

CodePlus™ TRANSCODER SERIES (MPEG-4 TO MPEG-2)

DIRECTV®
DISH®

HEAD
END
SYSTEMS

LGs Exclusive CodePlus Series Modular System for DIRECTV and DISH
HCS6150R enclosure with plug-in HCS7710/7720 transcoder cards



CodePlus SERIES MODULAR SYSTEM

LG's HD transcoder CodePlus modular system consists of an **HCS6150R** rack-mountable enclosure that includes 4 pre-installed **HCS6400** fan cards, plus space for 9 CodePlus processor cards.

The CodePlus **HCS7700** series of DTV transcoder cards provide access for existing MPEG-2 Pro:Idiom TV's to DIRECTV or DISH MPEG-4 encoded programming; there are two options: the **HCS7710** and **HCS7720** transcoder cards for converting DIRECTV or DISH MPEG-4 HD programming to an encrypted MPEG-2 encoded transport stream.

Pairing an **HCS7710** card in the **HCS6150R** CodePlus card frame with a DIRECTV COM23-600 satellite receiver will provide one channel of DIRECTV content.

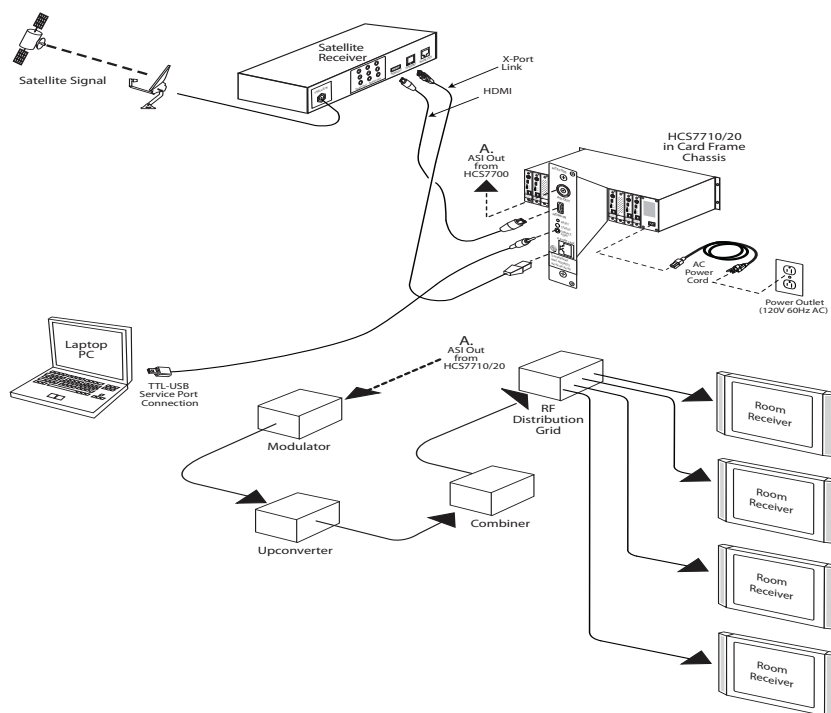
Alternatively, pairing an **HCS7720** card in the **HCS6150R** CodePlus card frame with a DISH ViP222(k) satellite receiver will provide one channel of DISH content.

An **HCS6300/6320** CodePlus modulator/mux/controller card, when used with the above mentioned models, will provide up to 4-RF channel/8-program stream HDTV solution for commercial and institutional MATV systems (hotels, hospitals, etc.).

COMBINED SYSTEM ELEMENTS CAN:

- Receive a selected HD channel from DIRECTV or DISH service using either a COM23-600 or ViP222(k) Satellite Receiver
- Transcode the digital video and audio stream to an ATSC A/53E compatible transport stream
- Encrypt the received digital data stream
- Modulate the stream in multiplexed 256-QAM (with HCS6300/6320)

SATELLITE RECEIVER & HCS7710/20 Typical Setup Connections



LGsolutions.com



LG
Life's Good

CodePlus TRANSCODER SERIES
(MPEG-4 TO MPEG-2)

**HCS7710 DIRECTV
HCS7720 DISH**
HD CodePlus Series Transcoder Card
(Transcodes MPEG-4 to MPEG-2)

- Part of modular system, easily scaled for each application (max. 8 cards per chassis)
- Transcodes MPEG-4 satellite content to MPEG-2
- Built-in Pro:Idiom® content protection
- DVB-ASI output available to connect to external MUX or Modulator
- Transcoded output supports Closed Captions and V-Chip (Parental Control) if included in the signal source
- 1 Year Limited Warranty



**HCS6300 DIRECTV
HCS6320 DISH**
Mod/Mux/Controller Card

- Part of modular system, easily scaled for each application
- 4 channel - 256-QAM modulation with up conversion
- Generates four contiguous 256-QAM cable channels, with up to two program streams multiplexed on each channel
- Supports Pro:Idiom® encryption key maintenance
- RF output available to connect to site's RF distribution system
- Transcoded output supports Closed Captions and V-Chip (Parental Control) if included in the signal source
- 1 Year Limited Warranty



