

**SOLUTIONS FOR ALL YOUR APPLICATIONS**

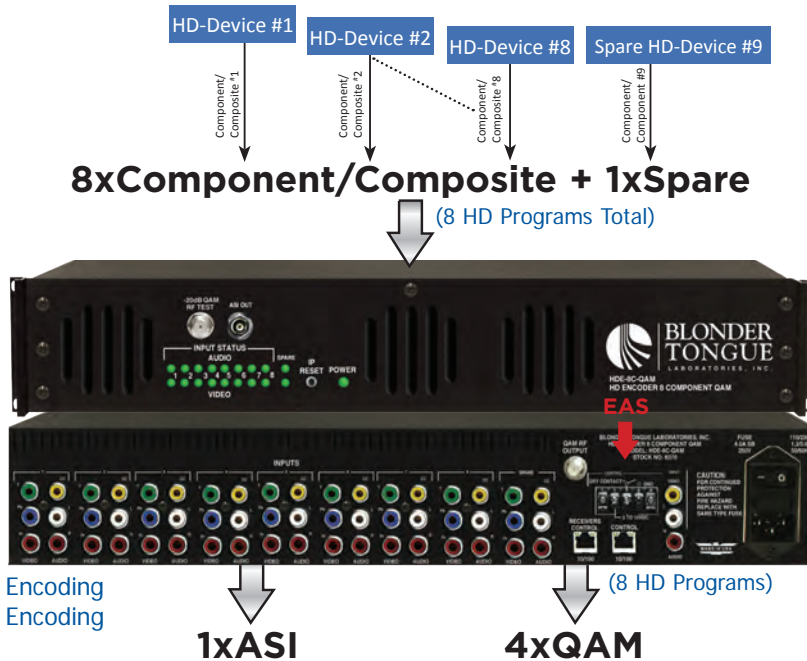
**HDE-8C-QAM (MPEG-2 HD Encoder: 8xComponent/Composite to 4xQAM)** accepts up to eight (8) analog programs from any of the following inputs: 8xComponent and 8xComposite. The encoder is equipped with a spare input (9th input) to replace any one (1) of the primary eight (8) inputs in the event of a failure.

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.

The encoder (i) accepts eight (8) analog programs from DIRECTV Network's H25-100 satellite receivers, (ii) automatically switches over to any of the primary eight (8) receivers in the event of failure to maintain the program stream, and (iii) provides remote monitoring and control of up to nine (9) DIRECTV Network's H25-100 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

**Ordering Information**

Model	Stock #	Description
HDE-8C-QAM	6370	8xComponent + 8xComposite + 1xSpare inputs; 4xQAM + 1xASI outputs; EAS compatible
	<b>6370 2</b>	<b>For DIRECTV Network's H25-100 Satellite Receivers</b>

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# Specifications

## Input

<b>Component</b>	
<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 +45 dBmV, 1 dB increment
<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

## 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) UPNP control of STB receivers (1x RJ45 connector; 10/100Base-T)

## Related Products

Model	Description
HD264-2S-IP	H.264 HD Encoder; 2xHD-SDI + 2xHDMI + 2xComponent inputs; 2xIP + 4xASI outputs; 1RU
HDE-2H/2S-QAM	MPEG-2 HD Encoder; 2xHDMI + 2xHD-SDI + 2xComponent/Composite inputs; 4xQAM + 4xIP + 4xASI outputs; EAS; 1RU
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

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