

Cisco Explorer 8540HDC DVR with M-Card Interface

Service providers can elevate their service bundle with higher quality audio and video, and faster applications processing, all while supporting bandwidth management objectives. Digital Video Recording becomes all the more compelling with the Cisco® Explorer® 8540HDC DVR Set-Top. Subscribers can view and record their favorite programs and enjoy the convenience of viewing what they want, when they want.

Figure 1. Explorer 8540HDC DVR (image may vary from actual product and specification)



Features

Network Utilization Enhancements

- *1 GHz Tuning* enables service providers to expand network bandwidth to provide additional services such as HD and VOD, VoIP video, and high-speed data
- *MPEG-4 (H.264) Decoding* supports compression technology that provides better video quality at approximately half the data rate of MPEG-2
- *DOCSIS® 2.0* provides greatly increased upstream throughput for future advanced services and provides a path for future IP video services (optional software)
- *Digital-Only Tuning* enables service providers to improve bandwidth efficiency and accelerate the transition to an all-digital network by migrating analog subscribers to digital services

OpenCable™ and Conventional Network Support

- *M-Card™ Interface* uses a Multi-Stream CableCARD™ module (M-Card) for separable security
- *Axiom™ DVR Middleware* supports tru2way™ (formerly OCAP™) applications such as Service Navigators, Games, and future applications (optional software)
- *DOCSIS Set-top Gateway (DSG)* provides a powerful standard transport mechanism for command and control signaling between the set-top and service provider network (optional software)
- *SARA DVR Software* on a set-top provides native navigator and user interface in a non-tru2way service provider network environment (optional software)

- *DAVIC Receiver/Transmitter* allows IP-based, real-time, two-way communication between the set-top and the service provider network for services such as on-demand (optional software)

DVR and Home Networking Features

- *Dual-tuner DVR* allows one program to be recorded while watching or recording another
- *Picture-in-Picture (PIP)* allows viewing of two separate video sources simultaneously
- *160 GB Internal Hard Drive* stores up to 90 hours of SD or 20 hours of HD programs
- *320 GB Internal Hard Drive (optional)* stores up to 180 hours of SD or 40 hours of HD programs
- *USB 2.0 Connection* enables a host connection to peripheral devices such as navigation controllers, network adapters, and memory media readers (optional software)
- *Ethernet Connection* enables a connection to the home IP LAN for advanced services such as content sharing to the set-top from retail-purchased electronic devices (optional software)

Figure 2. Explorer 8540HDC Front Panel (image may vary from actual product and specification)



Table 1. Front Panel Features

Feature	Description
Connections	USB 2.0 Host, software controlled
Controls	IR Receiver, 10 buttons: Power, List, Exit, Info, Guide, Vol+, Vol-, Ch+, Ch-, Select
Indicators	Four 7-segment digits, Power (icon), Message (icon), Record (icon), HDTV, 5.1, Auto, 1080i/p, 720i/p, 480i/p
Color	Silver paint, black lens, silver buttons, dark grey button text, white button text
Branding	Cisco, model number, provision for service provider branding, HDTV Cable

Figure 3. Explorer 8540HDC Back Panel (image may vary from actual product and specification)



Table 2. Back Panel Features

Feature	Description
Connections In	Cable In
Connections Out	HDMI™ (1.3), YPbPr, Optical Digital Audio, Coax Digital Audio, Video 1, L/R Audio 1, S-Video, L/R Audio 2, Video Archive, L/R Audio Archive, IR, TV Cable Out, Dual IEEE-1394 4-Pin, software controlled
Output Resolutions	1920 x 1080i 60 Hz, 1280 x 720p 60 Hz, 720 x 480p 60 Hz, 720 x 480i 60 Hz, software controlled
Output Control	Scaled video in graphics, scaled HD video in graphics, graphics on HD and SD outputs, aspect ratio control, native resolution pass-thru, HD down convertible to SD, software controlled
Connections-Interactive	eSATA, USB 2.0 Host, RJ-45 Ethernet, software controlled
Power Input	Polarized 2-prong modular cord plug, 115 VAC, 60 Hz
Power Output	Polarized 2-prong outlet, 500 W maximum, at input line voltage, software controlled
Labels	Serial Number, RF MAC Address, eCM MAC Address, M-Card Serial Number, M-Card MAC Address, removal-evident M-Card label

