



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX2-16X16-HDMI20-AUDIO

FUNCTIONAL OVERVIEW

The MX2-16x16-HDMI20-Audio is a standalone HDMI 2.0 matrix switcher providing 16x16 AV routing with integrated analog audio embedding and de-embedding. It supports 4K UHD switching with Pixel Accurate Reclocking, advanced EDID management, and HDCP handling. Local operation is available via the front panel (color LCD with jog dial), while remote configuration/control is supported via Ethernet, USB, and RS-232 using Lightware software tools and ASCII-based protocols. Non-volatile memory stores the latest configuration and presets.

VIDEO INPUT AND OUTPUT

- Matrix size: 16x16
- Video inputs: 16x HDMI (19-pole HDMI type A receptacle)
- Video outputs: 16x HDMI (19-pole HDMI type A receptacle)
- AV standard: DVI 1.0, HDMI 2.0
- HDCP compliance: HDCP 2.3
- Color space: RGB, YCbCr
- Video delay: 0 frame
- Supported resolutions at 12 bits/color: up to 5120x2160@30Hz (4:4:4) or 5120x2160@60Hz (4:2:0)
- Supported resolutions at 8 bits/color: up to 4096x2048@60Hz (4:4:4) or 4096x2048@60Hz (4:2:0); up to 3840x2160@60Hz (4:4:4) or 3840x2160@60Hz (4:2:0); 1920x1080@60Hz (4:4:4) up to 12 bits/color
- Reclocking: Pixel Accurate Reclocking
- 3D support: Yes
- Input cable equalization: Yes, +12dB fixed
- Max. HDMI cable length (premium certified cable): 40m at 1920x1080@60Hz 4:4:4; 15m at 3840x2160@30Hz 4:4:4; 5m at 3840x2160@60Hz 4:4:4
- EDID management: EDID emulation Yes; EDID memory 144 factory presets, 100 user-programmable

AUDIO CAPABILITIES

- Audio embedding/de-embedding (model type “-Audio”): each input port has audio connectors for embedding analog audio to the HDMI stream; audio connectors next to the output ports provide de-embedded audio
- De-embedding limitation: only stereo LPCM can be de-embedded from the HDMI signal
- Analog audio input
 - Connector type: 5-pole Phoenix connector
 - Audio formats: 2-channel PCM
 - Sampling frequency: 48 kHz
 - Maximum input level: +0 dBu, 0.77 Vrms, 2.19 Vpp
 - Signal transmission: Balanced / unbalanced audio
 - Balance: -100 (-95 dB) to +100 (0 dB) (0 = center)
 - Gain: -12 dB to +35 dB
- Analog audio output
 - Connector type: 5-pole Phoenix connector
 - Audio formats: 2-channel PCM
 - Sampling frequency: 48 kHz
 - Signal transmission: Balanced / unbalanced audio
 - Volume: -78 dB to 0 dB
 - Balance: -100 (-95 dB) to +100 (0 dB) (0 = center)
 - Nominal Differential Output Level @ 0 dB Gain: +4 dBu
 - Nominal Differential Output Level @ 3 dB Gain: +7 dBu
- HDMI embedded audio formats (in line with HDMI 2.0 standard; as listed): Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, Dolby Vision; DTS, DTS-HD Master Audio 7.1, WMA Pro

POWERING

- Supported power source: 100–240V AC, 50–60Hz
- AC power connector: IEC C14 receptacle
- AC fuse: F 3.15A
- Power switch: the matrix can be switched on/off by the power switch (1U-high models are not supplied with a power switch)

CONTROL

- Front panel control: color LCD + jog dial control knob (front panel buttons available on certain models)
- Ethernet/LAN control (10/100Base-T)
- Built-in website control via web browser
- USB control (USB mini-B; USB 2.0)
- RS-232 serial control (3-pole Phoenix connector in other models; factory default serial settings: RS-232 enabled; 57600 Baud; Protocol: LW3)
- Control protocols: LW2, LW3, P#2

GENERAL

- Compliance: CE, UKCA, UL
- EMC (emission): EN 55032:2015+A1:2020
- EMC (immunity): EN 55035:2017+A1:2020
- RoHS: EN 63000:2018
- Electrical safety (LVD): EN 62368-1:2014 Second Edition
- Warranty: 3 years
- Cooling: cooling fans; air flows from front to rear
- Mounting: rack mountable; rack ears supplied
- Mounting options: standard rack installation; wall mounting method is the same; mounting with front and rear rack ears requires two additional rear rack ears (not supplied)
- Enclosure material: 1 mm steel
- Dimensions: 441 W x 132.6 H x 280.2 D mm (with rack-mounting ears: 483 mm width)
- Supplied accessories: Safety and Warranty Info, QSG; IEC power cable; Phoenix® Combicon 3-pole connector; Phoenix® Combicon 5-pole connector: 12x

DOCUMENT REVISION HISTORY

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