

Flexible and comprehensive next generation professional Digital Modular Matrix (DMM) for Commercial, Education and Residential use



- HDMI, DVI, HDBaseT, Fibre, VGA & SDI
- HDMI 1.3a compliant
- 10.2GBps, 1080p@60Hz
- HDCP 1.3 compliant
- PC resolutions to 1920x1200@60 Hz
- Seamless Switching
- POC (remote powering receivers)
- Supports Deep Colour (10&12 bit)
- Integrated Web Browser
- Video Wall Processor
- Modular 4 port cards
- Front panel control
- EDID management
- Embedding & de-embedded Audio
- RS232 & IR control
- IP control

Seamlessly route 8 high resolution video sources to 8 displays or create a Video Wall for HDMI, DVI, HDBaseT, Fibre and 3G-SDI together with analogue VGA, YPrPb and composite

The **MDX-8x8+** is a professional flexible Digital Modular Matrix (DMM) capable of selecting between 8 different devices to 8 displays. Seamless switching together with output video scaling provides a professional image selection with the option of creating a Video Wall, whilst 4-way modular input and output cards cater for a wide range of signal formats.

The **MDX-8x8+** chassis offers an unprecedented level of both switching and distribution functionality for high resolution HDMI, DVI, HDBaseT and 3G-SDI. Legacy products are also catered for with analogue input cards capable of accepting RGBHV, YPrPb, Y/C and PAL/NTSC all of which can be up-scaled to 1080p resolution.

By combining Seamless video switching with modular input and output modules Smart-e sets a new benchmark for complete integrated AV solutions, all of which can be controlled easily via either IP, internal Web Browser, RS232 and front panel buttons.

Fully HDCP compliant and incorporating enhanced EDID management the matrix is ideal for many multi-channel signal switching and distribution for Commercial, Educational and Residential solutions. Compact 2U 19" rack mounting chassis makes for ease of installation

The SDS range is from a family of digital extenders & matrices using standard CAT 6-8 STP cable to transmit HD signals over long distances

DESIGN

◆
INNOVATE

◆
ORIGINATE

Flexible and comprehensive professional HDMI extender with CAT 6 distribution system for Commercial, Education and Residential use



- HDBaseT technology
- HDMI 2.0 4K@60Hz
- 4:4:4, 18G, HDR10, Dolby Vision
- HDCP 2.2/1.3 compliant
- Dual mirrored outputs
- Full duplex RS232 pass through
- Bi-directional IR pass through
- 100m CAT 6/6A STP/FTP
- HDMI resolutions 4K, 2K & 1080p
- CEC compliant
- Integral mounting brackets
- Secure DC connection
- POC (remote powering receivers)
- Slim profile 20mm

Distribute high resolution UHD HDMI video together with IR and RS232 over a single CAT 6 screened twisted pair cable up to 100m

The **444K-875** is a flexible and cost effective HDBaseT pair solution for extending HDMI, bi directional IR, full duplex RS232 together with POC (remote power over cable). The unit is very compact and comes with the IR accessories. By incorporating the full HDBaseT technology 4K UHD HDMI signals can be transmitted up to 100m away over CAT 6/6A STP/FTP.

The **444K-875** is a pair of TX/RX HDBaseT extenders capable of transmitting UHD HDMI signals up to 4K UHD resolutions. Implementing the complete 4-Play of the HDBaseT specification the receiver extender also provides the pass through of wide band bi-directional InfraRed signals and full duplex RS232 up to 115Kbaud. Whilst POC power (12-24V) can be sent by either the TX, RX, Matrix or Splitter through the Cat 6 cable to provide power to the remote end. All that is required is a single Cat 6 cable connection to provide all these features. Dual mirrored HDMI outputs provide a convenient solution to back to back displays commonly found in Digital Signage applications.

The **444K-866** can connect to any other product in the **4Kconnect** range as an extender or into or out of a matrix.

