

TMX Series Matrix Switchers

Ultra Wideband RGB	BHV Matrix Switchers	
TMX-08xxRGB/RGB-A	Series Ultra Wideband RGBHV Matrix Switchers	
TMX-0802RGB	8×2 RGBHV Matrix Switcher, 450 M, BNC Connectors	
TMX-0802RGB-A	8x2 RGBHV & Audio Matrix Switcher, 450 M, Video on BNC Connectors, Balanced audio stereo on 5-pin 3.81 mm Phoenix Connectors	
TMX-0804RGB	8x4 RGBHV Matrix Switcher, 450 M, BNC Connectors	
TMX-0804RGB-A	8x4 RGBHV & Audio Matrix Switcher, 450 M, Video on BNC Connectors, Balanced audio stereo on 5-pin 3.81 mm Phoenix Connectors	
TMX-0808RGB	8x8 RGBHV Matrix Switcher, 450 M, BNC Connectors	
TMX-0808RGB-A	8×8 RGBHV & Audio Matrix Switcher, 450 M, Video on BNC Connectors, Balanced audio stereo on 5-pin 3.81 mm Phoenix Connectors	
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CBL-VGA2RGB-02	2 m VGA to RGB Converting Cable	
CBL-VGA2RGB-05	5 m VGA to RGB Converting Cable	
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TMX-TP-RD	VGA & Audio over Twisted Pair Receiver (independent RGB delay adjustment)	
TMX-TP-TN	VGA & Audio over Twisted Pair Transmitter	
TMX-TP-R/TD	VGA & Audio over Twisted Pair Receiver with Relay Output (independent RGB delay adjustment)	
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TMX-TP/AV-T	Video & Audio over Twisted Pair Transmitter	
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TMX-1616MX	16×16 Mixed Card Matrix Switcher Frame	
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TMX-HDMI-4IN	4 Channels HDMI Input Card (support HDMI1.3 and HDCP, compatible with DVI signal, build-in	
	upscaling function)	
TMX-DVI-4IN	4 Channels DVI-I Input Card (build-in upscaling function)	
TMX-SDI-4IN	4 Channels SDI Input Card (SDI input/loop-output conpatible with 3G-SDI/HD-SDI, build-in	
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TMX-VGA-4IN	4 Channels VGA Input Card (compatible with VGA, YUV, YC, CVBS via converter cables, phoenix	
TMX-HDMI-4OUT	for left & right channel audio input, build-in upscaling function) 4 Channels HDMI Output Card (support HDMI1.3 and HDCP, 4 analog audio output (unbalance	
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TMX-0802RGB 8×2 RGBHV Ultra Wideband Matrix **Switcher**



Features

- Routing: 8 x 2 RGBHV ultra wideband matrix switcher
- Video interface: BNC x 5 female
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	2 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Out of the lates and the same	
Switching type	RGB simultaneity

Sync

1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
AGC to TTL: 4.5 V to 5.0 Vp-p
510 Ohm
75 Ohm
5.0 Vp-p
20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

•	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0802RGB_____8x2 RGBHV Matrix Switcher, 450 M, BNC Connectors

TMX-0802RGB-A 8×2 RGBHV & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 8x2 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz $\leqslant\pm$ 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns

Signal type RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	8 × 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	2 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 8 stereo, balanced/unbalanced	;
	output: 2 stereo, balanced/unbalanced	
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix	κ;
	output: 2 x 5-pin 3.81 mm Phoenix	<
Gain	Unbalanced output: 0 dB, balanced output: +6 dB	
Frequency res	onse20 Hz to 22 kHz, ±0.05 dE	3
THD+Noise	0.03% @ 1 kHz at normal leve	ŀ
S/N __ >110 dB,	alanced, at maximum output (20.2 dBu), unweighted	t
Crosstalk	>80 dB @ 1 kHz, fully loaded	l
Stereo channe	separation>80 dB @ 1 kHz	
CMRR	>75 dB @ 20 Hz to 20 kHz	Z
Impedance	Input: >10 kOhm, (balanced or unbalanced))
Max. input/out	ut levels+20.2 dBu (balanced or unbalanced))
Gain error	±0.1 dB @ 20 Hz to 22 kHz	<u>.</u>

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND

Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.0 kg
	30,000 hours

Ordering Information

TMX-0802RGB-A____8x2 RGBHV & Audio Matrix Switcher, 450 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-0804RGB 8×4 RGBHV Ultra Wideband Matrix Switcher



Features

- Routing: 8×4 RGBHV ultra wideband matrix switcher
- Video interface: BNC×5 female
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
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- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

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	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Video input
Connectors 8 x 5 BNC female
Min./max. levelsAnalog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level 0.7 Vp-p for RGB; 1.0 Vp-p for Y of
component video and S-video, and for
composite video; 0.3 Vp-p for R-Y and
B-Y of component video and C of S-video
Impedance75 Ohm
Return loss30 dB @ 5 MHz
Max. DC offset1.5 V
Video output
Connectors4 x 5 BNC female
Nominal level 0.7 Vp-p for RGB; 1.0 Vp-p for Y of
component video and S-video, and for
composite video; 0.3 Vp-p for R-Y and
B-Y of component video and C of S-video
Min./max. levels Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance75 Ohm
Return loss
DC offset ± 5 mV with no offset at input
Switching typeRGB simultaneity
Sync
Input level 1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output levelAGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance510 Ohm
Output impedance75 Ohm
Max input voltage 5.0 Vp-p
Max. propagation delay 20 ns
Control
COM (RS232) RS232, 9-pin female D connector
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface 9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
EthernetRJ45 socket, Cat.5 crossover cable
Ethernet protocol TCP/IP
Ethernet speed10 M/100 M, full-duplex or
half-duplex with autodetect
PC controlMatrix switcher
General specs
Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz
Temperature Operating: 0 °C to + 50 °C;
storage: -20 °C to + 70 °C
Humidity Storage and operating: 10% to 90%
Dimensions h x w xd (mm) $132 \times 478 \times 310$
(3U high, full rack width)
ColorGray (PANTONE 425 C)
Weight5.1 kg

Ordering Information

TMX-0804RGB_____8×4 RGBHV Matrix Switcher, 450 M, BNC Connectors

Mean time between failures_____30,000 hours

TMX-0804RGB-A 8×4 RGBHV & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 8x4 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz ≤ \pm 0.1 dB;
	0 to 100 MHz ≤ \pm 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns

Signal type RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	8 × 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 4 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix;
	output: 4 x 5-pin 3.81 mm Phoenix
GainUnba	lanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output level	s+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND

RJ45 socket, Cat.5 crossover cable
TCP/IP
10 M/100 M, full-duplex or
half-duplex with autodetect
Matrix switcher
AC 100 V - 240 V, 50 Hz / 60 Hz
Operating: 0 °C to + 50 °C;
storage: -20 °C to + 70 °C
_Storage and operating: 10% to 90%
132 × 478 × 310
(3U high, full rack width)
Gray (PANTONE 425 C)
5.3 kg
30,000 hours

Ordering Information

TMX-0804RGB-A____8x4 RGBHV & Audio Matrix Switcher, 450 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-0808RGB 8×8 RGBHV Ultra Wideband Matrix Switcher



Features

- Routing: 8×8 RGBHV ultra wideband matrix switcher
- Video interface: BNC×5 female
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

video input	
Connectors	8 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V
Video output	
Connectors	8 × 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
	Analog signal: 0 V to 2.0 Vp-p (follows input)
	75 Ohm
	30 dB @ 5 MHz
	± 5 mV with no offset at input
Switching type	RGB simultaneity
_	
Sync	
Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

Output impedance______75 Ohm

Max input voltage_____5.0 Vp-p

Max. propagation delay_____20 ns

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.6 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808RGB______8×8 RGBHV Matrix Switcher, 450 M, BNC Connectors

TMX-0808RGB-A 8×8 RGBHV & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 8x8 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz $\leq \pm 0.8$ dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns

Signal type RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	8 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix;
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnba	lanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N >110 dB, balanced	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output level	s+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket. Cat.5 crossover cable

Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	_AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C

132 × 478 × 310 (3U high, full rack width)

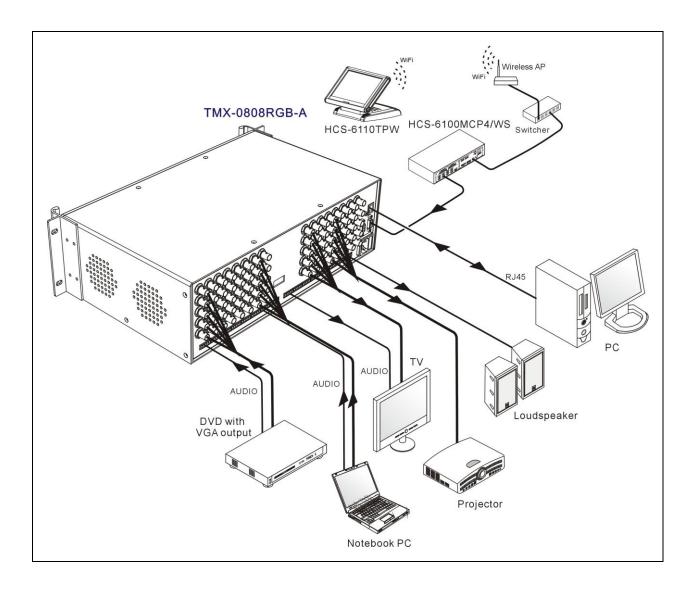
Color______Gray (PANTONE 425 C)
Weight_______5.8 kg

Mean time between failures______30,000 hours

Ordering Information

TMX-0808RGB-A.....8×8 RGBHV & Audio Matrix Switcher, 450 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-08xxRGB/RGB-A Series Ultra Wideband RGBHV Matrix Switchers System Connection



TMX-1604RGB 16×4 RGBHV Ultra Wideband Matrix Switcher





Features

- Routing: 16 x 4 RGBHV ultra wideband matrix switcher
- Video interface: BNC × 5 female
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	16 × 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

	4 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
DC 011361	
	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	ocolTCP/IP
Ethernet spee	ed10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	9.1 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1604RGB 16x4 RGBHV Matrix Switcher, 325 M, BNC Connectors

TMX-1604RGB-A 16×4 RGBHV & Audio Ultra Wideband Matrix Switcher





Features

- Routing: 16x4 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	16 × 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min /may layala	Analag signal, 0 \/ to 2 0 \/n n (fallows innut)
wiii./iiiax. ieveis	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
ImpedanceReturn loss	75 Ohm
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	
Max input voltage	5.0 Vp-p
	y20 ns

Audio

Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 4 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;
	output: 4 x 5-pin 3.81 mm Phoenix
GainUnb	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N >110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	els+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	9.3 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1604RGB-A______16x4 RGBHV & Audio Matrix Switcher,
325 M, Video on BNC Connectors,
Balanced audio stereo on 5-pin 3.81
mm Phoenix Connectors

TMX-1608RGB 16×8 RGBHV Ultra Wideband Matrix **Switcher**





Features

- Routing: 16 x 8 RGBHV ultra wideband matrix switcher
- Video interface: BNC x 5 female
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	16 × 5 BNC female
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 × 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	9.6 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608RGB_____16x8 RGBHV Matrix Switcher, 325 M, BNC Connectors

TMX-1608RGB-A 16×8 RGBHV & Audio Ultra Wideband Matrix Switcher





Features

- Routing: 16x8 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

0 dB
325 MHz (-3dB), fully loaded;
0 to 10 MHz \leq ± 0.1 dB;
0 to 100 MHz \leq ± 0.8 dB
53 dB @ 10 MHz,
-45 dB @ 30 MHz,
-37 dB @ 100 MHz
< -80 dB @ 1 kHz, fully loaded
_Max. 0.05 degree, @ RL = 150 Ohm
Max. 0.05%, @ RL = 150 Ohm
5 ns @ 2 Vp-p, RL = 150 Ohm
50 ns
RGBHV, RGBs, RGsB, RsGsBs,
HDTV, component video, S-video
and composite video

Video input

Connectors	16 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min /may layala	A = = = = = = O / += O O /= = /f= ==== ====+
wiii./iiiax. ieveis	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
ImpedanceReturn loss	75 Ohm
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnb	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N >110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	els+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	olTCP/IP
Ethernet speed	10 M/100 M, full-duplex of
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	9.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608RGB-A___16x8 RGBHV & Audio Matrix Switcher, 325 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-1616RGB 16×16 RGBHV Ultra Wideband Matrix Switcher





Features

- Routing: 16 x 16 RGBHV ultra wideband matrix switcher
- Video interface: BNC × 5 female
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	16 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS23	2)RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet pro	tocolTCP/IP
Ethernet sp	eed10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control_	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	10.6 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616RGB 16×16 RGBHV Matrix Switcher, 325 M, BNC Connectors

TMX-1616RGB-A 16×16 RGBHV & Audio Ultra Wideband Matrix Switcher





Features

- Routing: 16×16 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Video input	
Connectors	16 × 5 BNC female
	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
	-30 dB @ 5 MHz
	1.5 V
Video output	
Connectors	16 × 5 BNC female
	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	-30 dB @ 5 MHz
	± 5 mV with no offset at input
	RGB simultaneity
Sync	
Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
	AGC to TTL: 4.5 V to 5.0 Vp-p
	510 Ohm
	75 Ohm
	5.0 Vp-p
	ay 20 ns
Audio	
Signal type	Input: 16 stereo, balanced/unbalanced;
0 71	output: 16 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix;
	output: 16 x 5-pin 3.81 mm Phoenix
Gain Unba	alanced output: 0 dB, balanced output: +6 dB
	20 Hz to 22 kHz, ±0.05 dB
	0.03% @ 1 kHz at normal level
	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
	ation>80 dB @ 1 kHz
	>75 dB @ 20 Hz to 20 kHz
	_Input: >10 kOhm, (balanced or unbalanced)
	+20.2 dBu (balanced or unbalanced)
	±0.1 dB @ 20 Hz to 22 kHz

RS232, 9-pin female D connector
Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
RJ45 socket, Cat.5 crossover cable
olTCP/IP
10 M/100 M, full-duplex or
half-duplex with autodetect
Matrix switcher

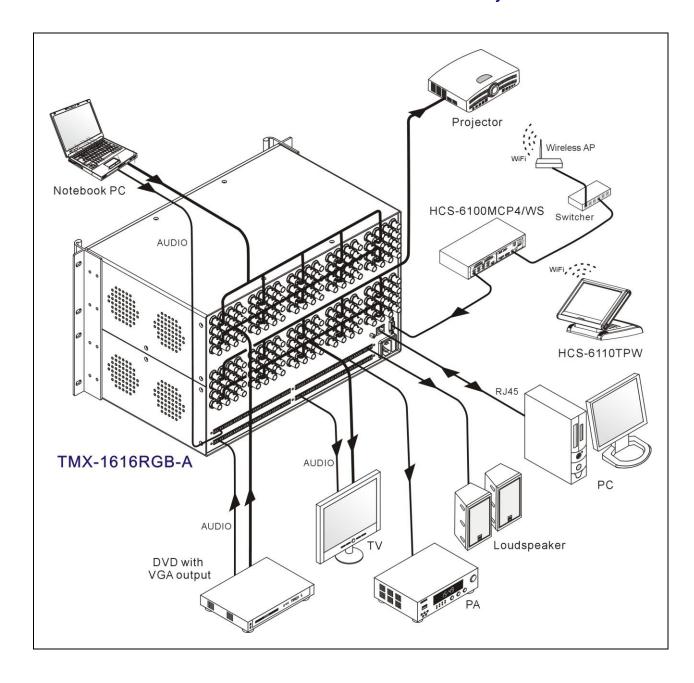
General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	10.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616RGB-A__16x16 RGBHV & Audio Matrix Switcher, 325 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-16xxRGB/RGB-A Series Ultra Wideband RGBHV Matrix Switchers System Connection



TMX-3208RGB 32×8 RGBHV Ultra Wideband Matrix **Switcher**





Features

- Routing: 32 x 8 RGBHV ultra wideband matrix switcher
- Video interface: BNC × 5 female
- Fully loaded video bandwidth: 500 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	32 x 5 BNC female
Min./max. levelsAna	log signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level 0	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
(component video and S-video, and for
(composite video; 0.3 Vp-p for R-Y and
E	3-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V
Video output	
Connectors	8 × 5 BNC female

Connectors	8 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	-30 dB @ 5 MHz

