

## HDMI and TPS Matrix Switcher with Special Audio Inputs and Multiport Control Options



MMX8x4-HT420M is a standalone matrix switcher specifically designed for conference room environments. It has eight video inputs (four HDMI and four TPS) and four video outputs (two HDMI outputs and two TPS outputs). 4K / UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0), 3D capabilities and HDCP are fully supported.

MMX8x4-HT420M has a dedicated Special Audio Input Block with input ports for microphone and line-in. The built-in sound mixer allows for free mixing of the audio signals from the de-embedded HDMI, the microphone or the line-in. The Special Audio Input block includes an automated voiceover with ducking function, allowing the volume of the voice of a person speaking into the microphone to be automatically focused, and the volume of the rest of the sounds to be lowered as soon as the presenter starts speaking.

The device also has two balanced 5-pole Phoenix audio connectors at two of the HDMI inputs. The audio signal direction of the port can be changed with the Lightware Device Controller software, so these audio ports can be either input or output ports.

The audio signal presented by the built-in mixer is channeled to one shared, balanced 5-pole Phoenix audio output, including the mixed audio of a selected, de-embedded HDMI audio, the microphone and the Line-in.

PoE 48V remote powering is available on every I/O TPS ports for cost-effective installations.

MMX8x4-HT420M receives and transmits digital video, audio and control to a distance of up to 100m over a single CAT6 cable. Using factory, custom or transparent EDID emulation the user can fix and lock EDID data on each input connector. Advanced EDID Management forces the required resolution from any video source and fixes the output format to conform to the system requirements. The unit can

be controlled via RS-232, Ethernet or USB ports, but it also offers Ethernet, RS-232, Serial and IR command injection capabilities, allowing to send any control command directly from the LAN connection to remote end points.

The built-in Event Manager feature provides control via RS-232, IR, Ethernet, Relay and GPIO ports. The MMX8x4-HT420M is compatible with both HDBaseTTM extenders and HDBaseT™ compliant displays.

### Highlight Features

- 8x4 multiport matrix switcher with HDMI and TPS ports
- 4K / UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0) and 3D capabilities
- 4x HDMI inputs + 4x TPS inputs
- 2x HDMI outputs + 2x TPS outputs
- Up to 100 m transmission distance over TPS Long Reach Mode
- 2x Balanced analog audio outputs
- 1x video signal-independent, shared, analog audio output
- Special Audio Input block for microphone and line-in
- Built-in DSP, sound mixer and ducking function for voiceover
- 1x Ethernet port for device control and 2x Ethernet ports for external device control
- 2x bi-directional RS-232 ports
- 2x Serial/IR ports for display control
- 4x IR ports for display control
- 4x Relay output ports
- 1x GPIO port
- PoE function to feed remote power to connected devices, fed from internal power source
- Front panel LCD and jog dial button
- Long Reach Mode for FullHD to up to 100 m distance
- Event Manager built-in control feature

**Maximum Extension Distances:**

To specify the accurate extension distances, please also check the documentation of the connected HDBaseT-compatible device.

Resolution	Pixel clock rate	Cable lengths (for 'C' Corporate models)		
		CAT5e AWG24	CAT7 AWG26	CAT7 AWG23
1024x768@60Hz	65 MHz	60 m	80 m	80 m
1280x720p@60Hz	73.8 MHz	60 m	80 m	80 m
1920x1080p@60Hz (24bpp)	148.5 MHz	60 m	80 m	80 m
1920x1200@60Hz	152.9 MHz	60 m	80 m	80 m
1600x1200@60Hz	162 MHz	60 m	80 m	80 m
1920x1080@60Hz (36bpp)	223 MHz	60 m	80 m	80 m
3840x2160@30Hz UHD	297 MHz	40 m	40 m	40 m
4096x2160@30Hz 4K	297 MHz	40 m	40 m	40 m

CAT7 SFTPAWG23 cable is always recommended

**Maximum Extension Distances:**

Resolution	Pixel clock rate	Cable lengths (Auto / Long reach TPS mode)		
		CAT5e AWG24	CAT7 AWG26	CAT7 AWG23
1024x768@60Hz	65 MHz	100 m / 130 m*	90 m / 120 m*	120 m / 170 m*
1280x720p@60Hz	73.8 MHz	100 m / 130 m*	90 m / 120 m*	120 m / 170 m*
1920x1080p@60Hz (24bpp)	148.5 MHz	100 m / 130 m*	90 m / 120 m*	120 m / 170 m*
1920x1200@60Hz	152.9 MHz	100 m / NA	90 m / NA	120 m / NA
1600x1200@60Hz	162 MHz	100 m / NA	90 m / NA	120 m / NA
1920x1080@60Hz (36bpp)	223 MHz	70 m / NA	70 m / NA	100 m / NA
3840x2160@30Hz UHD	297 MHz	70 m / NA	70 m / NA	100 m / NA
4096x2160@30Hz 4K	297 MHz	70 m / NA	70 m / NA	100 m / NA

\* Long reach TPS mode supports pixel clock frequencies up to 148.5 MHz.

To specify the accurate extension distances, please also check the documentation of the connected HDBaseT-compatible device.

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## Application diagram:

