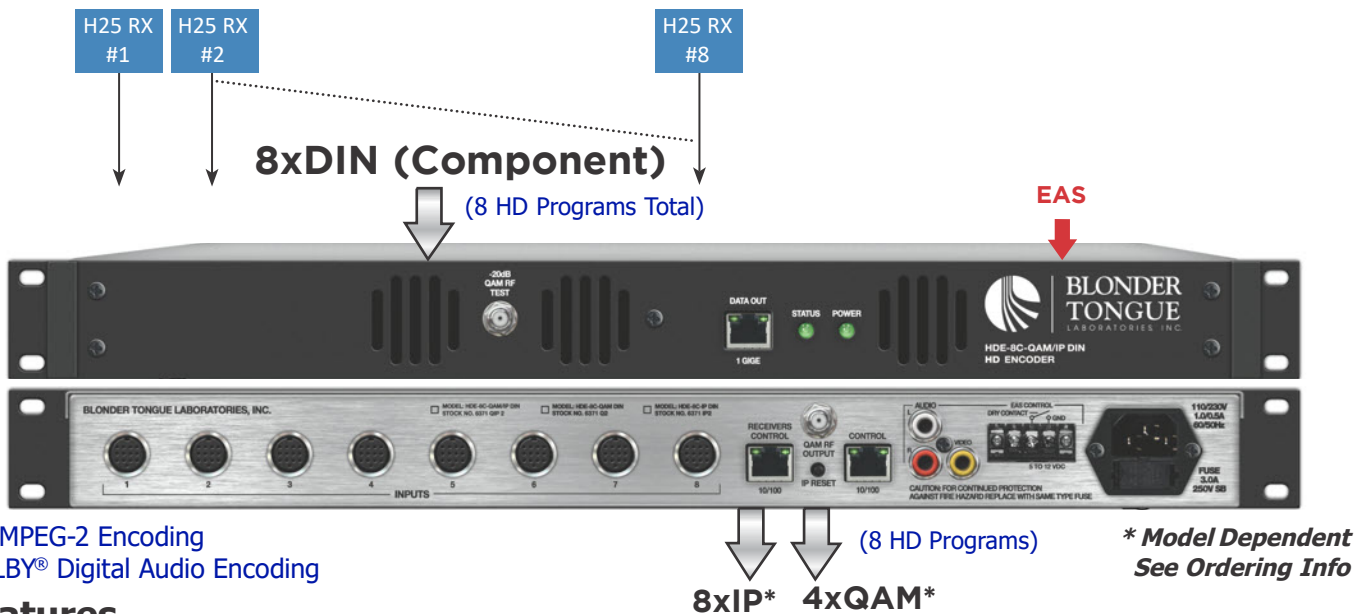# HDE-8C DIN Series w/Opt2
MPEG-2 HD ENCODER
8xDIN (Component) to 4xQAM/8xIP*

The **HDE-8C DIN Series** of encoders offers the ability to deliver eight (8) HD programs in just 1RU to preserve valuable rack space. The encoder is designed to be seamlessly interconnected to eight (8) DIRECTV H25 satellite receivers using factory supplied DIN cables (Quantity 8; Stock# 3703).

The unit digitizes and MPEG-2 encodes each input into a high-definition stream. The eight (8) program streams are multiplexed and then modulated onto four adjacent watermarked QAM* channels in the 54-1002 MHz range (CATV 2-158). Models equipped with an IP output provide 8xSPTS with watermarking.

The encoder supports Dolby$^®$ Digital audio encoding and Closed Captioning (EIA-608) for each of the eight encoded programs. An Emergency Alert System (EAS) interface consisting of a composite video and L+R audio program input is provided on all models. Comprehensive remote monitoring and control of the encoder, as well as the H25 receivers are accomplished using any standard Web browser via a rear-panel 10/100Base-T Ethernet connection.

