



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX2-16X16-HDMI20-AUDIO-R

FUNCTIONAL OVERVIEW

The MX2-16x16-HDMI20-Audio-R is a standalone 16x16 HDMI 2.0 matrix switcher supporting uncompromised 4K UHD switching up to 60 Hz with 4:4:4 capability and HDCP 2.3 compliance. It provides analog audio embedding to the HDMI stream at inputs and analog audio de-embedding from HDMI at outputs (balanced/unbalanced via Phoenix connectors). Device configuration and routing are available through the front-panel LCD/jog dial, built-in web interface, Lightware Device Controller software, and LAN/RS-232/USB control.

VIDEO INPUT AND OUTPUT

- Matrix size: 16 inputs x 16 outputs
- HDMI input connector: 19-pole HDMI Type A receptacle
- HDMI output connector: 19-pole HDMI Type A receptacle
- AV standards: DVI 1.0, HDMI 2.0
- HDCP compliance: HDCP 2.3
- Color space: RGB, YCbCr
- Video delay: 0 frame
- Reclocking: Pixel Accurate Reclocking
- 3D support: Yes
- Supported resolutions (12 bits/color): up to 5120x2160@30Hz (4:4:4) or 5120x2160@60Hz (4:2:0)
- Supported resolutions (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
- Max HDMI cable length (premium certified cable), input and output:
 - 1920x1080@60Hz 4:4:4: 40 m
 - 3840x2160@30Hz 4:4:4: 15 m
 - 3840x2160@60Hz 4:4:4: 5 m
- Input cable equalization: Yes, +12 dB fixed
- HDMI output +5V on DDC (pin 18): outputs are able to supply 500 mA

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

- Power supply: built-in PSU
- Supported power source: 100–240V AC, 50/60 Hz
- AC power connector (-R models): two Neutrik powerCON connectors
- Redundant power supplies: can be switched on/off without interrupting video transmission; operation with one or both PSUs is possible; allows connection to two different AC power lines
- AC fuse: F 3.15A
- Power switch: rear-panel power switch (present on non-1U models)

CONTROL

- Front panel control: color LCD + jog dial control knob
- 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-related): EN 62368-1:2014 Second Edition
- Warranty: 3 years
- Cooling: cooling fans; air flows from front to rear
- Enclosure: 1 mm steel
- Rack mountable: Yes (rack ears supplied)
- Dimensions: 441 (483 + 2) W x 132.6 H x 280.2 D mm
- Mounting options:
 - Standard rack installation using supplied rack ears
- Supplied accessories:
 - Safety and Warranty Info
 - Quick Start Guide
 - 2x Neutrik powerCON power cable
 - Serial data cable (male-female)
 - 12x Phoenix Combicon 5-pole connector

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-29	Initial version	Tamas Forgacs