The 4Kconnect range is from a family of digital extenders & matrices using standard CAT 6-8 STP cable to transmit HD signals over long distances

TECHNICAL SPECIFICATION

Video – Digital

Connectors	2 x HDMI (Type A) outputs
Signal type	HDMI - TMDS
Standards	HDMI 2.0. HDCP 2.2/ 1.4
Maximum data rate	4.5Gbps per colour
Maximum pixel clock	340MHz
Resolution range - DTV	Max 4096x2160 @60Hz 36 bit colour depth
Resolution range - PC	Max 1920x1200 @60Hz 24 bit colour depth
Frame rate	24, 25, 30, 50 & 60 Hz
Gain	0 dB
Formats	RGB and YCrCb
Colour space	4:4:4, 4:2:2 & 4:2:0
Clock jitter	<0.15T bit
Rise time	<0.3T bit (20-80%)
Fall time	<0.3T bit (20-80%)
Maximum transmission delay	5ns (+/- 1ns)
Signal strength	TMDS +/- 0.4V pk-pk
TMDS signal level	2.9V – 3.3V
Impedance	50R
Maximum DC offset	15mV
Maximum input cable length	15m 24 AWG
Maximum output cable length	15m 24 AWG

Audio – Digital

Standards	Embedded within the HDMI signal, SPDIF
Maximum audio channels	8
Maximum sample rate per channel	192 kHz
Sample size	16-24 bits

Power

DC Voltage	External 12-24V PSU
DC connector	2.1mm jack with screw fitting
AC Voltage (External Supply)	100-230 VAC
AC frequency (External Supply)	50/60 Hz
Power consumption	6W (max)/1.2W (standby)
Operating temperature	0-40 degrees C
Storage temperature	-20-60 degrees C
Relative humidity	20-90%
Dimensions (each unit)	119x67x20mm
Dimensions with brackets (each unit)	139x67x20mm
Product weight	0.5Kg
MTBF	30,000 hours

TECHNICAL SPECIFICATION

Control - RS232

Connector	3pin Phoenix
Signal type	Full duplex
Signal level	+/- 5V
Baud rate	115200
Data bits	8
Stop bits	1
Parity	None
Pinout	1-RX, 2-OV, 3-TX