HD MPEG-2 Encoding
DOLBY® Digital Audio Encoding

Features

- Accepts 8 HD programs from DIN inputs (Receiver to encoder DIN cables are included)
- Digitizes, MPEG-2 encodes, and modulates up to 8 inputs into 4xQAM* output channels (2 programs per QAM channel)
- Configurable to ITU-T J.83 Annex A and B digital QAM formats
- Provides 8xSPTS outputs on IP equipped models
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Provides a front-panel -20dB RF test point (QAM models only)
- 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

Blonder Tongue is ISO 9001:2008 Certified
Dolby® is a registered trademark of Dolby Laboratories.

Ordering Information

Model	Stock #	Description
HDE-8C-QAM/IP DIN	6371 QIP 2	MPEG-2 HD Encoder for DIRECTV H25 Receivers; 4xQAM + 8xIP outputs
HDE-8C-QAM-DIN	6371 Q 2	MPEG-2 HD Encoder for DIRECTV H25 Receivers; 4xQAM outputs
HDE-8C-IP DIN	6371 IP 2	MPEG-2 HD Encoder for DIRECTV H25 Receivers; 8xIP outputs
H258C DIN CABLE	3703	DIN Cable; 13 to 10 Pin with Digital Audio RCA; 24" long

* Model Dependent

Specifications

Input

Component
Connectors:	8xDIN (13 pin); each DIN socket provides connections for component video, L/R audio, digital audio and Closed Captioning
Video Resolution:	480i, 720p, & 1080i
Video Aspect Ratio:	4:3 & 16:9

EAS (Emergency Alert System)
Connectors:	3xRCA (Video, Audio L & R)
Trigger Mechanism:	5-12 VDC & Dry Contact Closure (Terminal S trip)

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); 59.97 fps (720p); 29.97 fps (1080i)
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; 96-448 Kbps (user-selectable)

Closed Captioning
Connector:	via DIN
Component:	EIA- 608

General
Dimensions (W x D x H):	19.0 x 16.0 x 1.75 inches (483 x 406 x 45mm)
Power:	110- 230 VAC, 50 /60 Hz (Fuse: 4.0 A, 250 VDC, Slo Blo)
Power Dissipation:	~ 60W
Weight:	~ 72 lbs (327 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 M Symbol/sec (M Baud)
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 Adj 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:	75Ω
Spectral Inversion:	Auto Recognition
Carrier Suppression:	45 dB
Return Loss:	14 dB typical
SNR:	40 dB typical
MER:	39 dB typical
I/Q Phase Error:	Less than 1 degree
I/Q Amplitude Imbal.:	Less than 1%

GigE *
Connector:	1xRJ45 (front panel)
Standard:	1000Base-T Ethernet
UDP/RTP:	Supported (user-selectable)
Address Assignment:	8xIP v4 Address and port numbers (user-selectable)

Alarms/Monitoring/Control
Local Monitoring:	1x Status LED
	1x Power LED
	1x "F" Female RF Test Port (QAM Models Only)
Local Control:	1x IP Reset button
Remote Monitoring/Control:	GUI-based menu via Web browser (1x RJ45 connector; 10 /100 Base-T)

* Model Dependent

Related Products

Model	Description
BaR GameChanger	Blonder Tongue's Free iOS/Android App provides personalized TV control service for Bars & Restaurants allowing control all viewing locations with this easy-to-use, easy-to-configure app that runs on wi-fi.
BT-HE-DASHBOARD	Headend Controller for HDE-8C-QAM encoders (Future updates to include AQT8-QAM/IP transcoders, HDE-CSV-QAM/IP and HDE-CHV-QAM/IP encoders)
HDE-8C-QAM	MPEG-2 HD Encoder; 8xComponent/Composite + 1xSpare inputs; 4xQAM + 1xASI outputs; EAS compatible
AQT8-QAM/IP	ATSC/QAM Transcoder; 8xATSC/QAM inputs; IP + QAM outputs
HDE-CSV-QAM/IP	MPEG-2 HD Encoder; 1xComponent/HD-SDI/HDMI/VGA/Composite inputs; 1xQAM + 1xASI + 1xIP outputs
HDE-CHV-QAM/IP	MPEG-2 HD Encoder; 1xComponent/HDMI/VGA/Composite inputs; 1xQAM + 1xIP outputs