



# Blonder Tongue

# SDE-4AV-QAM

## MPEG-2 Enhanced SD Encoder

### 4xNTSC AV to 1xQAM/ASI/IP

## SOLUTIONS FOR ALL YOUR APPLICATIONS

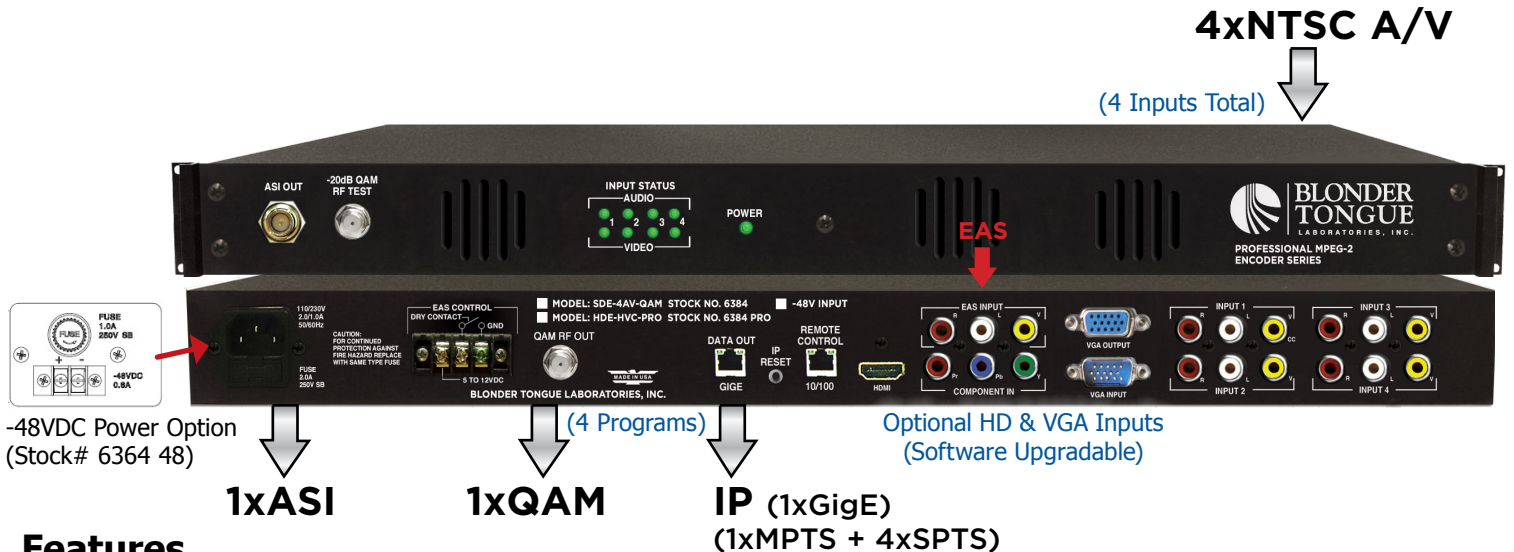
**SDE-4AV-QAM (MPEG-2 Enhanced SD Encoder)** provides superior Standard Definition (SD) encoding allowing the operator to use low video bit rates freeing up valuable bandwidth, while preserving video quality.

The unit accepts up to four (4) standard-definition (SD) input programs in NTSC baseband Audio/Video format. Each input program is digitized and MPEG-2 encoded, and the outputs are available in the following formats simultaneously: 1xQAM, 1xASI, and IP (GigE; 1xMPTS + 4xSPTS).

The encoder supports Dolby® Digital audio encoding, and Closed Captioning (EIA-608). It is also equipped with an Emergency Alert System (EAS) interface, accepting NTSC video and baseband L/R audio for EAS signal inputs. 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.

Easy HD migration can be achieved with the optional HD-PRO software upgrade (6364 LIC). This field-installable option enables the unit to be configured in either HD or SD mode via its web interface. When operating in HD mode (with the HD-PRO software upgrade), the encoder accepts one (1) program from any one of the following inputs: 1xHDMI (unencrypted), 1xVGA or 1xComponent.



### Features

- Enhanced SD performance for low video bit rates
- Accepts up to four (4) programs in NTSC baseband A/V format
- Simultaneously delivers the following outputs: 1xQAM, 1xASI, and IP (GigE; 1xMPTS + 4xSPTS)
- Supports optional HD software upgrade to accept one program from any of the following inputs: 1xHDMI (unencrypted), 1xVGA, or 1xComponent
- 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)
- Configurable to ITU-T J.83 Annex A and B digital QAM formats
- 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
SDE-4AV-QAM	6364	MPEG-2 SD Encoder; 4xAV inputs; 1xQAM + 1xASI + IP outputs; EAS compatible
	6364 48	MPEG-2 SD Encoder; -48 VDC Power
SDE-4AV-HD-LIC	6364 LIC	HD-PRO software upgrade for SDE-4AV-QAM. After upgrading, the unit becomes a HDE-HVC-PRO. See Related Products on reverse side.

