

**HDE-3000 HIGH DEFINITION CLOSED CAPTION ENCODER, HD SD SDI SPECIFICATIONS**

**HD VIDEO INPUT**

Standard: SMPTE 292M  
 Number of Inputs: One  
 Connectors: BNC True 75 Ohm  
 Equalization: Automatic, Approx. 100 feet at 1.5 Gb/s

**HD VIDEO OUTPUT**

Standard: Same as input  
 Number of Output: Two, One Program Output, One Power By-pass Protected  
 Connectors: BNC True 75 Ohm  
 Signal Level: 800 mV, nominal  
 DC Offset: 0 Volts, +/- 0.5 V  
 Rise Time: 200ps, Nominal  
 Overshoot: <10%  
 Timing Jitter: <1.0UI

**SD VIDEO INPUT**

Standard: SMPTE 259M-C  
 Number of inputs: One  
 Connectors: BNC True 75 Ohm (Shared with HD Input)  
 Equalization: Automatic, Approx 100 feet at 270 Mb/s

**SD VIDEO OUTPUT**

Standard: SMPTE 259M-C 270 Mb/s  
 Number of Outputs: Two Program Output, One Power By-pass Protected  
 Connectors: BNC True 75 Ohm  
 Signal Level: 800 mV, nominal  
 DC Offset: 0 Volts, +/- 0.5 V  
 Rise Time: 200ps, Nominal  
 Overshoot: <10%  
 Wideband Jitter: <0.2UI

**COMMUNICATIONS**

Serial Ports: Two RS-232  
 Modem: One Internal, Optional  
 Ethernet: One, RJ-45 Connector, IEEE  
 USB: Two Front Panel

**ENVIRONMENTAL**

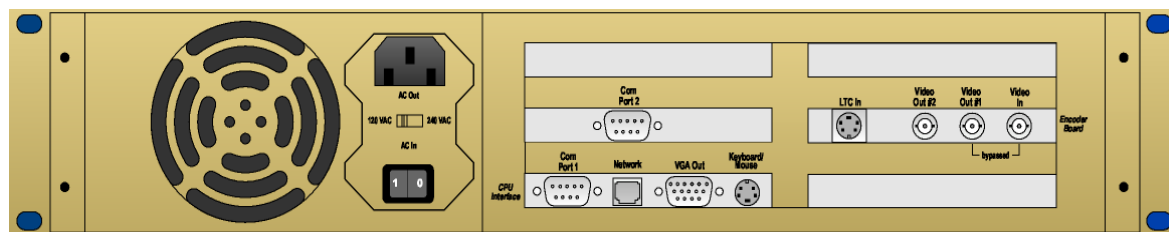
Temperature: 0 to 50 C ambient  
 Humidity: 10% to 90% non-condensing  
 Power: 200 Watts

**MECHANICAL**

Depth: 14 Inches  
 Width: 19 Inches  
 Height: 3.5 Inches  
 Weight: 15 Pounds.

**FRONT PANEL LED INDICATORS**

Power: Green/ power on/off  
 Status Indication: Six LED  
 Menu Selection: Four plus Enter  
 Reset: One Momentary  
 USB: Two USB Ports  
 Fan: Fan Grill with air filter



**VERSATILE PLATFORM FOR HD DATA ENCODING AND GRAPHICS INSERTION**



MODEL HDE-3000, Single Encoder  
 MODEL HDE-3000/2, Dual Encoder

**FEATURES**

- ◆ Networkable
- ◆ HD & SD SDI I/O
- ◆ USB, 2 Front Panel
- ◆ Ideal for Broadcast or Post
- ◆ Field Upgradable Software
- ◆ Up-Convert 608 to 708 captions
- ◆ Built-in LTC Time Code Reader
- ◆ VGA monitor to Preview Captions
- ◆ Two independent I/O COM Ports
- ◆ Full Screen Character Inserter (Subtitles)
- ◆ No PC or Caption/Subtitle Encoding Software Required
- ◆ Reads Caption Files Directly From Floppy, Server or USB

**HDE-3000**  
*Setting the standard for future generations..*

The HDE-3000 is a high definition HD SDI or standard definition SD SDI encoder for professionals that meets the strictest requirements for broadcast use. The HDE-3000 is capable of inserting slates, bugs, TV rating icons and subtitles with field 1 synchronization while encoding closed caption data. The HDE-3000 encodes data into the vertical ancillary portion of SMPTE 292M HD SDI video per SMPTE 334. All ATSC video standards are supported.