Specifications

Table 3. Product Specifications

Specification	Value
Tuning and Decoding	
DVR	Dual tuning, Dual record, Dual playback, Pause, Rewind, Fast-Forward, record one program while viewing another program, software controlled
Picture in Picture	Digital, HD, software controlled
Tuning	Dual QAM 64 or 256, In-Band 54 MHz–1GHz, QPSK out-of-band (OOB) 70–130 MHz, DOCSIS 91–867 MHz
Video Decoders	Dedicated dual 400 MHz VLIW CPU processors, dual MPEG-4 (H.264) up to HP@L4.0 (HD), dual VC1 AP@L2&3, dual MPEG-2 up to MP@HL, 1920 x 1080i 60 Hz, 1920 x 1080p 30 Hz, 1920 x 1080p 24 Hz, 1280 x 720p 60 Hz, 720 x 480p 60 Hz, 720 x 480i 60 Hz, video scaling, software controlled
Audio Decoders	Dedicated dual 250 MHz DSP CPU processors, dual Dolby™ Digital to 5.1, dual MPEG-1 and MPEG-2, dual Dolby Digital+, dual AAC, dual AAC+, software controlled
Conditional Access	Separable security with M-Card
Encoders	Audio BTSC for TV cable (RF) output
Graphics Engine	2.5 dimension graphics, up to 960 x 540 resolution, 32 bit (16 million) color
DAVIC	DAVIC 1.2, QPSK FDC at 1.5 Mbps, QPSK RDC at 1.5 Mbps, software controlled
DOCSIS	OOB and interaction via DOCSIS 2.0, DOCSIS Set-top Gateway, Baseline Privacy Interface, software controlled

Memory/Storage	
CPU/Apps RAM	192 MB (see Note 1)
Video Graphics RAM	64 MB
Flash	2 MB
CPU NVM	16 KB
Hard Drive	160 GB, internal SATA, 1.5 Gbs (standard) 320 GB, internal SATA, 1.5 Gbs (optional)
Boot Partition on HDD	256 MB (see Note 2)
Hard Drive Expansion	External SATA (eSATA), 1.5 Gbs, rear panel, software controlled
Processors	
Application/CPU	600 MHz (800 MIPS)
Video Graphic	Dual 400 MHz VLIW CPUs
Audio	Dual 250 MHz DSP CPUs
DOCSIS	200 MHz CPU
Dimensions	
Product (HxWxD)	3.25 in. x 15.6 in. x 11.2 in. (8.3 cm x 39.7 cm x 28.5 cm)
Product Weight	8.3 lbs (3.8 kg)
Carton (HxWxD)	6.12 in. x 18.0 in. x 14.0 in. (15.6 cm x 45.8 cm x 35.6 cm)
Total Weight	11.6 lbs (5.3 kg)
Environment Specifications	
Placement	Locate with at least 2 inches of open space above and on each side
Room Temperature	32 to 105°F (0 to 40°C) during operation
Power Dissipation	50 W maximum

Table 4. Accessories

Specification	Value	
In Carton	Power Cord, Quick Reference Guide, YPbPr Component Video Cable, L/R audio Cable	
Sold Separately		Part Number
	Axiom DVR Middleware License (see Note 1)	4014594
	SARA DVR Software License 3-year	752351
	SARA DVR Software License 2-year	4020470
	SARA DVR Software License 1-year	4020469
	Multi-Stream CableCARD PKM802	4014733
	AllTouch® AT8550 Remote Control	4006369
	AllTouch AT8560 Remote Control	4016237
	HDMI-to-HDMI Cable	1002048
	HDMI-to-DVI Cable	1002056
	YPbPr and L/R Cable Set (additional or replacement)	1000944
	RGB Adapter and Cables	749790
	IR Extender—12 ft	1001807
	IR Extender—25 ft	4006725

Ordering Information

Contact your Sales Representative for product availability in your area.

Table 5. Ordering Information

Model	Description	Part Number Set-Top Only	Part Number Set-Top with PowerKEY® M-Card Module
8540HDC	8540HDC, HD Digital-Only MPEG-4/-2 DVR with 160 GB HDD, 192 MB CPU RAM, 64 MB Video RAM, DOCSIS, Ethernet, and M-Card Interface	TBD	4021103
8540HDC	8540HDC, HD Digital-Only MPEG-4/-2 DVR with 320 GB HDD, 192 MB CPU RAM, 64 MB Video RAM, DOCSIS, Ethernet, and M-Card Interface	TBD	4024838

Note: 1. Axiom DVR Middleware for tru2way support is recommended only for the 8500 models that have 192 MB or more of CPU RAM.

Note: 2. Boot Partition provides space on the hard drive for storing the set-top core software. Additional non-core application storage space may be made available on the hard drive. The Boot Partition is analogous to a portion of the role traditional Flash memory serves on non-hard drive set-tops.

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Scientific Atlanta, A Cisco Company
1-800-722-2009 or 770-236-6900
www.scientificatlanta.com

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