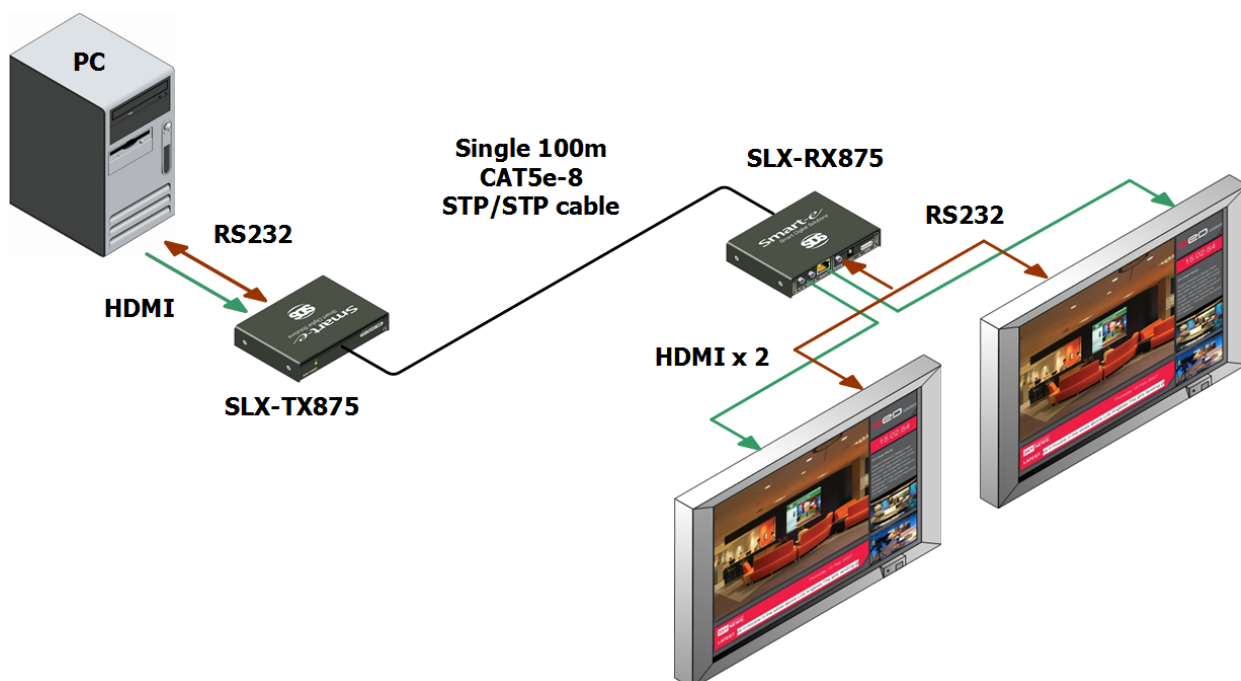
Control - IR

Connector	3.5mm mini-jack socket
Signal type	Full duplex (via 2 connections)
Signal bandwidth	20-60KHz

Cat cable connectivity

Number of cables	1 x Cat 6/6A screened twisted pair cables
Connectors	1 x female screened RJ45 connectors per unit
Termination standard	TIA/EIA T568B
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth STP (shielded twisted pair)
Transmission distance	100m shielded twisted pair CAT 6 or CAT 6A

APPLICATION DRAWING



TECHNICAL SPECIFICATION

Video – Digital

Connectors	4 x HDMI (Type A) input and outputs 4 x DVI-D 4 x CAT 6 for HDBaseT 4 x HD15S for RGBHV/YPrPb/CV 4 x BNC for 3G-SDI
Signal type	HDMI - TMDS
Standards	HDMI 1.3a. HDCP 1.3
Maximum data rate	2.25Gbps per colour
Maximum pixel clock	340MHz
Resolution range - DTV	Max 1920x1080 @60Hz 36 bit colour depth
Resolution range - PC	Max 1920x1200 @60Hz 24 bit colour depth
Frame rate	24, 25, 30, 50 & 60 Hz
Gain	0 dB
Formats	RGB and YCrCb
Colour space	4:2:2 & 4:2:0
Clock jitter	<0.15T bit
Rise time	<0.3T bit [20-80%]
Fall time	<0.3T bit [20-80%]
Maximum transmission delay	5ns (+/- 1ns)
Signal strength	TMDS +/- 0.4V pk-pk
TMDS signal level	2.9V – 3.3V
Impedance	50R
Maximum DC offset	15mV
Maximum input cable length	15m 24 AWG
Maximum output cable length	15m 24 AWG

Audio – Digital

Standards	Embedded within the HDMI signal, SPDIF
Maximum audio channels	8
Maximum sample rate per channel	192 kHz
Sample size	16-24 bits

Audio – Analogue

Standards	Stereo - unbalanced
Bandwidth	20 - 20 kHz

Power

AC Voltage	100-230 VAC
AC frequency	50/60 Hz
Power consumption	13.5W (max)/ 1.2W (standby)
Operating temperature	0-40 degrees C
Storage temperature	-20-60 degrees C
Relative humidity	20-90%
Chassis size	2U 19" rack mounting
Chassis dimensions	440x394x88mm
Product weight	8Kg
MTBF	30,000 hours

TECHNICAL SPECIFICATION

Control - RS232

Connector	D9
Signal type	Full duplex
Signal level	+/- 5V
Baud rate	115200
Data bits	8
Stop bits	1
Parity	None
Pinout	1-RX, 2-OV, 3-TX

Control - Ethernet

Connector	RJ45 female
Protocol	TCP/IP
Control rate	Adaptive 10M/100M full or half duplex