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	14 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3208RGB 32×8 RGBHV Matrix Switcher, 500 M, BNC Connectors

TMX-3208RGB-A 32×8 RGBHV & Audio Ultra **Wideband Matrix Switcher**





Features

- Routing: 32×8 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 500 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns

Signal type_____RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	32 x 5 BNC female
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
May input valtage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type		Input: 32 stereo, balanced/unbalanced;
		output: 8 stereo, balanced/unbalanced
Connectors		Input: 32 x 5-pin 3.81 mm Phoenix;
		output: 8 x 5-pin 3.81 mm Phoenix
Gain	Unbalance	ed output: 0 dB, balanced output: +6 dB
Frequency i	esponse	20 Hz to 22 kHz, ±0.05 dB
THD+Noise		0.03% @ 1 kHz at normal level
S/N_>110 dl	3, balanced, at r	maximum output (20.2 dBu), unweighted
Crosstalk		>80 dB @ 1 kHz, fully loaded
Stereo chan	nel separation_	>80 dB @ 1 kHz
CMRR		>75 dB @ 20 Hz to 20 kHz
Impedance_	Inpu	ut: >10 kOhm, (balanced or unbalanced)
Max. input/o	output levels	+20.2 dBu (balanced or unbalanced)
Gain error_		±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	_Variable baudrate, data: 8 bits, stop: 1 bit, no parity

Interface9-pin female D	0 connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	_RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	14.2 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3208RGB-A 32x8 RGBHV & Audio Matrix Switcher, 500 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-3216RGB 32×16 RGBHV Ultra Wideband Matrix Switcher





Features

- Routing: 32 x 16 RGBHV ultra wideband matrix switcher
- Video interface: BNC × 5 female
- Fully loaded video bandwidth: 500 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	32 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	_1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	15 kg
Mean time between failures_	30,000 hours

Ordering Information

TMX-3216RGB 32×16 RGBHV Matrix Switcher, 500 M, BNC Connectors

TMX-3216RGB-A 32×16 RGBHV & Audio Ultra Wideband Matrix Switcher





Features

- Routing: 32×16 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 500 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns

Signal type RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	32 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal: 0 V to 2.0 Vp-p (follows input)75 Ohm
Impedance	0 0
ImpedanceReturn loss	75 Ohm
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	
Max. propagation delay	20 ns

Audio

Signal type		Input: 32 stereo, balanced/unbalanced;
		output: 16 stereo, balanced/unbalanced
Connectors		Input: 32 × 5-pin 3.81 mm Phoenix;
		output: 16 x 5-pin 3.81 mm Phoenix
Gain	Unbalanc	ed output: 0 dB, balanced output: +6 dB
Frequency re	sponse	20 Hz to 22 kHz, ±0.05 dB
THD+Noise_		0.03% @ 1 kHz at normal level
S/N __ >110 dB,	balanced, at	maximum output (20.2 dBu), unweighted
Crosstalk		>80 dB @ 1 kHz, fully loaded
Stereo chann	el separation_	>80 dB @ 1 kHz
CMRR		>75 dB @ 20 Hz to 20 kHz
Impedance	Inp	ut: >10 kOhm, (balanced or unbalanced)
Max. input/ou	tput levels	+20.2 dBu (balanced or unbalanced)
Gain error		±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND



Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
•	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	15.2 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3216RGB-A__32x16 RGBHV & Audio Matrix Switcher, 500 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-3232RGB 32×32 RGBHV Ultra Wideband Matrix Switcher





Features

- Routing: 32 x 32 RGBHV ultra wideband matrix switcher
- Video interface: BNC × 5 female
- Fully loaded video bandwidth: 500 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	32 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	32 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
ImpedanceReturn loss	
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

_1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
AGC to TTL: 4.5 V to 5.0 Vp-p
510 Ohm
75 Ohm
5.0 Vp-p
20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	_Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	17 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3232RGB 32×32 RGBHV Matrix Switcher, 500 M, BNC Connectors

TMX-3232RGB-A 32×32 RGBHV & Audio Ultra **Wideband Matrix Switcher**





Features

- Routing: 32×32 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 500 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns

Signal type_____RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	32 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	32 x 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 32 stereo, balanced/unbalanced;
	output: 32 stereo, balanced/unbalanced
Connectors	Input: 32 x 5-pin 3.81 mm Phoenix;
	output: 32 x 5-pin 3.81 mm Phoenix
GainUnba	lanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N >110 dB, balanced	I, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output level	s+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	_Variable baudrate, data: 8 bits, stop: 1 bit, no parity

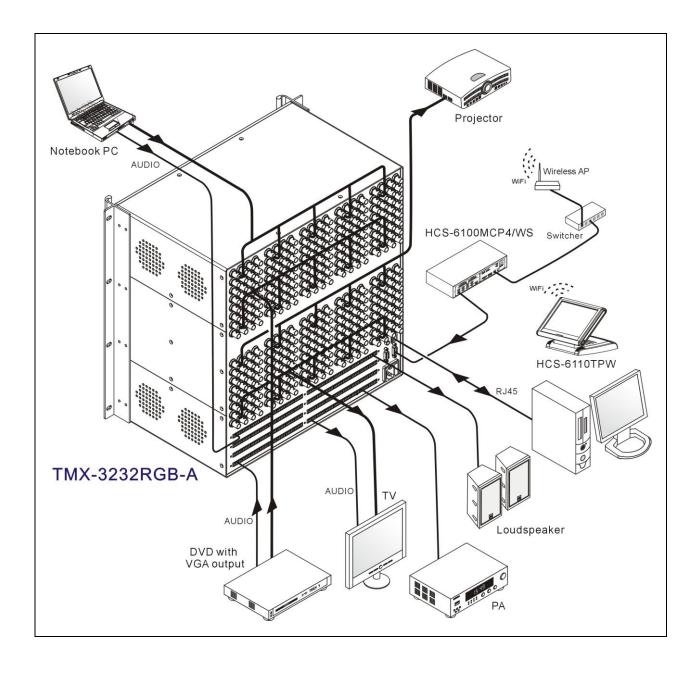


interface 9-pin female L	Connector, $Z = 1A$, $3 = RA$, $5 = GND$
Ethernet	_RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions $h \times w \times d (mm)$	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	17.2 kg
	30,000 hours

Ordering Information

TMX-3232RGB-A_32x32 RGBHV & Audio Matrix Switcher, 500 M,
Video on BNC Connectors, Balanced audio
stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-32xxRGB/RGB-A Series Ultra Wideband RGBHV Matrix Switchers System Connection



TMX-6464RGB 64×64 RGBHV Ultra Wideband Matrix Switcher



Features

- Routing: 64 x 64 RGBHV ultra wideband matrix switcher
- Video interface: BNC × 5 female
- Fully loaded video bandwidth: 400 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- Individual enclosures: 6U x 5 high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	400 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	64 x 5 BNC female
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	64 × 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	1320 × 478 × 310
	(6Ux 5 high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	10.6 × 5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-6464RGB 64x64 RGBHV Matrix Switcher, 400 M, BNC Connectors

TMX-6464RGB-A 64×64 RGBHV & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 64x64 RGBHV & audio ultra wideband matrix switcher
- Video interface: BNC×5 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 400 MHz
- Typical switching speed: 100 ns
- Typical propagation delay: 1.3 ns
- Compatible with RGBHV, RGBs, RGSB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- The latest RGB switch chip is used
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- Individual enclosures: 6U x 6 high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	400 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	RGBHV, RGBs, RGsB, RsGsBs,
	HDTV, component video, S-video
	and composite video

Video input

Connectors	64 x 5 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	64 × 5 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type		Input: 64 stereo, balanced/unbalanced
	01	utput: 64 stereo, balanced/unbalanced
Connectors		Input: 64 x 5-pin 3.81 mm Phoenix
		output: 64 x 5-pin 3.81 mm Phoenix
Gain	Unbalance	d output: 0 dB, balanced output: +6 dB
Frequency resp	oonse	20 Hz to 22 kHz, ±0.05 dB
THD+Noise		0.03% @ 1 kHz at normal leve
S/N_>110 dB, b	alanced, at m	naximum output (20.2 dBu), unweighted
Crosstalk		>80 dB @ 1 kHz, fully loaded
Stereo channel	separation	>80 dB @ 1 kHz
CMRR		>75 dB @ 20 Hz to 20 kHz
Impedance	Input	t: >10 kOhm, (balanced or unbalanced)
Max. input/outp	out levels	+20.2 dBu (balanced or unbalanced)
Gain error		+0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	1584 × 478 × 310
	(6Ux 6 high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	11 × 6 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-6464RGB-A__64x64 RGBHV & Audio Matrix Switcher, 400 M,

Video on BNC Connectors, Balanced audio

stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-0802VGA 8×2 VGA Ultra Wideband Matrix Switcher



Features

- Routing: 8 x 2 VGA ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	u< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Connectors

8 × 15-pin HDF connectors

Min./max. levels

Analog signal: 0.5 V to 2.0 Vp-p with no offset

Nominal level

0.7 Vp-p for RGB; 1.0 Vp-p for Y of

component video and S-video, and for

composite video; 0.3 Vp-p for R-Y and

B-Y of component video and C of S-video

Impedance75 Ohm
Return loss30 dB @ 5 MHz
Max. DC offset1.5 V
Video output
Connectors 2 x 15-pin HDF connectors
Nominal level0.7 Vp-p for RGB; 1.0 Vp-p for Y of
component video and S-video, and for
composite video; 0.3 Vp-p for R-Y and
B-Y of component video and C of S-video
Min./max. levelsAnalog signal: 0 V to 2.0 Vp-p (follows input)
Impedance75 Ohm
Return loss30 dB @ 5 MHz
DC offset± 5 mV with no offset at input
Switching typeRGB simultaneity
Sync
Input level1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output levelAGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance 510 Ohm
Output impedance75 Ohm
Max input voltage 5.0 Vp-p
Max. propagation delay 20 ns
, , ,
Control
COM (RS232) RS232, 9-pin female D connector
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND EthernetRJ45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90%
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet8, Socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90% Dimensions h × w ×d (mm)43 × 483 × 208
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet8-J45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90% Dimensions h × w ×d (mm)43 × 483 × 208 (1U high, full rack width)
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet8-J45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90% Dimensions h × w ×d (mm)43 × 483 × 208 (1U high, full rack width)
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet8-J45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90% Dimensions h × w xd (mm)43 × 483 × 208 (1U high, full rack width) ColorGray (PANTONE 425 C) Weight
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet8-J45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlMatrix switcher General specs Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90% Dimensions h × w ×d (mm)43 × 483 × 208 (1U high, full rack width) ColorGray (PANTONE 425 C) Weight30,000 hours
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity Interface9-pin female D connector, 2 = TX, 3 = RX, 5 = GND Ethernet8-J45 socket, Cat.5 crossover cable Ethernet protocolTCP/IP Ethernet speed10 M/100 M, full-duplex or half-duplex with autodetect PC controlAC 100 V - 240 V, 50 Hz / 60 Hz TemperatureOperating: 0 °C to + 50 °C storage: -20 °C to + 70 °C HumidityStorage and operating: 10% to 90% Dimensions h × w xd (mm)43 × 483 × 208 (1U high, full rack width) ColorGray (PANTONE 425 C) Weight

15HDF Connectors

TMX-0804VGA 8×4 VGA Ultra Wideband Matrix Switcher



Features

- Routing: 8 x 4 VGA ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ \pm 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	ı< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Connectors	8 × 15-pin HDF connectors
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 × 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	ocolTCP/IP
Ethernet spee	ed10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)_	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
	2.9 kg
	30,000 hours

Ordering Information

TMX-0804VGA 8×4 VGA Matrix Switcher, 450 M, 15HDF Connectors

TMX-0808VGA 8×8 VGA Ultra Wideband Matrix **Switcher**



Features

- Routing: 8 x 8 VGA ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Connectors	8 × 15-pin HDF connectors
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 × 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal: 0 V to 2.0 Vp-p (follows input)75 Ohm
Impedance	
ImpedanceReturn loss	
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	ocolTCP/IP
Ethernet spee	ed10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

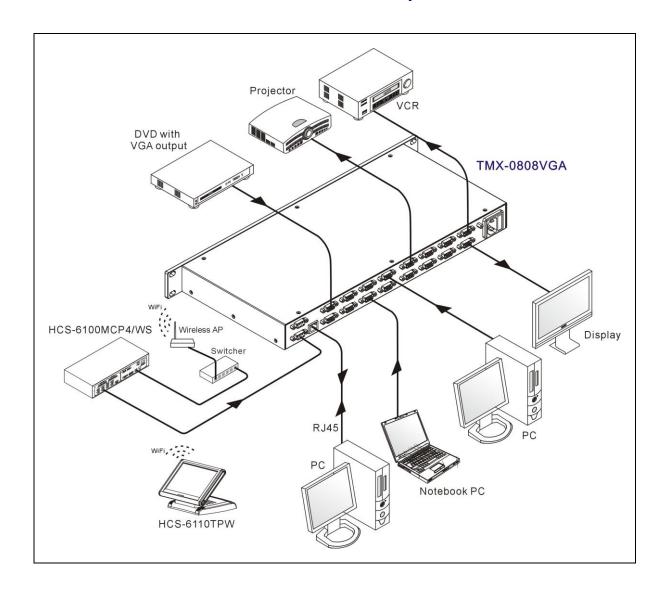
General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.9 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808VGA 8x8 VGA Matrix Switcher, 450 M, 15HDF Connectors

TMX-08xxVGA Series Ultra Wideband VGA Matrix Switchers System Connection



TMX-0802VGA-A 8×2 VGA & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 8 x 2 VGA & audio ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns

Signal type_____VGA~UXGA RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	8 × 15-pin HDF connectors
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	2 × 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	_1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Input: 8 stereo, balanced/unbalanced:

Audio

Signal type

Olgilai typc	nput. 6 steres, balanced, unbalanced,
	output: 2 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix;
	output: 2 x 5-pin 3.81 mm Phoenix
Gain	Unbalanced output: 0 dB, balanced output: +6 dB
Frequency re	ponse20 Hz to 22 kHz, ±0.05 dB
THD+Noise_	0.03% @ 1 kHz at normal level
S/N __ >110 dB,	palanced, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo chann	l separation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/ou	put levels+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity

Interface9-pin female D	O connector, $2 = TX$, $3 = RX$, $5 = GND$
Ethernet	_RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0802VGA-A 8x2 VGA & Audio Matrix Switcher, 450 M, Video on 15HDF Connectors, Balanced audio stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-0804VGA-A 8×4 VGA & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 8 x 4 VGA & audio ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ \pm 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Connectors	8 × 15-pin HDF connectors
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 x 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	
Marriagnat realtage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 4 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix
	output: 4 x 5-pin 3.81 mm Phoenix
GainUnba	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	ls+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804VGA-A_____8x4 VGA & Audio Matrix Switcher, 450 M,
Video on 15HDF Connectors, Balanced
audio stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-0808VGA-A 8×8 VGA & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 8 x 8 VGA & audio ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Connectors	8 × 15-pin HDF connectors
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 × 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal: 0 V to 2.0 Vp-p (follows input) 75 Ohm
Impedance	
ImpedanceReturn loss	75 Ohm
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

Input level	_1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	
Max input voltage	
Max. propagation delay	20 ns

Audio

Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnba	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	ls+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808VGA-A_____8x8 VGA & Audio Matrix Switcher, 450 M,
Video on 15HDF Connectors, Balanced
audio stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-1608VGA 16×8 VGA Ultra Wideband Matrix Switcher



Features

- Routing: 16 x 8 VGA ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Video input	
Connectors	16 × 15-pin HDF connectors
Min./max. levelsA	nalog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	_0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V
Video output	
Connectors	8 × 15-pin HDF connectors
	_0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levelsA	Analog signal: 0 V to 2.0 Vp-p (follows input)
	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity
Sync	
Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.7 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608VGA______16x8 VGA Matrix Switcher, 325 M, 15HDF Connectors

TMX-1608VGA-A 16×8 VGA & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 16 x 8 VGA & audio ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns

Signal type_____VGA~UXGA RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	16 x 15-pin HDF connectors
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	20 ns

Audio

Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnb	alanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	els+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity

Interface 9-pin female D	connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	_RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.9 kg
Mean time between failures	30 000 hours

