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

FUNCTIONAL OVERVIEW

The HDMI-TPX-RX107A-SR is an SDVoE-based TPX receiver extender with an integrated scaler. It receives an HDMI 2.0 compliant audio/video stream and associated control signals over a 10GBase-T TPX link and outputs the signal on HDMI with ultra-low latency (under 8 ms). The built-in scaler can adapt the output format to the connected display and supports multiple operating modes (including fast switching). The device also supports HDCP 2.3 and provides Ethernet and RS-232 interfaces for system integration.

VIDEO INPUT AND OUTPUT

- Video input (TPX / SDVoE)
  - Connector: RJ45 female (TPX input)
  - Data rate: 10GBase-T
  - Compliance: SDVoE
  - HDCP compliance: HDCP 2.3
  - Color space: RGB, YCbCr
  - Video latency: 0 frame (five lines / under 8 ms)
  - Compression ratio: 1.4 : 1 (applied only if AV signal exceeds HDMI 1.4 bandwidth)
  - Supported resolutions at 8 bits/color: up to 4096x2160@60Hz (4:4:4) or up to 3840x2160@60Hz (4:4:4)
  - Transferred signals: Video, Audio, RS-232, Infrared, Ethernet, CEC
- Video output (HDMI)
  - Connector: 19-pole HDMI Type A receptacle
  - Standard: DVI 1.0, HDMI 1.4, HDMI 2.0
  - Supported resolutions at 8 bits/color: up to 4096x2160@60Hz (4:4:4) or up to 3840x2160@60Hz (4:4:4)
  - CEC support: Transparent
- Integrated scaler (receiver feature)
  - Available modes: genlock, genlock_scaling, fastswitch (default), wall, wall_fs
  - If scaler is enabled, HDMI output is always RGB 8 bit/channel

AUDIO CAPABILITIES

- HDMI embedded audio is received over TPX and output on HDMI
- Analog audio de-embedding via 5-pole Phoenix® analog audio output
  - Audio format: 2-channel PCM
  - Signal transmission: balanced
  - Sampling frequency: 48 kHz

POWERING

- Local power via 12V DC input (locking DC connector; supplied power: 12V DC, 2A)
- Remote power via TPX input using PoE+ PD (IEEE802.3at)

CONTROL

- Control network via 1GBase-T Ethernet (RJ45)
- Configuration/monitoring via BlueRiver AV Manager
- API control via TCI API (TCP/IP terminal connection) and REST API
- RS-232 control via 3-pole Phoenix® connector (bi-directional serial communication)
- Factory reset via rear F (Factory Reset) button

GENERAL

- Dimensions: 138 W x 151.8 D x 26 H (mm)
- Mounting options compatibility
  - 1U High Rack Shelf: supported (3x)
  - UD Mounting Plate F120: supported (1x)
- LVD / electrical safety: EN 62368-1:2024
- Warranty period: 3 years
- Cooling: Passive
- Supplied accessories:
  - Safety and Warranty Info / Quick Start Guide
  - TPX / OPTX series extender (device)
  - 12V DC adaptor with interchangeable plugs
  - Phoenix® Combicon 3-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