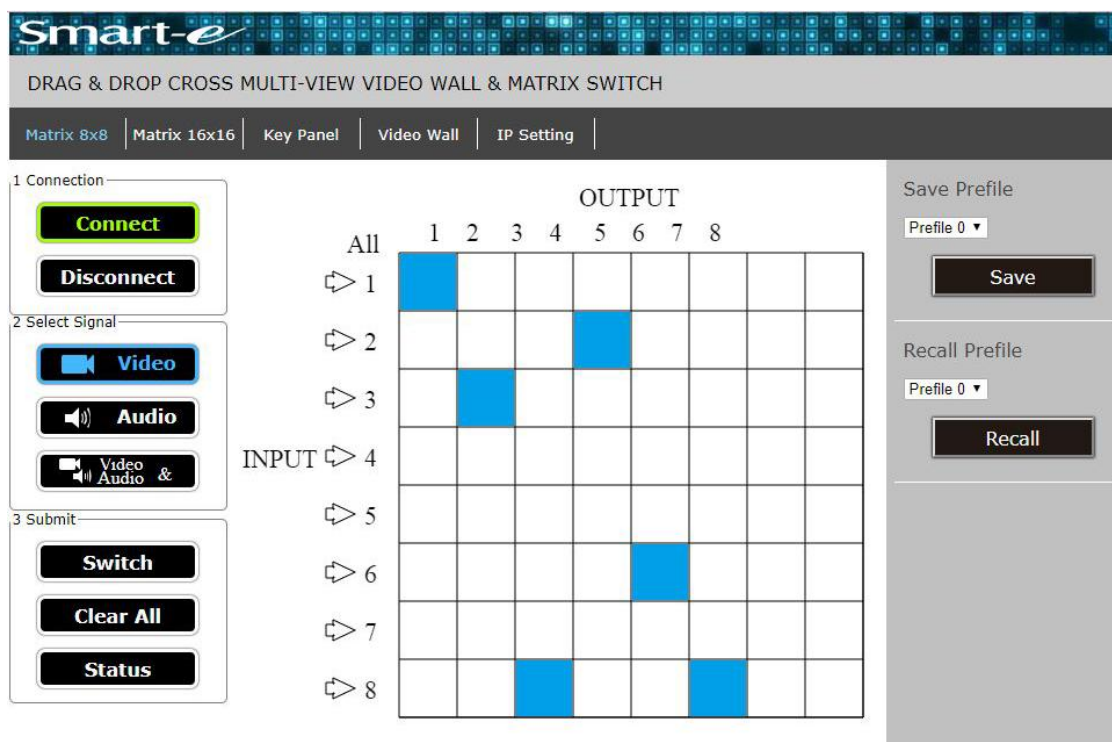
Control - IR

Connector	3.5mm mini-jack socket
Signal type	Full duplex (via 2 connections)
Signal bandwidth	20-60KHz

Cat cable connectivity

Number of cables	1 x Cat 6/6A screened twisted pair cables
Connectors	1 x female screened RJ45 connectors per unit
Termination standard	TIA/EIA T568B
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth STP (shielded twisted pair)
Transmission distance	100m shielded twisted pair CAT 6 or CAT 6A

WEB BROWSER



specifications are subject to change without notice

SEAMLESS SWITCHING BLADES

MDX-IP4-HDMI



- Provides 4x independent HDMI [Type-A] inputs
- HDMI 1.4, DVI 1.0 & HDCP 1.3 protocol
- Supports EDID editing function
- Maximum input resolution:
- 1920x1200p @ 60Hz 24bit, 1080p @ 60Hz 36bit

MDX-OP4-HDMI



- Provides 4x independent HDMI [Type-A] outputs
- HDMI 1.4, DVI 1.0 & HDCP 1.3 protocol
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

MDX-RX4-HDBT



- Provides 4x independent HDBaseT inputs
- Compatible with HDBaseT protocol
- Supports EDID editing function
- Maximum input resolution:
- 1920x1200p @ 60Hz 24bit, 1080p @ 60Hz 36bit

MDX-TX4-HDBT



- Provides 4x independent HDBaseT outputs
- Compatible with HDBaseT protocol
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

MDX-RX4-FB



- Provides 4x independent SC optical fibre inputs
- Multimode 850nm <300m
- Supports EDID editing function
- Maximum input resolution:
- 1920x1200p @ 60Hz 24bit, 1080p @ 60Hz 36bit

MDX-TX4-FB



- Provides 4x independent SC optical fibre outputs
- Multimode 850nm <300m
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

