

Matrix Switcher Frames

The MX series matrix routers are the highest performance, modular expandable DVI and HDMI compliant switchers, available in five different frame sizes.

The built-in sophisticated software and hardware features make these routers the most flexible integrated solution for AV professionals and high-end home theatre applications.



Non-Blocking Topology:

Any input can be tied to any one or more outputs without limitations. One source can be viewed on multiple destinations at the same time. Crosspoint switching is done instantly without frame delay or frame latency. Different frame sizes are available from 9x9 up to 80x80 allowing the building of custom I/O sized matrices.

Hybrid Modular Architecture:

Lightware's Hybrid Modular matrix switchers have various input and output interface boards, which can be mixed in the same frame without limitation. The hybrid architecture allows for routing signals between the boards even if they have different type of interfaces (DVI, HDMI, fiber optical, or CATx twisted pair). A wide range of compatible extender devices is available for all interface boards.

Cross-Platform Signal Routing:

DVI, HDMI, analog VGA, SDI, HD-SDI, 3G-SDI, S/PDIF and analog stereo audio signals are handled in the same frame without routing limitations.

MX Series Frame Features:

- Equipped with MX-CPU2 processor board
- Additional I/O ports accessible on MX-CPU2 processor board
- Dual-Link DVI compatible
(one Dual-Link port uses two Single-Link ports)
- Compatible with all MX- and MXD- I/O boards
- Provide Ethernet and RS-232 extension to the endpoints
- Frame Detector for input signal analysis on any port
- Multiple TCP/IP connection
- Non-blocking topology
- Advanced error handling and logging with time code
- Combine non-HDCP and HDCP capable I/O boards in the same frame
- Advanced EDID Management
- Intuitive control software
- HDCP compliant
- Simultaneous control over several interfaces
- Optional redundant power supplies
- Hybrid Modular and Cross Platform technology
- Full crosspoint configuration save and reload as preset (32 presets)

Control Options:

- Front panel buttons and 4 line LCD menu
- RS-232
- TCP/IP Ethernet (multiple connections)
- Built-in website (multiple access)
- Front panel USB
- Christie (ex-Vista) Spyder and Barco Encore compatible

Processor Board

MX-CPU2

Part No: 9111 0008

MX-CPU2 contains an additional input and output port that fully support DVI and 3D HDMI signals with or without HDCP encryption. The test input and preview output ports turn an existing 16x16 matrix to a 17x17, an existing 32x32 to a 33x33.



MX-CPU2

Available MX Frames Sizes and Specifications:

	MX-FR33R
Equipped with MX-CPU2 processor board	✓
I/O board slots	4 in, 4 out
Additional I/O ports accessible on MX-CPU2	✓
Custom I/O sizes (Crosspoint size)	from 9x9 to 33x33
Dual-Link DVI compatible (Dual-Link crosspoint size)	from 4x4 to 16x16
Rack height	7U
Redundant high reliability power supplies	✓
Number of power supplies	2
Power supply hot swappable	✓
Power consumption ¹	27 W
Heat dissipation (BTU) ¹	92
Cooling (forced convection) 120 mm fans	4
Dimensions with rack mounting ears:	482 W x 309,5 H x 400 D mm
Dimensions without rack mounting ears:	440 W x 309,5 H x 400 D mm
Net weight ²	14 kg

¹with CPU2 board and without I/O boards

²with CPU2 board, power supplies and without I/O boards

Specifications for All Frames:

