Blonder Tongue
ENCODERS

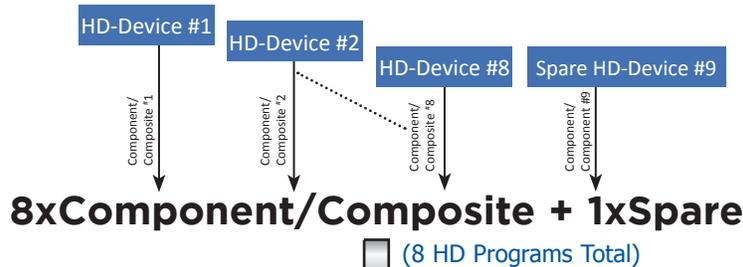# HDE-8C-QAM
MPEG-2 HD ENCODER
8xComponent/Composite to 4xQAM

SOLUTIONS FOR ALL YOUR APPLICATIONS

HDE-8C-QAM (MPEG-2 HD Encoder: 8xComponent/Composite to 4xQAM) accepts up to eight analog programs from any of the following inputs: 8xComponent and 8xComposite. The encoder is equipped with a spare input (9th input) to replace any one of the primary eight inputs in the event of a failure.

The encoder digitizes, MPEG-2 encodes each input into a high-definition stream, multiplexes the resulting eight streams, and then modulates them onto four adjacent QAM channels in the 54-1002 MHz range (CATV 2-158). Any one of the four QAM outputs is also available in ASI format.

The encoder supports Dolby® Digital audio encoding, and Closed Captioning (EIA-608) for each of the eight encoded programs. It is also equipped with an Emergency Alert System (EAS) interface consisting of a composite video and L/R audio program input. EAS triggering is via a 5-12 VDC input or dry contact closure available from most EAS receivers. A front-panel RF test point allows for monitoring/testing of the QAM output without service interruption. Comprehensive remote monitoring and control is accomplished using any standard Web browser via a rear-panel 10/100Base-T Ethernet connection.

HD-Device #1 HD-Device #2 HD-Device #8 Spare HD-Device #9

Component/Composite #1 Component/Composite #2 Component/Composite #8 Component/Component #9

8xComponent/Composite + 1xSpare

(8 HD Programs Total)

HD-8C-QAM
HD ENCODER 8 COMPONENT QAM

HD MPEG-2 Encoding
DOLBY® Digital Audio Encoding

1xASI   **4xQAM**   (8 HD Programs)

Enlarged Section of Rear Panel

Features

• Accepts up to 8 programs from any of the following inputs: 8xComponent and 8xComposite
• Supports additional 1 spare input to replace the failed input
• Digitizes, MPEG-2 encodes, and multiplexes up to 8 inputs into 4 QAM output channels (2 programs per QAM channel)
• Provides any 1 of the 4 QAM output streams in ASI format
• Configurable to ITU-T J.83 Annex A and B digital QAM formats
• Provides comprehensive GUI-based monitoring and control via standard Web browsers
• Provides a front-panel RF test point (at 20 dB below primary QAM output)
• Equipped with EAS interface (Analog Video + L/R Audio) and triggering compatible with all EAS receivers
• Supports Real-time Dolby® Digital audio encoding
• Supports Closed Captioning EIA-608 for each of the 8 encoded programs
• Supports user-defined PSIP configuration

Ordering Information

Model	Stock #	Description
HDE-8C-QAM	6370	8xComponent + 8xComposite + 1xSpare inputs; 4xQAM + 1xASI outputs; EAS compatible

Made in U.S.A.

Specifications

Input

Component

Primary Connectors:	8 sets each 3x RCA for Video (Y, Pb, Pr)
	8 sets each 2x RCA for Analog Audio (L, R)
Spare Connectors:	3x RCA for Video (Y, Pb, Pr)
	2x RCA for Analog Audio (L, R)
Video Resolution:	480i, 720p, & 1080i
Video Aspect Ratio:	4:3 & 16:9

Composite Video

Primary Connectors:	8 sets each 1x RCA for Video (Y)
	8 sets each 2x RCA for Analog Audio (L,R)
	(shared with component connectors)
Spare Connectors:	1x RCA for Video (Y)
	2x RCA for Analog Audio (L,R)
	(shared with component connectors)
Video Resolution:	480i

EAS (Emergency Alert System)

Connectors:	3x RCA (Video, Audio L & R)
Trigger Mechanism:	5-12 VDC & Dry Contact Closure (Terminal Strip)

