System Summary

The ENCO EN848 is a remarkable industry achievement, combining both an advanced software-defined, FPGA-based ultra-low latency SDI Caption & Subtitle encoder (inserter) which can be powered by human or ASR sources (including Cloud), accompanied by a built-in server engineered to run the industry-leading enCaption ASR system fully on-prem for either primary or redundant captioning situations.

Features

- Zero video frame delay / < 1 frame insertion delay
- Dual SDI outputs: Closed and Open Caption options
- Loop-thru failover bypass relay with additional monitor output
- Customizable software-defined FPGA architecture
- Compatible with ENCO CloudCap service
- Downward compatible to HD / SD
- Built-in architecture for enCaption on-prem ASR captioning service if desired

Hardware

- Enclosure: 19'' 1RU chassis with internal power supply (100-240V operation)
- Captions decode and overlay on the SDI monitoring output
- Supports SMPTE CDP & Grand Alliance protocols as well as legacy "Ctrl-A" protocols
- USB Ports: USB 3.2 Gen2 (Type A & Type C), USB 3.2 Gen1 (Type A), USB 2.0 (Type A)
- Video Ports: SDI, HDMI, DisplayPort
- Ethernet: RJ45

- Serial Port: RS-232 / 422 / 485; PS/2: 2x ports
- NEMA 5-15P to C13 Standard Power Cord

SDI Caption / Subtitle Inserter

ENCO EN848 Closed Caption (CC) encoder, inserter and monitor platform encodes and inserts CEA-608 CC data and/or CEA-708 DTVCC data using standardized as well as legacy communication protocols. The EN848 can also decode and display any CC channel/DTVCC service, overlaid on ("burned-in") the video picture. The Main SDI output is bypass-relay protected, and both outputs provide the exact same video signal with no video delay.

It supports both SD VBI "waveform" insertion or 3G/HD VANC data insertion; selection of data insertion type is done automatically according to input video signal format. Additionally, the EN848 Closed Caption (CC) encoder will automatically "translate"CEA-608 captions data received on the communication ports, to CEA-708 DTVCC captions and insert both CEA-608 "L21" and DTVCC data into VANC packets, where applicable. Additional information such as the Service Info Block to specify caption stream language code, and other information fields will then be be inserted as well.

SDI Encoder Technical Specifications

- Conforms to the following CC specifications:
    - CEA-608-E: Line 21 Data Services
    - CEA-708-E: Digital Television (DTV) Closed Captioning
    - SMPTE ST-334-1: Vertical Ancillary Data Mapping of Caption Data and Other Related Data
    - SMPTE ST-334-2: Caption Distribution Packet (CDP) Definition
    - SMPTE RP-2007: Closed Caption CDP and "Grand Alliance" Serial Interfaces for DTV
    - SMPTE EG-43, CEA-CEB10-A
- Supports automatic translation of received CEA-608 (Line 21) data to DTVCC data, and CC1 to CC4 channels are translated to configurable service numbers (when applicable)
- Supports automatic generation of DTVCC 'Service Info Block' when translating to DTVCC with Configurable flags and language code
- Supports any DTVCC service (1-63)
- Supports CEA-608 extended and special characters, CEA-708 G0, G1, and G2, G3 (extended) character code sets

    Options
- Various audio input options including de-embedding of SDI or HDMI, NDI, analog XLR, AES3, and virtually any AoIP standard with published middleware
- Data extraction and collection of extracted CEA-608, DTVCC or raw VANC packets via USB and/or Ethernet ports
- Can be configured for compatibility with international standards including EBUTeletext / OP-42 / OP-47 / ST-2031, and more.

On-Prem ASR / Automatic Speech Recognition Option

Included with the EN848 platform is a server engineered to optionally run ENCO's enCaption on-prem Automatic Speech Recognition application, a proven award-winning solution providing highly accurate, fast captions with the ability to "learn" from custom word libraries (unique names, local words, jargon, etc), apply corrective word filters, ingest rundowns via MOS listener, has an internal scheduler, SDI caption-loss failover protection, and a robust API.