



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX2-48X48-DH-48DPiO-A-R

FUNCTIONAL OVERVIEW

The MX2-48x48-DH-48DPiO-A-R is a standalone matrix switcher providing 48x48 crosspoint routing with DisplayPort inputs and DisplayPort outputs, supporting HDMI 2.0 class video performance and HDCP 2.3, plus advanced EDID management and pixel accurate reclocking. It provides detailed DisplayPort diagnostics (lane count, data rate) and restart link training for troubleshooting without unplugging. The “-A” option enables analog audio embedding into the routed AV stream and analog audio de-embedding for external audio systems. Configuration and operation are available via the front panel LCD and jog dial, and control is available through Ethernet, RS-232, and USB.

VIDEO INPUT AND OUTPUT

- Matrix size: 48 inputs x 48 outputs
- Video input count and types:
 - 48x DisplayPort inputs (ports 1–48)
- Video output count and types:
 - 48x DisplayPort outputs (ports 1–48)
- Connectors:
 - DisplayPort: 20-pole DisplayPort receptacle (input and output)
- AV standard (DP I/O specification table):
 - DVI 1.0, HDMI 2.0, DP 1.2 (with 18 Gbps bandwidth limitation)
- HDCP compliance: HDCP 2.3
- Color space support: RGB, YCbCr
- Video delay: 0 frame
- Supported resolutions:
 - Up to 5120x2160@30 Hz (4:4:4) or 5120x2160@60 Hz (4:2:0) at 12 bits/color
 - Up to 4096x2048@60 Hz (4:4:4) or 4096x2048@60 Hz (4:2:0) at 8 bits/color
 - Up to 3840x2160@60 Hz (4:4:4) or 3840x2160@60 Hz (4:2:0) at 8 bits/color
 - 1920x1080@60 Hz (4:4:4) up to 12 bits/color
- Reclocking: Pixel Accurate Reclocking
- DisplayPort output embedded audio limitation:
 - 2-channel LPCM (48–192 kHz)

AUDIO CAPABILITIES

- Analog audio availability: “-A” (analog audio embedding/de-embedding supported)
- Analog audio connectors: 5-pole Phoenix (balanced / unbalanced line in/out)
- Analog audio input:
 - Format: 2-channel PCM; sampling frequency 48 kHz
 - Maximum input level: +0 dBu, 0.77 Vrms, 2.19 Vpp
 - Gain: -12 dB to +35 dB
 - Balance: -100 (-95 dB) to +100 (0 dB) (0 = center)
- Analog audio output (specification table):
 - Format: 2-channel PCM; sampling frequency 48 kHz
 - 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
- DisplayPort output audio format (specification table):
 - 2-channel LPCM (48–192 kHz)
- HDMI de-embedding note (series description):
 - Only stereo LPCM can be de-embedded from the HDMI signal

POWERING

- Supported power source: 100–240 V AC, 50/60 Hz
- Power supply option: built-in PSU
- Redundant power supply: provided
 - Two AC inputs via Neutrik powerCON connectors
 - Double PSU allows connection to two different AC power lines to ensure continuous power
- AC power connector: two Neutrik powerCON
- AC fuse: F 3.15 A
- Power consumption:
 - (no signal / max. signal): 108 W / 203 W

CONTROL

- Front panel control:
 - Color LCD menu + jog dial control knob
 - Front panel I/O buttons
- Ethernet/LAN control:
 - 10/100Base-T, full duplex with autodetect
 - LW2 over TCP port 10001; LW3 over TCP port 6107
 - HTTP control via built-in website (TCP port 80)
 - Secondary protocol via TCP port 23
- RS-232 control:
 - -R models: 9-pole D-SUB connector
 - Adjustable baud rate; factory default: 57600 baud, protocol LW3
- USB control:
 - USB mini-B (USB 2.0, HID) for local control (e.g., Lightware Device Controller)
- Software:
 - Lightware Device Controller (LDC)
 - Built-in web interface (browser control)

GENERAL

- Enclosure / rack:
 - Rack mountable (rack ears supplied)
 - Dimensions (8 RU models): 440.5 (483+2) W x 355 H x 280.2 D mm
- Mounting options:
 - Standard rack installation with supplied rack ears
 - Handles can be mounted (handles are supplied)
- Electrical safety / LVD-related standard:
 - EN 62368-1:2014 Second Edition
- Warranty period: 3 years
- Cooling:
 - Cooling fans; airflow from front to rear (front-to-back airflow design)



- Supplied accessories:
 - Safety and Warranty Info, Quick Start Guide
 - Neutrik powerCON power cable (2 pcs)
 - Serial data cable (male-female)
 - Phoenix Combicon 5-pole connectors (32 pcs)
 - Handle pair with 4 pcs M5 flat head screws

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-07-30	Initial version	Tamas Forgacs