Encoding Profile

Video

Output Format:	MPEG-2 HD MP@ML; ISO 13818-2
Chroma:	4:2:0
Resolution:	480i, 720p, & 1080i
Frame rate:	29.97 fps (480i); 29.97 fps (1080i); 59.97 fps (720p)
Aspect Ratio:	4:3 & 16:9
GOP Structure:	I & P frames (user-selectable)
Transport Rate:	Variable (user-selectable)
Video Bit Rate:	Variable (user-selectable)
Video Pre-filter:	Variable (user-selectable)

Audio

Output Format:	Dolby® Digital
Sampling rate:	48 kHz
Bit rate:	Variable; 128-320 Kbps (user-selectable)

Closed Captioning

Component:	EIA- 608; 1x RCA (CC)
Composite:	EIA-608

Output

QAM

Connector:	1x "F" Female (rear panel; up to 4x RF QAM ch. combined)
Modulation:	QAM 16, 32, 64, 128, and 256
Standards:	ITU-T J.83; Annex A and B
DVB Symbol Rate:	Variable; up to 7 MSymbol/sec (MBaud)
Frequency Range:	54 to 1002 MHz
Tuning:	CATV Channel Selectable (CH. 2 to 158)
Channel Bandwidth:	24 MHz (4x Adjacent 6 MHz)
RF Level:	+40 dBmV ± 1 dB (4 channels combined)
RF Level Adjustment Range:	+35 to +42 dBmV, 1 dB increments
Frequency Tolerance:	± 0.5 kHz @ 77 °F (25 °C)
Frequency Stability:	± 5 kHz over 32 to 122 °F (0 to 50 °C)
Amplitude Flatness:	± 0.25 dB (over 6 MHz channel)
Phase Noise:	-98 dBc (@ 10 kHz)
Spurious:	-60 dBc
Broadband Noise:	-70 dBc (@ +40 dBmV output level, 5.5 MHz bandwidth)
Impedance:	75 Ω
Spectral Inversion:	Auto Recognition
Carrier Suppression:	45 dB
Return Loss:	14 dB typical
Signal-to-Noise Ratio (SNR):	40 dB typical
MER:	39 dB typical
I/Q Phase Error:	Less than 1 degree
I/Q Amplitude Imbalance:	Less than 1%

ASI

Connector:	1x BNC (front-panel)
Output Assignment:	Any 1 of 4 QAM output streams
Format:	DVB-ASI
Standard:	ETSI EN 50083-9

General

Dimensions (W x D x H):	19.0 x 19.5 x 3.5 inches (483 x 495 x 89 mm)
Power:	110 - 230 VAC, 50/60 Hz (Fuse: 4.0A, 250 VDC, Slo Blo)
Power Dissipation:	~60 W (max)
Weight:	~15 lbs (6.8 kg)
Operating Temperature:	32 to 122 °F (0 to 50 °C)
Storage Temperature:	-13 to 158 °F (-25 to 70 °C)
Operating Humidity:	0 to 95% RH @ 35 °C max, non-condensing
Storage Humidity:	0 to 95% RH @ 35 °C max, non-condensing

Alarms/Monitoring/Control

Local Monitoring:	16x Input Status LEDs (Video 1-8; Audio 1-8)
	2x Spare LEDs (Video & Audio)
	1x Power LED
Local Control:	1x "F" Female RF Test Port
	1x IP Reset button
Remote Monitoring/Control:	GUI-based menu via Web browser
	(1x RJ45 connector; 10/100Base-T)

Related Products

Model	Description
HDE-4S-QAM	MPEG-2 HD Encoder; 4xHD-SDI + 4xComponent inputs; 4xQAM + 4xASI + 4xGigE outputs; EAS compatible; 1RU
HDE-CHV-QAM	MPEG-2 HD Encoder; 1xComponent/HDMI/VGA/Composite inputs; 1xQAM + 1xASI + 1xIP outputs
HDE-CSV-QAM	MPEG-2 HD Encoder; 1xComponent/HD-SDI/HDMI/VGA/Composite inputs; 1xQAM + 1xASI + 1xIP outputs
HDE-2H/2S-QAM	MPEG-2 HD Encoder; 2xHDMI + 2xHD-SDI + 2xComponent/Composite inputs; 4xQAM + 4xIP + 4xASI outputs; EAS; 1RU