

# TITAN Edge Encoder

## LOW LATENCY 4K PROFESSIONAL CONTRIBUTION ENCODER HEVC, MPEG4, MPEG2

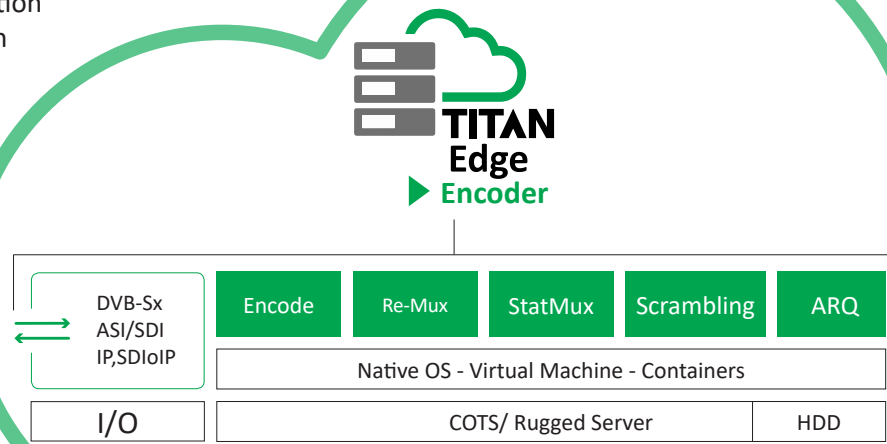
TITAN® Edge Encoder is a multi-channels modular encoder, baseband as SDI/loIP input, to any outputs, providing pristine video quality at low-latency profile.

TITAN Edge Encoder is the high-density contribution solution for 4K and HD in HEVC 4:2:2 12 bits as in H264 4:2:2 10 bits

Based on TITAN's software modular suite and leveraging full COTS approach, TITAN Edge is a versatile solution for operations running on-premises, off-premises or a combination of the two: 4K, multi HD encode, Low Latency, IP/ASI/Modulator output.

Implementing state-of-the-art SMPTE 2022/2110 standards, TITAN Edge Encoder is the first professional cloud native low latency solution enabling full IP video operations in the cloud.

In addition, TITAN Edge Encoder features interfaces to standard PCIe boards to support any type of use-case and build the most adapted and efficient solution for on-premises contribution.



### KEY FEATURES

- SD/HD/UHD HEVC, H264, MPEG2
- Scalability to UHD 12-bit 4:2:2 codec solution
- BISS-CA encryption system support
- Low latency mode
- Confidence Audio / Video input monitoring
- Encoded, transcoded & statmuxed output
- Service filtering with remuxed output
- On-premises/off-premises solution

### VALUE-ADDED BENEFITS



#### Lower OPEX

High density with high quality of service



#### Modularity

Full flexibility and scalability



#### Software based

Future-proof and high ROI



#### Industry Grade

Smooth operations based on proven interoperabilities

## VIDEO

### Video Compression

HEVC, Main 12, Main 4:2:2 10, Main 4:2:2 12, 120 Mbps max  
H.264 (4:2:0/4:2:2 8-bit, 4:2:0/4:2:2 10-bit), 120 Mbps max  
MPEG-2 (4:2:0/4:2:2 8-bit), 80 Mbps max  
MPEG-4 AVC – I mode

### Video Processing

CABAC, CAVLC, MBAFF, PAFF  
Resize & Noise Reduction filters  
Psychovisual Filter Enhancements  
Interoperable Ultra Low latency mode  
Input format detection \*\*  
Auto input format configuration mode \*\*  
Seamless Channel Insertion (SCI) \*\*  
Logo insertion – Emulated video output

### Ancillary data

AFD, WSS, VPS, VPI, VITC, ATC, CC,  
DVB Teletext, SMPTE2031, OP47,  
SCTE35 insertion via SCTE104 triggers

## AUDIO

### Audio Compression

MPEG1-L2, MPEG-2/MPEG-4 AAC-LC, AAC-HEV1/HEV2 encode  
DD/DD+ encode, Dolby E decode  
Dolby Digital E, DD/DD+, AES-302M pass-through

## SCRAMBLING

BISS 1/E (Tech 3292-rev.2 and EBU R139)  
BISS-CA (Tech 3292-1)

## ARQ SOLUTION

Zixi feeder\* - push and pull modes  
SRT feeder - caller, listener & rendez-vous modes  
RIST feeder\*

## FEATURES, CONFIGURATION & MANAGEMENT

Web Graphic User Interface (create, delete and edit decoding channels)  
Video and Audio Confidence monitoring on front panel and web GUI  
64 Presets configurations memory slots  
In-band and Out-Of-Band Management  
SNMP (MIB v2c) with remote SNMP supervisor (alarms & traps)  
REST API (documented through Open API v3.0)  
JSON Configuration export/import  
MPEG2-TS over UDP/RTP (Unicast/Multicast)  
FEC ProMPEG CoP3r2  
Failover Any to Any & SMPTE 2022-7  
Carrier ID from the NIT  
Service filtering with remuxed output  
Multi-Protocol Encapsulation  
Remote Syslog, VPN support, IGMPv3 support  
INTEL and AMD family support

## MODULATION

L-Band RF SMA 50 Ohms output (950-2150MHz)  
IF Band RF SMA 50 Ohms output (50-180 MHz)  
Symbol Rate: 0.05 to 80Mbaud / Step 1Baud  
Main output: -35/+3 dBm  $\pm$  1 dB  
Main output step size: 0.1dB, stability:  $\pm$ 0.1dB/10°C  
Frequency step size 1 Hz, Accuracy 0.4 Hz  
Spurious In-Band < -65dBc/4kHz  
Shoulder rejection < -50dB  
Monitoring output Main - 20dB  
Ref External Input / Output 10 MHz  
DVB-S (EN 300421)  
DVB-S (DSNG EN 301210-1.1.1)  
DVB-S2 (EN 302307-1) / DVB-S2x (EN 302307-2)

## FRONT PANEL

For Server Xr2, R640 / R6415 / R6525  
Confidence Audio/video monitoring with LCD Menus  
6-keys keyboard for input & navigation  
Presets import and export from USB \*  
TS capture download from USB slot \*  
First ISO install from USB  
Serviceable Air Filters

## REAR PANEL

**IP interface**  
2 x 10GE - Refer to the server used  
2 x QSFP28 with Mellanox Connect-X5 board (25Gbps)  
**ASI interface**  
Up to 8 x DVB-ASI reversible (input or output) \*\*\*  
**SDI interface**  
Up to 8 x 3G-SDI (SMPTE-424M)  
Up to 2 x 12G-SDI (SMPTE-2082) \*\*\*  
**RF interface**  
Main RF Output 1 L-Band / IF  
Monitoring RF Output  
External 10Mhz Reference Input / Output

\* Contact your sales representative for the detailed list of features

\*\* Contact factory for availability

\*\*\* Refer to the PCIe board used