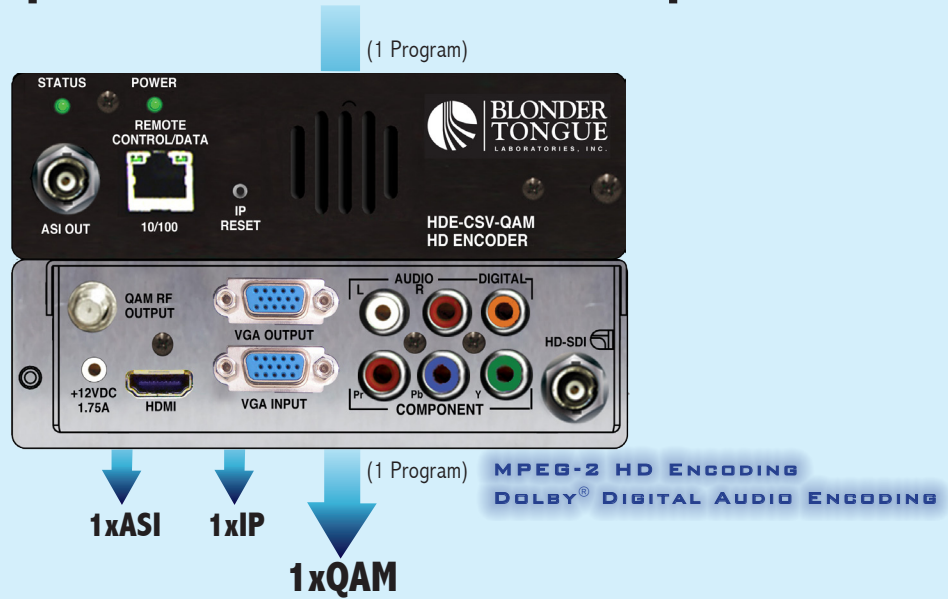




HDE-CSV-QAM (MPEG-2 HD Encoder – 1xComponent/HD-SDI/HDMI/VGA/Composite – 1xQAM) accepts one (1) high-definition (HD) program from any of the following inputs: 1xComponent, 1xHD-SDI, 1xHDMI (unencrypted), 1xVGA, and 1xComposite. MPEG-2 encoded outputs are available in the following formats simultaneously: 1xQAM, 1xASI, and 1xIP (10/100Base-T Ethernet). The QAM RF output is frequency agile over the entire CATV frequency range of 54-1002 MHz (channels 2-158) with an output level of +40 dBmV.

The encoder supports Dolby® Digital audio encoding, and Closed Captioning (EIA-608 and EIA-708). Comprehensive remote monitoring and control is accomplished using any standard Web browser via a front-panel 10/100Base-T Ethernet connection. A rear-panel VGA output port is available for loop-through applications.

1xComponent/HD-SDI/HDMI/VGA/Composite



FEATURES

- Accepts one (1) program from any of the following inputs: 1xComponent, 1xHD-SDI, 1xHDMI (unencrypted), 1xVGA, and 1xComposite
- Simultaneously delivers the following outputs: 1xQAM, 1xASI, and 1xIP
- Provides +40 dBmV QAM RF output level
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Compact design permits installation of up to 3 Encoder modules in 1RU
- Supports Real-time Dolby® Digital audio encoding
- Supports user-defined PSIP configuration
- Supports Closed Captioning EIA-608 and EIA-708

ORDERING INFORMATION

Model	Stock #	Description
HDE-CSV-QAM	6382	MPEG-2 HD Encoder; 1xComponent/HD-SDI/HDMI/VGA/Composite inputs; 1xQAM+1xASI+1xIP outputs
HDE-3MCH	6389	1RU Rack mount chassis; holds 3 HDE-CSV-QAM modules



