



ARCHITECTURAL AND ENGINEERING SPECIFICATION

PRODUCT: MX-CPU2

FUNCTIONAL OVERVIEW

MX-CPU2 is the processor board for Lightware MX-FR hybrid modular matrix frames, providing matrix control and system configuration storage in a scalable, non-blocking crosspoint architecture. It supports hybrid modular routing across mixed interface boards (as permitted by signal/HDCP compatibility) and adds a TEST INPUT and PREVIEW OUTPUT that can also operate as normal I/O ports. The platform supports front-panel operation, Ethernet/RS-232/USB control, built-in web access, advanced EDID management, pixel-accurate reclocking, and diagnostics for video/audio signal analysis.

VIDEO INPUT AND OUTPUT

- Test input connector: 29-pole DVI-I, digital only
- Test input cable equalization: No
- Test input EDID emulation: Yes
- Test input reclocking: Pixel Accurate Reclocking
- Preview output connector: 29-pole DVI-I, digital only
- Preview output pre-emphasis: No
- Preview output reclocking: Pixel Accurate Reclocking
- Preview output EDID read: Yes
- +5V output current: 500 mA continuous each (protected)
- TEST INPUT and PREVIEW OUTPUT ports can be used as normal I/O ports; these ports are HDMI and HDCP capable

CONTROL

- Front panel buttons and LCD menu operation (frame dependent)
- USB control port for Lightware Device Controller software
- RS-232 serial control: 9-pole D-SUB female; Lightware Protocol (#1) / Protocol #2
- Ethernet control: Neutrik etherCON / RJ45; TCP/IP, HTTP, TFTP, Telnet
- Built-in website for control/configuration
- Alarm output: SMPTE 269M standard BNC

GENERAL

- Compliance: CE, UKCA
- EMC (emission): EN 62368-1:2024
- EMC (immunity): EN 55035:2017+A11:2020
- RoHS: EN 63000:2018
- Electrical safety: EN 60065:2002 + A1:2006 + A11:2008 + A2:2010 + A12:2011
- Laser safety: EN 60825-1:2014+A11:2021
- Warranty period: 3 years.

DOCUMENT REVISION HISTORY

Document	Release Date	Changes	Checked by
v1	2026-08-24	Initial version	Tamas Forgacs