TMX Series Matrix Switchers

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

Features

- **Routing: 8 × 2 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 ≤ ± 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	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	2 × 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 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 × w ×d (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	8×2 RGBHV Matrix Switcher, 450 M, BNC Connectors

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

Features

- **Routing: 8×2 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 ≤ ± 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: 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: 2 × 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: 8 stereo, balanced/unbalanced; output: 2 stereo, balanced/unbalanced
Connectors: Input: 8 × 5-pin 3.81 mm Phoenix; output: 2 × 5-pin 3.81 mm Phoenix
Gain: Unbalanced 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: >80 dB @ 1 kHz
CMRR: >75 dB @ 20 Hz to 20 kHz
Impedance: Input: >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 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 × w ×d (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-0802RGB-A	8×2 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**
- **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 ≤ ± 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	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 × 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 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 × w ×d (mm)	132 × 478 × 310 (3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.1 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804RGB	8×4 RGBHV Matrix Switcher, 450 M, BNC Connectors

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

Features

- **Routing: 8×4 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 ≤ ± 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	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 × 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: 8 stereo, balanced/unbalanced; output: 4 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 4 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (mm)	132 × 478 × 310 (3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.3 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-0804RGB-A	8×4 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 ≤ ± 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	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	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
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 × w ×d (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: 8×8 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 ≤ ± 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	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	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

