



## ARCHITECTURAL AND ENGINEERING SPECIFICATION

### PRODUCT: MX2M-4HDMI20-IB

#### FUNCTIONAL OVERVIEW

MX2M-4HDMI20-IB is a hot-swappable 4-port HDMI input board for the MX2M modular matrix system. It accepts HDMI 2.0 (and DVI 1.0 / HDMI 1.x compatible) sources and provides uncompressed 18 Gbit/s video up to 4K@60Hz 4:4:4 for routing through the MX2M video crosspoint. Embedded audio is passed through and can be de-embedded to the matrix Audio layer for independent audio routing. The board supports HDCP 1.4 and 2.3 and provides status indication and configuration via the MX2M control interfaces.

#### VIDEO INPUT AND OUTPUT SPECIFICATIONS

- Signal direction: Input board (IB)
- Video inputs:
  - 4× HDMI input connectors supporting HDMI 2.0
  - Connector type: 19-pole HDMI Type A receptacle
- A/V standards: DVI 1.0, HDMI 2.0 (and compatibility with HDMI 1.x per frame feature “Maximum AV Compatibility”)
- Bandwidth / data rate: uncompressed video up to 18 Gbps (600 MHz pixel clock)
- Supported resolutions (8 bits/color):
  - Up to 4096×2160 @ 60Hz (4:4:4)
  - Up to 3840×2160 @ 60Hz (4:4:4)
  - Note in specs: all standard VESA/CEA/custom resolutions up to 600 MHz supported; if pixel clock is above 340 MHz, horizontal resolution cannot exceed 4096 pixels
- Color space support: RGB, YCbCr 4:4:4 / 4:2:2 / 4:2:0
- HDCP compliance: HDCP 1.4 and HDCP 2.3
- Video delay: 0 frame
- Reclocking: Pixel Accurate Reclocking
- 3D support: Yes
- Input-side processing: none stated for HDMI 2.0 input side (“no video processing can be applied” on HDMI 2.0 input side)

## AUDIO CAPABILITIES

- Embedded audio handling:
  - Audio signal passthrough
  - De-embedding to the Audio layer
- Audio formats (specification table):
  - 8 channel PCM
  - DTS, DTS-HD Master Audio 7.1, WMA Pro
  - Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, Dolby Vision
- Audio layer constraints:
  - Embedded digital audio is copied to the Audio layer for independent routing
  - Audio outputs (analog/Dante) accept LPCM only; video outputs can embed LPCM and compressed (<6.144 Mbit/s) audio (as system limitation)

## POWERING

- Powered by the MX2M matrix frame when installed in an IB slot
- Board is hot-swappable; can be exchanged without powering off the matrix

## CONTROL

- Controlled through the MX2M frame using:
  - Front panel controls (switching/presets/locks at the frame level)
  - Built-in web interface (browser-based control/configuration)
  - Lightware Device Controller (LDC) software via Ethernet/USB/RS-232 (frame provides these interfaces)
  - LW3 protocol (ASCII-based) via TCP port 6107 (frame's LW3 interface)
- Input-port related controllable settings (via LDC/built-in web and LW3):
  - Mute/unmute, lock/unlock
  - HDCP capability / maximum enabled HDCP version (disabled / 1.4 / 2.3)
  - HPD (Hot Plug Detect) enable (Auto / On / Off)
  - Input color range mode (Auto / Full / Limited)
  - "Switch to all" function from selected input to all outputs (LDC)
  - Frame Detector tool (signal timing analysis)
  - CEC controller available on HDMI input ports

## GENERAL

- Mechanical / dimensions (board):
  - Dimensions: 194.5 W × 208.5 D × 35.5 H mm
  - Material: 1.5 mm steel
  - Weight: 276 g (0.6 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 |