

## Cisco Explorer 8642HD DVR

The Cisco® Explorer® 8642HD DVR provides high quality video, audio, DVR, and two-way capabilities that cable operators have come to expect. The platform provides faster processing of applications while also supporting bandwidth management objectives.

The 8642HD becomes the multimedia service gateway for the home – sharing and managing video and audio experiences between the television and other home network devices. Multimedia over Coax Alliance (MoCA™) technology enables an IP LAN connection over coaxial cable, minimizing the need for new wiring in the home.

**Figure 1.** Cisco Explorer 8642HD DVR (image may vary from actual product and specification)



### Features

#### Network Utilization Enhancements

- *1 GHz Tuning* allows 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 about half the data rate of MPEG-2
- *DOCSIS® 2.0* provides 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

#### tru2way™ and Conventional Network Support

- *Embedded PowerKEY® Conditional Access* provides digital security using an RSA encryption algorithm
- *Axiom™ DVR Middleware* supports tru2way (formerly OCAP™) applications such as Service Navigators, Games, and many other 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 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 viewing or recording another
- *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
- *500 GB Internal Hard Drive (optional)* stores up to 280 hours of SD or 62 hours of HD programs
- *Personal media player* enables display of photos and playback of video and audio from standards-based home network connected devices (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
- *Whole Home DVR* enables sharing and managing of video services throughout the home to other connected DVRs, set-tops and consumer electronic devices using standards-based connection and security technologies (optional software)
- *MoCA Connection (Multi-media over coax)* enables an IP LAN connection over coaxial cable, which minimizes the need for new wiring in the home
- *Digital Transmission Content Protection over IP (DTCP-IP)* provides encrypted content protection, such as “copy-one-generation” or “copy-never” based upon content copy control information (CCI), when output through an IP connection to an authenticated device

**Figure 2.** Cisco Explorer 8642HD 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), Home Networking (icon), HDTV, 5.1, Auto, 1080i p, 720i p, 480i p, software controlled |
| Color       | Black finish, black lens, black buttons, grey text  |
| Branding    | Cisco, model number, provision for service provider branding, HDTV Cable  |

**Figure 3.** Cisco Explorer 8642HD 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) with CEC, YPbPr, Optical Digital Audio, Coax Digital Audio, Video, L/R Audio 1, S-Video, L/R Audio 2, IR, TV Cable Out, IEEE-1394 4-Pin, software controlled, see Note 1    |
| Output Resolutions      | 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, software controlled, see Note 1                                      |
| 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, MoCA on Cable Input, DTCP-IP on MoCA, USB 2.0 Host, Support for generic serial interface via USB, RJ-45 Ethernet, DTCP-IP on Ethernet, software controlled                       |
| Power Input             | Polarized 2-prong modular cord plug, 115 VAC, 60 Hz   |
| Power Output            | Polarized 2-prong outlet, 500 W max, at input line voltage, software controlled   |
| Labels                  | Serial Number, RF MAC Address, eCM MAC Address, Cisco, FCC, UL, Shock Warning, CATV Converter, Made In  |
| Labels-Bottom           | Scientific Atlanta, Inc., STB Model, Assembly P/N, Rev, Date, FCC, Patents, RSA   |

## Specifications

**Table 3.** Product Specifications

| Specification              | Value  |
|----------------------------|--|
| <b>Tuning and Decoding</b> |  |
| DVR                        | Dual tuning, Dual Record, Pause, Rewind, Fast-Forward, Record one program while viewing or recording another, software controlled  |
| Picture in Picture         | Digital, HD, software controlled   |
| Tuning                     | Dual QAM 64 or 256, In-Band 54 MHz - 1 GHz, QPSK out-of-band (OOB) 70-130 MHz, DOCSIS 91-867 MHz, MoCA 1.0GHz to 1.5GHz  |
| 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 250 MHz DSP CPU Processor, Dolby™ Digital to 5.1, MPEG-1 and MPEG-2, BTSC/SAP, Dolby Digital+, AAC, AAC+, software controlled  |
| Conditional Access         | PowerKEY, software controlled  |
| Encoders                   | Audio BTSC for TV Cable (RF) Output, software controlled   |
| 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  |

