



**BLONDER
TONGUE**
LABORATORIES, INC.

HDE-2H-QAM

HD ENCODER-HDMI/YPbPr - QAM
2x HDMI/YPbPr ▶ 1x QAM

HDE-2H-QAM (HD Encoder – 2xHDMI/YPbPr – QAM) accepts & auto-detects up to two (2) input streams in unencrypted HDMI & YPbPr (Component) formats. The encoder, when applicable, digitizes & MPEG-2 encodes each input into a high-definition stream (HD-1080i/720p), and then multiplexes the resulting two (2) streams into one (1) output in QAM format in the 5.75-864 MHz range (CATV channels T7-T14 and 2-135). Any combination of input multiplexing is allowed, for example, 2x HDMI, or (1xHDMI)+(1xYPbPr).

The encoder supports Dolby Digital AC-3 encoding & Closed Captioning, and is equipped with an EAS (Emergency Alert System) interface & an ancillary ASI output port. 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 front-panel 10/100BaseT Ethernet connection.



HDE-2C-QAM is identical to HDE-2H-QAM, but it does not support the HDMI input. It accepts only two (2) inputs in YPbPr (Component) format.

FEATURES

- Digitizes, encodes, and multiplexes up to two (2) HDMI and/or YPbPr inputs into one digital QAM output
- Provides sub-band QAM output channels T7-T14 (suitable for digital return-path applications)
- Compatible with NTSC analog format, and ITU Annex A & B digital QAM formats
- Comprehensive GUI-based monitoring and control menu via Web browser
- Real-time Dolby Digital (AC-3) audio encoding
- Provides a front-panel ancillary ASI output
- Supports EIA-608 Closed Captioning
- Supports QAM 1024 Modulation
- Supports PSIP configuration
- Equipped with EAS interface



ORDERING INFORMATION

Model	Stock #	Description
HDE-2H-QAM	6375	HD Encoder - 2xHDMI/YPbPr - QAM, +60 dBmV, 5.75-864 MHz, 115 VAC
	6375-2	As above with 230 VAC input power
HDE-2C-QAM	6377	HD Encoder - 2x YPbPr - QAM, +60 dBmV, 5.75-864 MHz, 115 VAC
	6377-2	As above with 230 VAC input power

SPECIFICATIONS

INPUT

HDMI	Connectors: Video Standard:	Not applicable for HDE-2C-QAM 2x HDMI & 2x RCA (Closed Captioning) 480i – 720x480 720p – Main profile I & P frames; 1280x720 1080i – Main profile I & P frames; 1920x1080
	HDCP Encryption: Audio:	Not supported PCM and pass-through Dolby AC-3
YPbPr (Component)	Connectors:	2 sets each 3x RCA for Video (Y, Pb, Pr) 2 sets each 2x RCA for Analog Audio (L, R) 2 sets each 1x RCA for Digital Audio
	Video Standard: Video Aspect Ratio:	Analog NTSC 16:9 & 4:3
EAS (Emergency Alert System)	Connectors:	3x RCA (Video, Audio L & R); Terminal Strip

Encoding Profile	
Video	Output Format: MPEG-2 HD MP@ML; ISO 13818-2 Chroma: 4:2:0 & 4:2:2 Resolution: 720x480; 1280x720; 1920x1080 Frame rate: 29.97 fps (1080i); 59.97 fps (720p) Aspect Ratio: 16:9, 4:3 GOP Structure: I & P frames (user-selectable) Transport Rate: Variable, user-selectable Video Rate: Variable, user-selectable Video Pre-filter: Variable, user-selectable Intra DC Precision: Variable, user-selectable from 8- to 11-bit Color Space: YCbCr and RGB
Audio	Output Format: Dolby Digital AC-3 Sampling rate: 48 KHz Bit rate: 128-320 Kbps Closed Captioning: EIA-608 supported

GENERAL

Dimensions (W x D x H):	19.0 x 21.0 x 1.75 inches (483 x 496 x 44 mm)
Power:	6375 115 VAC / 60 Hz 6377 115 VAC / 60 Hz 6375-2 230 VAC / 50 Hz 6377-2 230 VAC / 50 Hz
Power Dissipation:	105 W (max)
Weight:	12 lbs (5.4 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

RELATED PRODUCTS

Model	Description
HDE-QAM	HDMI-to-QAM Encoder; 1RU
HDE-ASI	HD/SD-to-ASI Encoder; Supports 1x HD(1080i), or 1x HD(720p) + 2x SD(480i), or 4x SD inputs; 2RU
SD4E-ASI	4x SD -to-ASI Encoder; 2RU
SD10E-QAM	10x SD/AV-to-QAM Encoder; 2RU
AV10E-QAM	10x AV-to-QAM Encoder; 2RU
AQM	ASI-to-QAM Modulator; 6 units in 2 RU

OUTPUT

QAM Connectors	Primary: RF Test Port:	"F" Female "F" Female (@ 20 dB below Primary output)
QAM Modulation Modes:		16, 32, 64, 128, 256, 512, & 1024
DVB Symbol Rate:		Variable; 1 to 7 MSymbols/sec (MBaud)
Frequency Range:		5.75 to 864 MHz, and sub-channel 5.75 to 53.75 MHz
QAM Tuning:		CATV channel numbers T7 to T14 & 2 to 135
RF Level:		+60 dBmV (120 dBμV)
RF Level Accuracy:		± 2 dB
RF Level Range:		50 to 60 dBmV adjustable
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:		-75 dBc (@ +60 dBmV output level, 4 MHz bandwidth)
Impedance:		75 Ω
Return Loss:		12 dB
Spectral Inversion:		Auto Recognition
Carrier Suppression:		55 dB
SNR:		Greater than 40 dB
MER:		Greater than 40 dB
I/Q Phase Error:		Less than 1 degree
I/Q Amplitude Imbalance:		Less than 1%
ASI	Connector: Standard: Transport Rate:	1x BNC (Front-panel) 2x BNC (Rear-panel loop) DVB-ASI: EN 50083-9 270 Mbps

ALARMS/MONITORING/CONTROL

Local Monitoring:	4x Input Status LEDs (Video 1 & 2; Audio 1 & 2) 1x Encoder LED 1x Power LED (Green=On) 1x IP Reset button
Local Control:	1x IP Reset button
Remote Monitoring/Control:	GUI-based menu via Web browser