Ordering Information

TMX-1608VGA-A_____16x8 VGA & Audio Matrix Switcher, 325 M,
Video on 15HDF Connectors, Balanced
audio stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-1616VGA 16×16 VGA Ultra Wideband Matrix Switcher



Features

- Routing: 16 x 16 VGA ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video

Video input

Connectors	16 × 15-pin HDF connectors
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 x 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal: 0 V to 2.0 Vp-p (follows input)75 Ohm
Impedance	0 0 11 (1 /
ImpedanceReturn loss	75 Ohm
ImpedanceReturn loss DC offset	75 Ohm 30 dB @ 5 MHz

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	5.0 Vp-p
Max. propagation delay	

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616VGA ______16×16 VGA Matrix Switcher, 325 M, 15HDF Connectors

TMX-1616VGA-A 16×16 VGA & Audio Ultra Wideband Matrix Switcher



Features

- Routing: 16 x 16 VGA & audio ultra wideband matrix switcher
- Video interface: 15-pin HDF connectors
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting VGA~UXGA video signal
- Input synchronization signal detection function
- Gain compensation and synchronization signal AGC to guarantee faster switching with no blinking and glitch
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns

Signal type_____VGA~UXGA RGBHV, RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video

Video input

Connectors	16 × 15-pin HDF connectors
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 x 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Sync

Input level	1.1 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.5 V to 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Max input voltage	
Max. propagation delay	20 ns

Audio

Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 16 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;
	output: 16 x 5-pin 3.81 mm Phoenix
GainUnba	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	ls+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

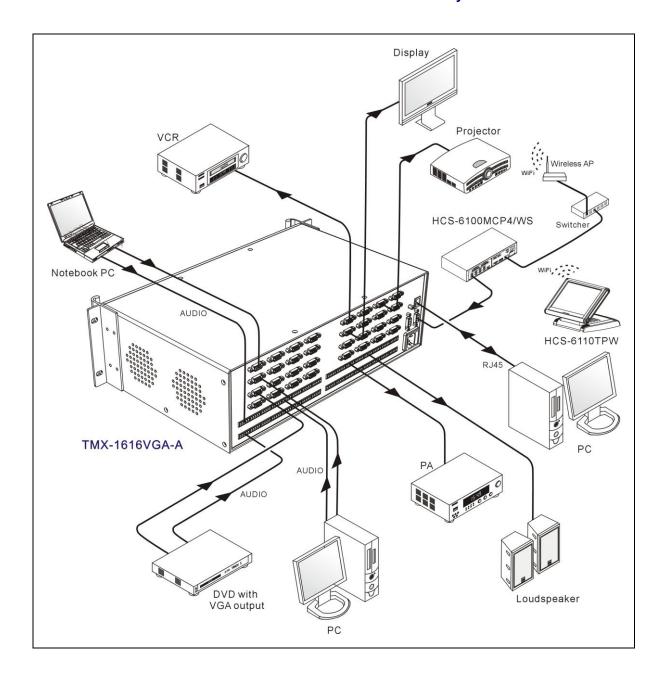
COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity

Interface9-pin female D	connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.0 kg
	30,000 hours

Ordering Information

TMX-1616VGA-A_____16×16 VGA & Audio Matrix Switcher, 325 M,
Video on 15HDF Connectors, Balanced
audio stereo on 5-pin 3.81 mm Phoenix
Connectors

TMX-16xxVGA/VGA-A Series Ultra Wideband VGA Matrix Switchers System Connection



TMX-0404A 4×4 Stereo Audio Matrix Switcher



Ordering Information

TMX-0404A 4×4 Stereo Audio Matrix Switcher,
Audio stereo on RCA Connectors

Features

- Routing: 4 × 4 stereo audio matrix switcher
- Audio interface: RCA (L+R) female connectors
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Audio

Signal type	Input: 4 stereo; output: 4 stereo
- ::	_Input: 4 pairs of RCA female connectors;
(output: 4 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced, at	maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separation)>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

TMX-0804A 8×4 Stereo Audio Matrix Switcher



Ordering Information

TMX-0804A______8×4 Stereo Audio Matrix Switcher,
Audio stereo on RCA Connectors

Features

- Routing: 8 x 4 stereo audio matrix switcher
- Audio interface: RCA female (L+R) connectors
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Audio

Signal type	Input: 8 stereo; output: 4 stereo
Connectors	Input: 8 pairs of RCA female connectors;
	output: 4 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced, a	at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separatio	n>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels_	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

TMX-0808A 8×8 Stereo Audio Matrix Switcher



Ordering Information

TMX-0808A______8×8 Stereo Audio Matrix Switcher,
Audio stereo on RCA Connectors

Features

- Routing: 8 x 8 stereo audio matrix switcher
- Audio interface: RCA female (L+R) connectors
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Audio

Signal type	Input: 8 stereo; output: 8 stereo
Connectors	Input: 8 pairs of RCA female connectors;
1	output: 8 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced, a	t maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separation	n>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels_	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

TMX-0401MA 4×1 Mixed Switcher



Features

- Routing: 4 x 1 mixed switcher
- 4 x 1 VGA (15-pin HDF), 350 MHz (Full loaded, -3 dB)
- 4 x 1 VIDEO (RCA), 125 MHz (Full loaded, -3 dB)
- LINE 1 (1 of 4), LINE 2 and LINE 3 stereo audio signals are mixed (balanced outputs, XLR)
- Volume of LINE 1 and mixed audio output can be controlled
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- RS232 control interface, supporting RS232 protocol
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

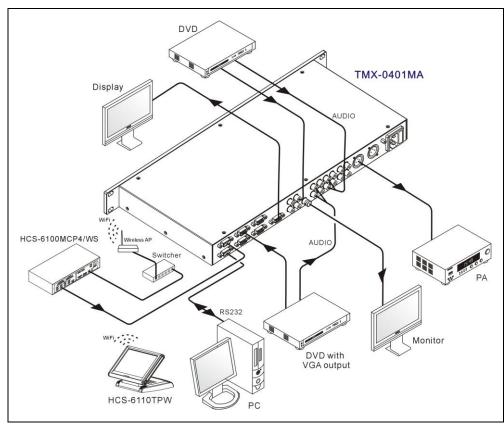
General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)_	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0401MA 4×1 VGA & Video & Audio Mixed Switcher

System Connection



TMX-0804V 8×4 Composite Video Matrix Switcher



Features

- Routing: 8 x 4 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth:50 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- RS232 control interface, supporting RS232 protocol
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	8 BNC female
Min./max. levels	Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804V______8x4 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-0808V 8×8 Composite Video Matrix Switcher



Features

- Routing: 8 x 8 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth:50 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- RS232 control interface, supporting RS232 protocol
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	-53 dB @ 5 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	8 BNC female
Min./max. levels	_Analog signal: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levelsA	nalog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss_	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.6 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808V______8×8 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-0802AV_1U 8x2 AV Matrix Switcher



Features

- Routing: 8 x 2 AV Matrix Switcher
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth:50 MHz
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

8 BNC female
Analog: 0.5 V to 2.0 Vp-p with no offset
1.0 Vp-p
75 Ohm
30 dB @ 5 MHz
1.5 V

Video output

Connectors	2 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Signal type	Input: 8 stereo, unbalanced;
	output: 2 stereo, unbalanced
Connectors	Input: 8 pairs of RCA female connectors;
0	utput: 2 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced, at	maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separation	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	483×208×43
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0802AV_1U___8x2 Composite Video & Audio Matrix Switcher, 50 M, Video on BNC Connectors, Audio stereo on RCA Connectors

TMX-0804AV_1U 8×4 AV Matrix Switcher



Features

- Routing: 8 × 4 AV Matrix Switcher
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth:50 MHz
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	Composite video

Video input

Connectors	8 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offse
Nominal level	1.0 Vp-լ
Impedance	75 Ohn
Return loss	-30 dB @ 5 MH;
Max. DC offset	1.5 V

Video output

Connectors	4 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Signal type	Input: 8 stereo, unbalanced;
	output: 4 stereo, unbalanced
ConnectorsInp	out: 8 pairs of RCA female connectors;
outp	ut: 4 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced, at ma	ximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separation	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

oundian open	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	483×208×43
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804AV_1U___8x4 Composite Video & Audio Matrix Switcher, 50 M, Video on BNC Connectors, Audio stereo on RCA Connectors

TMX-0808AV 8×8 AV Matrix Switcher



Features

- Routing: 8 x 8 AV Matrix Switcher
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth:50 MHz
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	<u>8</u> 0 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	8 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Addio	
Signal type	Input: 8 stereo, unbalanced;
	output: 8 stereo, unbalanced
Connectors	Input: 8 pairs of RCA female connectors;
	output: 8 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced,	at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separati	on>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.3 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808AV_____8×8 Composite Video & Audio Matrix Switcher,
50 M, Video on BNC Connectors, Audio stereo
on RCA Connectors

TMX-1604V 16×4 Composite Video Matrix Switcher



Features

- Routing: 16 x 4 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth:50 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- RS232 control interface, supporting RS232 protocol
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	-53 dB @ 5 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	16 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss_	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher
_	

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1604V 16×4 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-1608V 16×8 Composite Video Matrix Switcher



Features

- Routing: 16 x 8 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth: 50 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- RS232 control interface, supporting RS232 protocol
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	-53 dB @ 5 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	16 BNC female
Min./max. levels	_Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levelsAnalog sig	gnal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608V______16x8 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-1616V 16×16 Composite Video Matrix Switcher



Features

- Routing: 16 x 16 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth: 50 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- RS232 control interface, supporting RS232 protocol
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	16 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss_	
Max. DC offset	1.5 V

Video output

Connectors	16 BNC female
Nominal level	1.0 Vp-p
Min./max. levelsAnalog sign	al: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616V_____16×16 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-1604AV 16×4 AV Matrix Switcher



Features

- Routing:16 × 4 AV Matrix Switcher
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth:50 MHz
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	<u>8</u> 0 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

16 BNC female
Analog: 0.5 V to 2.0 Vp-p with no offset
1.0 Vp-p
75 Ohm
-30 dB @ 5 MHz
1.5 V

Video output

Connectors	4 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	
DC offset	± 5 mV with no offset at input

Audio

Audio	
Signal type	Input: 16 stereo, unbalanced;
	output: 4 stereo, unbalanced
Connectors	Input: 16 pairs of RCA female connectors;
	output: 4 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output level	s+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.4 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1604AV 16x4 Composite Video & Audio Matrix Switcher, 50 M, Video on BNC Connectors, Audio stereo on RCA Connectors

TMX-1608AV 16×8 AV Matrix Switcher



Features

- Routing:16 x 8 AV Matrix Switcher
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth:50 MHz
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

0 dB
50 MHz (-3dB), fully loaded
53 dB @ 5 MHz
< -80 dB @ 1 kHz, fully loaded
_Max. 0.1 degree, @ RL = 150 Ohm
Max. 0.1%, @ RL = 150 Ohm
80 ns @ 2 Vp-p, RL = 150 Ohm
50 ns
Composite video

Video input

Connectors	16 BNC female
	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Addio	
Signal type	Input: 16 stereo, unbalanced;
	output: 8 stereo, unbalanced
Connectors	Input: 16 pairs of RCA female connectors;
	output: 8 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced,	at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separation	on>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output levels	+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608AV 16x8 Composite Video & Audio Matrix Switcher, 50 M, Video on BNC Connectors, Audio stereo on RCA Connectors

TMX-1616AV 16×16 AV Matrix Switcher



Features

- Routing:16 x 16 AV Matrix Switcher
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth:50 MHz
- Supporting stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	<u>8</u> 0 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

16 BNC female
Analog: 0.5 V to 2.0 Vp-p with no offset
1.0 Vp-p
75 Ohm
-30 dB @ 5 MHz
1.5 V

Video output

Connectors	16 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Audio	
Signal type	Input: 16 stereo, unbalanced;
	output: 16 stereo, unbalanced
Connectors	Input: 16 pairs of RCA female connectors;
	output: 16 pairs of RCA female connectors
Gain	0 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm
Max. input/output level	s+20.2 dBu
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

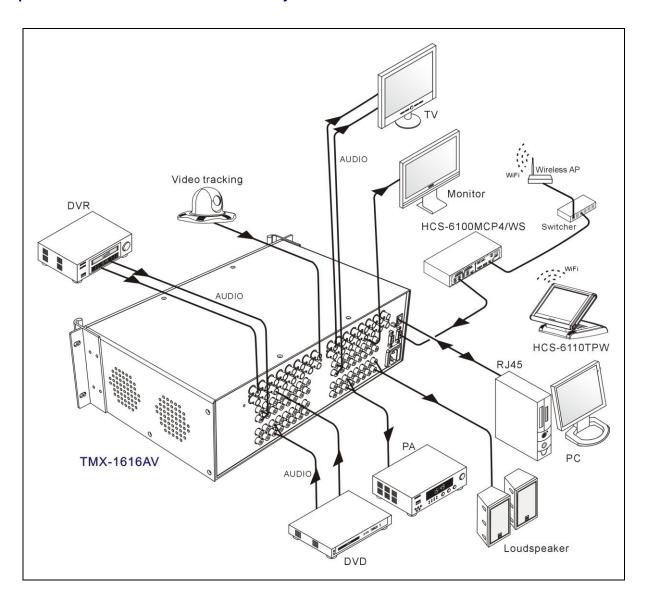
General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.6 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616AV____16x16 Composite Video & Audio Matrix Switcher, 50 M, Video on BNC Connectors, Audio stereo on RCA Connectors

Composite Video& Audio Matrix Switchers System Connection



TMX-0804AV-B 8×4 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 8x4 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:50 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	Composite video

Video input

Connectors	8 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Addio	
Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 4 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix;
	output: 4 x 5-pin 3.81 mm Phoenix
GainUnba	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	els+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	ed10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804AV-B____8x4 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-0808AV-B 8×8 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 8x8 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:50 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	Composite video

Video input

Connectors	8 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
	75 Ohm
Return loss	-30 dB @ 5 MHz
	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Addio	
Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix;
	output: 8 x 5-pin 3.81 mm Phoenix
GainUr	nbalanced output: 0 dB, balanced output: +6 dB
Frequency respons	e20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balan	ced, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel sep	aration>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output le	evels+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808AV-B____8x8 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-1608AV-B 16×8 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 16x8 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:50 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	Composite video

Video input

Connectors	16 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
	75 Ohm
Return loss_	-30 dB @ 5 MHz
	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	
DC offset	± 5 mV with no offset at input

Audio

Audio	
Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnba	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	ls+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.9 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608AV-B 16x8 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-1616AV-B 16×16 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 16x16 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:50 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 5 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	80 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
	Composite video

Video input

Connectors	16 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
	75 Ohm
Return loss_	-30 dB @ 5 MHz
	1.5 V

Video output

Connectors	16 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	-30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

Audio	
Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 16 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;
	output: 16 x 5-pin 3.81 mm Phoenix
GainUnba	lanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output level	ls+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616AV-B__16x16 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-1608A-B 16×8 Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 16x8 Balanced/Unbalanced Stereo Audio Matrix Switcher
- Audio interface: 5-pin 3.81 mm Phoenix
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 2U high, full rack width

Technical Specifications

Audio

Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix
	output: 8 x 5-pin 3.81 mm Phoenix
GainUn	palanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	ed, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel sepa	ration>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output lev	rels+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1Baudrate:	9600, data: 8 bits, stop: 1 bit, no parity
COM2Variable bau	drate, data: 8 bits, stop: 1 bit, no parity
Interface9-pin female [D connector, $2 = TX$, $3 = RX$, $5 = GND$
Ethernet	_RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General spec	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	88 × 478 × 310
	(2U high, full rack width)

Ordering Information

TMX-1608A-B 16x8 Balanced/Unbalanced Stereo Audio Matrix
Switcher, Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

Color_____Gray (PANTONE 425 C)

TMX-1616A-B 16×16 Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 16x16 Balanced/Unbalanced Stereo Audio Matrix Switcher
- Audio interface: 5-pin 3.81 mm Phoenix
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 2U high, full rack width

Technical Specifications

Audio

Input: 16 stereo, balanced/unbalanced;
output: 16 stereo, balanced/unbalanced
Input: 16 x 5-pin 3.81 mm Phoenix;
output: 16 x 5-pin 3.81 mm Phoenix
lanced output: 0 dB, balanced output: +6 dB
20 Hz to 22 kHz, ±0.05 dB
0.03% @ 1 kHz at normal level
l, at maximum output (20.2 dBu), unweighted
>80 dB @ 1 kHz, fully loaded
tion>80 dB @ 1 kHz
>75 dB @ 20 Hz to 20 kHz
_Input: >10 kOhm, (balanced or unbalanced)
s+20.2 dBu (balanced or unbalanced)
±0.1 dB @ 20 Hz to 22 kHz

