



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX2-24X24-DH-12DPI-A-R

FUNCTIONAL OVERVIEW

MX2-24x24-DH-12DPi-A-R is a standalone matrix switcher providing 24x24 crosspoint switching with mixed DisplayPort and HDMI connectivity (DP inputs and HDMI inputs) and HDMI outputs. It supports HDMI 2.0 / DP 1.2 (with 18 Gbps bandwidth limitation), up to 4K UHD 60 Hz operation, HDCP 2.3 compliance, and advanced EDID management. The -A option provides balanced analog audio embedding to the video stream and de-embedding to analog outputs. The -R option provides redundant power sources and reinforced control ports.

VIDEO INPUT AND OUTPUT

- Crosspoint size: 24x24
- Video input port types:
 - DisplayPort input ports: 1–12
 - HDMI input ports: 13–24
- Video output port types:
 - HDMI output ports: 1–24
- HDMI input
 - Connector type: 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
 - Reclocking: Pixel Accurate Reclocking
 - 3D support: Yes
 - Input cable equalization: Yes, +12dB fixed
 - 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);upto3840x2160@60Hz(4:4:4)or3840x2160@60Hz (4:2:0); 1920x1080@60Hz (4:4:4) up to 12 bits/color

- DisplayPort input
 - Connector type: 20-pole DisplayPort receptacle
 - AV standard: DVI 1.0, HDMI 2.0, DP 1.2 (with 18 Gbps bandwidth limitation)
 - 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);upto3840x2160@60Hz(4:4:4)or3840x2160@60Hz (4:2:0); 1920x1080@60Hz (4:4:4) up to 12 bits/color
 - 3D support: Yes
- HDMI output
 - Connector type: 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
 - Reclocking: Pixel Accurate Reclocking
 - 3D support: Yes
 - 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);upto3840x2160@60Hz(4:4:4)or3840x2160@60Hz (4:2:0); 1920x1080@60Hz (4:4:4) up to 12 bits/color
- HDMI output +5V capability: outputs are able to supply 500 mA current on DDC +5V output (pin 18)
- Max. input/output HDMI cable length (premium certified cable):
 - 1920x1080@60Hz 4:4:4: 40m
 - 3840x2160@30Hz 4:4:4: 15m
 - 3840x2160@60Hz 4:4:4: 5m
- EDID management
 - EDID emulation: Yes
 - EDID memory: 144 factory presets, 100 user-programmable

AUDIO CAPABILITIES

- HDMI / DP embedded audio formats (per HDMI 2.0 list in specifications)
 - all formats in line with HDMI 2.0 standard; Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, Dolby Vision; DTS, DTS-HD Master Audio 7.1, WMA Pro
- 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) - +100 (0 dB) (0 = center)
 - Gain: -12 dB - +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 - 0 dB
 - Balance: -100 (-95 dB) - +100 (0 dB) (0 = center)
 - Nominal Differential Output Level @ 0 dB Gain: +4 dBu
 - Nominal Differential Output Level @ 3 dB Gain: +7 dBu
- De-embedding note: only stereo LPCM can be de-embedded from the HDMI signal
- Audio port numbering
 - Audio input ports: 9–12; 17–24
 - Audio output ports: 1–8

POWERING

- Power supply option: Built-in PSU
- Supported power source: 100–240V AC, 50~60Hz
- AC connector (-R suffixed models): two Neutrik powerCON connector accepting 100–240 V, 50 or 60 Hz

- Redundant power supplies (-R): can be switched on and off without interrupting the video transmission; using only one or both the PSUs at the same time is also possible; allows connection to two different AC power lines
- AC fuse: F 3.15A

CONTROL

- Front panel control: color display (LCD) + jog dial control knob
- Front panel buttons: sources/destinations selection, Take/Autotake switching, output lock, control lock, preset operations, reset
- USB control: USB mini-B receptacle; USB 2.0; device class HID
- LAN control (-R suffixed models): Neutrik etherCON connector for Ethernet/LAN connection
- RS-232 control (-R suffixed models): 9-pole D-SUB connector (female)
- Built-in website (web browser control)
- Lightware Device Controller (LDC) control via LAN or USB
- Ethernet services / ports
 - LW2 protocol: TCP 10001
 - LW3 protocol: TCP 6107
 - Secondary protocol: TCP 23
 - HTTP port: TCP 80
- RS-232 factory default settings: RS-232 enabled; 57600 Baud; Protocol: LW3

GENERAL

- Dimensions: 440.5 (483 + 2) W x 177 H x 280.2 D mm
- Mounting options
 - Standard rack installation (rack ears supplied)
- LVD compatibility (Electrical safety): EN 62368-1:2014 Second Edition
- Compliance: CE, UKCA, UL
- Warranty: 3 years
- Cooling: by cooling fans, air flows from front to rear



- Supplied accessories
 - Safety and Warranty Info
 - Quick Start Guide
 - 2x Neutrik powerCON power cable
 - Serial data cable (male-female)
 - 20x Phoenix® Combicon 5-pole connector

DOCUMENT REVISION HISTORY

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