MDX-IP4-DVI



- Provides 4x independent DVI inputs
- HDMI 1.4, DVI 1.0 & HDCP 1.3 protocol
- Supports EDID editing function
- Maximum input resolution:
- 1920x1200p @ 60Hz 24bit, 1080p @ 60Hz 36bit

MDX-OP4-DVI



- Provides 4x independent DVI outputs
- HDMI 1.4, DVI 1.0 & HDCP 1.3 protocol
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

MDX-IP4-VGA



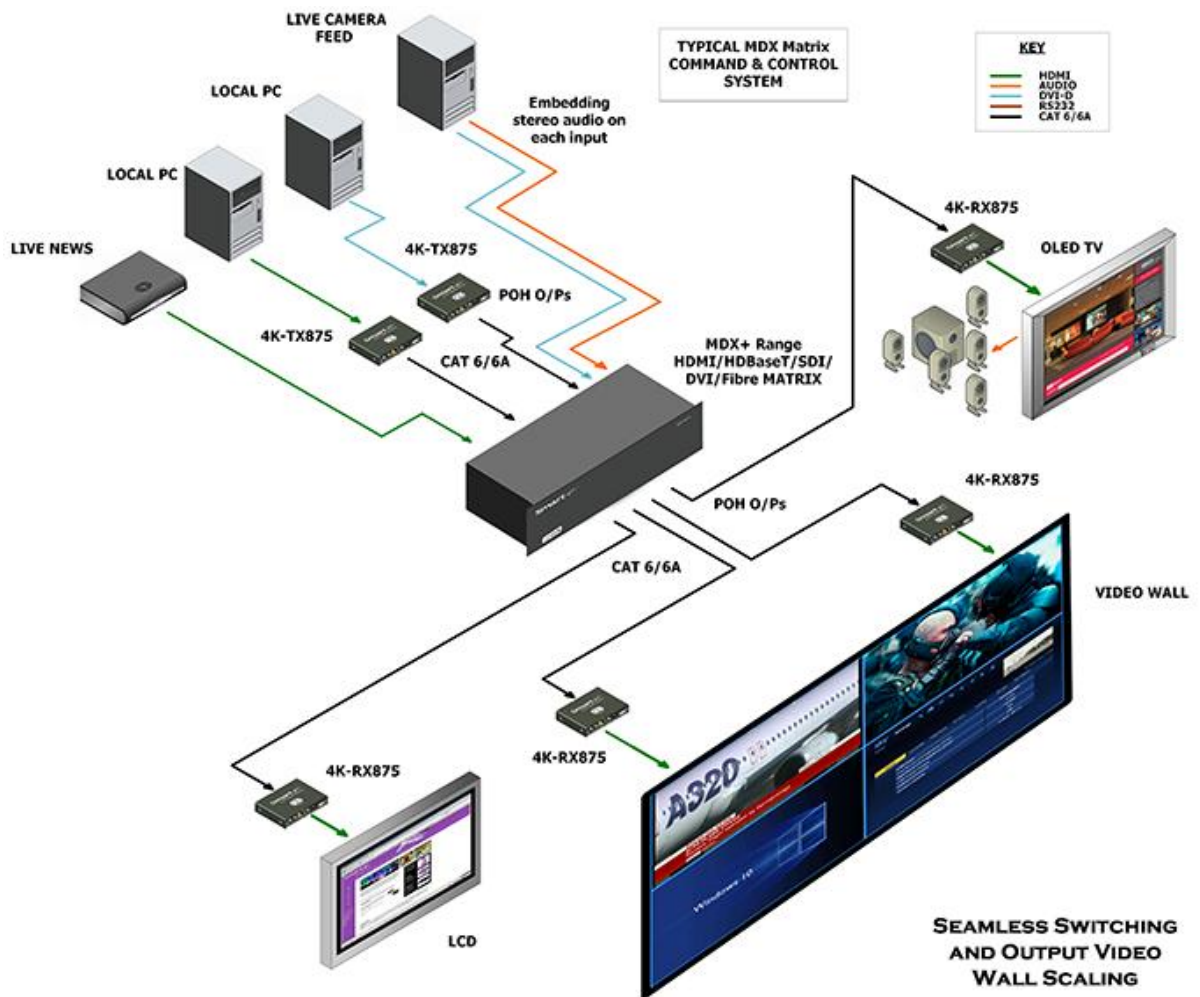
- Provides 4x independent Analogue [HD15] inputs VGA/RGBHV, YPbPr, Y/C S-video, Composite-video (using adapter cable)
- Maximum input resolution: 1920x1200p @ 60Hz 24bit, 1080p @ 60Hz 36bit
- Digitises and up-scales input resolution = 1920x1080p @ 60Hz

