

Cisco Explorer 4640HDC and 4650HDC High-Definition Set-Tops with Multi-Stream CableCARD Interface

Power, flexibility, and advanced security features highlight the Cisco® Explorer® 4640HDC and 4650HDC High-Definition Set-Tops with Multi-Stream CableCARD™ (M-Card™) Interface.

The 4640HDC and 4650HDC set-tops support the tru2way™ (formerly OCAP™) and Federal Communications Commission (FCC) mandates for separable security. The set-tops also offer MPEG-4 (H.264) high definition (HD) and standard definition (SD) decoding with HD and SD outputs and DOCSIS® 2.0 data capability. The 4650HDC set-top also provides analog tuning.

Figure 1. Cisco Explorer 4650HDC front panel (image may vary from actual product and specification)



Features

Network Utilization Enhancements

- *1 GHz Tuning* enables cable operators to expand network bandwidth to provide additional services such as VOD, tru2way, DOCSIS 2.0, 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)

OpenCable™ and Conventional Network Support

- *M-Card Interface* uses a Multi-Stream CableCARD (M-Card) for separable security
- *Axiom™ Middleware* supports tru2way applications such as Service Navigators, Games, and other future tru2way applications (optional software)
- *DSG (DOCSIS Set-top Gateway)* provides a powerful standard transport mechanism for command and control signaling between the set-top and service provider network (optional software)
- *DAVIC Receiver/Transmitter* allows IP-based, real-time, two-way communication between the set-top and the service provider network for on-demand services (optional software)

Home Networking Features

- *USB 2.0 Connection* enables a host connection to peripheral devices such as navigation controllers, network adapters, and memory media readers
- *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

Figure 2. Cisco Explorer 4650HDC front panel (image may vary from actual product and specification)



Table 1. Front Panel

Feature	Description
Controls	Vol+, Vol-, Ch+ Ch-, Select, Guide, Info, Exit, Settings, IR receiver, Power
Connections	USB 2.0 host, software-controlled
Indicators	Four-segment LED digits, Power icon, Message icon, HDTV, 5.1, Auto, 1080i/p, 720i/p, 480i/p
Color	Black, grey text
Branding	Cisco, model number, provision for customer brand

Figure 3. Cisco Explorer 4650HDC back panel (image may vary from actual product and specification)



Table 2. Back Panel

Feature	Description
Connections In	Cable In, Power
Connections-Interactive	USB 2.0 Host, RJ-45 Ethernet, software controlled
Connections Out	HDMI™ (1.3) with CEC, IEEE 1394 (4-pin), Dual L/R Audio, Baseband Video, YPbPr, IR, S-Video Out, Optical Digital Audio, Coaxial Digital Audio Out, RF Out, Switched Outlet
Output Resolutions	720 x 480i 60 Hz, 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
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
Power Input	Polarized 2-prong modular cord plug, 115 VAC, 60 Hz
Power Output	Polarized 2-prong outlet, at input line voltage, software controlled
Labels	Serial Number, eCM MAC Address, RF MAC Address, M-Card Serial Number, M-Card MAC Address

Product Specifications

Table 3. Product Specifications

Specification	Value
Tuning and Decoding	
Tuning	Analog (4650HDC), QAM 64 or 256, In-Band 54 MHz–1 GHz, QPSK out-of-band (OOB) 70–130 MHz, DOCSIS 91–867 MHz, AV in display
Video Decoders	MPEG-2 MP@ML, MP@HL (SD, 720 x 480i), MPEG-4 (H.264) up to HP@L4.0 (HD), VC1, Video Scaling, software controlled
Audio Decoders	Dolby™ Digital to 5.1, MPEG-1 and MPEG-2, Dolby Digital+, AAC, AAC+, AC3, MP3
Conditional Access	Separable security with M-Card
Graphics Engine	Up to 960 x 540 resolution, 32 bit (16 million) color
DAVIC	FDC (Forward Data Channel) 1.54 Mbps QPSK, RDC (Reverse Data Channel) 1.54 Mbps QPSK, FAT QAM Channel Downstream, software controlled
DOCSIS	OOB and interaction via DOCSIS 2.0, DOCSIS Set-top Gateway, Baseline Privacy Interface, software controlled
Memory/Storage	
RAM	Minimum of 128 MB
Flash	Minimum of 32 MB
NVM	Minimum of 16 KB
Processors	
Application/CPU	700 MHz (approximately 1000 dMIPs)
DOCSIS	333 MHz CPU
Network	400 MHz CPU
Dimensions	
Product (HxWxD)	2.75 in. x 13.75 in. x 9 in. (7.0 cm x 34.9 cm x 22.9 cm)
Product Weight	4.5 lbs (2.04 kg)
Carton (HxWxD)	Carton of 5 units = 16.5 in. x 11.0 in. x 16.5 in. (41.9 cm x 27.9 cm x 41.9 cm)
Total Weight	Carton of 5 units = 25.25 lbs (11.45 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
Storage Temperature	14° to 158°F (-10° to 70°C)

Table 4. Accessories

Specification	Value
In Carton	
	HDMI Cable, Power Cord, Quick Reference Guide
Sold Separately	
	License, Axiom OCAP (tru2way) Middleware, non-DVR
	SARA Software License, 1 year term
	SARA Software License, 2 year term
	MultiStream CableCARD PKM802
	AllTouch® AT8650 Remote Control
	RGB Adapter and Cables
	IR Extender – 12 ft (3.65 m)
	USB IR Extender – 12 ft (3.65 m)
	USB IR Extender – 25 ft (7.32 m)
	Part Number
	4026954
	4020466
	4020467
	4014733
	4016237
	749790
	1004648
	1001807
	4006725

Ordering Information

Table 5. Ordering Information

Model	Description	Part Number Set-Top with PowerKEY M-Card Module
Cisco Explorer 4640HDC	Cisco Explorer 4640HDC Digital-Only High-Definition Interactive Set-Top	4028057
Cisco Explorer 4650HDC	Cisco Explorer 4650HDC High-Definition Interactive Set-Top	4024132

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, Scientific Atlanta, 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.

CableCARD, M-Card, OCAP, OpenCable, and tru2way are trademarks of Cable Television Laboratories, Inc. Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.

HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

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.

Service Provider Video Technology Group
1-800-722-2009 or 678-277-1000
www.scientificatlanta.com

Part Number 7016225 Rev A
January 2009