

# 7825CCE-AUD-3G

## 3G/HD/SD Closed Caption Encoder with Audio-to-IP Streaming

The 7825CCE-AUD-3G is a closed caption encoder for 3G/HD/SD-SDI video signals. This unit has native support for numerous captioning interfaces, such as captioning over dial-up phone line, captioning over IP, captioning over serial RS-232/RS-422 and caption bridging from one input to the other. Applications such as "translating" captions from CEA-608 to CEA-708 or "transcoding" CEA-608 between SD line-21 and HD VANC carriage are natively supported.

Taking advantage of the availability of IP connectivity, the 7825CCE-AUD-3G is able to generate a low latency, low bandwidth audio-over-IP stream from the embedded audio tracks in the incoming video. This audio may be streamed to the remote captioner, facilitating a complete bi-directional link and negating the need for a POTS/dialup connection.

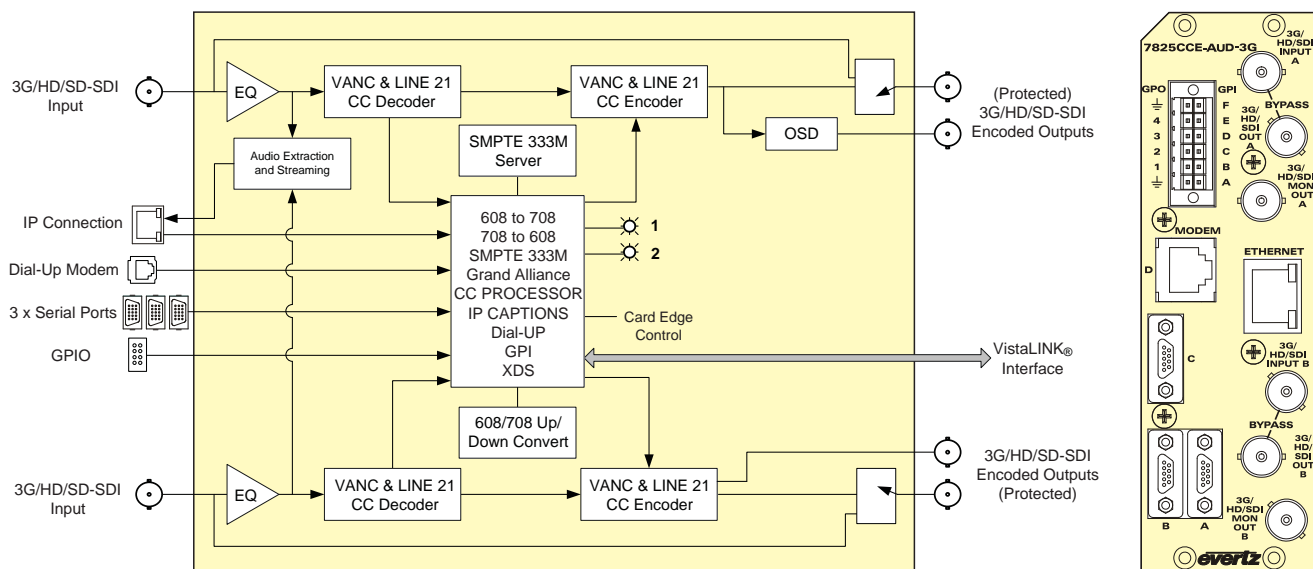
The 7825CCE-AUD-3G supports many advanced applications such as broadcast flag insertion, port echo capability for daisy chaining multiple units together and on-screen display for real time monitoring of the encoded closed captions.

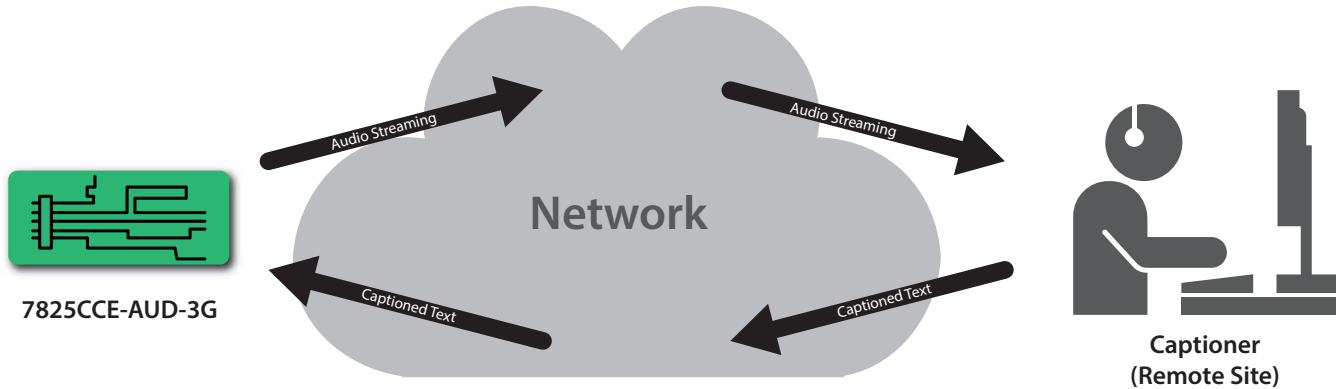
The +CF option adds an on-board compact flash module which may be used for both caption file capture and insertion. With the capture function, the unit can record and store captions that are being actively encoded or already present on the incoming video. The stored files may be retrieved from the compact flash and are useful in cases such as editing/correcting captions from existing content, avoiding complete re-authoring, or for verifying compliance. The insertion function allows files stored on the compact flash to be directly encoded to video, convenient where an external transfer station is not available.

