

3480TXE ATSC Encoder

Software Defined Accelerated Encoding Platform



The Evertz 3480TXE-ATSC is the best integrated Broadcast ATSC Encoding solution in the market with exceptional Quality MPEG2 Video compression and the highest number of channels in a standard ATSC channel.

With increasing consumer demand for high quality content together with a surge in the number of channels world-wide, broadcasters are faced with an immense challenge to add channels everyday in the available bandwidth without impacting picture quality, given the huge bandwidth costs. The immediate challenge faced by traditional broadcasters is to be able to fit as many channels as possible,

including HD, in the available ATSC channel bandwidth while maintaining the same visual experience. With advances in MPEG-2 Video encoding efficiency coupled with superior statistical multiplexing tools, the doors are now opening for some new and exciting applications.

► Benefits of Evertz ATSC Solution

Unparalleled Cost Reduction

The Evertz 3480TXE-ATSC encoder provides superior Video Quality with highest compression efficiency thereby enabling significant increase in the number of services of up to 2 HD and 4 SD in a single ATSC channel. The TXE's flexible architecture utilizes both software and hardware acceleration making it possible to pack a complete channel in a single 1-RU resulting in unparalleled cost effectiveness that other solutions available in the market cannot match. The phenomenal bit rate savings and converged design results in huge savings in both capital (CAPEX) and operating expenditures (OPEX).

Scalable Model and Design

The media operations on the Evertz 3480TXE-ATSC encoder can be conveniently activated using discrete Channel Keys ensuring lowest costs and a scalable and efficient cost per need model. With changing needs, this also provides a convenient and modular expansion mechanism to add new features with a simple in-service channel key activation. The platform also supports H.264 Encoding for broadcast distribution encoding/transcoding and OTT applications.

► Technical Highlights and Benefits

Highest Video Quality Converged Platform

The 3480TXE is a simple and elegant solution with built-in advanced statistical multiplexing algorithms and multiplexing of various services. With support for advanced multi-pass MPEG2 Encoding and option to upgrade to H.264, it is a unique high quality high density converged platform for a range of distribution applications beyond ATSC including broadcast, cable and satellite and OTT markets. The TXE is capable of accepting MPEG2 or H.264 in TS over IP or uncompressed SDI video inputs to deliver MPEG2 and H.264 compressed outputs in TS over IP thereby providing a true codec and format agnostic solution.

Advanced Pre-processing Tools

The 3480TXE has built-in industry leading advanced algorithms including Scene Change Detection, Enhanced Video Pre-Analysis, psycho-visual model tools, Dynamic GOP amongst others to ensure highest video quality required at extremely low bitrates and exceptional visual experience.

► Features & Benefits

- Highest Quality Integrated ATSC encoder: MPEG2 4:2:0 8 bit with up to 2HD and 4 SD in a single 19.39Mbps ATSC Channel
- Built-in multiplexing and advanced statistical multiplexer for optimal bit rate allocations across services.
- Video Standard: Full HD 1080i 59.94, 720p 59.94
- Built-in industry leading video pre-processing and pre-analysis tools providing highest Video Quality at very low bitrates.

Simplified Integration

The 3480TXE-ATSC Encoder is tightly integrated with the proven Evertz VistaLink Pro Network Management Software and can be seamlessly integrated in your current infrastructure using simple SNMP controls. A supplementary and intuitive Web Interface is also available for operational convenience.

Peace of mind

Built with modern video software and hardware architecture and leveraging years of experience in video compression, the 3480TXE is a simple, powerful and highly reliable product. Integrated with Evertz VLPro Compression System Manager, the 3480TXE provides ultimate redundancy support. Coupled with an exceptional support structure including system design, deployment and technical support, Evertz ensures ultimate peace of mind and unparalleled user experience.

Reliability and Stability

The 3480TXE is a solid time-tested platform with built-in dual redundant power supplies to ensure no compromise on the integrity of critical signal paths and true remote monitoring of all modules and signals within the chassis from VistaLINK® thereby ensuring enhanced system reliability and peace of mind for round the clock operations.

Superior Audio Processing

The 3480TXE-ATSC provides support for embedded audio input and supports Dolby Digital (AC3) 2.0, 5.1 required for ATSC application and a wide variety of other Audio Encoding standards including, but not limited to MPEG1L2, AAC-LC, HE-AAC v1 v2, PCM Pass through, which are available as Channel key add-ons. The platform also supports industry leading Evertz Intelligain Loudness Control Algorithm

- Easy to use web browser interface and/or SNMP for configuration and control
- Support for broadcast quality H.264 Encoding suitable for a host of distribution applications including Satellite and Cable Head ends and multi-screen resolutions for OTT applications.
- Compact 1 RU design
- High resilience with dual power supply
- Enhanced Table insertion: built-in support for ATSC PSIP table insertion.