| Specification               | Value   |
|-----------------------------|---|
| <b>Memory/Storage</b>       |   |
| RAM                         | 384 MB, 512MB (optional), unified, see Note 2                       |
| Flash                       | 2 MB  |
| NVM                         | 16 KB   |
| Hard Drive                  | 160 GB, 320 GB (optional), 500GB (optional), Internal SATA, 1.5 Gbs |
| Boot Partition on HDD       | 256 MB, see Note 3  |
| Hard Drive Expansion        | External SATA (eSATA), 1.5 Gbs, on rear panel, software controlled  |
| <b>Processors</b>           |   |
| Application/CPU             | 700 MHz (1000 MIPS)   |
| Video/Graphics              | Dual 400 MHz VLIW CPUs  |
| Audio                       | 250 MHz DSP CPU   |
| DOCSIS CPU                  | 333 MHz CPU   |
| Network CPU                 | 400 MHz CPU   |
| <b>Dimensions</b>           |   |
| 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)   |
| <b>Operating Conditions</b> |   |
| 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   |         |
|------------------------|---|---------|
| <b>In Carton</b>       |   |         |
|                        | Power Cord, Quick Reference Guide, HDMI-to-HDMI Cable |         |
| <b>Sold Separately</b> | <b>Part Number</b>                                    |         |
|                        | Axiom DVR Middleware License, see Note 2              | 4014594 |
|                        | SARA DVR Software License 3-year                      | 752351  |
|                        | SARA DVR Software License 2-year                      | 4020470 |
|                        | SARA DVR Software License 1-year                      | 4020469 |
|                        | AllTouch® AT8550 Remote Control                       | 4006369 |
|                        | AllTouch AT8560 Remote Control                        | 4016237 |
|                        | HDMI-to-HDMI Cable (additional or replacement)        | 1002048 |
|                        | HDMI-to-DVI Cable                                     | 1002056 |
|                        | YPbPr and L/R Cable Set                               | 1000944 |
|                        | RGB adapter and cables                                | 749790  |
|                        | IR Extender (USB)—12 ft                               | 1001807 |
|                        | IR Extender (USB )—25 ft                              | 4006725 |
|                        | IR Extender (3.5 mm)—12 ft                            | 1004648 |

## Ordering Information

**Table 5.** Ordering Information

| Model           | Description  | Part Number |
|-----------------|--|-------------|
| Explorer 8642HD | 8642HD, HD Digital Only MPEG-4/-2 DVR with 160 GB HDD, 512 MB RAM, DOCSIS, Ethernet, and DTCP-IP | TBD         |
| Explorer 8642HD | 8642HD, HD Digital Only MPEG-4/-2 DVR with 320 GB HDD, 512 MB RAM, DOCSIS, Ethernet, and DTCP-IP | 4028600     |
| Explorer 8642HD | 8642HD, HD Digital Only MPEG-4/-2 DVR with 500 GB HDD, 512 MB RAM, DOCSIS, Ethernet, and DTCP-IP | 4034541     |

### Notes:

1. 1080p/24 or 1080p/30 output formats are available on HDMI, if those formats are presented to the set-top box at its input. Incoming video formats will not be converted to either of these for output. Output of these formats is under software control.
2. Axiom DVR Middleware for tru2way (formerly OCAP) support is recommended only for the 8600 models that have a minimum of 384 MB RAM.
3. Boot Partition provides space on the hard drive for storing the core set-top 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.

With respect to each AVC/H.264 product, we are obligated to provide the following notice:

AVC VIDEO LICENSE

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE <http://www.mpegla.com>.

Accordingly, please be advised that service providers, content providers, and broadcasters are required to obtain a separate use license from MPEG LA prior to any use of AVC/H.264 encoders and/or decoders.



Cisco, Cisco Systems, the Cisco logo, the Cisco Systems logo, AllTouch, Axiom, Explorer, and PowerKEY are registered trademarks or trademarks of Cisco Systems, Inc. and/or its affiliates in the U.S. and certain other countries.

DOCSIS is a registered trademark of Cable Television Laboratories, Inc.

OCAP and tru2way are trademarks of Cable Television Laboratories, Inc.

Manufactured under license from Dolby Laboratories. Dolby is a trademark of Dolby Laboratories.

HDMI, and the HDMI logo are trademarks or registered trademarks of HDMI Licensing LLC.

MoCA is a trademark of the Multimedia over Coax Alliance.

*All other trademarks mentioned in this document are the property of their respective owners.*

Specifications and product availability are subject to change without notice.

© 2009 Cisco Systems, Inc. All rights reserved.

Cisco Systems, Inc.  
1-800-722-2009 or 678-277-1120  
[www.cisco.com](http://www.cisco.com)

Part Number 7017062 Rev B  
November 2009