



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: HDMI-TPX-TX209AU2K

FUNCTIONAL OVERVIEW

The HDMI-TPX-TX209AU2K is an SDVoE-based TPX transmitter for point-to-point extension of an HDMI 2.0 signal over a single CATx (10GBase-T) TPX link to a compatible TPX receiver. It supports up to 4K60 4:4:4 with ultra-low latency (five lines / under 8 ms) and HDCP 2.3. The unit includes a local HDMI loopback output, analog audio de-embedding, RS-232 and user Ethernet transport, and Icron-powered USB 2.0 extension with a Host USB-C connection for the computer and USB ports for device connectivity.

VIDEO INPUT AND OUTPUT

- Video input (HDMI)
 - Connector: 19-pole HDMI Type A receptacle
 - Standards: DVI 1.0, HDMI 1.4, HDMI 2.0
 - Supported resolutions at 8 bits/color: up to 4096×2160@60Hz (4:4:4) or up to 3840×2160@60Hz (4:4:4)
 - Audio formats on HDMI input: 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 (TPX / SDVoE)
 - Connector: RJ45 female connector; Data rate: 10GBase-T; Compliance: SDVoE
 - HDCP compliance: HDCP 2.3
 - 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 to 1 (compression is applied only if the AV signal exceeds the maximum bandwidth offered by the HDMI 1.4 specification)
 - Supported resolutions at 8 bits/color: up to 4096×2160@60Hz (4:4:4) or up to 3840×2160@60Hz (4:4:4)

- Local HDMI output (loopback)
 - Connector: 19-pole HDMI Type A receptacle; Number of ports: 1
 - Standards: DVI 1.0, HDMI 1.4, HDMI 2.0
 - Supported resolutions at 8 bits/color: up to 4096×2160@60Hz (4:4:4) or up to 3840×2160@60Hz (4:4:4)
 - CEC support: Transparent

AUDIO CAPABILITIES

- Embedded HDMI audio transport over TPX
 - 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
 - Connector: 5-pole Phoenix® connector; Number of ports: 1
 - Audio formats: 2-channel PCM
 - Signal transmission: Balanced signal
 - Sampling frequency: 48 kHz

POWERING

- Local power via 48V DC input (2-pole Phoenix® plug; supplied power: 48V DC, 0.8A)
- Remote power over TPX: PoE PD + PSE (IEEE802.3af) (device can receive or send power to the connected remote device over the TPX line)

CONTROL

- BlueRiver AV Manager (SDVoE/BlueRiver control software)
- BlueRiver API control
 - TCI API (terminal application over TCP/IP)
 - REST API (via SDVoE Control Server)
- Ethernet ports (1GBase-T, full duplex with autodetect; number of connectors per unit: 2; not PoE-capable)
- RS-232 (3-pole Phoenix® connector; bi-directional serial communication)
- EDID button (short press: transparent vs learned EDID; long press: learn/store EDID from receiver output)
- Factory reset via hidden F button

- Icron USB 2.0 extension
 - USB-C Host port: USB data only; supports USB 2.0 standard only (no AV transmission accepted)
 - USB modes: SUI / MSA

GENERAL

- Dimensions: 100.4 W × 151.8 D × 26 H mm
- Weight: 476 g (1.05 lbs)
- Mounting options (compatibility)
 - 1U High Rack Shelf: compatible (4×)
 - UD Mounting Kit: compatible
 - UD Mounting Kit Double: compatible (2×)
 - UD Mounting Plate F110: compatible
 - UD Mounting Plate F120: compatible (2×)
- Compliance / LVD compatibility
 - Compliance: CE, UKCA
 - Electrical safety: EN 62368-1:2024
 - EMC (emission): EN 55032:2015+A1:2020
 - EMC (immunity): EN 55035:2017+A11:2020
 - RoHS: EN 63000:2018
- Supplied accessories
 - TPX series extender
 - Safety & Warranty Info; Quick Start Guide
 - 48V DC adaptor with interchangeable plugs
 - Phoenix® Combicon 3-pole connector
 - Phoenix® Combicon 5-pole connector
- Warranty period: 3 years
- Cooling: Passive
- Packaging: the product has full paper / green packaging

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-28	Initial version	Tamas Forgacs