OpenGL for Embedded Systems (OpenGL ES) 1.0 3D graphics engine</li> <li>• Support for high-resolution graphics up to 720 x 576 pixels</li> </ul>
<b>Memory and Storage</b>	
<b>DVR with 1-TB hard drive</b>	<ul style="list-style-type: none"> <li>• The 1-TB hard drive is designed to allow up to 500hours<sup>*</sup> of SD programs to be recorded and stored using DVR functions</li> <li>• Subscribers have complete control over watching, pausing, rewinding, replaying, and fast forwarding live programs using the remote control</li> </ul> <sup>*</sup> The total program hours that can be stored depends on the format and data rate of the programming source.
<b>Memory configuration</b>	Base model contains: <ul style="list-style-type: none"> <li>• 256-MB NAND flash memory for firmware</li> <li>• 2-MB boot flash</li> <li>• 512-MB RAM for system and applications</li> <li>• 128-KB electrically erasable programmable read-only memory (EEPROM)</li> </ul>
<b>Processor</b>	
<b>Broadcom BCM7019 system on chip with 32-bit MIPS processor</b>	Fast main CPU (400 MHz or 1100 DMIPS) delivers quick tuning changes and on-screen response times
<b>Data Transmission and Tuner</b>	
<b>QAM 64 and 256 ITU J.83 Annex A support</b>	DVB-C (EN 300 429)-compliant for QAM delivery and demodulation

Specification	Value
<b>Conditional Access and Security, Operation System, and Application</b>	
<b>Smartcard</b>	ISO7816 Smartcard reader for renewable security
<b>Conditional access system</b>	<ul style="list-style-type: none"> <li>• Compliant with Digital Video Broadcasting (DVB) Common Scrambling Algorithm (ETR 289)</li> <li>• Supports Nagravision conditional access system</li> </ul>
<b>Macrovision copy protection (optional; requires a separate agreement between the cable operator and Macrovision Corp.)</b>	Allows cable service providers to add another layer of copy protection software, called Macrovision to restrict unauthorized subscribers from making analog copies of digital transmissions
<b>Power Supply</b>	
<b>Power supply</b>	External 230VAC 50 Hz power supply
<b>Dimensions</b>	
<b>Product (W x D x H)</b>	Approximately 415 mm x 245 mm x 45 mm (16.3 in. x 9.6 in. x 1.8 in.)

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