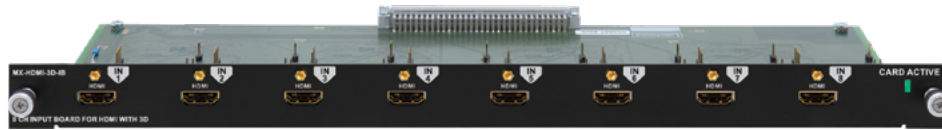
Video data rate:	12.8 Gbps
EDID memory:	100 factory preset and 50 user programmable
EDID emulation:	256-Byte Extended EDID v1.3
Front panel buttons:	Yes
Front panel LCD:	Yes, 4 x 20 characters
RS-232:	Selectable (9600, 38400, 57600, 115200) Baud RX, TX (default: 57600)
LAN:	Ethernet 10Base-T or 100Base-TX (Auto-sensing)
WEB:	Built-in website
Temperature:	0°C to +50°C operational, -40°C to +70°C storage
Humidity:	10 to 90% non-condensing
Altitude:	2000 m operational
EMI/EMC compliance:	Yes, EN 55022 Class B
RoHS compliance:	Yes
Warranty:	3 years

Available Models, Rear Views



MX-FR33R

HDMI Input Board Including 4K, 3D and Deep Color



MX-HDMI-3D-IB



Part No: 9112 0007, 9112 0008 (A), 9112 0009 (S)

Description:

MX-HDMI-3D-IB provides eight channel HDMI 1.4a inputs with DVI and HDCP compliance supporting all 3D formats as well. The input board is available with audio option connectors: digital S/PDIF or analog stereo connectors are available for advanced audio functions (HDMI embedded audio signals are managed by the board as well). The MX-HDMI-3D-IB without the digital or analog audio option can handle HDMI embedded audio as well. Advanced professional functions such as HDCP enable/disable mode, Pixel Accurate Reclocking, Advanced EDID Management and Frame Detector are integrated.

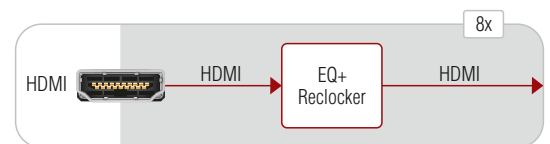
Features:

- HDMI 1.4a; DVI and HDCP compliant
- 4K / UHD (30Hz RGB 4:4:4 , 60Hz YCbCr 4:2:0), HD video resolutions and all 3D formats are supported
- Available models: analog stereo audio option (MX-HDMI-3D-IB-A) or digital S/PDIF audio option (MX-HDMI-3D-IB-S) or without audio option (MX-HDMI-3D-IB)
- Advanced EDID Management and Frame Detector
- Pixel Accurate Reclocking
- Dolby TrueHD and DTS-HD Master Audio
- 36-bit deep color support
- Adjustable analog audio settings

Port Diagram

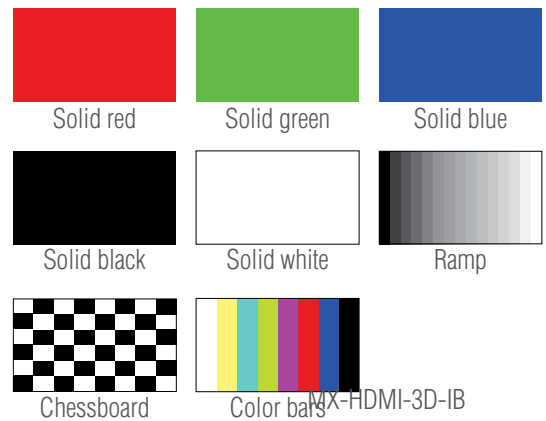
Specifications

HDCP compliancy:	Yes
Max Resolution:	Up to 4K / UHD (30Hz RGB 4:4:4 , 60Hz YCbCr 4:2:0)
3D signal compatibility:	Frame packing, side-by-side, top-bottom
Input cable equalization:	20 dB
Power consumption (3.3 V) MX-HDMI-3D-IB & -IB-S:	0.79 A (typ.), 1.32 A (max.)
Power consumption (3.3 V) MX-HDMI-3D-IB-A:	1.03 A (typ.), 1.72 A (max.)
Power consumption (5 V) MX-HDMI-3D-IB & -IB-S:	0.56 A (typ.), 0.93 A (max.)
Power consumption (5 V) MX-HDMI-3D-IB-A:	0.56 A (typ.), 0.93 A (max.)
Calculated AC Power (W) MX-HDMI-3D-IB & -IB-S:	7.7 W (typ.), 12.9 W (max.)
Calculated AC Power (W) MX-HDMI-3D-IB-A:	8.9 W (typ.), 14.8 W (max.)
Heat dissipation (BTU/h) MX-HDMI-3D-IB & -IB-S:	28 BTU/h (typ.), 47 BTU/h (max.)
Heat dissipation (BTU/h) MX-HDMI-3D-IB-A:	33 BTU/h (typ.), 54 BTU/h (max.)
Weight MX-HDMI-3D-IB & -IB-S:	809 g
Weight MX-HDMI-3D-IB-A:	865 g
Input connectors:	HDMI, S/PDIF, Phoenix



