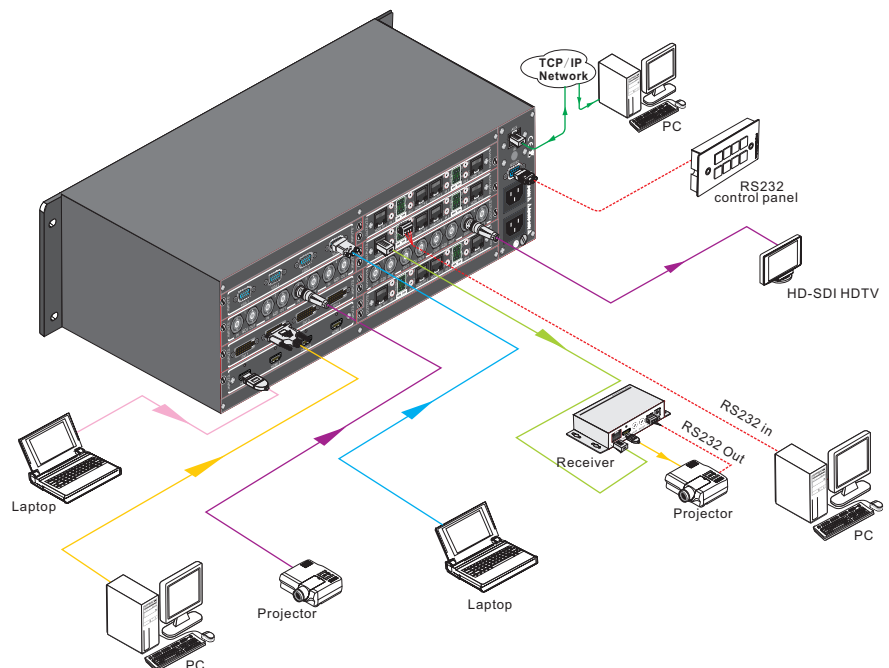# MMX1616-N

MMX1616-N is an high−performance matrix switcher chassis for various digital and analog signals with TCP/IP control. The modular design is popular with 4 input slots & 4 output slots.

Video Input	4 slots, using MMX input cards
Video Input signal	HDBT, HDMI, optical, SDI, DVI, VGA
Video Output	4 slots, using MMX output cards
Video Output signal	HDBT, HDMI, optical, SDI, DVI, VGA
Control	Front panel, IR RS232 & TCP/IP
Power Supply	100VAC ~ 240VAC, 50/60Hz; 220W Redundant power supply
Case Dimension	W483 x H219 x D320mm
Case Dimension	About 3.5Kg

● Supports 4K.
● Configurable and flexible I/O with audio up to 16x16.
● Available with all kinds of I/O cards, HDBaseT, HDMI, optical, SDI, DVI and VGA/audio cards.
● True crosspoint switching, any input to any output.
● Ultra-switching for instantaneous display.
● Smart EDID management.
● HDCP compatible.
● Controllable via front panel button, IR, RS232 and optional TCP/IP.

IR:
VGA:
DVI:
SDI:
HDMI:
HDBT:
RS232:
TCP/IP:

MMX-4I-UH

The MMX-4I-UH is an HDMI 4K input card with audio embedded signal for MMX system.

Port	4 x HDMI (Female HDMI) T.M.D.S 2.9V ~ 3.3V; 4 x Stereo audio (captivescrew connector); 4 x RS232 (Captive screw connector)
Signal Standard	HDMI 1.4 & HDCP Compliant
EDID	Supports EDID Management
Audio Format	Embedded HDMI audio: PCM
Work Temperature	0 ~ +50ºC
Relative Humility	10% ~ 90%

MMX-4I-BT

The MMX-4I-BT is an HDBaseT 4K input card with audio embedded signal for MMX system.

Port	4 x HDBT (Female RJ45) 4 x Stereo audio (captive screw connector); 4 x RS232 (Captive screw connector)
Signal Standard	HDMI 1.4 & HDCP Compliant
Bandwidth	10.2Gbps
Transmission Distance	1080P≤70m 4Kx2K ≤ 40m
EDID	Supports EDID Management
Audio Format	Embedded HDMI audio: PCM
Work Temperature	0 ~ +50ºC
Relative Humility	10% ~ 90%

MMX-4I-UF

The MMX-4I-UF is an Optical fiber 4K input card for MMX system. It support single-mode and multi-mode optical fiber.

Port	4 x Fiber Optical (SPF Fiber Optical Connector)
Fiber Type	Single-Mode & Multi-Mode
Bandwidth	10.2 Gbps
Color depth	8bit, 10bit, 12bit,16bit
Connector	LC connector
Resolution	Up to 4Kx2K
Transmission Distance	300m (OM3 Multi-Mode Fiber) / 1km Single-Mode Fiber for 4K
Work Temperature	0 ~ +50ºC
Relative Humility	10% ~ 90%

MMX 4K
Input Cards

MMX-4I-HS

The MMX-4I-HS is an HDMI 1080P SEAMLESS input card with audio embedded signal for MMX system.

Port	4 x HDMI (Female) , 4 x Analog Audio (captive screw connector)
Signal Standard	HDMI1.3 & HDCP Compliant
Video signal	HDMI, DVI
EDID	Supports EDID Management
Audio Format	Embedded HDMI audio: PCM
Bandwidth	6.75 Gbps
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4I-DS

The MMX-4I-DS is an DVI 1080P SEAMLESS input card for MMX system.

Port	4 x DVI (female DB24+5/HDMI)
Signal Standard	HDMI1.3 & HDCP Compliant
EDID	Supports EDID Management
Video signal	DVI,HDMI,VGA,CVIDEO, YPbPr
Audio Format	Embedded HDMI audio: PCM
Bandwidth	6.75 Gbps
Working Temperature	0 ~ +50ºC
Relative Humidity	10%-90%

MMX-4I-SS

The MMX-4I-SS is an SEAMLESS SDI input card for MMX system.it has 4 SDI inputs and each input has a loop output. It support 3G-SDI, HD-SDI & SDI.

POrt	4 x SDI (Female BNC) 4 x Loop (Female BNC)
Signal Type	3G-SDI, HD-SDI, SDI
Color Depth	8, 10, 12 bit
Bandwidth	2.97 Gbps
Transmission Distance	1080P≤100M
Max Resolution	1080P
Power Consumption	8.7W
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX HD
Input Cards

MMX-4I-DV

The MMX-4I-DV is an DVI 1080P input card for MMX system.

Port	4 x DVI (female DB24+5/HDMI)
Signal Standard	HDMI1.3 & HDCP Compliant
EDID	Supports EDID Management
Bandwidth	6.75 Gbps
Video signal	DVI-D full digital, HDMI
Audio Format	Embedded HDMI audio: PCM
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4I-SD

The MMX-4O-SD is a SDI input card for MMX system. it has 4 SDI inputs and each input has a loop output. It compatible with 3G-SDI, HD-SDI & SDI.

Port	4 SDI (Female BNC), 4 Loop (Female BNC); 0.8Vp-p ± 10%; 75Ω
Signal Type	3G-SDI, HD-SDI, SDI
Gain	Unity
Transmission Distance	300m (Max.)
Maximum Data Rate	2.97Gbps, Auto Locked
Input Return Loss	<-14 dB@ 1 MHz ~ 1.5 GHz
Data Type	8bit, 10bit
Vedio Standards	SMPTE 292M, SMPTE 259M, SMPTE 424M, ITU-RBT.601, ITU-RBT.1120
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4I-VA

The MMX-4I-VA is an VGA input card with audio embedded signal for MMX system. It compatible with YPbPr, C-video & S-video.

POrt	4 VGA, (Female 15 pin HD);
Input signal	VGA-UXGA, RGBHV, RGBS, RGsB, RsGsBs, component video, S-video & C-video
Input Coupling	AC coupling only
Switching Type	Vertical interval
Resolution	1920x1080, XGA, 1024x768, 1280x720, WXGA, 1280x800
Bandwidth	350MHz (-3dB), fully load
Crosstalk	<-50dB@5MHz
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4I-BTS

The MMX-4I-BTS is an HDBaseT 4K SEAMLESS input card with audio embedded signal for MMX system.

MMX-4I-UFS

The MMX-4I-UFS is an Optical fiber 4K SEAMLESS input card for MMX system.

MMX HD
Input Cards

MMX-4O-UH

The MMX-4O-UH is an HDMI 4K output card with audio de-embedded signal for MMX system.

Port	4 x HDMI (Female HDMI) T.M.D.S 2.9V ~ 3.3V; 4 x Stereo audio (captivescrew connector); 4 x RS232 (Captive screw connector)
Signal Standard	HDMI 1.4 & HDCP Compliant
EDID	Supports EDID Management
Audio Format	De-embedded HDMI audio: PCM
Working Temperature	0 ~ +50ºC
Relative Humility	10% ~ 90%

MMX-4O-BT

The MMX-4O-BT is an HDBaseT 4K output card with audio de-embedded signal for MMX system.

