



# CBE-493

## Caption Bridge and Encoder



The CBE-493 is a three gigabits level B, high definition, or standard definition serial digital interface closed caption bridge and encoder, or shortened to 3GB/HD/SD-SDI CC Encoder. It will accept 3GB/HD/SD-SDI transport streams and give three closed caption encoded outputs of the same format as the input with the option of one 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). This unit will pass ANC data untouched including audio to the output.

### Bridges Captions Between Streams

The CBE-493 reads the caption data from the bridge input video and inserts that caption data into the encoder input video. The CEA-608 captions from the bridge input are transcoded, or up converted, to CEA-708 captions. Both 608 and 708 captions are then “wrapped” into a packet called the Caption Data Packet, or CDP. The CDP is then embedded into the encoder output. The unit has three selectable bridge modes, it can encode captions from a captioner, or teleprompter, then return to the selected bridge mode after the captioner has disconnected. One output is an encoded output and the other output can be either a decoded or an encoded output. The SDI inputs can be 3GB/HD/SD on either input and do not have to match formats.

### GPI Remote Legalizer and Four Communication Ports

The CBE-493 has a GPI remote used to activate Weather Lift or what is now being referred to as a “Legalizer”. With a menu that allows you to select the amount of lines to be lifted. You can raise the lower 4 lines up 2, 3, or 4 lines or raise all lines to the top 4 lines. Recently, 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 CBE-493 has four communication ports, two serial RS-232 ports, both with adjustable baud rates, and two ports that are tunneled to the Ethernet connector. This allows two IP caption connections at one address. It also has the ability to redirect or resend the Ethernet data out one of its serial ports. All four communication ports are always active so they will not have to be turned on or off. Up to four captioners can be connected to the unit and swap control of the encoder just by initializing it. This could be useful when doing live captioning for long periods of time.

### IP Captioning

The CBE-493 is IP captioning ready, IP captioning is becoming the preferred method of Captioners and broadcasters for live captioning. There are many reasons that IP captioning has become the preferred method of live captioning, the most notable being the elimination of plain old telephone (POTs) lines as these types of lines are becoming less available and less reliable. For the most part the captioner and broadcaster would be using Internet connections they already have.

### Exceptional Technical Support

The CBE-493 dubbed “The Bridge” is backed by the Link Electronics standard 10 year warranty and 24/7 free customer support. It meets the innovative, high performance, flexibility, and reliability requirements of all Link Electronics products.

## Features

- Bridges Captions Between Streams
- Encoded and Decoded Outputs
- 3GB/HD/SD-SDI Inputs
- XDS RAM (V-Chip)
- Data Recovery

- GPI Remote “Legalizer”
- Two 708 Services Converted from 608
- Field Upgradeable
- VANC Line Selection

- Optional Dual Supplies
- IP Captioning
- Power Off Bypass
- 4 Port Communications 2 Serial, 2 IP
- IP to Serial Rerouting



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### Serial Digital Interface (SDI) Encoder and Bridge Inputs:

Connectors: ..... 2 BNCs 75Ω  
 Format: ..... 270 Mb/s, 1.48 Gb/s, 2.97 Gb/s  
 SMPTE Standards: ..... 259 M, 292 M, and 424 M  
 DC Offset: ..... 0.5V max  
 Signal Level: ..... 800mv +/-10%

### Serial Digital Interface (SDI) Encoder/Decoder Outputs:

Connector: ..... 2 BNCs 75Ω  
 Format: ..... Follows SDI Encoder Input  
 Signal Level: ..... 800mVp-p +/-10%  
 DC Offset: ..... +/-100mV  
 Rise Time: ..... 200pS, Nominal  
 Overshoot: ..... <10%  
 Timing Jitter: ..... <1.0U  
 Wideband Jitter: ..... <0.2UI  
 3GB/HD Propagation Delay: ..... approximately 2.5 μS  
 SD Propagation Delay: ..... approximately 6.9 μS

### Front Panels Controls & Indicators:

Menu and Encoder Readout: ..... VFD Display  
 Escape Button: ..... Momentary Switch with LED  
 Enter Button: ..... Momentary Switch with LED  
 Menu Navigation: ..... Rotary Knob

### Communications:

Serial Ports: ..... Two RS-232 DE-9 (DB9) One Male, One Female  
 Modem: ..... Optional External(s)  
 Ethernet: ..... One, RJ-45 Connector, IEEE

### Environmental:

Input Power: ..... External +5 VDC Power Supply (PWT-400) (Optional Dual)  
 Compliance: ..... Designed to Meet UL Approval  
 Temperature: ..... 0° to 50° C (ambient)  
 Humidity: ..... 10% to 90% non-condensing

### Mechanical:

Height: ..... 1.75 inches  
 Width: ..... 19 inches  
 Depth: ..... 10.5 inches  
 Weight: ..... 4.75 Lbs

The manufacture reserves the right to change specifications without notice



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