REAR PANEL

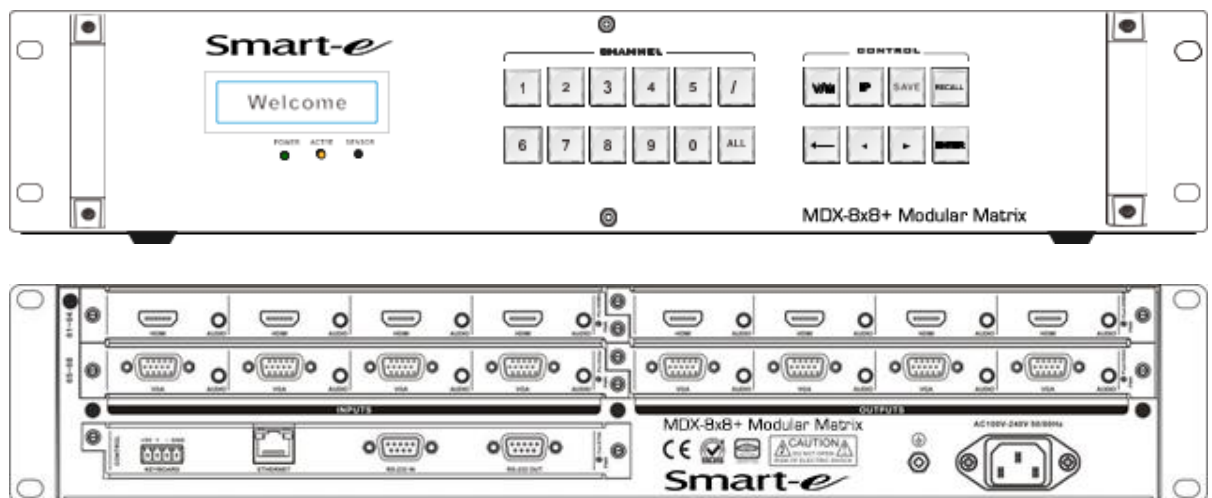


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SEAMLESS SWITCHING APPLICATION DRAWING



PANEL DRAWINGS



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VIDEO WALL OUTPUT BLADES**VMX-TX4-HDBT**

- Provides 4x independent HDBaseT outputs
- Compatible with HDBaseT protocol
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