Control

COM (F	RS232)_		RS232, 9-pin female D connector
COM1_		Baudrate: 9	9600, data: 8 bits, stop: 1 bit, no parity
COM2		Variable baud	drate, data: 8 bits, stop: 1 bit, no parity
Interfac	e	9-pin female D	connector, 2 = TX, 3 = RX, 5 = GND
Etherne	et		_RJ45 socket, Cat.5 crossover cable
Etherne	t proto	col	TCP/IP
Etherne	t speed	d	10 M/100 M, full-duplex or
			half-duplex with autodetect
PC con	trol		Matrix switcher
Genera	al spe	С	
Power s	supply_		AC 100 V - 240 V, 50 Hz / 60 Hz
Temper	ature		Operating: 0 °C to + 50 °C;
			storage: -20 °C to + 70 °C
Humidit	у		_Storage and operating: 10% to 90%
Dimens	ions h	< w ×d (mm)	88 × 478 × 310
			(2U high, full rack width)
Color			Gray (PANTONE 425 C)
Weight			4.0 kg

Ordering Information

TMX-1616A-B___16x16 Balanced/Unbalanced Stereo Audio Matrix
Switcher, Audio stereo on 5-pin 3.81 mm Phoenix
Connectors

Mean time between failures _____30,000 hours

TMX-3208V 32×8 Composite Video Matrix Switcher



Features

- Routing: 32 x 8 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth:500 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors	32 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)	RS232, 9-pin female D connector
	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3208V_____32×8 Composite Video Matrix Switcher, 500 M, BNC Connectors

TMX-3216V 32×16 Composite Video Matrix Switcher



Features

- Routing: 32 x 16 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth:500 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors_	32 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Control

COM (RS232)	RS232, 9-pin female D connector
	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
	colTCP/IP
	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

•	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.2 kg
Mean time between failures_	30,000 hours

Ordering Information

TMX-3216V 32×16 Composite Video Matrix Switcher, 500 M, BNC Connectors

TMX-3232V 32×32 Composite Video Matrix Switcher



Features

- Routing: 32 x 32 Composite Video Matrix Switcher
- Video interface: BNC female
- Fully loaded video bandwidth:500 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	500 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors	32 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

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Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3232V 32×32 Composite Video Matrix Switcher, 500 M, BNC Connectors

TMX-3208AV-B 32×8 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 32x8 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:500 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors	32 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Ma DC affact	1.5 V

Video output

8 BNC female
1.0 Vp-p
Analog signal: 0 V to 2.0 Vp-p (follows input)
30 dB @ 5 MHz
± 5 mV with no offset at input

Audio

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Signal type	Input: 32 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 32 x 5-pin 3.81 mm Phoenix;
	output: 8 x 5-pin 3.81 mm Phoenix
Gain	Unbalanced output: 0 dB, balanced output: +6 dB
Frequency res	ponse20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N __ >110 dB, I	balanced, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channe	el separation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/out	put levels+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

General spec	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	7.5 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3208AV-B 32×8 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-3216AV-B 32×16 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 32×16 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:500 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors	32 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Ma DC affact	1.5 V

Video output

16 BNC female
1.0 Vp-p
Analog signal: 0 V to 2.0 Vp-p (follows input)
75 Ohm
30 dB @ 5 MHz
± 5 mV with no offset at input

Audio

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Signal type	Input: 32 stereo, balanced/unbalanced;
	output: 16 stereo, balanced/unbalanced
Connectors	Input: 32 x 5-pin 3.81 mm Phoenix;
	output: 16 x 5-pin 3.81 mm Phoenix
GainUn	balanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, baland	ced, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel sepa	aration>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output lev	vels+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

General Spec	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	7.7 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3216AV-B__32x16 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-3232AV-B 32×32 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 32x32 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth:500 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	50 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors	32 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	32 BNC female
Nominal level	1.0 Vp-p
Min./max. levels	_Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input

Audio

ridaio	
Signal type	Input: 32 stereo, balanced/unbalanced;
	output: 32 stereo, balanced/unbalanced
Connectors	Input: 32 x 5-pin 3.81 mm Phoenix;
	output: 32 x 5-pin 3.81 mm Phoenix
GainUnba	alanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balance	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	ation>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	els+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General spec

General Spec	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	8.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3232AV-B__32x32 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-6464AV-B 64×64 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher





Features

- Routing: 64x64 Composite Video & Balanced/Unbalanced
 Stereo Audio Matrix Switcher
- Video interface: BNC female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 400 MHz
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 10U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	400 MHz (-3dB), fully loaded
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma_	< -80 dB @ 1 kHz, fully loaded
Differential phase error	_Max. 0.1 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.1%, @ RL = 150 Ohm
Typical propagation delay	1.3 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	100 ns
Signal type	Composite video

Video input

Connectors	64 BNC female
	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	1.0 Vp-p
Impedance	
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

64 BNC female
1.0 Vp-p
_Analog signal: 0 V to 2.0 Vp-p (follows input)
75 Ohm
30 dB @ 5 MHz
± 5 mV with no offset at input

Audio

Signal type	Input: 64 stereo, balanced/unbalanced;
	output: 64 stereo, balanced/unbalanced
Connectors	Input: 64 x 5-pin 3.81 mm Phoenix;
	output: 64 x 5-pin 3.81 mm Phoenix
GainUnbala	nced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced,	at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separation	on>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
ImpedanceI	nput: >10 kOhm, (balanced or unbalanced)
Max. input/output levels_	+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

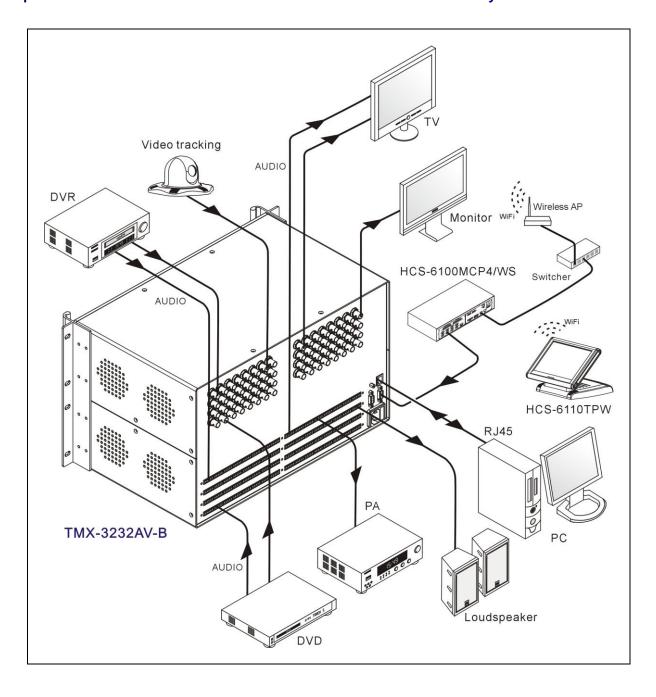
General spec

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	440 × 478 × 310
	(10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	13.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-6464AV-B__64x64 Composite Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors; Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switchers System Connection



TMX-0104VGA 1×4 VGA Distribution Amplifier



TMX-0108VGA 1x8 VGA Distribution Amplifier



Features

- Routing: 1 x 4 VGA Distribution Amplifier
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 300 MHz
- Supporting VGA~UXGA video signal
- Guarantees image signal lossless transmission, clear with no shadow

Features

- Routing: 1 x 8 VGA Distribution Amplifier
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 300 MHz
- Supporting VGA~UXGA video signal
- Guarantees image signal lossless transmission, clear with no shadow
- 1U high, full rack width

Technical Specifications

Video

Bandwidth	300 MHz (-3dB), fully loaded
Pixel resolution	Up to 1600×1200 @ 60 Hz
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video
Connectors	Input: 1 × 15-pin HDF connector,
	output: 4 x 15-pin HDF connectors

Technical Specifications

Video

Bandwidth	300 MHz (-3dB), fully loaded
Pixel resolution	Up to 1600×1200 @ 60 Hz
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video
Connectors	Input: 1 x 15-pin HDF connector,
	output: 8 x 15-pin HDF connectors

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions $h \times w \times d (mm)_{\underline{}}$	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0104VGA 1x4 VGA Distribution Amplifier, 300 M, 15HDF Connectors

Ordering Information

TMX-0108VGA______1x8 VGA Distribution Amplifier, 300 M, 15HDF Connectors

TMX-0116VGA 1×16 VGA Distribution Amplifier



Features

- Routing: 1 × 16 VGA Distribution Amplifier
- Video interface: 15-pin HDF connectors
- Fully loaded video bandwidth: 300 MHz
- Supporting VGA~UXGA video signal
- Guarantees image signal lossless transmission, clear with no shadow
- 1U high, full rack width

Technical Specifications

Video

Bandwidth	300 MHz (-3dB), fully loaded
Pixel resolution	Up to 1600×1200 @ 60 Hz
Signal type	VGA~UXGA RGBHV, RGBs, RGsB,
	RsGsBs, HDTV, component video,
	S-video and composite video
Connectors	Input: 1 × 15-pin HDF connector,
	output: 16 x 15-pin HDF connectors

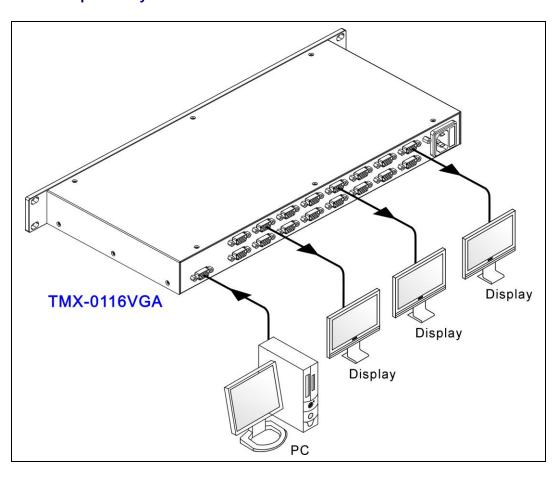
General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to
90%	
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0116VGA 1x16 VGA Distribution Amplifier, 300 M, 15HDF Connectors

VGA Distribution Amplifiers System Connection



TMX-0108V 1×8 Video Distribution Amplifier



Features

- Routing: 1×8 Video Distribution Amplifier
- Video interface: BNC female
- Fully loaded video bandwidth: 125 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Guarantees image signal lossless transmission, clear with no shadow

Technical Specifications

Video

Bandwidth	125 MHz (-3dB), fully loaded
	75 Ohm
Signal type	Composite video
Connectors	
	output: 8 BNC female

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-0108V 1x8 Video Distribution Amplifier, 125 M, BNC Connectors

TMX-0116V 1×16 Video Distribution Amplifier



Features

- Routing: 1×16 Video Distribution Amplifier
- Video interface: BNC female
- Fully loaded video bandwidth: 125 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Guarantees image signal lossless transmission, clear with no shadow
- 1U high, full rack width

Technical Specifications

Video

Bandwidth	125 MHz (-3dB), fully loaded
	75 Ohm
Signal type	Composite video
Connectors	
	output: 16 BNC female

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0116V_____1x16 Video Distribution Amplifier, 125 M, BNC Connectors

TMX-0132V 1×32 Video Distribution Amplifier



Features

- Routing: 1x32 Video Distribution Amplifier
- Video interface: BNC female
- Fully loaded video bandwidth: 125 MHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Guarantees image signal lossless transmission, clear with no shadow
- 1U high, full rack width

Technical Specifications

Video

Bandwidth	125 MHz (-3dB), fully loaded
Input/output impedance	75 Ohm
Signal type	Composite video
Connectors_	Input: 1 BNC female,
	output: 32 BNC female

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions $h \times w \times d (mm)_{\underline{}}$	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0132V_____1×32 Video Distribution Amplifier, 125 M, BNC Connectors

TMX-0104AV 1×4 AV Distribution Amplifier



Features

- Routing: 1×4 AV Distribution Amplifier
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth: 125 MHz
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Guarantees image signal lossless transmission, clear with no shadow

Technical Specifications

Video

Bandwidth	125 MHz (-3dB), fully loaded
Input/output impedanc	e75 Ohm
Signal type	
	_Input: 1 BNC female, output: 4 BNC female

Audio

Signal type	Input: 1 stereo; output: 4 stereo
Connectors	Input: 1 pair of RCA female connectors
	output: 4 pairs of RCA female connectors

General specs

12 V DC
Operating: 0 °C to + 50 °C;
storage: -20 °C to + 70 °C
Storage and operating: 10% to 90%
40 × 150 × 100
Gray (PANTONE 425 C)
0.4 kg

Ordering Information

TMX-0104AV 1x4 Composite Video& Audio Distribution Amplifier,
125 M, Video on BNC Connectors, Audio stereo
on RCA Connectors

TMX-0108AV 1×8 AV Distribution Amplifier



Features

- Routing: 1×8 AV Distribution Amplifier
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth: 125 MHz
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Guarantees image signal lossless transmission, clear with no shadow
- 3U high, full rack width

Technical Specifications

Video

Bandwidth	125 MHz (-3dB), fully loaded
Input/output impedance	75 Ohm
Signal type	Composite video
Connectors	Input: 1 BNC female, output: 8 BNC female

Audio

Signal type	Input: 1 stereo; output: 8 stereo
Connectors	Input: 1 pair of RCA female connectors;
	output: 8 pairs of RCA female connectors

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	3.9 kg

Ordering Information

TMX-0108AV___1×8 Composite Video& Audio Distribution Amplifier,
125 M, Video on BNC Connectors, Audio stereo
on RCA Connectors

TMX-0116AV 1×16 AV Distribution Amplifier



Features

- Routing: 1×16 AV Distribution Amplifier
- Video interface: BNC female
- Audio interface: RCA female (L+R) connectors
- Fully loaded video bandwidth: 125 MHz
- Audio bandwidth: 20 Hz to 22 kHz
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Guarantees image signal lossless transmission, clear with no shadow
- 3U high, full rack width

Technical Specifications

Video

Bandwidth	125 MHz (-3dB), fully loaded
Input/output impedar	ce75 Ohm
Signal type	Composite video
Connectors	Input: 1 BNC female, output: 16 BNC female

Audio

Signal type	Input: 1 stereo; output: 16 stereo
Connectors	Input: 1 pair of RCA female connectors;
	output: 16 pairs of RCA female connectors

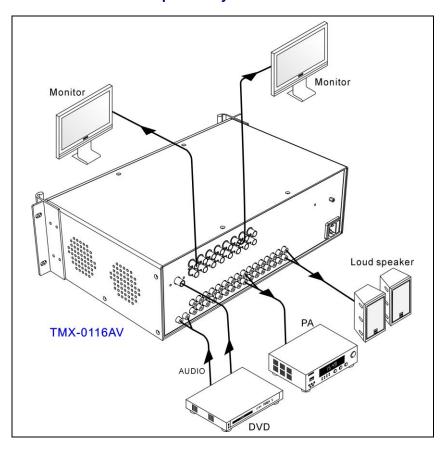
General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)_	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.0 kg

Ordering Information

TMX-0116AV__1×16 Composite Video& Audio Distribution Amplifier, 125 M, Video on BNC Connectors, Audio stereo on RCA Connectors

Composite Video& Audio Distribution Amplifiers System Connection



HCS-4112M/29 1×29 Broadcast Quality Audio Distributor



Features

- Routing: 1×29 Broadcast Quality Audio Distributor
- Audio interface: 3 core XLR balanced
- 1 input channel, 29 adjustable gain output channels
- Audio monitoring facility
- Each output with a built-in independent earth isolated set (adopt 29 isolated transformers), making it completely isolated from interference between input and output signals, and eliminate the interference from power supply system and earth wire

HCS-4112M/29 is a professional audio distributor with excellent capability. Each output is equipped with a gain adjust knob and a built-in independent earth isolated set. This broadcast standard audio distributor with earthing isolation feature is mainly used for high quality multi-way audio distribution.