MX-HDMI-3D-IB

Available Video Patterns



Test pattern generator video formats:

480p, 576p, 720p, 1080p, 1080p deep color

HDMI Output Board Including 4K, 3D and Deep Color



MX-HDMI-3D-OB



Part No: 9113 0005, 9113 0006 (A), 9113 0007 (S)

Description:

MX-HDMI-3D-OB is an eight channel HDMI 1.4a output board, with DVI and HDCP compliance supporting all 3D formats. The output board is available with audio add-on connectors: digital S/PDIF or analog stereo connectors are available for advanced audio functions (HDMI embedded audio signals are managed by the board as well). The MX-HDMI-3D-OB without the digital or analog audio option can handle HDMI embedded audio as well. Pixel Accurate Reclocking, HDMI to DVI conversion are all incorporated. The board is compatible with deep color, Dolby TrueHD and DTS-HD audio.

Features:

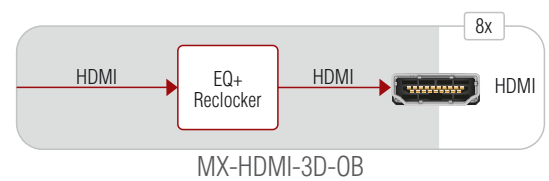
- HDMI 1.4a; DVI and HDCP compliant
- 4K / UHD (30Hz RGB 4:4:4 , 60Hz YCbCr 4:2:0), HD video resolutions and all 3D formats are supported
- Available models: analog stereo audio option (MX-HDMI-3D-OB-A) or digital S/PDIF audio option (MX-HDMI-3D-OB-S) or without audio option (MX-HDMI-3D-OB)
- Advanced EDID Management and Frame Detector
- Pixel Accurate Reclocking
- Dolby TrueHD and DTS-HD Master Audio
- 36-bit deep color support
- Adjustable analog audio settings



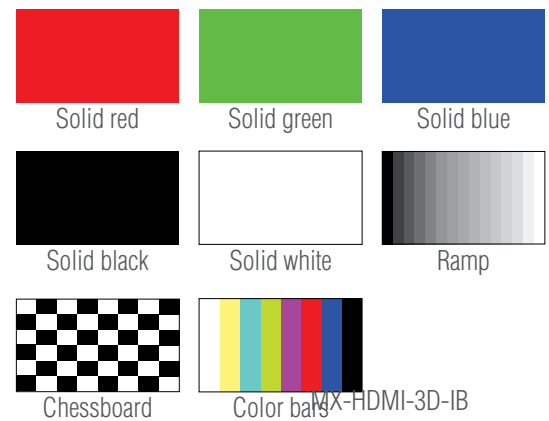
Port Diagram

Specifications

HDCP compliancy:	Yes
Max Resolution:	Up to 4K / UHD (30Hz RGB 4:4:4 , 60Hz YCbCr 4:2:0)
3D signal compatibility:	Frame packing, side-by-side, top-bottom
Power consumption (3.3 V) MX-HDMI-3D-OB & -OB-S:	0.79 A (typ.), 1.32 A (max.)
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Weight MX-HDMI-3D-OB & -OB-S:	809 g
Weight MX-HDMI-3D-OB-A:	865 g
Output connectors:	HDMI, S/PDIF, Phoenix



Available Video Patterns



Test pattern generator video formats:

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