



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MMX8X4-HT420M

FUNCTIONAL OVERVIEW

MMX8x4-HT420M is a standalone multimedia matrix switcher for collaboration rooms. It provides eight video inputs and four video outputs, combining HDMI and TPS interfaces with support for 4K/UHD, 3D and HDCP. The unit includes a microphone input, advanced analog audio input/output, and built-in DSP-based audio mixing for de-embedded HDMI/TPS audio, microphone and line-in signals. It supports phantom power, PoE on TPS ports, front-panel LCD/jog-dial operation, and control via USB, Ethernet and RS-232, plus serial and IR command injection to endpoints.

VIDEO INPUT AND OUTPUT

- 8 video inputs total:
 - 4x TPS inputs on RJ45
 - 4x HDMI inputs on 19-pole HDMI Type A receptacles
- 4 video outputs total:
 - 2x TPS outputs on RJ45
 - 2x HDMI outputs on 19-pole HDMI Type A receptacles
- HDMI A/V standard: DVI 1.0, HDMI 1.4
- TPS ports are HDBaseT-compatible
- HDCP compliance: HDCP 1.4
- Supported color spaces: RGB, YCbCr
- Supported resolutions at 8 bits/color:
 - 3840x2160@30Hz RGB 4:4:4
 - 3840x2160@60Hz YCbCr 4:2:0
 - 1920x1080@120Hz, 24-bit RGB 4:4:4
- All standard VESA, CEA and custom resolutions up to 300 MHz are supported
- Video delay: 0 frame
- Reclocking: Pixel Accurate Reclocking
- 3D support: yes
- HDMI input cable equalization: +12 dB fixed
- TPS transmitted signals: video, audio, RS-232, Ethernet

- TPS maximum extension distances:
 - up to 100 m over CAT5e AWG24 in Auto mode at 1920x1080p@60Hz / 24 bpp
 - up to 130 m over CAT5e AWG24 in Longreach mode at resolutions up to 148.5 MHz pixel clock
 - upto 70 m over CAT5e AWG24 at 3840x2160@30Hz UHD or 4096x2160@30Hz 4K

AUDIO CAPABILITIES

- Audio inputs:
 - 4x HDMI embedded audio
 - 4x TPS embedded audio
 - 2x AUX analog audio I/O ports configurable as input or output
 - 1x advanced analog audio input
 - 1x microphone input
- Audio outputs:
 - 2x HDMI embedded audio
 - 2x TPS embedded audio
 - 2x AUX analog audio I/O ports configurable as input or output
 - 1x advanced analog audio output
- Built-in sound mixer DSP allows free mixing of microphone, line-in and de-embedded audio
- DSP audio mixer services include fader, ducking, equalizer, mute, balance and gain
- Voice Activated Presenter Focus is supported
- Microphone input:
 - 3-pole Phoenix connector
 - balanced audio
 - gain: -12 dB to +55 dB
 - volume: -80 dB to +10 dB
 - phantom power: 48 V
- Advanced analog audio input:
 - 5-pole Phoenix connector
 - balanced or unbalanced audio
 - gain: -12 dB to +21 dB
 - volume: -80 dB to +10 dB

- Advanced analog audio output:
 - 5-pole Phoenix connector
 - balanced audio
 - volume: -80 dB to +10 dB
- HDMI audio formats: 2-channel PCM stereo, 8-channel PCM
- TPS audio formats: 8-channel PCM, Dolby TrueHD, DTS-HD Master Audio 7.1
- AUX analog audio I/O can be configured for audio embedding into, or de-embedding from, the adjacent HDMI stream
- Advanced analog audio output can carry de-embedded audio from one incoming video signal, advanced analog audio input and microphone input

POWERING

- Built-in PSU
- Powered locally through a standard IEC AC connector
- Supported power source: 100-240 V AC, 50-60 Hz
- The device powers on immediately when the power cord is connected to the AC input connector
- Maximum power consumption: 99.2 W
- Maximum heat dissipation: 338 BTU/h
- TPS input and output ports are PoE-compatible
- Each TPS port can remote power one 20 W PoE device
- Ethernet ports do not support PoE; only TPS ports provide PoE function

CONTROL

- Front-panel control via color LCD display and rotary jog dial knob
- USB mini-B front-panel connection for local control
- Control Ethernet port on RJ45 for LAN control
- 2x bi-directional RS-232 ports on 3-pole Phoenix connectors
- 2x Serial/Infra output ports on 2-pole Phoenix connectors for IR output or TTL output serial signal
- 4x IR output ports on 3.5 mm jack connectors
- 2x GPIO ports with 8-pole Phoenix port
- Control is supported via RS-232, Ethernet or USB
- Supported control protocols include LW2 and LW3
- Lightware Device Controller software is supported

- Supports RS-232, serial and IR command injection capabilities to endpoints
- Supports CEC
- Supports Miniweb
- Supports Event Manager
- Supports RS-232 Recognizer
- Advanced Control Pack v3 features supported: Basic IT Security, Batch Commands, Event Manager+, TCP Recognizer

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
 - 1x LAN straight-through cable, CAT5e type, 0.25m length
 - 4x Phoenix® Combicon 2-pole connector
 - 3x Phoenix® Combicon 3-pole connector
 - 4x Phoenix® Combicon 5-pole connector
 - 2x Phoenix® Combicon 8-pole connector
- Warranty period: 3 years



DOCUMENT REVISION HISTORY

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