Audio

Signal type	Input: 8 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

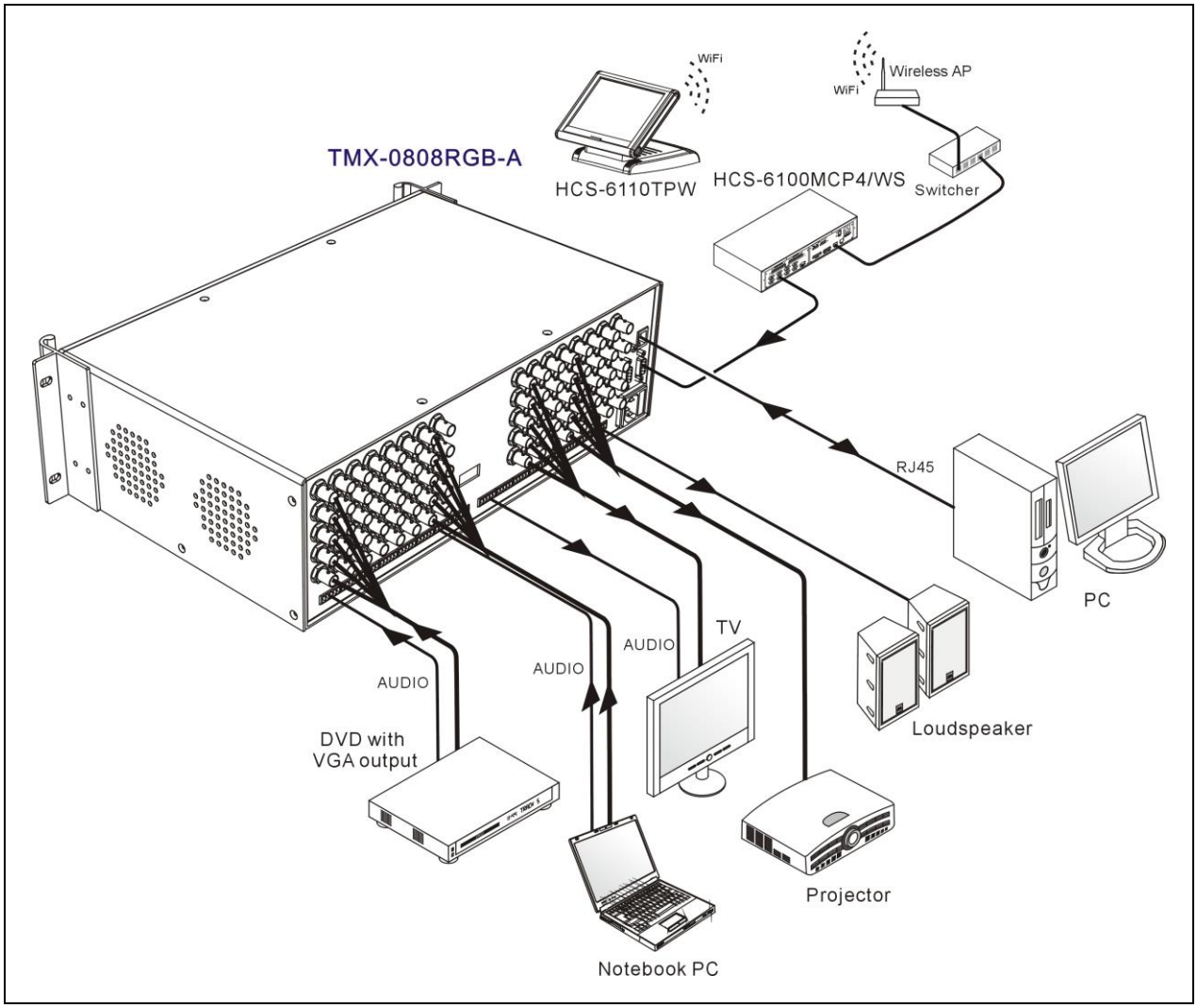
General specs

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 × w ×d (mm)	132 × 478 × 310 (3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	5.8 kg
Mean time between failures	30,000 hours

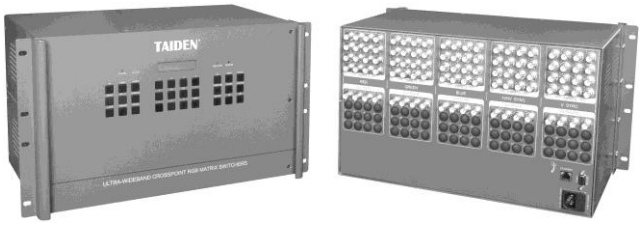
Ordering Information

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 × 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 ≤ ± 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	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	4 × 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 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 × w ×d (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	16×4 RGBHV Matrix Switcher, 325 M, BNC Connectors

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

Features

- **Routing: 16×4 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 ≤ ± 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	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	4 × 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: 16 stereo, balanced/unbalanced; output: 4 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 4 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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
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

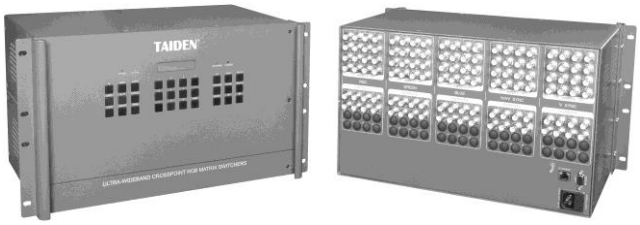
General specs

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 × w ×d (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	16×4 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 × 8 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 ≤ ± 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	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 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 × w ×d (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	16×8 RGBHV Matrix Switcher, 325 M, BNC Connectors

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

Features

- **Routing: 16×8 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 ≤ ± 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	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

Audio

Signal type	Input: 16 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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
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

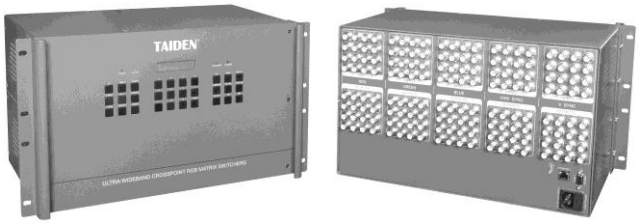
General specs

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 × w ×d (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	16×8 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 × 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 ≤ ± 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	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	16 × 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 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 × w ×d (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 ≤ ± 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	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	16 × 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: 16 stereo, balanced/unbalanced; output: 16 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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
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

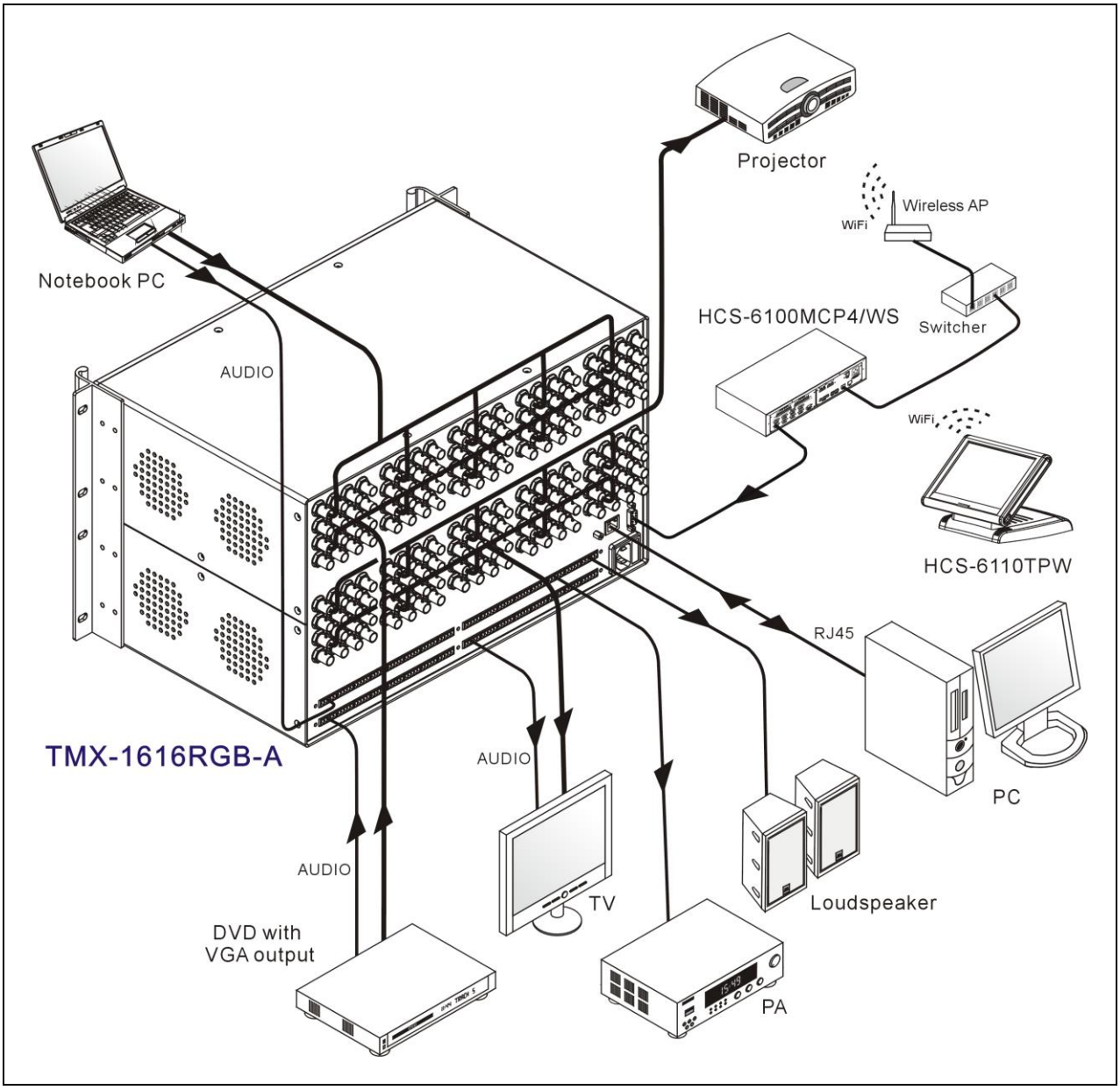
General specs

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 × w ×d (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

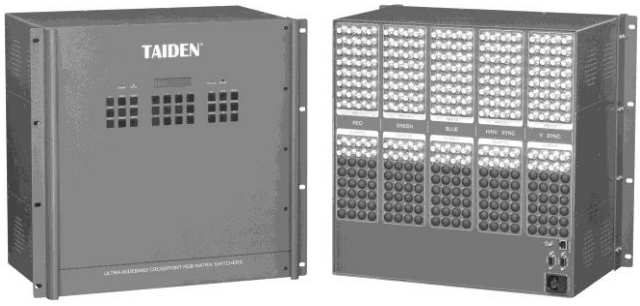
Ordering Information

TMX-1616RGB-A	16×16 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 × 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 ≤ ± 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 × 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
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

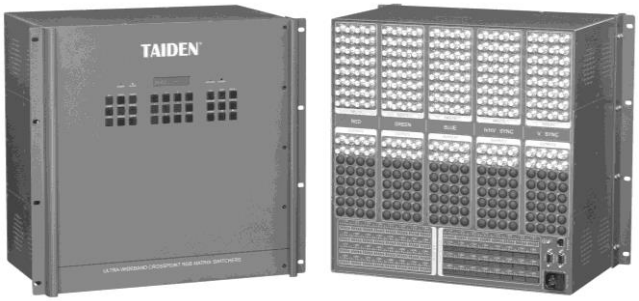
General specs

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 × w ×d (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 ≤ ± 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 × 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

Audio

Signal type	Input: 32 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 32 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

