

HDE-8C-QAM

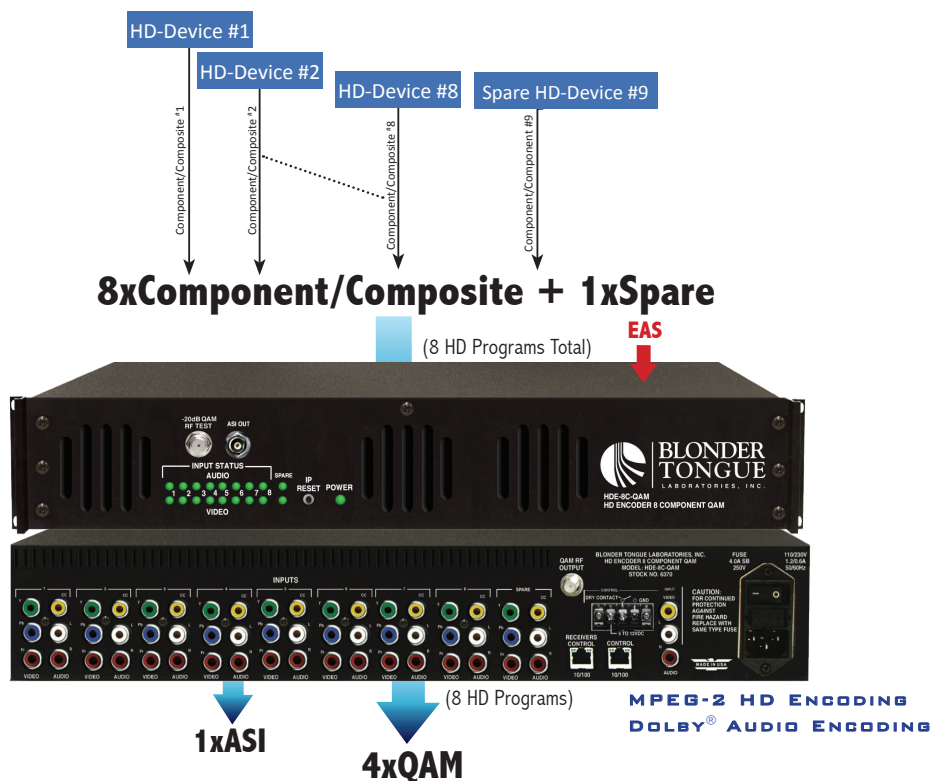
MPEG-2 HD Encoder 8x Component/Composite ► 4x QAM

HDE-8C-QAM (MPEG-2 HD Encoder – 8xComponent/Composite – 4xQAM) accepts up to eight (8) 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 (1) of the primary eight (8) inputs in the event of a failure.

The encoder digitizes, MPEG-2 encodes each input into a high-definition stream, multiplexes the resulting eight (8) streams, and then modulates them onto four (4) adjacent QAM channels in the 54-1002 MHz range (CATV 2-158). Any one (1) of the four (4) QAM outputs is also available in ASI format. The encoder supports Dolby® Digital audio encoding, and Closed Captioning (EIA-608). It is also equipped with an Emergency Alert System (EAS) interface. 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.

Optional software upgrade (Stock # 6371) enables the encoder to (i) accept eight (8) analog programs from DishNetwork's ViP211k satellite receivers, (ii) automatically switch over to any of the primary eight (8) receivers in the event of failure to maintain the program stream, and (iii) provide remote monitoring and control of up to nine (9) DishNetwork's ViP211K satellite receivers through UPnP protocol using a standard Web browser via a rear-panel 10/100Base-T Ethernet connection.



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
- Compatible with ITU 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)
- Supports Real-time Dolby® Digital audio encoding
- Supports Closed Captioning EIA-608
- Supports user-defined PSIP configuration

HDE-8C-QAM

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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

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

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 +45 dBmV, 1 dB increment
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

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)

ORDERING INFORMATION

	Stock #	Description
HDE-8C-QAM	6370	MPEG-2 HD Encoder; 8xComponent + 8xComposite + 1xSpare inputs; 4xQAM + 1xASI outputs; EAS compatible
	6371	OPTION-1 MPEG-2 HD Encoder for DishNetwork's ViP211k Satellite Receivers