The optional dual encoder HDenc gives the operator the ability to run two separate caption or graphics jobs at the same time. It also allows for two separate time code inputs. The dual HDE-3000/2 can reduce encoding time by allowing the operator to encode captions in High Definition or Standard Definition simultaneously.

A built-in Closed Caption Decoder will display open captions on the video output for HD or SD. The dual encoder, HDE-3000/2 can display OPEN on one HDenc and CLOSED on the second HDenc.

The HDE-3000 will encode or monitor popular XDS packets including VCHIP, CGMS, and TSID. A selectable safe title area is provided to insure graphics are displayed in the viewable area. The optional Drag and Drop software allows for quick and simple additions of graphics to any job.

With the optional Internet captioning software, captioning can be accomplished from any location that has an Internet network connection.

With the HDE-3000 network capability a single or multiple HDE-3000's can be controlled remotely from any Windows based PC.

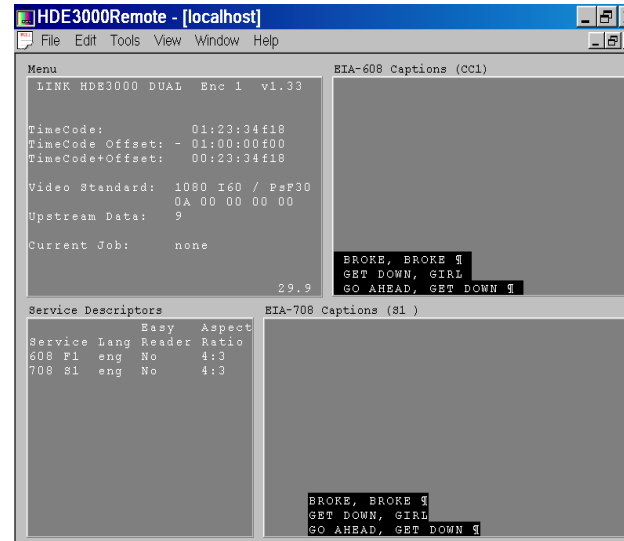
The HDE-3000 supports the following HD SDI standards, 1080i, 1080p, 1080psf, and 720p. It also supports SD NTSC and PAL SDI. The HDE-3000 will support most caption file formats and will translate EIA-608 captions into the EIA-708 format. VANC encoding and decoding is also available for SD SDI. The encoded line in HD is selectable by the user. It is also capable of up-converting CC2 or CC3 to EIA-708, Service 2. The offset and amplitude of inserted line 21 (22 PAL) for SD can be controlled by the HDE-3000. The HDE-3000 also becomes a selectable format Black Burst generator with no input signal.

The HDE-3000 is PC based using Windows XPE and is constructed of modular architecture that utilizes the industry standard PCI bus. This concept provides the ability for future options.

Each HDE-3000 comes with a 1 year warranty and a two year Firmware Maintenance Agreement. The firmware is easily upgraded through the front panel controls.

Beginning in the 4<sup>th</sup> quarter of 2008 all HDE-3000's will be equipped with a Solid State Hard drive for state of the art performance.