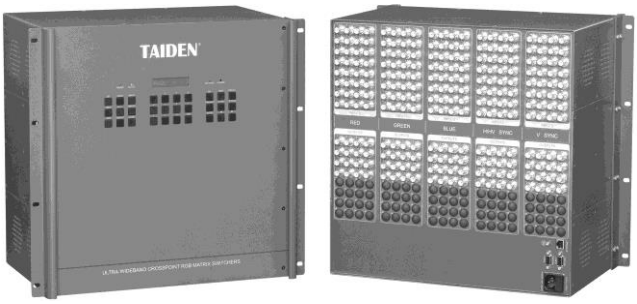
General specs

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 × w ×d (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	32×8 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 × 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 ≤ ± 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 × 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 × 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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

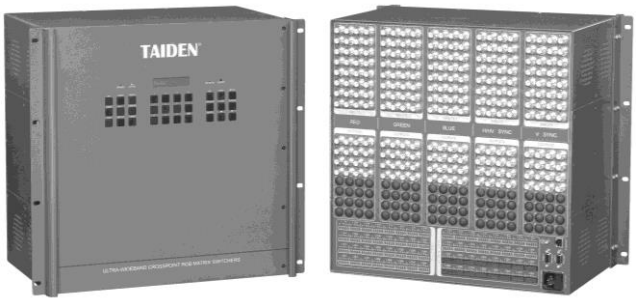
General specs

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 × w ×d (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 ≤ ± 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 × 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 × 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: 32 stereo, balanced/unbalanced; output: 16 stereo, balanced/unbalanced
Connectors	Input: 32 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

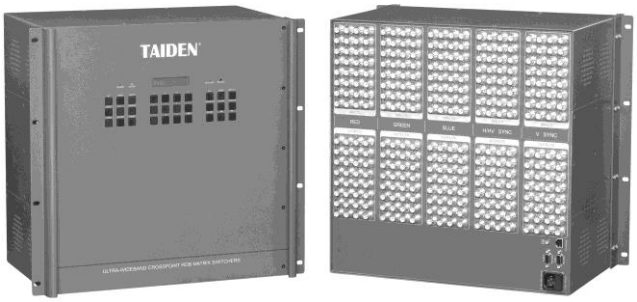
General specs

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 × w ×d (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	32×16 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 × 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 ≤ ± 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 × 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	32 × 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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

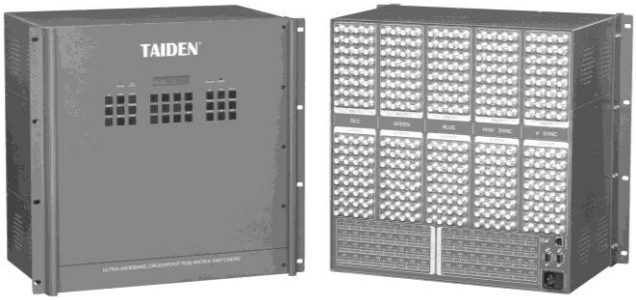
General specs

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 × 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 ≤ ± 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 × 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	32 × 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: 32 stereo, balanced/unbalanced; output: 32 stereo, balanced/unbalanced
Connectors	Input: 32 × 5-pin 3.81 mm Phoenix; output: 32 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