Port	4 x HDBT (Female RJ45) 4 x Stereo audio (captive screw connector); 4 x RS232 (Captive screw connector)
Signal Standard	HDMI 1.4 & HDCP Compliant
Bandwidth	10.2Gbps
Transmission Distance	1080P≤70m 4Kx2K ≤ 40m
EDID	Supports EDID Management
Audio Format	Embedded HDMI audio: PCM
Work Temperature	0 ~ +50ºC
Relative Humility	10% ~ 90%

MMX-4O-UF

The MMX-4O-UF is an Optical fiber 4K output card for MMX system. It support single-mode and multi-mode optical fiber.

Port	4 x Fiber Optical (SPF Fiber Optical Connector)
Fiber Type	Single-Mode &. Multi-Mode
Bandwidth	10.2 Gbps
Color depth	8bit, 10bit, 12bit,16bit
Connector	LC connector
Resolution	Up to 4Kx2K
Transmission Distance	300m (OM3 Multi-Mode Fiber) / 1km Single-Mode Fiber for 4K
Work Temperature	0 ~ +50ºC
Relative Humility	10% ~ 90%

MMX 4K
Output Cards

MMX-4O-HS

The MMX-4O-HS is an HDMI 1080P SEAMLESS output card with audio de-embedded signal for MMX system.

Port	4 x HDMI (Female) , 4 x Analog Audio (captive screw connector)
Signal Standard	HDMI1.3 & HDCP Compliant
Video signal	HDMI, DVI
EDID	Supports EDID Management
Audio Format	Embedded HDMI audio: PCM
Bandwidth	6.75 Gbps
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4O-DS

The MMX-4O-DS is an DVI 1080P SEAMLESS output card for MMX system.

Port	4 x DVI (female DB24+5/HDMI)
Signal Standard	HDMI1.3 & HDCP Compliant
EDID	Supports EDID Management
Video signal	DVI,HDMI,VGA,CVIDEO, YPbPr
Audio Format	Embedded HDMI audio: PCM
Bandwidth	6.75 Gbps
Working Temperature	0 ~ +50ºC
Relative Humidity	10%-90%

MMX-4O-SS

4 ports SDI output card, 3G-SDI, seamless, 1080P Max.

Port	4 x SDI (Female BNC) 4 x Loop (Female BNC)
Signal Type	3G-SDI, HD-SDI, SDI
Color Depth	8, 10, 12 bit
Bandwidth	2.97 Gbps
Transmission Distance	1080P≤100M
Max Resolution	1080P
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX HD
Output Cards

MMX-4O-DV

The MMX-4O-DV is an DVI 1080P input card for MMX system.

Port	4 x DVI (female DB24+5/HDMI)
Signal Standard	HDMI1.3 & HDCP Compliant
EDID	Supports EDID Management
Bandwidth	6.75 Gbps
Video signal	DVI-D full digital, HDMI
Audio Format	Embedded HDMI audio: PCM
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4O-SD

The MMX-4O-SD is a SDI output card for MMX system. it has 4 SDI outputs and each output has a loop output. It compatible with 3G-SDI, HD-SDI & SDI.

Port	4 SDI (Female BNC), 4 Loop (Female BNC); 0.8Vp-p ± 10%; 75Ω
Signal Type	SDI, HD-SDI, 3G-SDI
Transmission Distance	300m (Max.)
Maximum Data Rate	2.97Gbps, Auto Locked
Input Return Loss	<-14 dB@ 1 MHz ~ 1.5 GHz
Data Type	8bit, 10bit
Vedio Standards	SMPTE 292M, SMPTE 259M, SMPTE 424M, ITU-RBT.601, ITU-RBT.1120
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4O-VG

The MMX-4O-VG is an VGA output card with audio de-embedded signal for MMX system. It compatible with YPbPr, C-video & S-video.

Port	4 VGA, (Female 15 pin HD);
Output signal	RGBHV
Input Coupling	AC coupling only
Switching Type	Vertical interval
Resolution	1920x1080; XGA, 1024x768; 1280x720; WXGA, 1280x800
Bandwidth	350MHz (-3dB), fully load
Crosstalk	<-50dB@5MHz
Working Temperature	0 ~ +50ºC
Relative Humidity	10% ~ 90%

MMX-4O-BTS

The MMX-4I-BTS is an HDBaseT 4K SEAMLESS input card with audio de-embedded signal for MMX system.

MMX-4O-UFS

The MMX-4O-UFS is an Optical fiber SEAMLESS 4K output card for MMX system.

MMX-4O-VS

The MMX-4O-VS is an VGA SEAMLESS output card with audio de-embedded signal for MMX system.

MMX HD
Output Cards