Cisco Explorer 4640HD and 4650HD High-Definition Set-Tops

Power, flexibility, and advanced security features highlight the Cisco® Explorer® 4640HD and 4650HD High-Definition Set-Tops.

The 4640HD and 4650HD set-tops support tru2way™ (formerly OCAP™) and 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 4650HD set-top also provides analog tuning.

Figure 1.   Cisco Explorer 4650HD 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

- *PowerKEY® Conditional Access System* secures digital services using symmetric encryption algorithm for content protection
- *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)
- *ENERGY STAR® Tier 1* qualified set-top box must meet strict energy-efficiency guidelines set by the US Environmental Protection Agency (EPA) and the US Department of Energy (DOE), see Note 3

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 4650HD 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, Secure Card slot, 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 4650HD 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), L/R Audio, Baseband Video, YPbPr, IR, S-Video Out, Optical Digital Audio, Coaxial Digital Audio Out, RF Out, Switched Outlet, see Note 1
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, 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
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

Product Specifications

Table 3.   Product Specifications

Specification	Value
Tuning and Decoding	
Tuning	Analog (4650HD), QAM 64 or 256, In-Band 54 MHz–1 GHz, QPSK out-of-band (OOB) 70–130 MHz, DOCSIS 91–867 MHz, A/V 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	Embedded PowerKEY
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, see Note 2
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	32º to 105ºF (0º to 40ºC) during operation
Storage Temperature	14º to 158ºF (-10º to 70ºC)
Power Dissipation	50W maximum peak, ENERGY STAR Tier 1

Table 4.   Accessories

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

Ordering Information

Table 5.   Ordering Information

Model	Description	Part Number Set-Top with PowerKEY M-Card Module
Cisco Explorer 4640HD	Cisco Explorer 4640HD High-Definition Interactive Set-Top (with 256 MB)	4028361
Cisco Explorer 4650HD	Cisco Explorer 4650HD High-Definition Interactive Set-Top (with 256 MB)	4025493

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 Middleware for tru2way (formerly OCAP) support is recommended only for the 4600 models that have a minimum of 256 MB RAM.

3. In order to use the ENERGY STAR name or marks in association with this product deployed to subscribers, service providers must first sign a Partnership Agreement with EPA and abide by all of the conditions set forth in the ENERGY STAR Program Requirements for Cable, Satellite, and Telecom Service Providers. ENERGY STAR is a registered mark owned by the U.S. government and its use is reserved for partners. Service providers that have not signed an ENERGY STAR Partnership Agreement are not to distribute boxes labeled with the ENERGY STAR.

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