



# The Orion

## Caption Encoder



The Orion is a three gigabits, high definition, or standard definition serial digital interface closed caption encoder (3G/HD/SD-SDI CC Encoder) with audio and captions over IP. It accepts 3G/HD/SD-SDI transport streams and gives four closed caption encoded outputs of the same format as the input, with the option of two of them being decoded. The SDI outputs are re-clocked, making the SDI output eye pattern generally better than the input. It is a better re-clocker than most re-clocking Distribution Amplifiers (DA). The unit will pass ANC data untouched including audio to the output.

The Orion will take the user selected channel pair of AES audio that is embedded on the SDI input and send that audio to a Captioner via IP. A free audio over IP player is provided to monitor the audio. The streaming audio is low latency and low bandwidth, so no special Internet services are required. The unit will also receive caption data via IP from the Captioner. This allows the removal of the traditional two phone line setup without having to be connected to a captioning server. This device allows true IP captioning. The audio from this device can also be used as a USB microphone input for other streaming services (Zoom) or speech recognition software.

The Orion will encode line 21/22 CTA-608 waveform and/or encodes SMPTE 334 Caption distribution packet (CDP) for SD. The Caption distribution packet will contain a header, CTA-608 data, CTA-708 data, caption service descriptor, and a footer. For HD it will encode the caption distribution packet. It has RAM that is reserved for XDS packets, the packets will be inserted into CTA-608 field 2 based on XDS packet priority and field 2 availabilities. The unit also has XDS menus for Parental Guidelines (V-Chip) and Transmission Station Identification (TSID) packets. The RAM can be filled using V-Chip software.

The Orion has a menu that allows you to select, resend, or redirect data from the Ethernet port to the serial ports. It has a GPI remote activated Legalizer, also called Weather Lift, with a menu that allows you to select the number of lines to be lifted. The FCC has mandated that captions are not to be displayed over things like people's names, school closings, and so on. This has become a major issue with broadcasters. The Orion also has a decoded output and caption data recovery for quality monitoring. USB connection allows for web GUI to PC. Remote monitoring/controlling is also possible through the GUI.

The Orion is backed by the Link Electronics standard 10-year warranty and 24/7 customer support. It meets the innovative, high performance, flexibility, and reliability requirements of all Link Electronics products.

## Features

- 3G/HD/SD-SDI
- XDS RAM (V-Chip)
- Data Recovery
- GPI Remote "Legalizer"
- 2 CTA-708 Services Converted from 608
- USB Serial Device

- Field Upgradeable
- VANC Line Selection
- IP Audio 8 or 16 bit
- IP Captioning
- VBI and/or VANC for SD
- Power off Bypass

- USB Audio
- Multiple GPIs
- Decodes CC1-CC4 or S1-S6
- GUI Monitoring/Control
- Decoded Black Video Output



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### 3G/HD/SD-SDI Video Input:

Connectors: ..... Two 75 Ohm BNC, One for Future Use  
 Embedded Audio: ..... AES 48 kHz (20 or 24 bit) SMPTE ST 299-1 (HD) or SMPTE ST 272 (SD)  
 SMPTE: ..... ST 424 (3GA), ST 372 (3GB), ST 274 (1080), ST 296 (720), and ST 259 (NTSC & PAL)  
 Equalization: ..... Automatic, approx. 100 feet at 1.5 Gb/s, approx. 500 feet at 270 Mb/s

### 3G/HD/SD-SDI Video Outputs:

Connectors: ..... Four 75 Ohm BNC's, One Power Off Bypassed  
 Standard: ..... Same as input  
 Signal Level: ..... 800 mV, Nominal  
 DC Offset: ..... +/- 0.5 V  
 Rise Time: ..... 200 ps, Nominal  
 Overshoot: ..... < 10%  
 Timing Jitter: ..... < 1.0 U  
 Wideband Jitter: ..... < 0.2 UI

### Communications/Other Connectors:

General Purpose Interface (GPI): ..... One DE-15 Female with 8 dry contact pins  
 Serial Ports: ..... Two RS-232 DE-9 One Male and One Female  
 USB: ..... One USB Type B Female  
 Ethernet: ..... One RJ45 modular connector, IEEE  
 Power: ..... Two, 3 Pin Circular Socket Female

### Environmental:

Temperature: ..... 0° to 50 C° ambient  
 Humidity: ..... 10% to 90% non-condensing

### Mechanical:

Depth: ..... 7.25 Inches  
 Height: ..... 1.75 Inches  
 Width: ..... 19 Inches  
 Weight: ..... 4 Pounds

### Power Supply:

Input: ..... Auto Detection 100 to 240 VAC at 50/60 Hz  
 Output: ..... 5 VDC up to 5 A  
 Compliance: ..... UL Approved  
 Consumption: ..... 15 Watts  
 Dual Supplies: ..... Optional



The manufacture reserves the right to change specifications without notice

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