COMMON NAMES	ACCEPTS
1080i/60	✓
1080i/59.54	✓
1080i/50	✓
1080P/30	✓
1080P/29.97	✓
1080P/25	✓
1080i/24	✓
1080P/23.98	✓
1080PsF/30	✓
1080PsF/29.97	✓
1080PsF/25	✓
1080PsF/24	✓
1080PsF/23.98	✓
720P/60	✓
720P/59.94	✓
720P/50	✓
720P/30	✓
720P/29.97	✓
720P/25	✓
720P/24	✓
720P/23.98	✓



**STATUS SCREEN**

A status screen is displayed on the VGA monitor or HDE-3000 Remote terminal whenever the HDE-3000 is in "run" mode (as opposed to "setup" mode).

The status screen displays several useful items as shown above.

Many aspects of the HDE-3000 may be customized by way of user settings. Settings are made from the front panel, or they may be done via a network. The HDE-3000 stores all current settings on its hard drive in a registry file

The software automatically detects when it is running on a dual card unit and displays "HDE3000 DUAL Enc x" in the title line of all of the menus (the "x" is a "1" or a "2" depending on which encoder you have selected).

The two internal encoders share the VGA displays, the front panel buttons, LED's. and the COM ports.

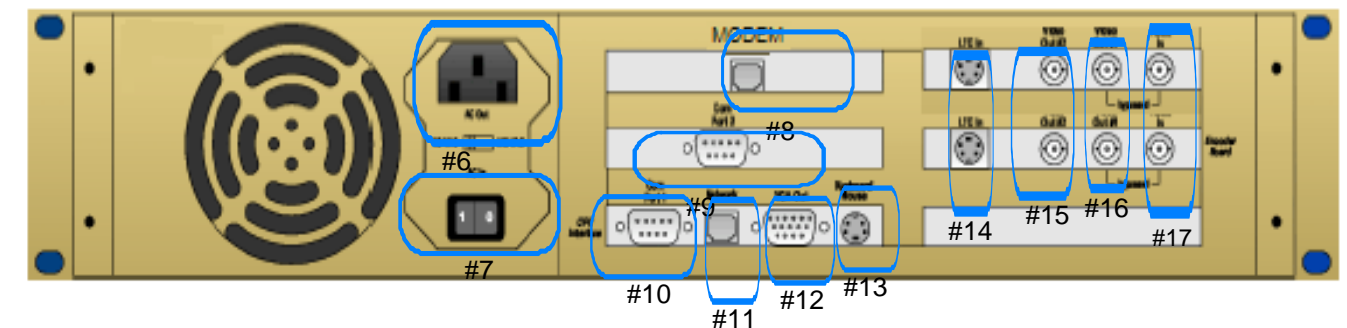
The COM ports are available to both encoders, and can be cascaded to allow both encoders to use the same Com Port.



Rear Section Showing Dual Encoders



HDenc, HD SD SDI Encoder Card



The dual encoder system, model HDE-3000/2 contains two HDenc encode/decode cards. The dual encoder system allows several features, such as;

- A. Run two jobs simultaneously
- B. NTSC on one card
- C. PAL on the second card
- D. Closed caption on one card
- E. Open caption on the second card
- F. SD & HD Captioning Simultaneously
- G. Two Different Video Formats Simultaneously
- H. Re-insert Captions after format Conversion
- I. Re-insert captions after video squeeze
- J. Two Independent SMPE Time Code Inputs

**Note Description:**

- #1, FP Primary Power Switch
- #2. Cut a-way showing dual encoders
- #3, 2 USB Ports & Reset
- #4, LED's Showing status
- #5, Navigation control buttons
- #6, AC Power Connector
- #7, Secondary Power Switch
- #8, Internal Telephone Modem
- #9, Serial Port #2
- #10, Serial Port #1
- #11, Ethernet CAT5
- #12, VGA Connector
- #13, Keyboard & Mouse
- #14, LTC Time Code
- #15, HD SD SDI Out
- #16, Signal Power By-Pass
- #17, Main HD SD SDI Input

The HDE-3000/2 contains two encoder cards. This product functions as two independent HDE3000 encoders inside one chassis. Each independent encoder has its own video and time code connections, and both encoders run simultaneously. Examples, user can encode an HD feed and an SD feed simultaneously., or using the second card as a caption decode monitor.