



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MMX8X8-HDMI-4K-A

FUNCTIONAL OVERVIEW

The MMX8x8-HDMI-4K-A is a standalone 8x8 HDMI matrix switcher designed for collaboration room environments. It routes HDMI video and embedded audio from any of eight inputs to any of eight outputs, supporting 4K/UHD and 3D with HDCP compliance. The unit provides advanced EDID management and pixel accurate reclocking to improve interoperability and signal stability. It also includes balanced analog audio I/O for embedding and de-embedding purposes, and can be controlled from the front panel, Ethernet, RS-232, or USB using Lightware protocols and Lightware Device Controller software.

VIDEO INPUT AND OUTPUT

- Matrix size: 8x HDMI inputs, 8x HDMI outputs
- Connector type: 19-pole HDMI Type A receptacle (inputs and outputs)
- A/V standard: DVI 1.0, HDMI 1.4
- HDCP compliance: HDCP 1.4
- Color space support: RGB, YCbCr
- Supported resolutions at 8 bits/color:
 - 3840x2160 @ 30 Hz (RGB 4:4:4)
 - 3840x2160 @ 60 Hz (YCbCr 4:2:0)
 - 1920x1080 @ 120 Hz (24-bit RGB 4:4:4)
 - All standard VESA/CEA and custom resolutions up to 300 MHz (HDMI 1.4)
- Video delay: 0 frame
- Reclocking: Pixel Accurate Reclocking
- 3D support: yes
- Input cable equalization: Yes, +12 dB fixed
- EDID management: EDID emulation (advanced EDID management), EDID v1.3 supported

AUDIO CAPABILITIES

- Embedded HDMI audio formats: 2-channel PCM Stereo, 8-channel PCM
- Analog audio I/O: 6x balanced, 5-pole Phoenix connectors (configured as inputs or outputs; sum of analog inputs and outputs is six)

- Audio embed/de-embed functionality:
 - Analog audio can be embedded into HDMI outputs
 - Embedded HDMI audio can be routed to analog audio outputs (de-embedded)
- Analog audio sampling frequency: 48 kHz
- Analog audio input maximum level: +0 dBu, 0.77 Vrms, 2.19 Vpp
- Analog audio transmission: balanced / unbalanced signal

POWERING

- Power supply: built-in PSU
- Supported power source: 100–240 V AC, 50/60 Hz
- AC connector: standard IEC connector
- Power-on behavior: powered on immediately after connecting the power cord; after self-test (about 30 seconds) the last configuration is loaded automatically
- Power consumption (min/max): 15.5 W / 34.6 W

CONTROL

- Front panel control: color LCD display and rotary jog dial control knob; source/destination buttons; Take / Autotake modes; presets; output lock; control lock
- Ethernet control: device can be controlled via an Ethernet port (RJ45 connector); supports third-party controllers using LW2/LW3
- RS-232 control: 2x RS-232 (3-pole Phoenix connectors)
- USB control: front panel USB (mini B-type connector) for local control functions (e.g., Lightware Device Controller software); supports LW3 protocol
- Control software: Lightware Device Controller (Windows and macOS)
- Protocol support: LW2 and LW3
- Advanced Control Pack v3 features (from firmware pack v1.3.0):
 - Basic IT security improvements: cleartext login, TCP port blocking, MAC address filtering
 - Batch commands (salvo): batch of LW3 commands can be run by stored macro or by sending a file to the device
 - Event Manager +: triggering a condition, defining variables, and checking two conditions for an action
 - TCP Recognizer: incoming TCP messages can be processed and used as conditions/actions

GENERAL

- Dimensions: 442 W x 87.8 H x 300 D mm; 482 mm width with rack-mounting ears
- Enclosure material: 1 mm steel
- Rack mountable: yes
- Mounting height: 2U
- Mounting option: standard rack installation using the supplied two rack ears
- Cooling: by cooling fans; air flows from front to rear
- Compliance: CE, UKCA, UL
- Electrical safety: EN 62368-1:2020
- RoHS: EN 63000:2018
- Supplied accessories:
 - Matrix switcher
 - Safety and Warranty Info
 - Quick Start Guide
 - IEC power cable
 - 2x Infrared emitter unit Phoenix® Combicon 2-pole connector
 - 2x Phoenix® Combicon 3-pole connector
 - 6x Phoenix® Combicon 5-pole connector
- Warranty period: 3 years

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-08-18	Initial version	Tamas Forgacs