# T9261-E

## OTT  Streaming Media Encoder



The T9261-E is an industry-leading live OTT streaming media encoder. The encoder supports High Definition and Standard Definition (NTSC/PAL) video encoding.

IP stream protocol support includes multicast or unicast UDP/RTP,  SRT, Zixi Feeder, RTMP, HLS, and TCP. The T9261-E can encode two streams from its single SDI input. Each encoder can use a different protocol, CODEC and deliver unique frame size, frame rate and bit rate services to either Gigabit Ethernet interface.

Boasting two independent Gigabit Ethernet ports, the T9261-E is ideal for use across private and public networks. Network security is a priority at T-21. All T-21 devices include the latest network security patches, HTTPS web server plus user options to disable SSH, SAMBA and PING. OpenVPN is included and can be used without the need for an optional VPN appliance. T-21 offers ongoing patches that include network security updates with new firmware features included for a modestly priced SLA[1].

The T9261-E is designed for broadcast and professional encoding and delivery over public or private networks. One 3G HD-SDI input delivers uncompressed 1080P/1080i/720P, NTSC or PAL video and embedded audio to the encoders. The T9261-E is optimized to encode at very low and very high bit-rates. Video CODECs include 1080P AVC (H264) and 1080i MPEG 2. Ancillary data support for closed captions and SCTE104[2] cue messages embedded in SDI.

Audio encode support for up to four PIDs or 8-channels[3]. Audio CODEC support includes MPEG 1/2, AAC-LC/HE with optional Dolby Digital encode.

Managing and monitoring the T9261-D is facilitated via the Web Server, SNMP and REST APIs.

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[1] Service Level Agreement available per device per year after year one. Year one SLA is included.

[2] SCTE 104 is optional

[3] Two audio PID decode standard. Two audio PID decode optional.

S = Standard O=Optional

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| Output Stream Protocols | Notes |
|---|---|
| UDP/RTP Unicast/Multicast | UDP/RTP unicast or multicast support |
| RTMP, TCP | RTMP client and TCP client |
| HLS | Support for HLS segmentation and manifest generation |
| SRT | SRT Caller, Listener and Rendezvous support for public internet links |
| Zixi | Zixi public internet transport protocol for use with Zixi Broadcaster/Zen cloud services. Zixi link point to point is not supported on T-21 devices. |

| CODEC Video Encode | Feature | Notes |
|---|---|---|
| AVC (H.264) | | |
| SD AVC 4:2:0 High | S | Dual encode from single SDI input |
| HD AVC 4:2:0 High | S | Dual encode from single SDI input |
| 3G AVC 4:2:0 High | S | Single encode from single SDI input |
| MPEG 2 (H.262) | | Dual encode from single SDI input |
| SD MPEG 2 4:2:0 | S | Dual encode from single SDI input |
| HD MPEG 2 4:2:0 | S | Dual encode from single SDI input |
| Closed Captions | S | SMPTE 334 carriage of 608 and 708 Captions. |
| SCTE 104 | O | SCTE 104 to SCTE 35 cue message carriage |

| CODEC Audio Encode | Feature | Pairs | Notes |
|---|---|---|---|
| MPEG 1 Layer 2 Audio | S/O | 2 or 4 | SDI and HDMI Embedded. Second 2-pairs optional. |
| AAC-LC Stereo (2.0) | S/O | 2 or 4 | SDI and HDMI Embedded. Second 2-pairs optional. |
| HE AAC V1.0 Stereo (2.0) | S/O | 2 or 4 | SDI and HDMI Embedded. Second 2-pairs optional. |
| HE AAC V2.0 Stereo (2.0) | S/O | 2 or 4 | SDI and HDMI Embedded. Second 2-pairs optional. |
| Dolby Digital Encode | O | 2 | SDI and HDMI Embedded. Second 2-pairs optional. |

| AV Input | Specification | Connector | Notes |
|---|---|---|---|
| 3G-SDI | SMPTE 424, 292, 259 | HD-BNC Rear | Audio embedded per 272M (259) and 299M (424/292). |

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| System | Standard | Connector | Notes |
|---|---|---|---|
| Gigabit 1 | 802.03 | RJ-45/Rear | Copper CAT 5/5e/6/6A |
| Gigabit 2 | 802.03 | RJ-45/Rear | Copper CAT 5/5e/6/6A. |
| Terminal | VT100 | mini USB Type B/Front | Serial  Terminal at 115,200, 8, 1, N. |
| USB2 | USB 2 | USB 2 Standard-A receptacle/Front | USB 2 compliant. Data mount and Firmware load. |
| USB3 | USB 3 | USB 3 Standard-A receptacle/Rear | USB 3 compliant. Data mount and Firmware upgrade. |
| PCIe | PCI Express | 52 pin edge connector | Mini PCIe card slot (Host) with USB |
| mSATA | min-SATA | 52 pin edge connector | Mini SATA card slot for optional SSD disk |
| Power In | 12 VDC | TE 2 position plug model 284511-2 included. | |
| Power Use | | 12 Watts maximum while decoding HEVC UHD | |
| Physical | | 5.09 Inches (129 mm) Wide, 10.125 Inches (257 mm) Deep, 1.02 inches (26 mm) Tall | |

The T9261-E is available as a single slot Ross openGear card. Up to 20 T9261-OGE Encoders can be loaded into a single 2RU openGear chassis.

T9261-D Optional rack shelf



S = Standard O=Optional