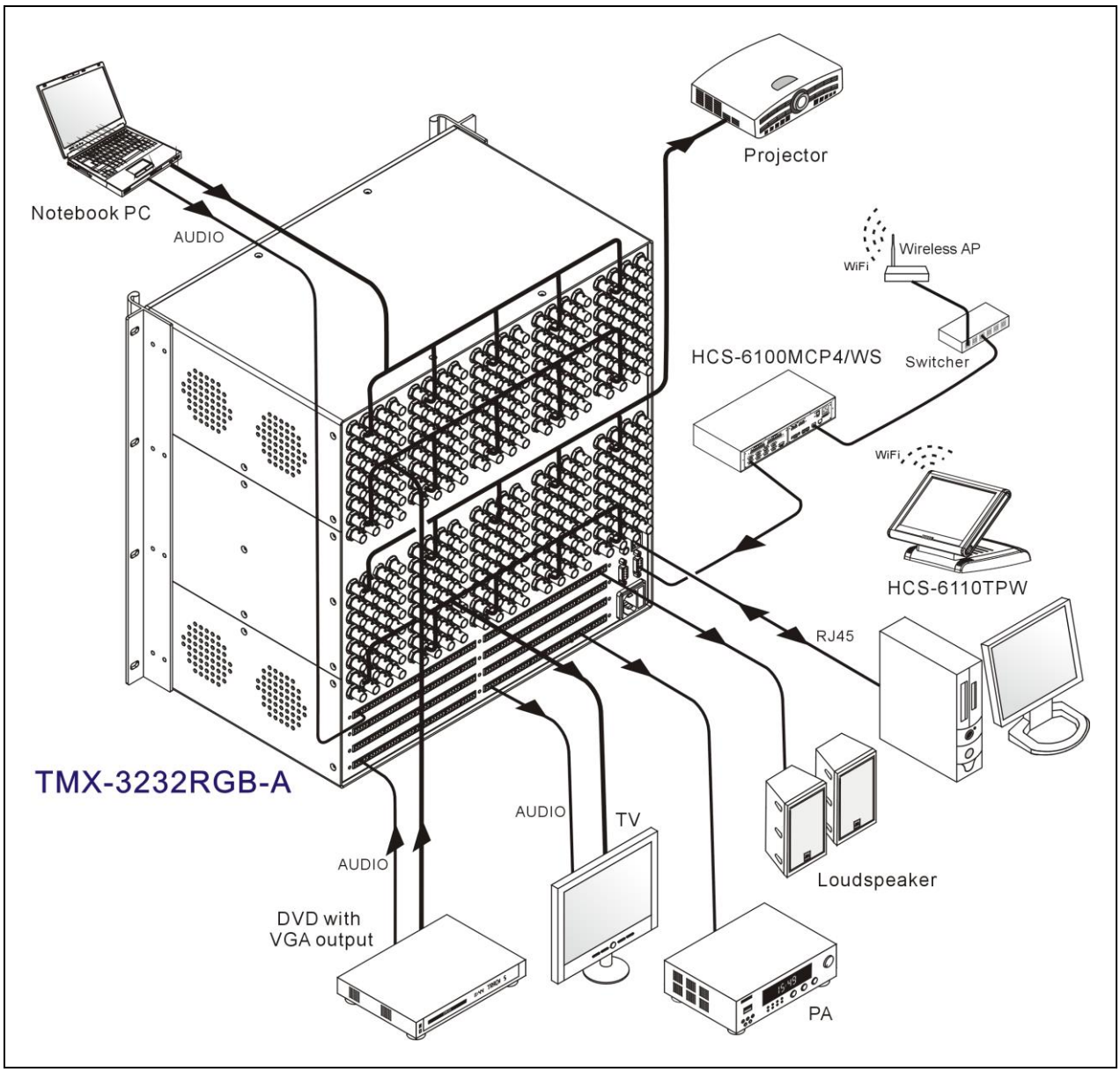
General specs

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 × w ×d (mm)	440 × 478 × 310 (10U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	17.2 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-3232RGB-A	32×32 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 × 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 × 5 high, full rack width**

Technical Specifications

Video

Gain	0 dB
Bandwidth	400 MHz (-3dB), fully loaded; 0 to 10 MHz ≤ ± 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 × 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	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 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 × w ×d (mm)	1320 × 478 × 310 (6U× 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	64×64 RGBHV Matrix Switcher, 400 M, BNC Connectors

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

Features

- **Routing: 64×64 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 × 6 high, full rack width**

Technical Specifications

Video

Gain	0 dB
Bandwidth	400 MHz (-3dB), fully loaded; 0 to 10 MHz ≤ ± 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 × 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	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; output: 64 stereo, balanced/unbalanced
Connectors	Input: 64 × 5-pin 3.81 mm Phoenix; output: 64 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (mm)	1584 × 478 × 310 (6U× 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	64×64 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 × 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 ≤ ± 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	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

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 × w ×d (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-0802VGA	8×2 VGA Matrix Switcher, 450 M, 15HDF Connectors

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

Features

- **Routing: 8 × 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 ≤ ± 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	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
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 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 × w ×d (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-0804VGA	8×4 VGA Matrix Switcher, 450 M, 15HDF Connectors

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

Features

- **Routing: 8 × 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 ≤ ± 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	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)
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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