Controls and Indicators

- Power indicator
- 5 signal indicators
- 29 gain control knobs of audio outputs
- Monitor volume control knob

Interconnections

- 1 XLR-F connector for audio input to connect balanced audio signal
- 1 XLR-M connector for connection with the audio input of the next HCS-4112M/29
- 29 XLR-M connectors for distributing the audio signal of the conference proceedings and the interpretation from interpreters to recording devices
- 1 XLR-F connector for monitoring audio input
- Ø 3.5 mm jack for stereo monitor earphone

Technical Specifications

Electrical

Gain	
Frequency response	20 Hz to 20 kHz (+0/-1 dB)
SNR	>106 dB
THD	<0.02%
Power supply	100 V AC to 240 V AC, 50/60 Hz,

Audio Input

Connector	1	XLR-F	balanced
Max. input			_+6 dBV

Audio output

Connectors	29	XLR-M	balanced
Max. output			+16 dBV

General specs

Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	70 × 483 × 222
Weight	2.8 kg

Ordering Information

HCS-4112M/29 _____1x29 Broadcast Standard Audio Distributor
(3-pin XLR input/output connectors,
adjustable gain output, built-in earth
isolated set)

HCS-4112M/10 1×10 Broadcast Quality Audio Distributor



Features

- Routing: 1×10 Broadcast Quality Audio Distributor
- Audio interface: 3 core XLR balanced
- 1 input channel, 10 adjustable gain output channels (with audio monitor)
- Each output with a built-in independent earth isolated set (10 isolating transformers used), making it completely isolated from interference between input and output signals, and eliminating interference from power supply system and earth wire

HCS-4112M/10 is a professional audio distributor with excellent capability. Each output is equipped with a gain adjust knob and a built-in independent earth isolated set. This broadcast standard audio distributor with earthing isolation feature is mainly used for high quality multi-way audio distribution.

Controls and Indicators

- Power indicator
- 10 gain control knobs of audio outputs

Interconnections

- 1 XLR-F connector for audio input to connect balanced audio signal
- 1 XLR-M connector for connection with the audio input of the next HCS-4112M/10
- 10 XLR-M connectors for distributing the audio signal of the conference proceedings and the interpretation from interpreters to recording devices
- 1 XLR-F connector for monitoring audio input

Technical Specifications

Electrical

Gain	-∞~+10 dB / adjustable
Frequency response	20 Hz to 20 kHz (+0/-1 dB)
SNR	>106 dB
THD	<0.02%
Power supply	AC 100 V - 240 V. 50 Hz / 60 Hz

Audio Input

Connector	1	XLR-F	balanced
Max. input			+6 dBV

Audio output

Connectors	10	XLR-M	balanced
Max. output			+16 dBV

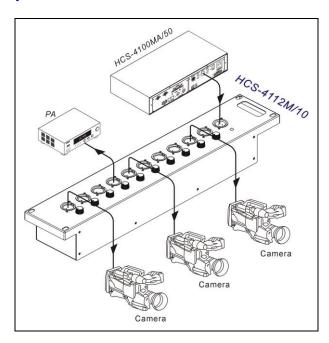
General specs

Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	85 × 483 × 88
Color	White (PANTONE 420 C)
Weight	1.2 kg

Ordering Information

HCS-4112M/10_____1x10 Broadcast Standard Audio Distributor
(3-pin XLR input/output connectors,
adjustable gain output, built-in earth
isolated set)

System Connection



TMX-0804HD 8×4 Component Video Matrix Switcher



Features

- Routing: 8x4 component video matrix switcher
- Video interface: BNC×3 female
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ \pm 0.8 dB
Crosstalk of channel	
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	8 × 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 x 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min /may levels	Analag signal, 0 \/ to 2 0 \/n n (follows innut)
Willi./IIIax. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal. 0 v to 2.0 vp-p (follows input)
Impedance	111
ImpedanceReturn loss	75 Ohm
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804HD_____8x4 Component Video Matrix Switcher, BNC Connectors

TMX-0804HD-A 8×4 Component Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 8x4 component video & balanced/unbalanced stereo audio matrix switcher
- Video interface: BNC×3 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	na< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	8 x 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	4 x 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Audio

Signal type	Input: 8 stereo, balanced/unbalanced
	output: 4 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix
	output: 4 x 5-pin 3.81 mm Phoenix
GainUnbal	anced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal leve
S/N_>110 dB, balanced	, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separat	ion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output levels	s+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)_	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

•	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804HD-A____8x4 Component Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors, Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-0808HD 8×8 Component Video Matrix Switcher



Features

- Routing: 8x8 component video matrix switcher
- Video interface: BNC×3 female
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz ≤ \pm 0.8 dB
Crosstalk of channel	
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	8 × 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 3 BNC female
	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet speed	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.4 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0808HD_____8×8 Component Video Matrix Switcher, BNC Connectors

TMX-0808HD-A 8×8 Component Video & Balanced/Unbalanced Stereo Audio Matrix Switcher



Features

- Routing: 8x8 component video & balanced/unbalanced stereo audio matrix switcher
- Video interface: BNC×3 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 450 MHz
- Typical switching speed: 25 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

	0 dB
Bandwidth	450 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chroma	< -80 dB @ 1 kHz, fully loaded
Differential phase errorN	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	25 ns
Signal typeRG	B, RGBs, RGsB, RsGsBs, HDTV,
com	nponent video, S-video and
com	nposite video

Video input

Connectors	8 × 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Audio

Signal type	Input: 8 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 x 5-pin 3.81 mm Phoenix
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnba	lanced output: 0 dB, balanced output: +6 dB
Frequency response_	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	d, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	_Input: >10 kOhm, (balanced or unbalanced)
Max. input/output leve	ls+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex o
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.4 kg
	30,000 hours

Ordering Information

TMX-0808HD-A____8x8 Component Video & Balanced/Unbalanced
Stereo Audio Matrix Switcher, Video on BNC
Connectors, Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

TMX-1608HD 16×8 Component Video Matrix Switcher





Features

- Routing: 16x8 component video matrix switcher
- Video interface: BNC×3 female
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	16 x 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
	75 Ohm 30 dB @ 5 MHz
Return loss	
Return loss DC offset	30 dB @ 5 MHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	9.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608HD______16x8 Component Video Matrix Switcher, BNC Connectors

TMX-1608HD-A 16×8 Component Video & Balanced/Unbalanced Stereo Audio Matrix Switcher





Features

- Routing: 16x8 component video & balanced/unbalanced stereo audio matrix switcher
- Video interface: BNC×3 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	na< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	16 × 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	_0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	8 x 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity

Audio

Signal type	Input: 16 stereo, balanced/unbalanced;
	output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix
	output: 8 x 5-pin 3.81 mm Phoenix
GainUnba	lanced output: 0 dB, balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±0.05 dB
THD+Noise	0.03% @ 1 kHz at normal level
S/N_>110 dB, balanced	I, at maximum output (20.2 dBu), unweighted
Crosstalk	>80 dB @ 1 kHz, fully loaded
Stereo channel separa	tion>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >10 kOhm, (balanced or unbalanced)
Max. input/output level	s+20.2 dBu (balanced or unbalanced)
Gain error	±0.1 dB @ 20 Hz to 22 kHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	9.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608HD-A__16x8 Component Video & Balanced/Unbalanced

Stereo Audio Matrix Switcher, Video on BNC

Connectors, Audio stereo on 5-pin 3.81 mm

Phoenix Connectors

TMX-1616HD 16×16 Component Video Matrix Switcher





Features

- Routing: 16×16 component video matrix switcher
- Video interface: BNC×3 female
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay_	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	<u>5</u> 0 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	16 × 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 × 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
	Analog signal: 0 V to 2.0 Vp-p (follows input) 75 Ohm
Impedance	
ImpedanceReturn loss	75 Ohm
Impedance Return loss DC offset	75 Ohm 30 dB @ 5 MHz

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	ocolTCP/IP
Ethernet spee	ed10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	264 × 478 × 310
	(6U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	10.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616HD_____16x16 Component Video Matrix
Switcher, BNC Connectors

TMX-1616HD-A 16×16 Component Video & Balanced/Unbalanced Stereo Audio Matrix Switcher





Features

- Routing: 16×16 component video & balanced/unbalanced stereo audio matrix switcher
- Video interface: BNC×3 female
- Audio interface: 5-pin 3.81 mm Phoenix
- Fully loaded video bandwidth: 325 MHz
- Typical switching speed: 50 ns
- Typical propagation delay: 5 ns
- Compatible with RGBs, RGsB, RsGsBs, HDTV, component video, S-video and composite video
- Supporting balanced/unbalanced stereo audio
- Audio bandwidth: 20 Hz to 22 kHz
- The latest RGB switch chip is used
- Ethernet interface and RS232 control, supporting TCP/IP and RS232 protocols
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Front panel keyboard lockup and protection function
- Scene save and recall function
- 6U high, full rack width

Technical Specifications

Video

Gain	0 dB
Bandwidth	325 MHz (-3dB), fully loaded;
	0 to 10 MHz \leq ± 0.1 dB;
	0 to 100 MHz \leq ± 0.8 dB
Crosstalk of channel	53 dB @ 10 MHz,
	-45 dB @ 30 MHz,
	-37 dB @ 100 MHz
Crosstalk of lum and chrom-	a< -80 dB @ 1 kHz, fully loaded
Differential phase error	Max. 0.05 degree, @ RL = 150 Ohm
Differential gain error	Max. 0.05%, @ RL = 150 Ohm
Typical propagation delay	5 ns @ 2 Vp-p, RL = 150 Ohm
Typical switching speed	50 ns
Signal type	RGB, RGBs, RGsB, RsGsBs, HDTV,
	component video, S-video and
	composite video

Video input

Connectors	16 x 3 BNC female
Min./max. levels	Analog: 0.5 V to 2.0 Vp-p with no offset
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Impedance	75 Ohm
Return loss	30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 x 3 BNC female
Nominal level	0.7 Vp-p for RGB; 1.0 Vp-p for Y of
	component video and S-video, and for
	composite video; 0.3 Vp-p for R-Y and
	B-Y of component video and C of S-video
Min./max. levels	Analog signal: 0 V to 2.0 Vp-p (follows input)
Impedance	75 Ohm
Return loss	
DC offset	± 5 mV with no offset at input
Switching type	RGB simultaneity
0 /	

Audio

Signal type	Input: 16 stores halanced/unhalanced:	
Signal type	Input: 16 stereo, balanced/unbalanced;	
	output: 16 stereo, balanced/unbalanced	
Connectors	Input: 16 x 5-pin 3.81 mm Phoenix;	
	output: 16 x 5-pin 3.81 mm Phoenix	
GainUnl	palanced output: 0 dB, balanced output: +6 dB	
Frequency response	20 Hz to 22 kHz, ±0.05 dB	
THD+Noise	0.03% @ 1 kHz at normal level	
S/N_>110 dB, balanced, at maximum output (20.2 dBu), unweighted		
Crosstalk	>80 dB @ 1 kHz, fully loaded	
Stereo channel sepa	ration>80 dB @ 1 kHz	
CMRR	>75 dB @ 20 Hz to 20 kHz	
Impedance	Input: >10 kOhm (balanced or unbalanced)	
Max. input/output lev	rels+20.2 dBu (balanced or unbalanced)	
Gain error	±0.1 dB @ 20 Hz to 22 kHz	

Control

COM (RS232)	RS232, 9-pin female D connector
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
Interface	9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet proto	colTCP/IP
Ethernet spee	d10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

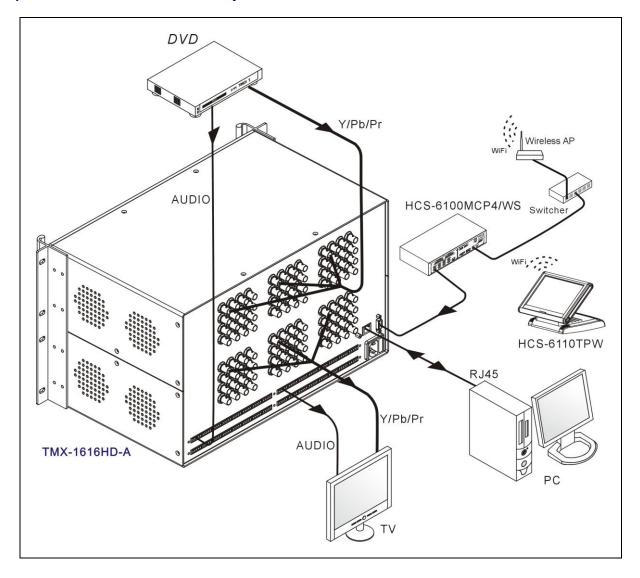
General specs

AC 100 V - 240 V, 50 Hz / 60 Hz
Operating: 0 °C to + 50 °C
storage: -20 °C to + 70 °C
_Storage and operating: 10% to 90%
264 × 478 × 310
(6U high, full rack width)
Gray (PANTONE 425 C)
10.0 kg
30,000 hours

Ordering Information

TMX-1616HD-A______16x16 Component Video & Balanced/
Unbalanced Stereo Audio Matrix
Switcher, Video on BNC Connectors,
Audio stereo on 5-pin 3.81 mm
Phoenix Connectors

Component Video Matrix Switchers System Connection



TMX-0201DVI-A 2×1 DVI & Audio Switcher



Features

- Routing: 2 x 1 DVI & Audio switcher
- Video interface: DVI-I connectors (Compatible with DVI-D)
- Audio input interface: 3.5 mm Phone jack (L+R)
 Audio output interface: 3.5 mm Phone jack (L+R)
 (unbalanced) and 5-pin 3.81 mm
 Phoenix (balanced)
- Supporting 250 Mbps to 2.25 Gbps data rates
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and stereo audio switching
- Audio bandwidth: 20 Hz to 22 kHz
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- Automatic switching when one input and one output are operated
- LED indicators for source and sink presence

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	Up to HDTV (1080 p) or	1920×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	2 v D\/I-I connector
Equalization	6 dB, 12 dB

Video output

Signal type	TMDS
Connector	1 × D\/LL connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Audio input

Signal type	2 stereo, unbalanced
Connectors	2 v 3 5 mm Phone jack

Audio output

Signal type	1 stereo, balanced/unbalanced
Connectors	1 x 3.5 mm Phone jack (unbalanced)
	1 x 5-pin 3.81 mm Phoenix (balanced)

Control

COM (RS232)	3.5 mm TR	RS jack, $R = TX$, $T = RX$, $S = GND$
Connecting to cen	tral control	Baudrate: 9600, data: 8 bits,
		stop: 1 bit, no parity
Connecting to PC	software	Baudrate: 38400, data: 8 bits,
		stop: 1 bit, no parity
PC control		Matrix switcher

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-0201DVI-A____2x1 DVI & Audio Switcher, 2.25 Gbps, Video on DVI-I Connectors, Audio stereo on 3.5 mm Phone jack (L+R) inputs and 3.5 mm Phone jack (L+R)/5-pin 3.81 mm Phoenix output

TMX-0401DVI-A 4×1 DVI & Audio Switcher



Features

- Routing: 4 x 1 DVI & Audio switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Audio interface: 3.5 mm Phone jack (L+R)
- Supporting 250 Mbps to 2.25 Gbps data rates
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and stereo audio switching
- Audio bandwidth: 20 Hz to 22 kHz
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- Automatic switching when one input and one output are operated
- LED indicators for source and sink presence
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	Up to HDTV (1080 p) or	1920×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	4 × DVI-I connector
Equalization	6 dB, 12 dB

Video output

Signal type	TMDS
Connectors	1 v D\/LL connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Audio input

Signal type	4 stereo, unbalanced
Connectors	4 x 3.5 mm Phone jack

Audio output

Signal type	1 stereo, unbalanced
Connectors	1 x 3.5 mm Phone jack

Control

COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
PC control	Matrix switcher

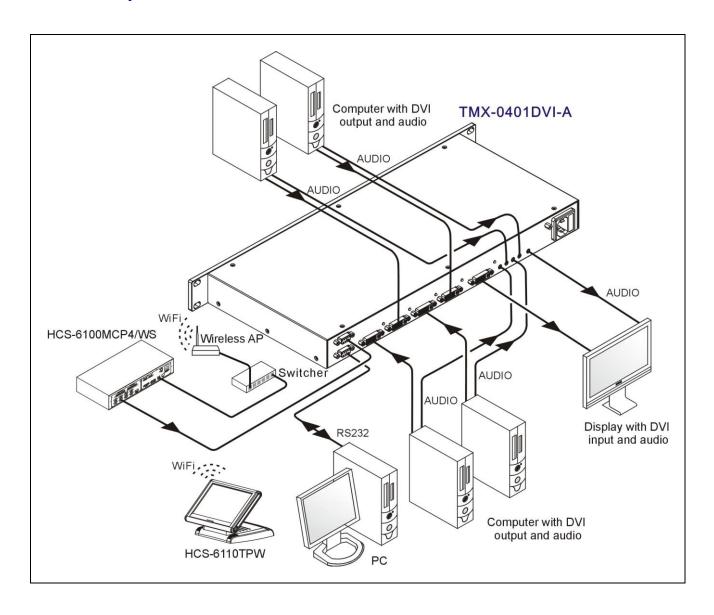
General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	

