# HDE-HVC-PRO

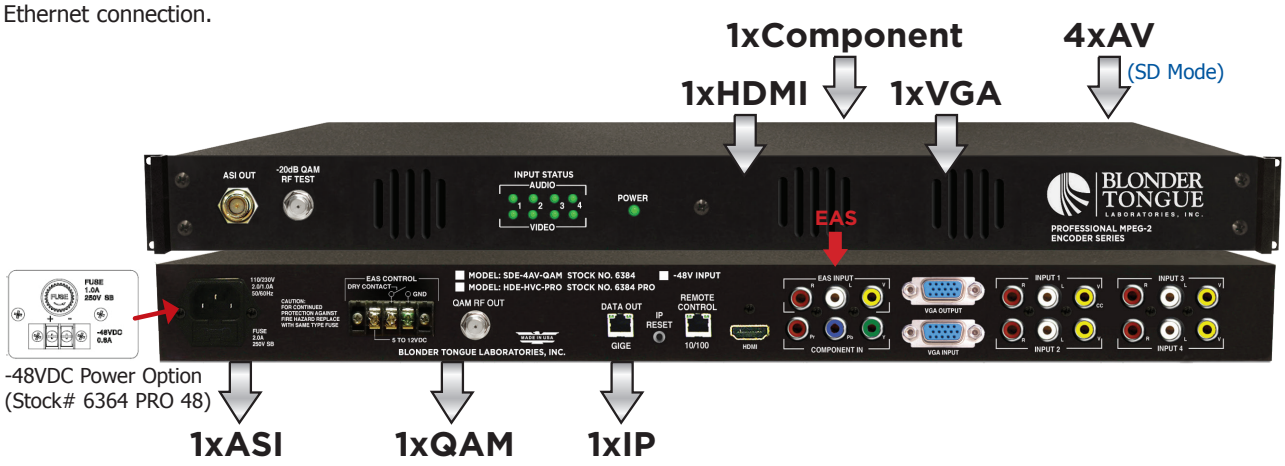
## Professional MPEG-2 HD/SD Encoder 1-HDMI/VGA/Component to 1-QAM/ASI/IP

**HDE-HVC-PRO (Professional Series MPEG-2 HD/SD Encoder)** is especially designed to deliver superior motion optimization for programming such as fast-paced live sporting events and is configurable in either HD or SD mode via its web interface.

When operating in HD Mode, the encoder accepts one (1) program from any one of the following inputs: 1xHDMI (unencrypted), 1xVGA or 1xComponent. In SD Mode the encoder accepts up to four (4) standard-definition (SD) input programs in NTSC baseband Audio/Video format. Each AV input program is digitized, MPEG-2 encoded, and then multiplexed into one Multi-Program Transport Stream (MPTS). The output (in either HD or SD Mode) is available in the following formats simultaneously: 1xQAM, 1xASI, and 1xIP (GigE; HD-SPTS, SD-MPTS).

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.




## Features

**HD Mode:**

- Accepts one (1) program from any of the following inputs: 1xHDMI (unencrypted), 1xVGA, 1xComponent, and 1xComposite

**SD Mode:**

- Accepts up to four (4) programs in NTSC baseband A/V format
- Digitizes, MPEG-2 encodes, & multiplexes up to four programs into one MPTS

- Simultaneously delivers the following outputs: 1xQAM, 1xASI, and 1xIP (GigE; HD-SPTS, SD-MPTS)
- 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 |
|---|---|---|
| HDE-HVC-PRO | 6364 PRO | Professional Series MPEG-2 HD Encoder; 1xHDMI/VGA/Component/Composite inputs; 1xQAM + 1xASI + 1xIP outputs |
| | 6364 PRO 48 | Professional Series MPEG-2 HD Encoder; -48 VDC Power |



969 Horsham Road • Horsham, Pennsylvania 19044 USA • Phone: 215-675-2053 Fax: 215-675-7543 • info@tonercable.com

toner
cable equipment, inc.
www.tonercable.com

Blonder Tongue

# HDE-HVC-PRO

## Professional MPEG-2 HD/SD Encoder 1-HDMI/VGA/Component to 1-QAM/ASI/IP

## Specifications

### Input

#### HD Mode:

| | |
|---|---|
| **HDMI** | |
| **Connectors:** | 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<br>800x600 @ 60 fps<br>1024x768 @ 60 fps |
| **Audio:** | 2x RCA for Analog Audio (L, R) |
| **Component** | |
| **Connectors:** | 3x RCA for Video (Y, Pb, Pr)<br>2x RCA for Analog Audio (L, R) |
| **Video Resolution:** | 480i, 720p, & 1080i |
| **Video Aspect Ratio:** | 4:3 & 16:9 |

#### SD Mode:

| | |
|---|---|
| **NTSC** | |
| **Connectors:** | 4x RCA for Analog Video<br>4 sets each 2x RCA for Analog Audio (L, R) |
| **Video Resolution:** | 480i |

#### HD/SD Mode:

| | |
|---|---|
| **EAS (Emergency Alert System)** | |
| **Connectors:** | 3x RCA (Video, Audio L & R) |
| **Trigger Mechanism:** | 5-12 VDC & Dry Contact Closure (Terminal Strip) |

| | |
|---|---|
| **Video Encoding Profile** | |
| **Output Format:** | ISO/IEC 13818-2 MPEG-2 (MP@ML, MP@HL) |
| **Chroma:** | 4:2:0 |
| **Aspect Ratio:** | 4:3; 16x9 (with HD-PRO software upgrade) |
| **GOP Structure:** | I & P frames (user-selectable) |
| **Transport Rate:** | Variable (user-selectable) |
| **Video Pre-filter:** | Variable (user-selectable) |
| **Color Space:** | YCbCr and RGB |

*Supporting These Formats:*

| Mode | Resolution | H x V | Scan | Frames Per Sec. | Recommended Video Bit Rate* (user selectable) |
|---|---|---|---|---|---|
| HD | 1080i | 1920 x 1080 | Interlaced | 29.97 | 10-30 Mbps |
| HD | 720p60 | 1280 x 720 | Progressive | 59.94 | 10-30 Mbps |
| SD | 480i | 704 x 480 | Interlaced | 29.97 | 3-15 Mbps |

**The format ( HD or SD ), desired quality level, and most importantly the actual content (talking head, text scroll, full action sports, etc), will determine what bit rate is selected.*

| | |
|---|---|
| **Audio Encoding Profile** | |
| **Output Format:** | Dolby® Digital |
| **Sampling rate:** | 48 kHz |
| **Bit rate:** | Variable; 128-320 Kbps (user-selectable) |
| **Closed Captioning** | |
| **NTSC:** | EIA-608; Embedded in NTSC input |

### 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 |
| **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 (@ +40 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 |
| **GigE** | |
| **Connector:** | 1x RJ45 (Rear-panel) |
| **Standard:** | 1000Base-T Ethernet |
| **UDP/RTP:** | Supported (user-selectable) |

### General

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




969 Horsham Road • Horsham, Pennsylvania 19044 USA • Phone: 215-675-2053 Fax: 215-675-7543 • info@tonercable.com