



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX2-24X24-DH-24DPIO-A-R

FUNCTIONAL OVERVIEW

The MX2-24x24-DH-24DPio-A-R is a standalone 24x24 multimedia matrix switcher providing DisplayPort switching with integrated EDID and HDCP management, pixel-accurate reclocking, and signal/status diagnostics. It supports high-bandwidth video routing up to 4K UHD class signals (and higher formats per supported timings), with analog audio embedding and de-embedding (model “-A”). Configuration and operation are available via front panel LCD/jog dial, built-in web interface, Lightware Device Controller (USB/LAN), RS-232, and Ethernet using Lightware control protocols.

VIDEO INPUT AND OUTPUT

- Matrix size: 24 inputs x 24 outputs (AV routed together; no independent audio layer)
- Video inputs:
 - 24x DisplayPort inputs (DP 1.2, with 18 Gbps bandwidth limitation)
 - Connector: 20-pole DisplayPort receptacle
- Video outputs:
 - 24x DisplayPort outputs (DP 1.2, with 18 Gbps bandwidth limitation)
 - Connector: 20-pole DisplayPort receptacle
- HDCP compliance: HDCP 2.3
- Color space support: RGB, YCbCr
- Video delay: 0 frame
- Reclocking: Pixel Accurate Reclocking
- Supported resolutions:
 - Up to 5120x2160@30Hz (4:4:4) at 12 bits/color, or 5120x2160@60Hz (4:2:0) at 12 bits/color
 - At 8 bits/color: up to 4096x2048@60Hz (4:4:4) and up to 3840x2160@60Hz (4:4:4) (and 4:2:0 where applicable)

AUDIO CAPABILITIES

- Analog audio
 - Analog audio inputs: 8 (balanced/unbalanced), 5-pole Phoenix (line in)
 - Analog audio outputs: 24 (balanced/unbalanced), 5-pole Phoenix (line out)
 - Analog audio format: 2-channel PCM, 48 kHz
 - Analog input controls: gain -12 dB to +35 dB; balance -100 to +100 (0=center)
 - Analog output controls: volume -78 dB to 0 dB; balance -100 to +100 (0=center)
- Audio embedding/de-embedding:
 - Analog audio can be embedded into the video stream (per-port audio source selection)
 - Analog audio outputs can provide de-embedded audio from the routed AV stream
- DisplayPort embedded audio on DP outputs:
 - Limited to 2-channel LPCM (48–192 kHz) due to bandwidth limitation

POWERING

- AC mains input: 100–240 V AC, 50/60 Hz
- Redundant power supplies: Yes (model suffix -R)
 - Two AC inputs via Neutrik powerCON connectors (redundant PSU operation)
 - Redundant PSUs can be used one or both at the same time to ensure continuous operation

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 (MX2-24x24 family): 440.5 (483 with rack ears) W x 177 H x 280.2 D mm; 17.3 (19 with rack ears) W x 6.9 H x 11 D in
- 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)
 - Phoenix Combicon 5-pole connectors (20x)

DOCUMENT REVISION HISTORY

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