Ordering Information

TMX-0401DVI-A______4×1 DVI & Audio Switcher, 2.25 Gbps, Video on DVI-I Connectors, Audio stereo on 3.5 mm Phone jacks (L+R)

DVI Switchers System Connection



TMX-0202DVI 2×2 DVI Matrix Switcher



Features

- Routing: 2 × 2 DVI matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Max. data rates: 1.65 Gbps
- Supporting all resolutions from 480p to 1080p and UXGA (1600×1200)
- Supporting video and DDC switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LED indicators for source and sink presence
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Max. data rate	1.65 Gbps
Resolution	Up to HDTV (1080 p) or 1600×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	2 v DV/LL connector
Equalization	Automatic, max. 40 dB

Video output

Signal type	TMDS
Connectors	2 x DVI-I connector
Pre-emphasize	Automatic

Control

COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0202DVI 2x2 DVI Matrix Switcher, 1.65 Gbps,
DVI-I Connectors

TMX-0202DVI-A 2x2 DVI & Audio Matrix Switcher



Features

- Routing: 2 x 2 DVI & audio matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Audio interface: 3.5 mm Phone jack (L+R)
- Max. data rates: 1.65 Gbps
- Supporting all resolutions from 480p to 1080p and UXGA (1600×1200)
- Supporting video, DDC and stereo audio switching
- Audio bandwidth: 20 Hz to 22 kHz
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LED indicators for source and sink presence
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Max. data rate	1.65 Gbps
Resolution	Up to HDTV (1080p) or 1600×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	2 v DV/I-I connector
Equalization	Automatic, max. 40 dB

Video output

Signal type	TMDS
Connectors	2 v D\/I-I connector
Pre-emphasize	Automatic

Audio input

Signal type	2 stereo, unbalanced
Connectors	2 v 3 5 mm Phone jack

Audio output

Signal type	2 stereo, unbalanced
Connectors	2 x 3.5 mm Phone jack

Control

COM (RS232)9-pin female 2 = TX, 3 =	D connectors, = RX, 5 = GND
COM1Baudrate: 9600, data: 8 bits, stop:	1 bit, no parity
COM2Variable baudrate, data: 8 bits, stop:	1 bit, no parity
PC controlM	latrix switcher
General specs	
Power supplyAC 100 V - 240 V,	, 50 Hz / 60 Hz
TemperatureOperating: (0 °C to + 50 °C;
storage: -20	0 °C to + 70 °C
HumidityStorage and operating	g: 10% to 90%
Dimensions h x w xd (mm)4	3 × 483 × 208
(1U high,	full rack width)
ColorGray (PAN	NTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0202DVI-A____2x2 DVI & Audio Matrix Switcher, 1.65 Gbps,
Video on DVI-I Connectors, Audio stereo on
3.5 mm Phone jacks (L+R)

TMX-0204DVI 2×4 DVI Matrix Switcher



Features

- Routing: 2 × 4 DVI matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Max. data rates: 1.65 Gbps
- Supporting all resolutions from 480p to 1080p and UXGA (1600×1200)
- Supporting video and DDC switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LED indicators for source and sink presence
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Max. data rate		1.65 Gbps
Resolution	Up to HDTV (1080p) or	1600×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	2 × D\/I-I connector
Equalization	Automatic, max, 40 dB

Video output

Signal type	TMDS
Connectors	4 × DVI I connector
Pre-emphasize	Automatic

Control

COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0204DVI 2x4 DVI Matrix Switcher, 1.65 Gbps,
DVI-I Connectors

TMX-0204DVI-A 2x4 DVI & Audio Matrix Switcher



Features

- Routing: 2 x 4 DVI & audio matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Audio interface: 3.5 mm Phone jack (L+R)
- Max. data rates: 1.65 Gbps
- Supporting all resolutions from 480p to 1080p and UXGA (1600×1200)
- Supporting video, DDC and stereo audio switching
- Audio bandwidth: 20 Hz to 22 kHz
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LED indicator for source and sink presence
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Max. data rate	1.65 Gbps
Resolution	Up to HDTV (1080p) or 1600×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	2 v D\/I-I connector
Equalization	Automatic, max. 40 dB

Video output

Signal type	TMDS
Connectors	4 × DVI I connector
Pre-emphasize	Automatic

Audio input

Signal type	2 stereo, unbalanced
Connectors	2 × 3.5 mm Phone jack

Audio output

Signal type	4 stereo, unbalanced
Connectors	4 x 3.5 mm Phone jack

Control

COM (RS232)	9-pin female D connectors, 2 = TX, 3 = RX, 5 = GND
COM1Baudrat	e: 9600, data: 8 bits, stop: 1 bit, no parity
COM2Variable b	audrate, data: 8 bits, stop: 1 bit, no parity
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0204DVI-A____2x4 DVI & Audio Matrix Switcher, 1.65 Gbps,
Video on DVI-I Connectors, Audio stereo on
3.5 mm Phone jacks (L+R)

TMX-0804DVI 8×4 DVI Matrix Switcher



Features

- Routing: 8 × 4 DVI matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Max. data rates: 2.25 Gbps
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video and DDC switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- Each output interface can supply up to +5 V DC/200 mA
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 3U high, full rack width

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	_Up to HDTV (1080p) or	1920×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	0 v DV/LL connector
Equalization	Automatic, max. 12 dB

Video output

Signal type	TMDS
Connectors	4 × DVI-I connector
Pre-emphasize	0 dB, 6 dB

Control

COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	_Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed_	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

•	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.4 kg

Ordering Information

TMX-0804DVI_______8x4 DVI Matrix Switcher, 2.25 Gbps,
DVI-I Connectors

TMX-0804DVI-A 8×4 DVI & Audio Matrix Switcher



Features

- Routing: 8 x 4 DVI & audio matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Audio interface: 5-pin 3.81 mm Phoenix
- Max. data rates: 2.25 Gbps
- Supports all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and balanced/unbalanced stereo audio switching
- Audio bandwidth: 20 Hz to 22 kHz
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- Each output interface can supply up to +5 V DC/200 mA
- 3U high, full rack width

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	Up to HDTV (1080p) or	1920×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	8 × DVI-I connector
Equalization	Automatic, max, 12 dB

Video output

TMDS
4 × DVI-I connector
0 dB, 6 dB

Audio input

Signal type	8 stereo, balanced/unbalanced
Connectors	8 x 5-pin 3.81 mm Phoenix

Audio output

Signal type	4 stereo, balanced/unbalanced
Connectors	4 × 5-pin 3.81 mm Phoenix
Control	
COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2Va	ariable baudrate, data: 8 bits, stop: 1 bit, no parity
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w	×d (mm)132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.5 kg

Ordering Information

TMX-0804DVI-A_____8x4 DVI & Audio Matrix Switcher, 2.25 Gbps, Video on DVI-I Connectors, Audio stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-0808DVI 8×8 DVI Matrix Switcher



Features

- Routing: 8 x 8 DVI matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Max. data rates: 2.25 Gbps
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video and DDC switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LCD to display real-time operation
- Front panel button control , easy to switch manually
- Scene save and recall function
- Each output interface can supply up to +5 V DC/200 mA
- 3U high, full rack width

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	_Up to HDTV (1080p) or	1920×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	0 v DV/LL connector
Equalization	Automatic, max. 12 dB

Video output

Signal type	TMDS
Connectors	8 x DVI-I connector
Pre-emphasize	0 dB, 6 dB

Control

COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	_Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed_	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.5 kg

Ordering Information

TMX-0808DVI_______8x8 DVI Matrix Switcher, 2.25 Gbps,
DVI-I Connectors

TMX-0808DVI-A 8×8 DVI & Audio Matrix Switcher



Features

- Routing: 8 x 8 DVI & audio matrix switcher
- Video interface: DVI-I connectors (compatible with DVI-D)
- Audio interface: 5-pin 3.81 mm Phoenix
- Max. data rates: 2.25 Gbps
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and balanced/unbalanced stereo audio switching
- Audio bandwidth: 20 Hz to 22 kHz
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- Each output interface can supply up to +5 V DC/200 mA
- 3U high, full rack width

Technical Specifications

Video

Max. data rate_		2.25 Gbps
Resolution	Up to HDTV (1080p) or 192	20×1200 @ 60 Hz

Video input

Signal type	TMDS
Connectors	8 × DVI-I connector
Equalization	

Video output

Signal type	TMDS
Connectors_	0 D\/ aannaatar
Pre-emphasize	0 dB, 6 dB

Audio input

Signal type	8 stereo, balanced/unbalanced
Connectors	8 x 5-pin 3.81 mm Phoenix

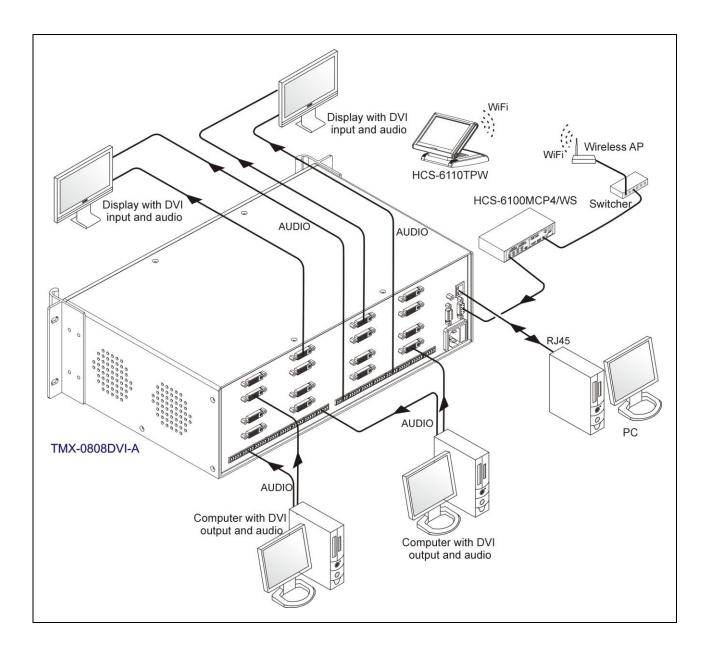
Audio output

Signal type	8 stereo, balanced/unbalanced
Connectors	8 × 5-pin 3.81 mm Phoenix
Control	
COM (RS232)	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1Baudrate: 9	600, data: 8 bits, stop: 1 bit, no parity
COM2Variable baud	rate, data: 8 bits, stop: 1 bit, no parity
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher
General specs	
Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h × w ×d (mm)	132 × 478 × 310
	(3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.6 kg

Ordering Information

TMX-0808DVI-A_____8x8 DVI & Audio Matrix Switcher, 2.25 Gbps,
Video on DVI-I Connectors, Audio stereo on
5-pin 3.81 mm Phoenix Connectors

DVI Matrix Switchers System Connection



TMX-0201HDMI 2×1 HDMI Switcher



Features

- Routing: 2 x 1 HDMI switcher
- Signal interface: HDMI type A connectors, HDMI 1.3 compliant
- Supporting 250 Mbps to 2.25 Gbps data rates
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and digital stereo audio switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- Top panel button control, easy to switch manually
- Automatic switching when one input and one output are operated
- LED indicators for source and sink presence

Technical Specifications

Video

Max. data rate	2.25 Gbps
Resolution	Up to HDTV (1080p) or 1920×1200 @ 60 Hz

Input

Signal type	TMDS
Connectors	2 x female HDMI type A connector
Equalization	6 dB, 12 dB

Output

Signal type	TMDS
Connectors	1 x female HDMI type A connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Control

oona o		
COM (RS232)	3.5 mm TRS ja	ck, $R = TX$, $T = RX$, $S = GND$
Connecting to central	control	_Baudrate: 9600, data: 8 bits,
		stop: 1 bit, no parity
Connecting to PC sof	ftware	Baudrate: 38400, data: 8 bits,
		stop: 1 bit, no parity
PC control		Matrix switcher

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.35 kg

Ordering Information

TMX-0201HDMI 2×1 HDMI Switcher, 2.25 Gbps, HDMI 1.3-compliant

TMX-0401HDMI 4×1 HDMI Switcher



Features

- Routing: 4 × 1 HDMI switcher
- Signal interface: HDMI type A connectors, HDMI 1.3 compliant
- Supporting 250 Mbps to 2.25 Gbps data rates
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and digital stereo audio switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- Top panel button control, easy to switch manually
- Automatic switching when one input and one output are operated
- LED indicators for source and sink presence

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	_Up to HDTV (1080p)	or 1920×1200 @ 60 Hz

Input

Signal type	TMDS
Connectors	4 × female HDMI type A connector
Equalization	6 dB, 12 dB

Output

Signal type	TMDS
	1 x female HDMI type A connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Control

COM (RS232)	3.5 mm TR	S jack, $R = TX$, $T = RX$, $S = GND$
Connecting to cent	ral control	Baudrate: 9600, data: 8 bits,
		stop: 1 bit, no parity
Connecting to PC	software	Baudrate: 38400, data: 8 bits
		stop: 1 bit, no parity
PC control		Matrix switcher

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.38 kg

Ordering Information

TMX-0401HDMI 4×1 HDMI Switcher, 2.25 Gbps, HDMI 1.3-compliant

TMX-0801HDMI 8×1 HDMI Switcher



Features

- Routing: 8 x 1 HDMI switcher
- Signal interface: HDMI type A connectors, HDMI 1.3 compliant
- Supporting 250 Mbps to 2.25 Gbps data rates
- Supporting all resolutions from 480p to 1080p and WUXGA (1920×1200)
- Supporting video, DDC and digital stereo audio switching
- Input equalization adjustment for long cables
- Output pre-emphasize adjustment
- Automatic switching when one input and one output are operated
- LED indicators for source and sink presence
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Scene save and recall function
- 1U high, full rack width

Technical Specifications

Video

Max. data rate		2.25 Gbps
Resolution	Up to HDTV (1080p) or	1920×1200 @ 60 Hz

Input

TMDS
8 x female HDMI type A connector
6 dB, 12 dB

Output

Signal type	TMDS
Connectors	1 x female HDMI type A connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Control

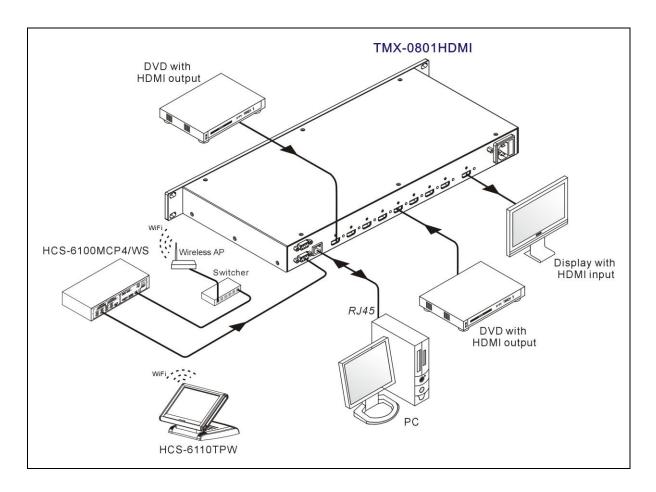
•••••	
COM (RS232)_	9-pin female D connectors,
	2 = TX, 3 = RX, 5 = GND
COM1	Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2	Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Ethernet	RJ45 socket, Cat.5 crossover cable
Ethernet protoc	olTCP/IP
Ethernet speed	10 M/100 M, full-duplex or
	half-duplex with autodetect
PC control	Matrix switcher

General specs

Ordering Information

TMX-0801HDMI_____8x1 HDMI Switcher, 2.25 Gbps, HDMI 1.3-compliant

HDMI Switchers System Connection



TMX-MV2SDI Multi-format Video & Audio Processor



Features

- Various video input (SDI/VGA/YPbPr/HDMI/DVI-D/CVBS) can be encoded and output as SDI/HDMI/VGA
- Adaptive video input: can automatically reconize video input format. When video input format changes, the system can automatically reconfigure parameters
- Build-in 5 in 1 out audio switcher, digital audio input can be embedded into SDI/HDMI stream and analog output to LINE OUT with volume adjustable
- VGA and HDMI with embedded audio can be output synchronously, convenient for local monitoring
- HDMI output supports auto EDID
- Parameters (input, output, output resolution, etc.) can be configured via front panel
- The network connection supports adaptive 100M/10M Ethernet, can be controlled via UDP

Technical Specifications

Video

Gain	0 dB
Bandwidth	CVBS, YPbPr: 6 MHz
	VGA: 250 MHz
	DVI: 165 MHz
	HDMI: 165 MHz
	SDI: 270 Mbps, 1.485 Gbps, 2.97 Gbps
Bandwidth flatness	0.2 dB, 100 MHz
Differential phase erro	r0.04°, @RL=150 Ω
Differential gain error_	0.03%, @RL=150 Ω
Signal type	_VGA, SDI, DVI-D, HDMI, Component Video
	YPbPr and Composite Video CVBS

Video Input

Interface	CVBS, YPbPr: RCA Connector
	VGA: 15-pin HD female Connector
	HDMI: HDMI type A female Connector
	SDI: BNC Connector

DVI: DVI-D

Analog video signal level____Y signal of Component Video: 1 Vp-p
Composite Video signal: 1 Vp-p

RGB of VGA: 0.7 Vp-p

PbPr signal of Component Video: 0.3 Vp-p

Impedance	Analog signals: 75 Ω
	HDMI/DVI signal: difference 100 Ω
Return loss	30 dB@5 MHz
Frequency response	Horizontal: 30 - 200 KHz
	Vertical: 20 - 240 Hz
VGA Video input	
Interface	15-pin HD female Connectors

Max. DC offset_____±5 Mv VGA Sync.