VMX-OP4-DVI

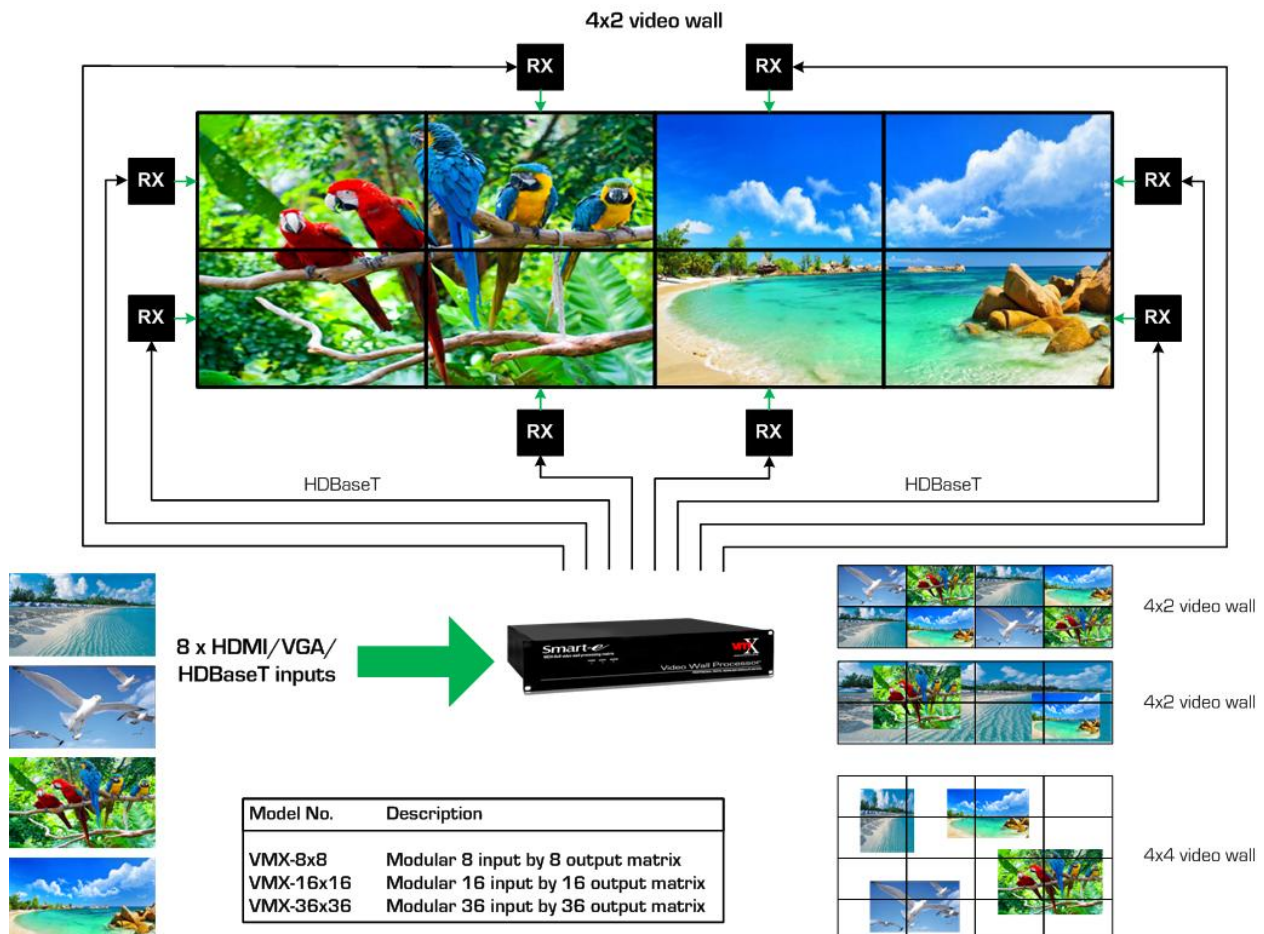
- Provides 4x independent DVI outputs
- HDMI 1.4, DVI 1.0 & HDCP 1.3 protocol
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

VMX-TX4-MFB

- Provides 4x independent SC optical fibre outputs
- Multimode 850nm <300m
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

VMX-TX4-SDI

- Provides 4x independent SDI outputs
- SDI, HD-SDI and 3G-SDI
- Maximum output resolution:
- HDCP: 1920x1200p @ 60Hz 24bit
- HDTV: 1920x1080p @ 60Hz 36bit (HD1080p60)

VIDEO WALL APPLICATION DRAWING

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- HDMI 2.0 4K@60Hz
- 4:4:4, 18G, HDR10, Dolby Vision
- HDCP 2.2/1.3 compliant
- Dual mirrored outputs
- Full duplex RS232 pass through
- Bi-directional IR pass through
- 100m CAT 6/6A STP/FTP
- HDMI resolutions 4K, 2K & 1080p
- CEC compliant
- Integral mounting brackets
- Secure DC connection
- POC (remote powering receivers)
- Slim profile 20mm

Distribute high resolution UHD HDMI video together with IR and RS232 over a single CAT 6 screened twisted pair cable up to 100m

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TMDS signal level	2.9V – 3.3V
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