

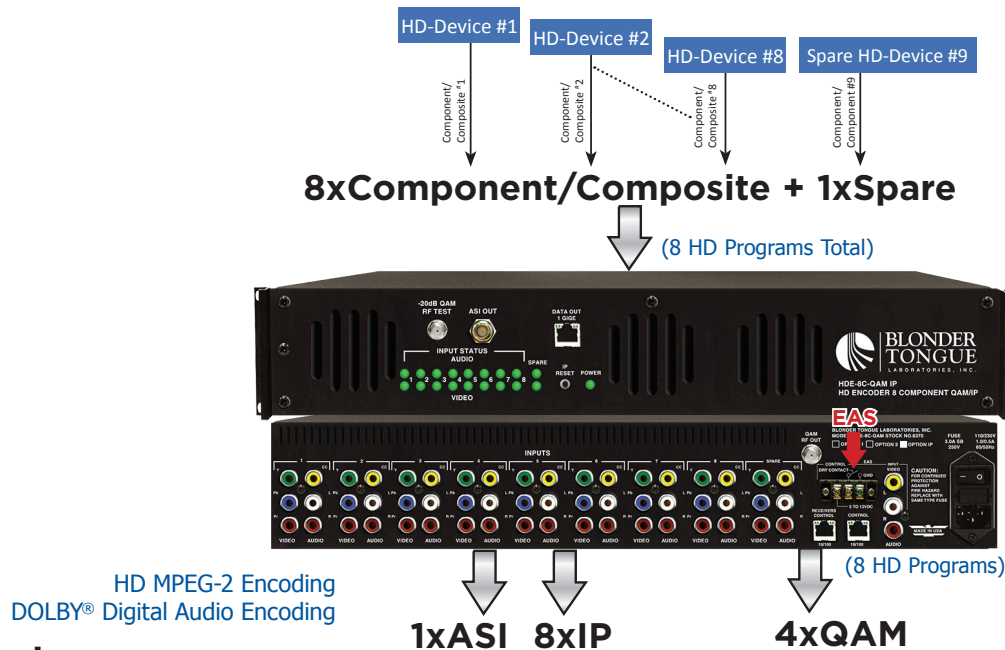
# HDE-8C-QAM/IP

## MPEG-2 HD Encoder 8-Component/Composite to 4-QAM/8-IP

**HDE-8C-QAM/IP (MPEG-2 HD Encoder: 8xComponent/Composite to 4xQAM/8xIP)** 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.



### 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 8 SPTS IP outputs
- 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/IP	6370 IP	8xComponent + 8xComposite + 1xSpare inputs; 4xQAM+ 8xIP+ 1xASI outputs; EAS compatible

# HDE-8C-QAM/IP

## MPEG-2 HD Encoder 8-Component/Composite to 4-QAM/8-IP

### Input

<b>Component</b>	8 sets each 3x RCA for Video (Y, Pb, Pr) 8 sets each 2x RCA for Analog Audio (L, R)
<b>Primary Connectors:</b>	8 sets each 3x RCA for Video (Y, Pb, Pr) 8 sets each 2x RCA for Analog Audio (L, R)
<b>Spare Connectors:</b>	3x RCA for Video (Y, Pb, Pr) 2x RCA for Analog Audio (L, R)
<b>Video Resolution:</b>	480i, 720p, & 1080i
<b>Video Aspect Ratio:</b>	4:3 & 16:9
<b>Composite Video</b>	
<b>Primary Connectors:</b>	8 sets each 1x RCA for Video (Y) 8 sets each 2x RCA for Analog Audio (L,R) (shared with component connectors)
<b>Spare Connectors:</b>	1x RCA for Video (Y) 2x RCA for Analog Audio (L,R) (shared with component connectors)
<b>Video Resolution:</b>	480i
<b>EAS (Emergency Alert System)</b>	
<b>Connectors:</b>	3x RCA (Video, Audio L & R)
<b>Trigger Mechanism:</b>	5-12 VDC & Dry Contact Closure (Terminal Strip)

<b>Encoding Profile</b>	
<b>Video</b>	
<b>Output Format:</b>	MPEG-2 HD MP@ML; ISO 13818-2
<b>Chroma:</b>	4:2:0
<b>Resolution:</b>	480i, 720p, & 1080i
<b>Frame rate:</b>	29.97 fps (480i); 29.97 fps (1080i); 59.97 fps (720p)
<b>Aspect Ratio:</b>	4:3 & 16:9
<b>GOP Structure:</b>	I & P frames (user-selectable)
<b>Transport Rate:</b>	Variable (user-selectable)
<b>Video Bit Rate:</b>	Variable (user-selectable)
<b>Video Pre-filter:</b>	Variable (user-selectable)
<b>Audio</b>	
<b>Output Format:</b>	Dolby® Digital
<b>Sampling rate:</b>	48 kHz
<b>Bit rate:</b>	Variable; 128-320 Kbps (user-selectable)
<b>Closed Captioning</b>	
<b>Component:</b>	EIA- 608; 1x RCA (cc)
<b>Composite:</b>	EIA-608

### Output

<b>QAM</b>	
<b>Connector:</b>	1x "F" Female (rear panel; up to 4x RF QAM ch. combined)
<b>Modulation:</b>	QAM 16, 32, 64, 128, and 256
<b>Standards:</b>	ITU-T J.83; Annex A and B
<b>DVB Symbol Rate:</b>	Variable; up to 7 MSymbol/sec (MBAud)
<b>Frequency Range:</b>	54 to 1002 MHz
<b>Tuning:</b>	CATV Channel Selectable (CH. 2 to 158)
<b>Channel Bandwidth:</b>	24 MHz (4x Adjacent 6 MHz)
<b>RF Level:</b>	+40 dBmV ± 1 dB (4 channels combined)
<b>RF Level Adjustment Range:</b>	+35 to +42 dBmV, 1 dB increments
<b>Frequency Tolerance:</b>	± 0.5 kHz @ 77 °F (25 °C)
<b>Frequency Stability:</b>	± 5 kHz over 32 to 122 °F (0 to 50 °C)
<b>Amplitude Flatness:</b>	± 0.25 dB (over 6 MHz channel)
<b>Phase Noise:</b>	-98 dBc (@ 10 kHz)
<b>Spurious:</b>	-60 dBc
<b>Broadband Noise:</b>	-70 dBc (@ +40 dBmV output level, 5.5 MHz bandwidth)
<b>Impedance:</b>	75 Ω
<b>Spectral Inversion:</b>	Auto Recognition
<b>Carrier Suppression:</b>	45 dB
<b>Return Loss:</b>	14 dB typical
<b>Signal-to-Noise Ratio (SNR):</b>	40 dB typical
<b>MER:</b>	39 dB typical
<b>I/Q Phase Error:</b>	Less than 1 degree
<b>I/Q Amplitude Imbalance:</b>	Less than 1%
<b>ASI</b>	
<b>Connector:</b>	1x BNC (front-panel)
<b>Output Assignment:</b>	Any 1 of 4 QAM output streams
<b>Format:</b>	DVB-ASI
<b>Standard:</b>	ETSI EN 50083-9
<b>GigE</b>	
<b>Connector:</b>	1xRJ45 (front panel)
<b>Standard:</b>	1000BASE-T Ethernet
<b>UDP/RTP:</b>	Supported (user-selectable)
<b>Address Assignment:</b>	8xIPv4 Address and port numbers (user-selectable)

### General

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

### Alarms/Monitoring/Control

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