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ARCHITECTURAL AND ENGINEERING SPECIFICATION
PRODUCT: HDMI-TPN-TX207AU2K

FUNCTIONAL OVERVIEW

The HDMI-TPN-TX207AU2K is an SDVoE-based HDMI 2.0 transmitter endpoint for extending 4K HDMI audio/video over a 10GbE copper (CATx) AV network. It accepts one HDMI source, transmits the stream over the TPN (SDVoE) link to receivers (typically through a 10G switch in a TPN matrix), and provides a local HDMI loop output of the same content. It supports analog audio de-embedding, user Ethernet transport, RS-232 command injection, and USB 2.0 KVM extension via an Icron interface (USB-C host + USB-A device ports).

VIDEO INPUT AND OUTPUT

- Video input (HDMI)
  - Connector type: 19-pole HDMI Type A receptacle
  - Standard: DVI 1.0, HDMI 1.4, HDMI 2.0
  - Supported resolutions (8-bit/color): up to 4096×2160@60Hz (4:4:4) or up to 3840×2160@60Hz (4:4:4)
  - Audio formats (embedded on HDMI): 8-channel PCM; Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos; DTS, DTS-HD Master Audio 7.1, WMA Pro
  - CEC support: Transparent
- Video output (TPN / SDVoE)
  - Connector type: RJ45 female connector
  - Data rate / interface: 10GBase-T, SDVoE compliant
  - HDCP compliance: HDCP 2.2
  - Transferred signals: Video, Audio, RS-232, Infrared, Ethernet, CEC
  - Video latency: 0 frame (five lines / under 8 ms)
  - Compression ratio: 1.4:1 (applied only when AV signal exceeds HDMI 1.4 bandwidth)
  - Supported resolutions (8-bit/color): up to 4096×2160@60Hz (4:4:4) or up to 3840×2160@60Hz (4:4:4)

- Local HDMI output
  - Function: local loopback (same AV content as HDMI input)
  - Connector type: 19-pole HDMI Type A receptacle
  - Standard: DVI 1.0, HDMI 1.4, HDMI 2.0
  - Supported resolutions (8-bit/color): up to 4096×2160@60Hz (4:4:4) or up to 3840×2160@60Hz (4:4:4)
  - CEC support: Transparent

AUDIO CAPABILITIES

- HDMI embedded audio is transported over the TPN (SDVoE) link.
- Analog audio output (de-embedded from HDMI)
  - Connector: 5-pole Phoenix
  - Signal: 2-channel balanced analog audio
  - Sampling frequency: 48 kHz
- Supported HDMI audio formats (for HDMI stream transport): 8-channel PCM; Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos; DTS, DTS-HD Master Audio 7.1, WMA Pro.

POWERING

- External power adaptor (local powering):
  - Supplied power: 12V DC, 2A
  - DC connector: locking DC connector (2.1 mm pin)
- Remote power:
  - PoE+ PD (IEEE 802.3at) supported (device can receive power over the TPN port, from compatible power source equipment / network switch)
- Note: TPN endpoint devices are not able to send remote power to each other.

CONTROL

- Endpoint discovery, configuration, and routing via a TPN-MMU-X100 series Matrix Management Unit using:
  - Built-in web interface
  - Lightware REST API (HTTP/HTTPS requests)
  - Lightware LW3 protocol
- RS-232 port (3-pole Phoenix) for bi-directional serial communication and command injection over the network (via the MMU).

- USB KVM pairing/routing (Icron USB 2.0 layer) can be managed via MMU crosspoint / REST API / LW3.
- Factory reset via hidden F button on the endpoint.
- EDID handling via front-panel EDID button (short press toggles default/user EDID; connection-type dependent behavior).

GENERAL

- Dimensions (W × D × H): 100.4 × 151.8 × 26 mm (3.95 × 5.97 × 1 in)
- Weight: 528 g (1.16 lbs)
- Mounting options (compatibility)
  - 1U High Rack Shelf (up to 4x)
  - UD Mounting Kit (1x)
  - UD Mounting Kit Double (2x)
  - UD Mounting Plate F110 (1x)
  - UD Mounting Plate F120 (2x)
  - PRC-16-312 rackmount cage (16x)
- LVD / electrical safety compatibility: EN 62368-1:2024
- Cooling: Passive
- Warranty period: 3 years
- Supplied accessories (endpoint device)
  - Safety & Warranty Info
  - Quick Start Guide
  - 12V DC adaptor with interchangeable plugs
  - Phoenix® Combicon 3-pole connector
  - Phoenix® Combicon 5-pole connector
- Packaging: the product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-27	Initial version	Tamas Forgacs
v2	2026-08-06	Updated remote powering to PoE+ (IEEE 802.3at)	Tamas Forgacs