Input level	2.3 Vp-p - 5.0 Vp-p, 3.3 Vp-p, normal
Output level	5.0 Vp-p
Input impedance	3.3 kΩ
Output impedance	75 Ω

SDI output

Interface	BNC female Connectors
Signal level	800 mV, standard
Return loss	
Output impedance	75 Ω

HDMI output

Interface	_HDMI type A female Connectors
Min./ Max. level	T.M.D.S. 400 mVp-p
Impedance	Difference 100 Ω

Audio

Connectors	5-pin 3.81 mm Phoenix
Gain	30 dB - 0 dB
Frequency response	30 Hz to 20 kHz
THD+Noise	0.05% @ 1 kHz at normal level
S/N	>80 dB
Stereo channel separation	>70 dB @ 1 kHz
CMRR	>75 dB @ 30 Hz to 20 kHz
Impedance	Input: >10 kOhm; output: <10 Ohm
Max. input level	<16 dBu
Max. output level	+12 dBu

Control

COM (RS232)	9-pin female D connectors, 2 = TX	٠,
	3 = RX, 5 = GND	
2014		

COM Variable baudrate, data: 8 bits, stop: 1 bit, no parity

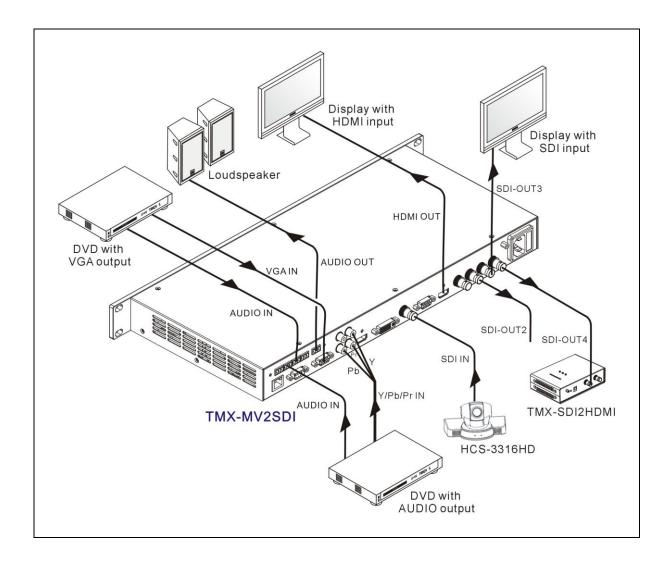
General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C
	storage: -20 °C to + 70 °C
Humidity Stora	age: 10% to 90%; operating: 10% to 90%
Dimensions $h \times w \times d (mm)$	43 × 483 × 208
	(1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	3.3 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-MV2SDI Multi-format Video & Audio Processor

Multi-format Video & Audio Processor System Connection



TMX-VGA2RGB VGA to RGBHV Converter



Features

- Supporting all resolutions from 480p to 1080p and UXGA at 60 Hz
- Buffered VGA 15-pin HDF local monitor output

Technical Specifications

Video input

Signai type	1 analog VGA
Connector	1 x VGA 15-pin HDF connector
Nominal level	0.4 V - 0.7 Vp-p

Video output

Signal type	1 analog RGBHV
Connector	
	5 x BNC female
Nominal level	RGB: 0.7 Vp-p
Resolution	The same as input

Sync

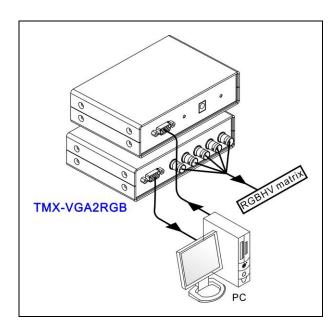
Output level _____TTL (4.5 Vp-p - 5.0 Vp-p)

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
	0.4 kg

Ordering Information

TMX-VGA2RGB_____VGA to RGBHV Converter



TMX-VIDEO2VGA VIDEO to VGA Converter



Features

- Input: 1 S-video, 1 composite video and 1 set of component video
- Output: 1 RGBHV and 1 VGA
- Supporting NTSC 3.58, NTSC 4.43, PAL, SECAM and other NTSC
- Supporting all resolutions from 800×600 to 1280×1024 at 60 Hz, adjustable
- Top panel button control, easy to switch manually

Technical Specifications

Video input

Signal type______1 set of component video (Y, Pb, Pr);

1 S-video; 1 composite video

Connectors______RCA+S-Video 4-pin mini DIN

Nominal level______0.4 V - 1.5 Vp-p with input at 0 offset

Video output

 Signal type
 1 RGBHV and 1 VGA

 Connector
 1 x VGA 15-pin HDF connector;

 5 x BNC female

 Nominal level
 RGB: 0.7 Vp-p

 Resolution
 Adjustable

Sync

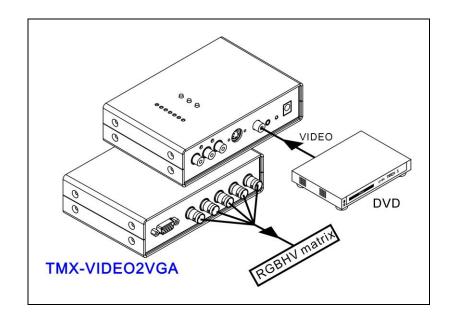
Output level _____TTL (4.5 Vp-p - 5.0 Vp-p)

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.44 kg

Ordering Information

TMX-VIDEO2VGA_____VIDEO to VGA Converter



CBL-VGA2RGB VGA to RGBHV Converting Cable



Features

- VGA to RGBHV converting cable
- Optional length: 1 m, 2 m and 5 m

Ordering Information

CBL-VGA2RGB-01_____1 m VGA to RGBHV Converting Cable

CBL-VGA2RGB-02_____2 m VGA to RGBHV Converting Cable

CBL-VGA2RGB-05_____5 m VGA to RGBHV Converting Cable

TMX-TP-RD VGA & Audio over Twisted Pair Receiver



Features

■ Input connector: 1 RJ45 socket

■ Video output connector: 1 VGA 15-pin HDF connector

Audio output connector: 1 Ø 3.5 mm mini jack

■ Independent EQ and Gain adjustment

■ Independent RGB delay adjustment: 0~50 ns

■ LED indicator for VGA input signal presence

Technical Specifications

Video

Gain______0 dB

Video input

Signal type _____1 analog RsGsBs/ YPbPr Connector ______1 x RJ45 socket

Video output

Signal type	1 analog RsGsBs/ YPbPr
Connector	1 x VGA 15-pin HDF connector
Nominal level	RGB: 0.7 Vp-p
Min./max. levels	0.7 V - 1.2 Vp-p
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	<±20 mV with input at 0 offset

Sync

Output type	RGBHV
Output level	
	75 Ohm
Polarity	

Audio

Gain	0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD+Noise	0.15% @ 1 kHz at normal level
S/N	>70 dB at maximum output (unweighted)

Audio input

Signal type	1 set of proprietary analog signal
Connector	1 x RJ45 socket

Audio output

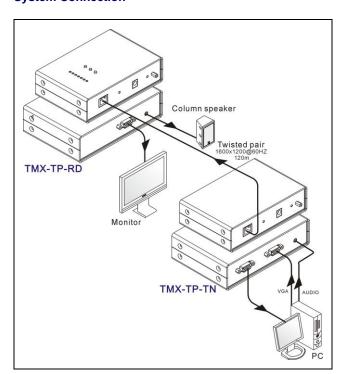
Signal type	1 channel audio (L+R), unbalanced
Connector	1 × Ø 3.5 mm mini jack
Impedance	
Coin orror	± 0.5 dB

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-TP-RD____VGA & Audio over Twisted Pair Receiver (independent RGB delay adjustment)



TMX-TP-TN VGA & Audio over Twisted Pair Transmitter



Features

■ Video input connector: 1 VGA 15-pin HDF connector

■ Audio input connector: 1 Ø 3.5 mm mini jack

Output connector: 1 RJ45 socket

Buffered VGA 15-pin HDF local monitor output

■ LED indicator for VGA input signal presence

Technical Specifications

Video

Gain______6 dB

Video input

Signal type	1 analog RGB / YPbPr
Connector	1 x VGA 15-pin HDF connector
Nominal level	RGB: 0.7 Vp-p
Min./max. level	0.3 V - 1.5 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	±20 mV

Video output

Signal type	1 analog RsGsBs / YPbPr
Connectors	1 × RJ45 socket
Nominal level	1.4 Vp-p @ input 0.7 Vp-p
Min./max. level	0.7 V - 1.6 Vp-p
Impedance	Difference 100 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	±20 mV with input at 0 offset

Sync

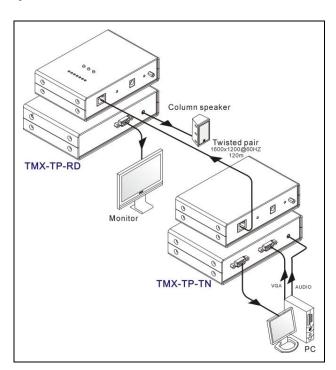
Input type	RGBHV
Output type	RsGsBs
	3.5 V - 5.5 Vp-p
Output level	4.0 V - 5.0 Vp-p
Input impedance	510 Ohm
Output impedance	75 Ohm
Polarity	Positive or negative (follows input)

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-TP-TN_____VGA & Audio over Twisted Pair Transmitter



TMX-TP-R/TD VGA & Audio over Twisted Pair Receiver with Relay Output



Features

■ Input connector: 1 RJ45 socket

Buffered UTP output to next node

■ Video output connector: 1 VGA 15-pin HDF connector

■ Audio output connector: 1 Ø 3.5 mm mini jack

Independent EQ and Gain adjustment

■ Independent RGB delay adjustment: 0~50 ns

■ LED indicator for VGA input signal presence

Technical Specifications

Video

Gain______6 dB

Video input

Signal type _____1 analog RsGsBs/ YPbPr Connector ______1 x RJ45 socket

Video output

Signal type	1 analog RsGsBs/ YPbPr
Connector	1 VGA 15-pin HDF
Nominal level	RGB: 0.7 Vp-p
Min./max. level	0.7 V - 1.2 Vp-p
Impedance	Difference 100 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	

Sync

Output type	RGBHV
Output level	4.5 V - 5.0 Vp-p
Output impedance	75 Ohm
Polarity	Positive or negative (follows input)

Audio

Gain	0 dB
	20 Hz to 20 kHz, ±0.05 dB
THD+Noise	0.15% @ 1 kHz at normal level
S/N	>70 dB at maximum output (unweighted)

Audio input

Signal type	1 proprietary analog signal
Connector	1 x RJ45 socket

Audio output

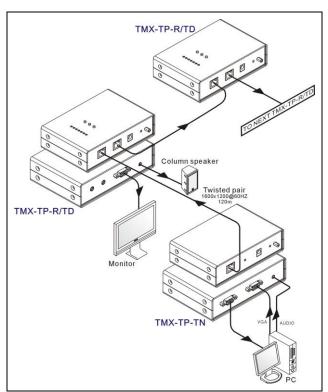
Signal type	1 channel audio (L+R), unbalanced
Connector	1 Ø 3.5 mm mini jack
Impedance	
Cain arror	± 0.5 dB

General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-TP-R/TD_VGA & Audio over Twisted Pair Receiver with Relay Output (independent RGB delay adjustment)



TMX-TP/AV-R Video & Audio over Twisted Pair Receiver



General specs

Power supply	12 V DC
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-TP/AV-R_____Video & Audio over Twisted Pair Receiver

Features

■ Input connector: 1 RJ45 socket

Video output connector: 1 CVBS BNC connector
 Audio output connector: 1 Ø 3.5 mm mini jack

■ Independent EQ and Gain adjustment

Technical Specifications

Video

Gain_____0 dB

Video input

Signal type ______1 analog CVBS

Connector ______1 x RJ45 socket

Video output

Signal type	1 analog CVBS
Connector	1 BNC female connector
Nominal level	0.7 Vp-p
Min./max. levels	0.7 V - 1.2 Vp-p
Impedance	
Return loss	30 dB @ 5 MHz
DC offset	<±20 mV with input at 0 offset

Audio

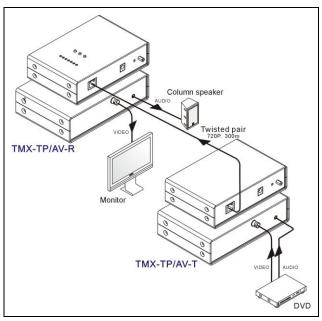
Gain	0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD+Noise	0.15% @ 1 kHz at normal level
S/N	>70 dB at maximum output (unweighted)

Audio input

Signal type	_1 set of proprietary analog signal
Connector	1 x RJ45 socket

Audio output

Signal type	1 channel audio (L+R), unbalanced
Connector	1 × Ø 3.5 mm mini jack
Impedance	<pre><10 Ohm (unbalanced)</pre>
Gain orror	± 0.5 dB



TMX-TP/AV-T Video & Audio over Twisted Pair Transmitter



Features

Video input connector: 1 CVBS BNC connector
 Audio input connector: 1 Ø 3.5 mm mini jack

Output connector: 1 RJ45 socket
 Buffered CVBS local monitor output

Technical Specifications

Video

Gain______6 dB

Video input

Signal type	1 analog CVBS
Connector	1 × BNC connector
Nominal level	0.7 Vp-p
Min./max. level	0.3 V - 1.5 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	±20 mV

Video output

Signal type	1 analog CVBS
Connector	1 x RJ45 socket
Nominal level	1.4 Vp-p @ input 0.7 Vp-p
Min./max. level	0.7 V - 1.6 Vp-p
Impedance	Difference 100 Ohm
Return loss	30 dB @ 5 MHz
DC offset	±20 mV with input at 0 offset

Audio

Gain	0 dB
	20 Hz to 20 kHz, ±0.05 dB
THD+Noise	0.15% @ 1 kHz at normal level
S/N	>70 dB at maximum output (unweighted)

Audio input

Signal type	1 channel audio (L+R), unbalanced
Connector_	1 x Ø 3.5 mm mini jack

Audio output

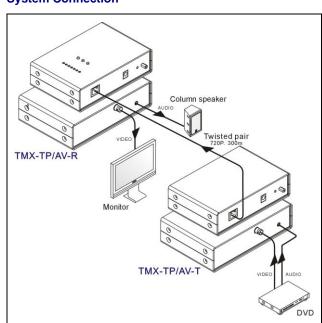
Signal type	_1 set of proprietary analog signal
Connector	1 x RJ45 socket
Gain error	± 0.5 dB

General specs

12 V DC
Operating: 0 °C to + 50 °C;
storage: -20 °C to + 70 °C
_Storage and operating: 10% to 90%
40 × 150 × 100
Gray (PANTONE 425 C)
0.4 kg

Ordering Information

TMX-TP/AV-T____Video & Audio over Twisted Pair Transmitter



TMX-1209CAT5-A 12×9 Twisted Pair Matrix Switcher



Features

- "EQ"/"Gain"/"RGB delay" of local video monitor output can be adjusted separately
- Audio or video can be switched separately

Technical Specifications

Video

Gain	0 dB
Crosstalk	-80 dB @ 10 MHz,
	-55 dB @ 100 MHz,
	-41 dB @ 500 MHz
Switching speed	100 ns (max.)