SPECIFICATIONS

INPUT

Component	Connectors: 3x RCA for Video (Y, Pb, Pr) 2x RCA for Analog Audio (L, R) 1x RCA for Digital Audio (PCM)
Video Resolution: Video Aspect Ratio:	480i, 720p, & 1080i 4:3 & 16:9
HD-SDI	Connector: 1x BNC Standard: SMPTE 292M Video Resolution: 480i, 720p, & 1080i Audio: Embedded PCM and pass-through Dolby® Digital only
HDMI	Connector: 1x HDMI Video Resolution: 480i, 720p, & 1080i HDCP Encryption: Not supported Audio: Embedded PCM & pass-through Dolby® Digital only
VGA	Connectors: 2x Female VGA (Input + Loop-through Output) Video Resolution: 640x480 @ 60 fps 800x600 @ 60 fps 1024x768 @ 60 fps Audio: 2x RCA for Analog Audio (L, R) 1x RCA for Digital Audio (PCM)
Composite	Connectors: 1x RCA for Video (Y) Video Resolution: 480i Audio: 2x RCA for Analog Audio (L, R) 1x RCA for Digital Audio (PCM)

Encoding Profile	
Video	Output Format: MPEG-2 HD MP@ML; ISO 13818-2 Chroma: 4:2:0 Resolution: 720x480; 1280x720; 1920x1080 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) Intra DC Precision: Variable; 8-11 bit (user-selectable) Color Space: YCbCr and RGB
Audio	Output Format: Dolby® Digital AC-3 Sampling rate: 48 kHz Bit rate: Variable; 96 - 448 Kbps (user-selectable)
Closed Captioning	Component: EIA- 608; 1x RCA (cc) HD-SDI: EIA-708; Embedded in HD-SDI input HDMI: EIA- 608; 1x RCA (cc) Composite: EIA- 608

RELATED PRODUCTS

Model	Description
HDE-CHV-QAM	MPEG-2 HD Encoder; 1xComponent/HDMI/VGA/Composite inputs; 1xQAM+1xASI+1xIP outputs
HDE-2H/2S-QAM	MPEG-2 HD Encoder; 2xHDMI + 2xHD-SDI +4xComponent inputs; 4xQAM + 4xGigE + 4xASI outputs; EAS compatible; 1RU
HDE-4S-QAM	MPEG-2 HD Encoder; 4xHD-SDI + 4xComponent inputs; 4xQAM + 4xGigE + 4xASI outputs; EAS compatible; 1RU
HD264-2S-IP	H.264 HD Encoder; 2xHD-SDI + 2xHDMI + 2xComponent inputs; 2xIP + 4xASI outputs; 1RU
HDE-ASI	HD/SD Encoder; 1xHD-SDI + 4xSD-SDI + 4xAV inputs; 1xASI output; 2RU
SD10E-QAM	SD Encoder; 10xSD-SDI + 10xAV inputs; 1xQAM output; EAS compatible; 2RU
AV10E-QAM	SD Encoder; 10xAV inputs; 1xQAM + 1xASI outputs; EAS compatible; 2RU

OUTPUT

QAM	Connector: 1x "F" Female (Rear-panel) 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) Channels' Bandwidth: 6 MHz RF Level: +40 dBmV ±1 dB RF Level Adjustment: +32 to +42 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 (@ +35 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: 40 dB typical I/Q Phase Error: Less than 1 degree I/Q Amplitude Imbalance: Less than 1%
ASI	Connectors: 1x BNC (Front-panel) Format: DVB-ASI Standard: ETSI EN 50083-9
IP	Connector: 1x RJ45 (Front-panel) Standard: 10/100Base-T Ethernet UDP/RTP: Supported (user-selectable)

GENERAL

Dimensions (W x D x H):	5.65 x 12.5 x 1.75 inches (144 x 317.5 x 44.5 mm)
Power:	External Power Supply (Input 115-230VAC / Output 12VDC @ 3 Amp)
Power Dissipation:	20 W
Weight (one module):	1.5 lbs (0.7 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

ALARMS/MONITORING/CONTROL

Local Monitoring:	1x Status LED 1x Power LED
Local Control:	1x IP Reset button
Remote Monitoring/Control:	GUI-based menu via standard Web browsers (1x RJ45 front-panel connector; 10/100Base-T, also used for IP output)