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Specifications

Encoding:

- Broadcast Quality MPEG2/H.264 Encoding in a single 1 RU chassis

Video:

- MPEG2: Main Profile @Main Level (SD), Main Profile @ High Level (HD) 4:2:0 8 bit
- H.264: Main/High, up to Level 4.2 HD/SD 4:2:0 8 bit
- Constant bit rate and Variable bit rate (statistical multiplexed)

Video Processing:

- Scene Change and Fade Detection, Enhanced Video Pre-Analysis, Built-in advanced psycho-visual model tools, Motion Compensated Temporal Filter (MCTF), Input Pre-deblocking filter, Dynamic GOP

HD Resolutions:

- 1920, 1440, 1280 x 1080i 29.97 16:9
- 1280, 960 x 720p 59.94 16:9

SD Resolutions:

- 720, 704, 640, 544, 528, 480, 352 x 480i 29.97 4:3/16:9

Audio:

- Dolby Digital (AC3) 2.0, 5.1, MPEG1L2, AAC-LC, HE-AAC v1 v2, PCM Pass through

VANC:

- CEA 608 from Line 21
- SMPTE 334-1 Closed Captions (SCTE-20, SCTE-21, SCTE-128), CEA 708 (including built-in 608 to 708 conversion)
- SMPTE 2016-3 AFD and Bar Data

Sampling:

48kHz

Inputs and Outputs:

- Up to 16x SDI (Mini-Din) Inputs
- 4 x GigE ports (I/O)
- IP for Compressed MPEG2 TS Video Input

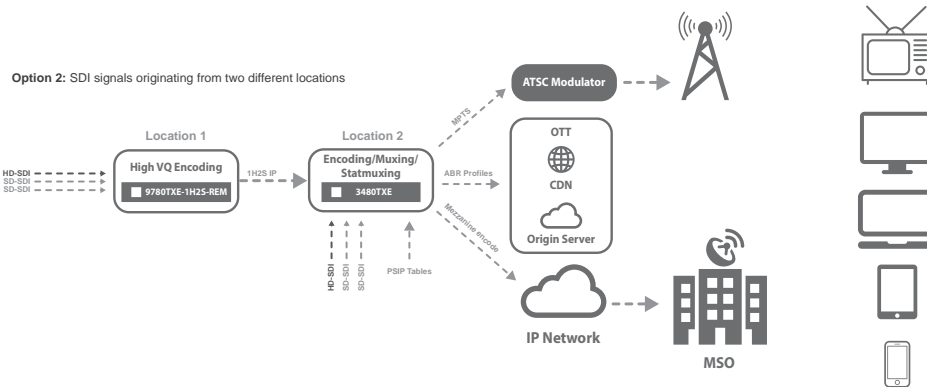
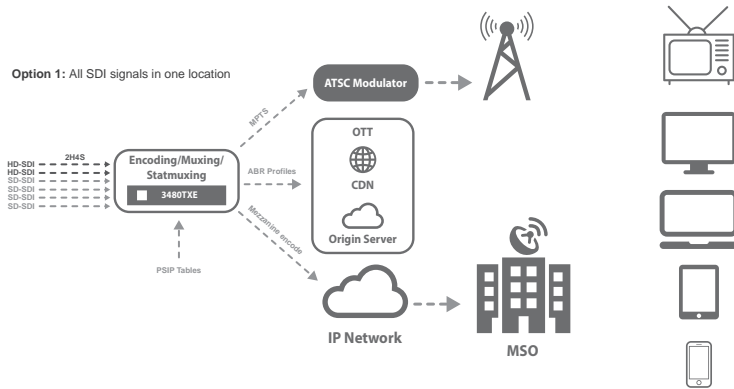
Transport Stream (MPEG2 TS):

ATSC PSIP Spooling: PAT, PMT, MGT, TVCT and more
ATSC PSIP Injection: Integrated with 3rd party Table Spoolers

Control:

- 2 x 1000Base-Tx ethernet connectors (main and redundant)
- Simple and Intuitive VLPro NMS and Web GUI

Example of 3480TXE Configuration of 2H4S (2 HDs, 4 SD's) in ATSC Modulation



Ordering Information

SDI Only

- 3480TXE-ATSC-1H1S** Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (1HD and 1SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing
- 3480TXE-ATSC-1H2S** Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (1HD and upto 2SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing
- 3480TXE-ATSC-1H3S** Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (1HD and upto 3SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing
- 3480TXE-ATSC-1H4S** Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (1HD and upto 4SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing
- 3480TXE-ATSC-2H2S** Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (2HD and 2SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing

3480TXE-ATSC-2H3S Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (2HD and 3SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing

3480TXE-ATSC-2H4S Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (2HD and upto 4SD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing

3480TXE-ATSC-3H Integrated, High Quality 1RU MPEG-2 encoder for mixed Streams (3HD) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing

SDI/IP Input

3480TXE-ATSC-2H4S-IP Integrated, High Quality 1RU MPEG-2 encoder/transcoder for mixed Streams (1HD and up to 2SD over SDI and 1HD and up to 2SD over IP) and MPTS output over MPEG-2 TS over IP. AC3 Encode, integrated muxing/stat muxing

9780TXE-1H2S-REM High quality, compact 1RU encoder. 1H2S high quality encode