The 7825CCE-AUD-3G is VistaLINK® -capable, which allows for control and configuration via Simple Network Management Protocol (SNMP). This offers the flexibility to manage the module status monitoring and configuration from SNMP enabled control systems such as Evertz® VistaLINK® Pro locally or remotely.

### ► Features & Benefits

- Simultaneous encoding of new CEA-608 and CEA-708 captions onto 3G/HD/SD-SDI video
- Supports caption encoding on dual video paths to simultaneously apply the same captions to two video sources (e.g. applying captions to SD and HD signals simultaneously)
- Port Echo capability for closed caption encoder "daisy chain" set-up
- CEA-608 Line 21 VBI bridge functionality
- CEA-708 Advanced caption bridge functionality
- Support for SMPTE 334M, SMPTE 333M & Grand Alliance transfer formats for 3G/HD/SD-SDI video
- Support for Line-21 CEA-608 captions on SD-SDI video
- Support for CEA-708 VANC captions onto 3G/HD/SD-SDI video
- Supports control and insertion of captions over IP
- Broadcast flag insertion
- RS-232/RS-422 serial, telephone modem, Ethernet TCP/IP and parallel GPI communication interfaces
- Generates a low-latency audio-over-IP stream for audio delivery to the remote captioner
- Audio over IP may be derived from a mono or downmixed stereo channel embedded in the incoming video
- Audio-over-IP stream requires minimal bandwidth (<65kbps); user-enabled Silence Suppression mode can reduce bandwidth further
- Audio-over-IP stream may be decoded using commonly available streaming media player applications
- Save or insert captions directly to or from a file (CEA-608, Procap, SCC, CDP) stored on a local Compact Flash card (with the +CF option)
- Files on the Compact flash card are accessible via FTP without needing to remove it from the 7825CCE-AUD-3G
- Built-in CEA-708 and CEA-608 closed caption decoders
- Closed caption shifting to avoid over-writing emergency alert messages
- Encoding of Extended Data Service Packets into field 2 of the SD-SDI signal, including Transmission Signal Identifier (TSID), Copy Generation Management System (CGMS-A) and Program Rating / V-Chip
- AFD Flag Insertion
- VistaLINK® capable for remote monitoring, control and configuration capabilities via SNMP; using VistaLINK® PRO, CP-2116E or CP-2232E Control Panels. VistaLINK® is available when modules are used with the 3RU 7800FR frame and a 7700FC or 7800FC VistaLINK® Frame Controller module in slot 1 of the frame





**Sample Application: Captioning and Streaming Audio Over IP**

► Specifications

<p><b>Serial Digital Video Input:</b>                  Standard: SMPTE 424M 3Gb/s, SMPTE 292M 1.485Gb/s, SMPTE 259M 270Mb/s                  Number of Inputs: 2                  Connector: BNC per IEC 61169-8 Annex A                  Equalization: Automatic up to 80m @3Gb/s with Belden 1694A (or equivalent) Automatic up to 100m @1.5Gb/s with Belden 1694A (or equivalent) Automatic up to 300m @270Mb/s with Belden 8281 (or equivalent)                  Impedance: 75 ohms</p> <p><b>Serial Digital Video Output:</b>                  Standard: Same as input standard                  Number of Outputs: 2 per encoding path. Program out is bypass relay protected                  Connector: BNC per IEC 61169-8 Annex A                  Signal Level: 800mV nominal                  DC Offset: 0V ± 0.5V                  Rise/ Fall Times:                  HD: 200ps nominal                  SD: 740ps nominal</p>	<p>Overshoot: &lt;10% of amplitude                  Wide Band Jitter: &lt;0.210 UI @ 1.5Gb/s, &lt; 0.300 UI @ 3Gb/s                  Impedance: 75ohms</p> <p><b>Audio Streaming Output:</b>                  Encoding: ITU G.711 A-law                  Streaming protocol: Real-time Transport Protocol (RTP), IETF standard RFC 3550                  Connector: Ethernet RJ-45 connector</p> <p><b>General Purpose In/Out:</b>                  Number of Inputs: 6                  Number of Outputs: 4                  Type: Opto-isolated, active low                  Connector: 2x6 Terminal Block                  Signal level: +5V or +12V nominal</p>	<p><b>Communications and Control:</b>                  Serial: 3 DB-9 male RS232 / RS422 selectable                  Selectable 1200 baud to 57.6k baud 7 or 8 data bits                  Modem: 1 x RJ-11 telephone jacks 1200 baud to 14.4k baud V.32BIS compatible                  Ethernet: IEEE 802.3 (10 BaseT) IEEE 802.3u (100 BaseTX) RJ-45 connector</p> <p><b>Electrical</b>                  Voltage: + 12V DC                  Power: 18 Watts                  EMI/RFI: Complies with FCC part 15, Class A, EU EMC Directive</p> <p><b>Physical</b>                  Number of slots: 2</p>
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► Ordering Information

**7825CCE-AUD-3G** 3G/HD/SD-SDI Modular Closed Caption Encoder with Audio-to-IP streaming (requires 7700FC/7800FC)

**Accessories:**  
**7700FC / 7800FC**  
**CP-2116E-H**  
**CP-2232E**

VistaLINK® Frame Controller  
 Remote Control Panel  
 Remote Control Panel

**Ordering Options:**

**+CF** Compact Flash card reader for saving and inserting captions from files

**Rear Plate Suffix:** Rear Plate must be specified at time of order (E.g. Model +3RU)

**+3RU** 3RU rear plate for use with 7800FR, 7700FR-C or 350FR Multiframes

**Enclosures:**  
**350FR**

3RU Portable Multiframe which holds up to 7 single slot modules  
 3RU Multiframe which holds up to 15 single slot modules  
 3RU Multiframe which holds up to 15 single slot modules

**7700FR-C**

**7800FR**