HCS6150R CodePlus Card frame with Power Supply

- Self-contained 180W power supply
- Four Installed HCS6400 (fan) cards
- Slots for 9 CodePlus cards (8 HCS7700 transcoders plus one feature card)
- Built-in fan for active ventilation
- 19 inch rack-mountable
- Short 3U height profile to minimize rack-space usage
- 1 Year Limited Warranty

CodePlus™ SERIES SYSTEM WITH PRO:IDIOM

A Pro:Idiom compatible television with a QAM/VSB tuner is required to view premium HD content. The HCS7700 changes the DIRECTV or DISH encryption scheme to a Pro:Idiom encryption scheme. A proper session ID must be set at the TV in order for Pro:Idiom decryption to be enabled. LG's Pay-Per-View (PPV) providers can properly set up this session through their interface. An LG Free-To-Guest (FTG) card is substituted for the supplied Multiple Protocol (MPI) card and can set the session to allow decryption.

	HCS6150R	HCS7710/HCS7720	HCS6300/HCS6320
Product Usage	Rack Chassis for Digital HD Content Distribution	Transcoder Cards for HD Content distribution	Modulation/Up Conversion Card for Digital HD Content Distribution
Input	--	Ethernet and HDMI from satellite receiver STB	Internal MPEG streams from backplane
Input Transport	--	HDMI	MPEG-2 720p
Audio	--	AC-3	AC-3
Output	--	Format - DVB-ASI delivery of an MPEG-2 compliant transport stream. Single Program stream selected by channel Physical interface - BNC 75 ohm connector	MPEG-2 compliant multiple program transport stream (MPTS), or MPEG-4 Part 10 NAL Layer Encapsulated in MPEG-2 multiple program Transport Stream 4 channel - 256Q-AM modulation with up conversion Physical interface 'F' type 75 ohm connector
Digital Rights Management	--	Transport stream output encrypted with Pro:Idiom Service port for Pro:Idiom Key Renewal	Ethernet port for Pro:Idiom Key Renewal
Dimensions (H x W x D)	3U x 19.0" x 10.3"	3U x 11.0" x 9"	3U x 11.0" x 9"
Weight	7.70 lbs (3.5 kg) rack-only weight	0.49 lbs (0.221 kg) Est.	0.49 lbs (0.221 kg) Est.
ENVIRONMENTAL STORAGE CONDITIONS:			
Temperature	-20° to 70° Celsius -4° to 158° Fahrenheit	-20° to 70° Celsius -4° to 158° Fahrenheit	-20° to 70° Celsius -4° to 158° Fahrenheit
Humidity	95% non-condensing	95% non-condensing	95% non-condensing
OPERATING CONDITIONS:			
Temperature	0° to 40° Celsius 32° to 104° Fahrenheit	0° to 40° Celsius 32° to 104° Fahrenheit	0° to 40° Celsius 32° to 104° Fahrenheit
Humidity	95% non-condensing	95% non-condensing	95% non-condensing
Electrical	AC Input to Power Supply: 120V 3A 60Hz Power Factor Corrected. Maximum Watts = 180 Power Supply: +12V DC @ 15 Amps DC Input to each HCS6400 card: +12V DC @ 0.17 Amps	DC Input: +12V DC @ 1.2 Amps Impedance at ASI Out jack: 75 ohms Active Output Level at ASI Out jack: 800 mv HDMI Input: HDMI 1.1	RF Out Connector: Type 'F' RF Output Span: 4 Contiguous Channels (24 MHz) RF Output Range: +45 dbmv DC Input: +12V DC @ 1.1 Amps Impedance at ASI Out jack: 75 ohms Active Output Level at RF Out jack: +42 dBmV Min.
UPC code	7 19192 90012 7	7 19192 90201 5 / 7 19192 90366 1	7 19192 17462 7 / 7 19192 90367 8
Limited Warranty	1 year (parts/labor)	1 year (parts/labor)	1 year (parts/labor)

LGSolutions.com



LG
Life's Good

LG Electronics U.S.A., Inc.
HE B2B Division
2000 Millbrook Drive
Lincolnshire, IL 60069

Customer Service: 888.865.3026
www.LGSolutions.com/support

Contact your LG Regional Sales Representative:
Hospitality: 800.228.1236
Channel: 800.897.8871

E-mail: info@LGSolutions.com

SPEC_HCS6150R_071201.PR

Dimensions and weights are approximate. Design, features and specifications subject to change without notice.

© Copyright 2012 LG Electronics USA, Inc. All Rights Reserved. "LG Life's Good" is a registered trademark of LG Corp. Pro:Idiom is a registered trademark and MPI is a trademark of Zenith Electronics Corporation. HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC. All other product and brand names are trademarks or registered trademarks of their respective companies. DIRECTV is a registered trademark of DIRECTV, Inc. DISH, DISH Network, and ViP are registered trademarks of DISH Network LLC.

Printed in the USA. July 2012