



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX2M-4TPX-IB

FUNCTIONAL OVERVIEW

MX2M-4TPX-IB is a hot-swappable 4-port TPX (SDVoE peer-to-peer) input board for the MX2M modular matrix system. It receives HDMI 2.0-class AV streams over CATx from compatible SDVoE transmitters and provides the incoming video for routing on the matrix Video layer. Embedded audio can be de-embedded from the incoming SDVoE streams to the matrix Audio layer for independent audio routing. The board is PoE-capable for powering connected TPX extenders when supported by the frame power configuration, and it supports HDCP 1.x and 2.3.

VIDEO INPUT AND OUTPUT SPECIFICATIONS

- Signal direction: Input board (IB)
- Video inputs / interface:
 - 4× RJ45 input connectors for SDVoE point-to-point connection supporting HDMI 2.0 standard
 - Compliance: AVX by SDVoE
- Performance / resolution:
 - 4K@60Hz 4:4:4, 18 Gbps bandwidth
 - Supported resolutions at 8 bits/color: up to 4096×2160@60Hz (4:4:4); up to 3840×2160@60Hz (4:4:4)
- Notes in specs:
 - Compression ratio 1.4 to 1; compression is applied only if AV signal is above HDMI 1.4 standard
 - All standard VESA/CEA/custom resolutions up to 600 MHz (HDMI 2.0) supported; if pixel clock is above 340 MHz, horizontal resolution cannot exceed 4096 pixels
- Color space: RGB, YCbCr
- HDCP compliance: HDCP 1.x and 2.3
- Latency: 0 frame (five lines / under 8 ms) (Specifications section)
- Compatibility (as stated):
 - Compatible with HDMI-TPX-100 and HDMI-TPX-200 series extenders
 - Also referenced as compatible with HDMI-TPX extender family / SDVoE compatible transmitter devices

AUDIO CAPABILITIES

- Embedded audio handling:
 - De-embedding audio from incoming SDVoE streams to the matrix Audio layer
- Transferred signals over TPX:
 - Video, Audio, RS-232, Infrared, Ethernet, USB K+M
- Audio formats:
 - 8 channel PCM
 - DTS, DTS-HD Master Audio 7.1, WMA Pro
 - Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, Dolby Vision
- System-level audio rules:
 - Digital embedded audio from video inputs is copied to the Audio layer for independent routing
 - Outputs can embed LPCM and compressed (<6.144 Mbit/s) audio, subject to documented limitations

POWERING

- Powered by the MX2M matrix frame when installed in an IB slot
- PoE capability (board / TPX port power):
 - Power over Ethernet: yes (IEEE 802.3af)
 - PoE can be enabled/disabled per port in settings (TPX input port properties / LW3 "POE.Enabled")
- Remote power system requirement:
 - For remote powering over TPX, the matrix frame must be built with an MX2M-PSU-1250-FP power drawer to fulfill the remote powering option
- Hot-swappable: board can be exchanged without powering off the matrix frame

CONTROL

- Controlled through the MX2M frame using:
 - Front panel controls (matrix switching/presets/locks)
 - Built-in web interface
 - Lightware Device Controller (LDC) via Ethernet/USB/RS-232 (frame interfaces)
 - LW3 protocol (ASCII-based) via TCP port 6107

- TPX input port settings and tools available via LDC / built-in web:
 - Port naming; mute/unmute; lock/unlock; “switch to all”
 - Frame Detector tool
 - CEC Controller tool (noted as present for TPX input port properties)
 - HDCP capability setting (disabled / 1.4 / 2.3)
 - HPD enable (Auto / On / Off)
 - PoE enable setting (false / true)

GENERAL

- Mechanical / dimensions (board):
 - Dimensions: 194.5 W × 208.5 D × 35.5 H mm
 - Material: 1.5 mm steel
 - Weight: 340 g (0.74 lbs)
- Mounting / installation:
 - Installs into MX2M IB (input board) slots
 - Hot-swappable board design
 - HDMI input ports have flange mounting option
- Cooling: Passive
- Compliance / LVD-related safety:
 - Compliance: CE, UKCA
 - Electrical safety standard: EN 62368-1:2020
 - RoHS: EN 63000:2018
 - EMC: EN 55032:2015+A1:2020 (emission), EN 55035:2017+A11:2020 (immunity)
- Warranty period: 3 years

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
Rev. 1.0	2026-06-22	Initial version	Tamas Forgacs