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ARCHITECTURAL AND ENGINEERING SPECIFICATION
PRODUCT: HDMI-TPN-RX107A-SR

FUNCTIONAL OVERVIEW

HDMI-TPN-RX107A-SR is a scaling SDVoE receiver endpoint for Lightware TPN AV-over-IP systems. It receives a 10GbE SDVoE stream over CATx and outputs HDMI 2.0 video to a display. The unit supports HDCP 2.2, ultra-low-latency video transport, and provides an integrated scaler for adapting the output format to the connected sink. It also de-embeds HDMI audio to balanced analog audio output and supports Ethernet/serial integration as part of a centrally managed TPN matrix.

VIDEO INPUT AND OUTPUT

- Video input (TPN / SDVoE)
  - 1x RJ45 female, 10GBase-T, PoE+ PD (IEEE802.3at)
  - Compliance: SDVoE, HDCP 2.2
  - Transferred signals: Video, Audio, RS-232, Infrared, Ethernet, CEC
  - Color space: RGB, YCbCr
  - 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 bits/color): up to 4096x2160@60 (4:4:4) or up to 3840x2160@60 (4:4:4)
- Video output (HDMI)
  - 1x 19-pole HDMI Type A receptacle
  - Standard: DVI 1.0, HDMI 1.4, HDMI 2.0
  - Supported resolutions (8 bits/color): up to 4096x2160@60 (4:4:4) or up to 3840x2160@60 (4:4:4)
  - CEC support: Transparent

AUDIO CAPABILITIES

- Audio carried on TPN/SDVoE stream supports: 8 channel PCM, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS, DTS-HD Master Audio 7.1, WMA Pro
- HDMI output audio formats support: 8 channel PCM, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS, DTS-HD Master Audio 7.1, WMA Pro

- Analog audio de-embedding output (balanced)
  - Connector: 5-pole Phoenix
  - Formats: 2-channel PCM
  - Signal transmission: Balanced
  - Sampling frequency: 48 kHz

POWERING

- Local power: external adaptor, 12V DC, 2A via locking DC connector (2.1 mm pin)
- Remote power: PoE+ PD (IEEE802.3at) via the TPN input port (powered from a compatible network switch)

CONTROL

- Managed as a TPN endpoint via the TPN-MMU centralized interface (built-in web control)
- Controllable through Lightware REST API (HTTP/HTTPS requests) via the MMU
- Controllable through LW3 protocol (including WS/WSS usage via the MMU)
- RS-232 (3-pole Phoenix) available on the endpoint for serial communication/ command injection as part of the system

GENERAL

- Dimensions (W x D x H): 138 mm x 151.8 mm x 26 mm
- Weight: 604 g
- Enclosure material: 1 mm steel
- Mounting options (compatible):
  - 1U High Rack Shelf (up to 3x devices of this size on the shelf)
  - UD Mounting Plate F120 (up to 1x device)
  - Ventilation note: Top and side ventilation holes must not be covered
- LVD compatibility (electrical safety): EN 62368-1:2024
- Compliance: CE, UKCA
- EMC (emission): EN 55032:2015+A1:2020
- EMC (immunity): EN 55035:2017+A11:2020
- RoHS: EN 63000:2018
- Laser safety: EN 60825-1:2014+A11:2021
- Cooling: Passive

- Operating environment: 0 to +50°C, 10% to 90% non-condensing
- Supplied accessories (in the box):
  - Safety & Warranty Info; Quick Start Guide
  - 12V DC adaptor with interchangeable plugs
  - Phoenix® Combicon 3-pole connector
  - Phoenix® Combicon 5-pole connector
- Warranty period: 3 years
- Packaging: the product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-23	Initial version	Tamas Forgacs
v2	2026-08-06	Updated remote powering to PoE+ (IEEE 802.3at)	Tamas Forgacs