**Made in U.S.A.**

**Rev: 092614**  
Dolby® is a registered trademark of Dolby Laboratories.

# Specifications

## Input

<b>NTSC</b>	<b>Connectors:</b> 4x RCA for Analog Video 4 sets each 2x RCA for Analog Audio (L, R)
	<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 SD MP@ML; ISO 13818-2
<b>Chroma:</b>	4:2:0
<b>Resolution:</b>	480i
<b>Frame rate:</b>	29.97 fps (480i)
<b>Aspect Ratio:</b>	4:3
<b>GOP Structure:</b>	I & P frames (user-selectable)
<b>Transport Rate:</b>	Variable (user-selectable)
<b>Video Rate:</b>	Variable (user-selectable)
<b>Video Pre-filter:</b>	Variable (user-selectable)
<b>Color Space:</b>	YCbCr and RGB
<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>NTSC:</b>	EIA-608; Embedded in NTSC input

## Optional Inputs (Requires HD-PRO Software Upgrade)

<b>HDMI</b>	<b>Connectors:</b> 1x HDMI
	<b>Video Resolution:</b> 480i, 720p, & 1080i
	<b>HDCP Encryption:</b> Not supported
	<b>Audio:</b> Embedded PCM & pass-through Dolby® Digital only
<b>VGA</b>	<b>Connectors:</b> 2x Female VGA (Input + Loop-through Output)
	<b>Video Resolution:</b> 640x480 @ 60 fps 800x600 @ 60 fps 1024x768 @ 60 fps
	<b>Audio:</b> 2x RCA for Analog Audio (L, R)
<b>Component</b>	<b>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

## Output

<b>QAM</b>	<b>Connector:</b> 1x "F" Female (Rear-panel)
	<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>Channels' Bandwidth:</b> 6 MHz
	<b>RF Level:</b> +40 dBmV
	<b>RF Level Adjustment:</b> +32 to +42 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> 40 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>Connectors:</b> 1x BNC (Front-panel)
	<b>Format:</b> DVB-ASI
	<b>Standard:</b> ETSI EN 50083-9
<b>GigE</b>	<b>Connector:</b> 1x RJ45 (Rear-panel)
	<b>Standard:</b> 1000Base-T Ethernet
	<b>UDP/RTP:</b> Supported (user-selectable)

## General

<b>Dimensions (W x D x H):</b>	19.0 x 18.125 x 1.75 inches (483 x 460 x 44 mm)
<b>Power:</b>	<b>Stock # 6364:</b> 110-230VAC, 60/50 Hz (fuse 2.0A, 250V, SloBlo)
	<b>Stock # 6364 48:</b> -48 VDC (Fuse: 1.0A, 250V, SloBlo)
<b>Power Dissipation:</b>	~40 W (max)
<b>Weight:</b>	~10 lbs (4.5 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>	8x Input Status LEDs (Video 1-4; Audio 1-4) 1x Power LED 1x "F" Female RF Test Port 1x IP Reset button
<b>Local Control:</b>	1x IP Reset button
<b>Remote Monitoring/Control:</b>	GUI-based menu via Web browser (1x RJ45 rear-panel connector; 10/100Base-T)

## Related Products

Model	Description
HDE-HVC-PRO	Professional Series MPEG-2 HD Encoder; 1xHDMI/VGA/Component/Composite inputs; 1xQAM + 1xASI + IP outputs
HDE-CSV-QAM	MPEG-2 HD Encoder; 1xComponent/HD-SDI/HDMI/VGA/Composite inputs; 1xQAM+1xASI+1xIP outputs
HDE-CHV-QAM	MPEG-2 HD Encoder; 1xComponent/HDMI/VGA/Composite inputs; 1xQAM+1xASI+1xIP outputs
HDE-4S-QAM	HD Encoder; 4xHD-SDI + 4xComponent inputs; 4xQAM + 4xASI + 4xGigE outputs; EAS compatible; 1RU
HDE-2H/2S-QAM	HD Encoder; 2xHDMI + 2xHD-SDI + 4xComponent inputs; 4xQAM + 4xASI + 4xGigE outputs; EAS compatible; 1RU