Audio

Gain (local input/output)_	Unbalanced output: 0 dB,
	balanced output: +6 dB
Frequency response	20 Hz to 22 kHz, ±1 dB
THD+Noise	0.15% @ 1 kHz at normal level
S/N	_>70 dB, at maximum output, unweighted
Stereo channel separation	n>60 dB @ 1 kHz
CMRR	>80 dB @ 20 Hz to 20 kHz

Audio input (local)

Signal type	4 stereo, balanced/unbalanced
Connectors	4 × 5-pin 3.81 mm Phoenix
Impedance	>10 kOhm (unbalanced)
Nominal level	+4 dBu (1.23 Vrms), -10dBV (316 mVrms)
Max. level	+18 dBu (unbalanced) at 1% THD+N

Audio output (local)

Signal type	2 stereo, balanced/unbalanced
Connectors	2 x 5-pin 3.81 mm Phoenix
	100 Ohm (balanced), 50 Ohm (unbalanced)
Gain error	±1 dB
Max. level	+18 dBu (balanced or unbalanced) at 1% THD+N

Video input (local)

Signal type	RGBHV, RGBs, RGsB, RsGsBs, component
	video, S-video and composite video
Connectors	4 × 15-pin HDF connector
Nominal level	0.7 Vp-p for RGB
	0.3 V to 1.2 Vp-p
Impedance	75 Ohm

Vertical frequency response 30 Hz to 150 Hz
Return loss30 dB @ 5 MHz
DC offset±20 mV
Video input (line in)
Signal type8 × proprietary analog signal
Connectors 8 x RJ45 socket
Video output (local)
Signal typeRGBHV, RGBs, RGsB, RsGsBs, component
video, S-video and composite video
Connectors 2 x 15-pin HDF connectors
Nominal level0.7 Vp-p for RGB
Impedance75 Ohm
Return loss30 dB @ 5 MHz
DC offset±20 mV
Miles of the control
Video output (line out)
Signal type8 × proprietary analog signal
Connectors 8 × RJ45 socket
Sync (local input/output)
Input signal typeRGBHV, RGBs, RGsB and RsGsBs
Output signal typefollows input
Output level 4.5 V to 5.0 Vp-p
Input impedance 1 kOhm ± 5%
Output impedance 75 Ohm Max input voltage 5.0 Vp-p
Max. propagation delay 20 ns
Max. rising/falling time4 ns
Polarity Positive or negative (follows input)
•
Control
COM (RS232) RS232, 9-pin female D connector
COM1Baudrate: 9600, data: 8 bits, stop: 1 bit, no parity
COM2Variable baudrate, data: 8 bits, stop: 1 bit, no parity
Interface 9-pin female D connector, 2 = TX, 3 = RX, 5 = GND
EthernetRJ45 socket, Cat.5 crossover cable
Ethernet protocol TCP/IP
Ethernet speed10 M/100 M, full-duplex or
half-duplex with autodetect
PC controlMatrix switcher
General specs
Power supplyAC 100 V - 240 V, 50 Hz / 60 Hz
TemperatureOperating: 0 °C to + 50 °C
storage: -20 °C to + 70 °C
HumidityStorage and operating: 10% to 90%
Dimensions $h \times w \times d \text{ (mm)}_{\underline{\qquad}} 43 \times 483 \times 208 \text{ (1U, full rack width)}$
ColorGray (PANTONE 425 C)
Weight2.7 kg
Mean time between failures30,000 hours

TMX-1209CAT5-A 12x9 Twisted Pair Matrix Switcher

Ordering Information

TMX-1616MX 16×16 Mixed Card Matrix Switcher Frame



Features

- High-performance AV professional switcher
- Compatible with manifold signal formats of input/output signal cards for cross switching
- Offers separate audio and video input/output ports
- Combined with different signal cards to resolve integrative audiovisual resolution
- Seamless switching
- Supports manifold signal input/output cards, such as HDMI, DVI, VGA, SDI, etc.
- Widely used in the place of radio & television engineering, multimedia conference hall, large screen display engineering, TV teaching and leadership office
- Power failure protection function
- With RS232 interface which can be expediently connected to PC, remote control system and other remote control devices
- Two RS-422 control ports with built-in professional camera control protocols, a variety of professional cameras like TAIDEN HCS-3316HDB, SONY, PELCO and Panasonic can be controlled
- Ethernet interface for communicating with PC under TCP/IP protocol to realize remote controlling; furthermore, it enables remote controlling by wireless touch panel through central control system
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- Two power cable interfaces, one is back-up for another
- 3U high, full rack width

Technical Specifications

Control

COM (RS-232)		RS-232, 9 pin female D connector
RJ45		TCP/IP
RS422/RS485		Invalidation
Signal cards		4 input signal cards
		4 output signal cards
Resolution	Max.	1920×1200@60 Hz, compliant with
		VESA and HDTV normal standards

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	132 × 478 × 310
	(3U high, full rack width)
Weight	5.9 kg
Color	Gray (PANTONE 425 C)
Mean time between failures	30,000 hours

Ordering Information

TMX-1616MX_____16×16 Mixed Card Matrix Switch Frame

TMX-0808MX 8×8 Mixed Card Matrix Switcher Frame



Features

- High-performance AV professional switcher
- Compatible with manifold signal formats of input/output signal cards for cross switching
- Offers separate audio and video input/output ports
- Combined with different signal cards to resolve integrative audiovisual resolution
- Seamless switching
- Supports manifold signal input/output cards, such as HDMI, DVI, VGA, SDI, etc.
- Widely used in the place of radio & television engineering, multimedia conference hall, large screen display engineering, TV teaching and leadership office
- Power failure protection function
- With RS232 interface which can be expediently connected to PC, remote control system and other remote control devices
- RS-422 control ports with built-in professional camera control protocols, a variety of professional cameras like TAIDEN HCS-3316HDB, SONY, PELCO and Panasonic can be controlled
- Ethernet interface for communicating with PC under TCP/IP protocol to realize remote controlling; furthermore, it enables remote controlling by wireless touch panel through central control system
- Power-off protection for scene status
- LCD to display real-time operation
- Front panel button control, easy to switch manually
- 2U high, full rack width

Technical Specifications

Control

COM (RS-232)		RS-232, 9 pin female D connec	tor
RJ45		TCP/	ΊP
RS422/RS485		Invalidation	on
Signal cards		4 input signal car	rds.
		4 output signal car	rds
Resolution	Max.	1920×1200@60 Hz, compliant w	/ith
		VESA and HDTV normal standard	ds

General specs

Power supply	AC 100 V - 240 V, 50 Hz / 60 Hz
Temperature	Operating: 0 °C to + 50 °C;
	storage: -20 °C to + 70 °C
Humidity	_Storage and operating: 10% to 90%
Dimensions h x w xd (mm)	88 × 478 × 310
	(2U high, full rack width)
Weight	5.9 kg
Color	Gray (PANTONE 425 C)
Mean time between failures	30,000 hours

Ordering Information

TMX-0808MX_____8x8 Mixed Card Matrix Switch Frame

TMX-HDMI-4IN 4 Channels HDMI Input Card



Features

- Seamless input signal card
- Support HDMI1.3 and HDCP1.4, compatible with DVI signal
- The maximum resolution is 1080P@60Hz
- Audio input mode (built-in HDMI audio or extend analog audio) can be selected via input control code, the default is built-in HDMI audio

Technical Specifications

Input signal	_4 ×HDMI input signal (compatible with DVI), 4 ×analog audio signal
Interface	Type A 19P female
Power consumption	7.1 W
Color depth	8 & 10 & 12 bit
Signal types	DVI, HDMI
	6.75 Gpbs
Audio format	PCM
Standard	Supporting HDMI1.3
EDID manage	_Supporting EDID learning function
Weight	0.2 kg

Ordering Information

TMX-HMDI-4IN______4 Channels HDMI Input Card (support HDMI1.3 and HDCP, compatible with DVI signal, build-in upscaling function)

TMX-DVI-4IN 4 Channels DVI Input Card



Features

- Seamless input signal card (only support HD signal)
- Compatible with HDMI1.3 and HDCP1.4
- Support manifold signal formats, include DVI、HDMI、VGA、 YPbPr and C-VIDEO
- Automatic identification input signal format without manual setting
- With embedded EDID manage technology, supporting DDC control

Technical Specifications

Input signal	4 ×DVI input signal
Interface	Female DB24+5
Level	T.M.D.S 2.9V∼3.3V
	75 Ω
Gain	0 dB
Switching speed	Max. 200 ns
Delay	Max. 5 ns (±1 ns)
Video signal	DVI, HDMI, VGA, C-VIDEO, YPbPr
Bandwidth	340MHz(10.2Gbit/s)
Crosstalk	<-50 dB@5 MHz
Data types	8 bit
Audio output format	PCM
Audio sampling rate	32/ 44.1/ 48/ 88.2/ 96/ 176.4/ 192 K
EDID and DDC manage	Supporting EDID and DDC,
	used DVI and HDMI standard
HDCP manage	Supporting HDCP,
	used DVIand HDMI1.3 standard
Weight	0.2 kg

Ordering Information

TMX-DVI-4IN_____4 Channels DVI-I Input Card (build-in upscaling function)

TMX-SDI-4IN 4 Channels SDI Input Card



Features

- Seamless input signal card
- Every channel of input signal card with a SDI loop-output
- Supporting SDI, HD-SDI, 3G-SDI
- Build-in upscaling function, and can convert low input signal into 1080P output

Technical Specifications

	_4 ×SDI signal with a SDI looping outBNC connector
Level	T.M.D.S 2.9 V - 3.3 V
	75 Ω SDI, HD-SDI, 3G-SDI
Color depth	8 & 10 & 12 bit
Distance	1080P≤100 m (excellent line)
Bandwidth	6.75 Gpbs
Resolution	Max. 1080P@60Hz
Weight	0.2 kg

Ordering Information

TMX-SDI-4IN_____4 Channels SDI Input Card (SDI input/loop-output conpatible with 3G-SDI/HD-SDI, build-in upscaling function)

TMX-VGA-4IN 4 Channels VGA Input Card



Features

- Seamless input signal card
- Build-in upscaling function, and can convert into 1080P or 1920x1200 output
- Signal type can be set manually: VGA (RGBHV), YPbPr, S-VIDEO, C-VIDEO
- The input signal card can extend 4 stereo audio inputs which can be set to be on/off via control code, the default is off

Technical Specifications

Video

Input signal	4 ×VGA input signal
Coupling input	AC
	15-pin female D connector
Level	0.5 - 2.0 Vp-p s
Impodance	75 Ω

Audio

Input signal4	× analog audio
Interface	3-pin Phoenix
Frequency respones	20 20 14
Input impedance	>10 kΩ
Impedance	75 Ω

Normal

Gain	0 dB
Switching spe	edMax. 200 ns
Video signal_	VGA(RGBHV), YpbPr, S-VIDEO, C-VIDEO
Bandwidth	YPbPr: 170MHz, C-VIDEO: 150MHz, VGA: 170MHz
Crosstalk	<-50 dB@5 MHz
\\/aiabt	0.2 kg

Ordering Information

TMX-VGA-4IN______4 Channels VGA Input Card
(compatible with VGA, YUV, YC,
CVBS via converter cables,
phoenix for left & right channel
audio input, build-in upscaling
function)

TMX-HDMI-4OUT 4 Channels HDMI Output Card



Features

- Seamless output signal card
- Support HDMI1.3 and HDCP1.4, compatible with DVI signal
- The maximum resolution is 1080P@60Hz
- Analog audio output can be set to be on/off via control code, the default is off

Technical Specifications

Input signal	$_{}$ 4 $ imes$ HDMI signal (compatible with DVI), 4 $ imes$ analog audio signal
	with b vij, 4 × analog addio signal
Interface	Type A 19P female
Power consumption	7.9 W
Color depth	8 bit
Signal types	DVI, HDMI
Bandwidth	6.75 Gpbs
Audio format	PCM
Standard	Supporting HDMI1.3
EDID manage	Supporting EDID learning function
Weight	0.2 kg

Ordering Information

TMX-HMDI-4OUT 4 Channels HDMI Output Card (support HDMI1.3 and HDCP, 4 analog audio output (unbalance stereo), seamless switching)

TMX-DVI-4OUT 4 Channels DVI Output Card



Features

- Seamless output signal card (only support HD signal)
- Compatible with HDMI1.3 and HDCP1.4
- Support manifold signal formats, include DVI、HDMI、VGA、 YPbPr and C-VIDEO
- The output signal format can be set via code
- With embedded EDID manage technology, supporting DDC control

Technical Specifications

Output signal	4 ×DVI output signal
Interface	Female DB24+5
Level	T.M.D.S 2.9V∼3.3V
Impedance	75 Ω
Gain	0 dB
Switching speed	Max. 200 ns
Delay	Max. 5 ns (±1 ns)
Video signal	DVI, HDMI, VGA, C-VIDEO, YPbPr
Bandwidth	340MHz(10.2Gbit/s)
Crosstalk	<-50 dB@5 MHz
Data types	8 bit
Audio output format	PCM
Audio sampling rate	32/ 44.1/ 48/ 88.2/ 96/ 176.4/ 192 K
EDID and DDC manage	Supporting EDID and DDC,
	used DVI and HDMI standard
HDCP manage	Supporting HDCP,
	used DVIand HDMI1.3 standard
Weight	0.2 kg

Ordering Information

TMX-DVI-4OUT_____4 Channels DVI-I Output Card
(support HDCP, 4 analog audio output
(unbalance stereo), seamless
switching)

TMX-SDI-4OUT 4 Channels SDI Output Card



Features

- Seamless outnput signal card
- Every channel of output signal card with a SDI loop-output
- Supporting SDI, HD-SDI, 3G-SDI
- The transmission distance of SDI output signal (1080P) can up to 70-100 m via coaxial cable

Technical Specifications

Input signal	4 $ imes$ SDI signal with a SDI looping out
Interface	BNC connector
Level	T.M.D.S 2.9 V - 3.3 V
Impedance	75 Ω
Video signal	SDI, HD-SDI, 3G-SDI
Color depth	8 & 10 & 12 bit
Distance	1080P≤100 m (excellent line)
Bandwidth	6.75 Gpbs
Resolution	Max. 1080P@60Hz
Weight	0.2 kg

Ordering Information

TMX-SDI-4OUT______4 Channels SDI Output Card
(SDI input/loop-output conpatible
with 3G-SDI/HD-SDI, seamless
switching)

TMX-VGA-4OUT 4 Channels VGA Output Card



Features

- Seamless outnput signal card
- Signal type can be set manually: VGA (RGBHV), YPbPr, S-VIDEO, C-VIDEO
- Supports embedded audio which is synchronous of video signal, namely, the embedded audio could not be transmitted without video

Video

Output signal	4 ×VGA output signal
Switching type	Vertical spacing
Interface	15-pin female D connector
Level	0.5 - 2.0 Vp-p s
Impedance	

Audio

Input signal	4	× analog audio
Interface		3-pin Phoenix
Frequency respones		20 - 20 kHz
Impedance		75 Ω

Normal

Gain	0 dB
Switching spe	edMax. 200 ns
Video signal_	VGA(RGBHV), YpbPr, S-VIDEO, C-VIDEO
Bandwidth	YPbPr: 170MHz, C-VIDEO: 150MHz, VGA: 170MHz
Crosstalk	<-50 dB@5 MHz
Weight	0.2 kg

Ordering Information

TMX-VGA-4OUT______4 Channels VGA Output Card (4 analog audio output (unbalance stereo), seamless switching)