

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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