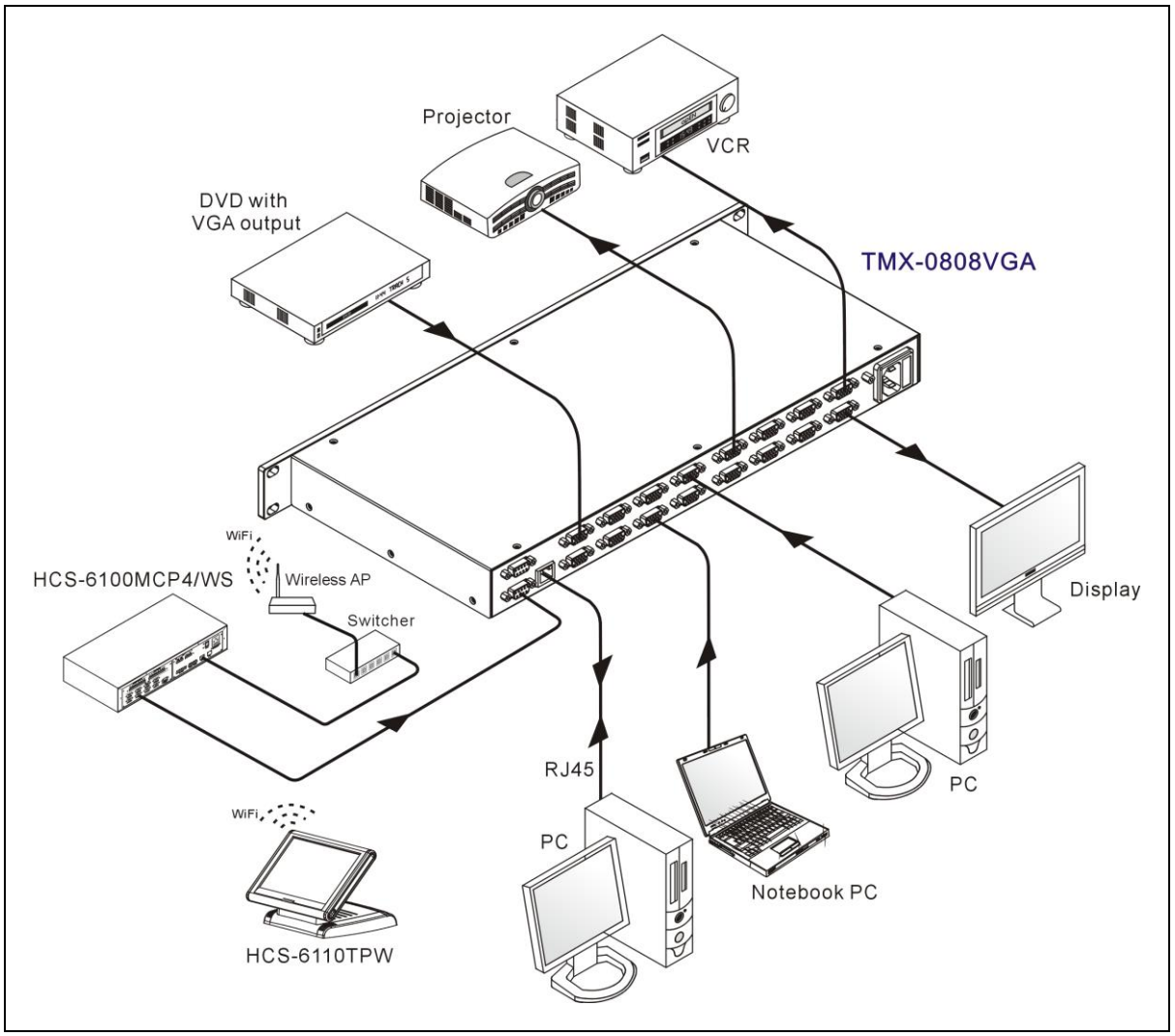
General specs

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 × w ×d (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	8×8 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 × 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 ≤ ± 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	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

Audio

Signal type	Input: 8 stereo, balanced/unbalanced; output: 2 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 2 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	8×2 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 × 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 ≤ ± 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	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
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 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	8×4 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 × 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 ≤ ± 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	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)
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: 8 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	8×8 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 × 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 ≤ ± 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	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)
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 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 × w ×d (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	16×8 VGA Matrix Switcher, 325 M, 15HDF Connectors

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

Features

- **Routing: 16 × 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 ≤ ± 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	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)
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 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	16×8 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 × 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 ≤ ± 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	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 × 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

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 × w ×d (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 × 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 ≤ ± 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	75 Ohm
Return loss	-30 dB @ 5 MHz
Max. DC offset	1.5 V

Video output

Connectors	16 × 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: 16 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

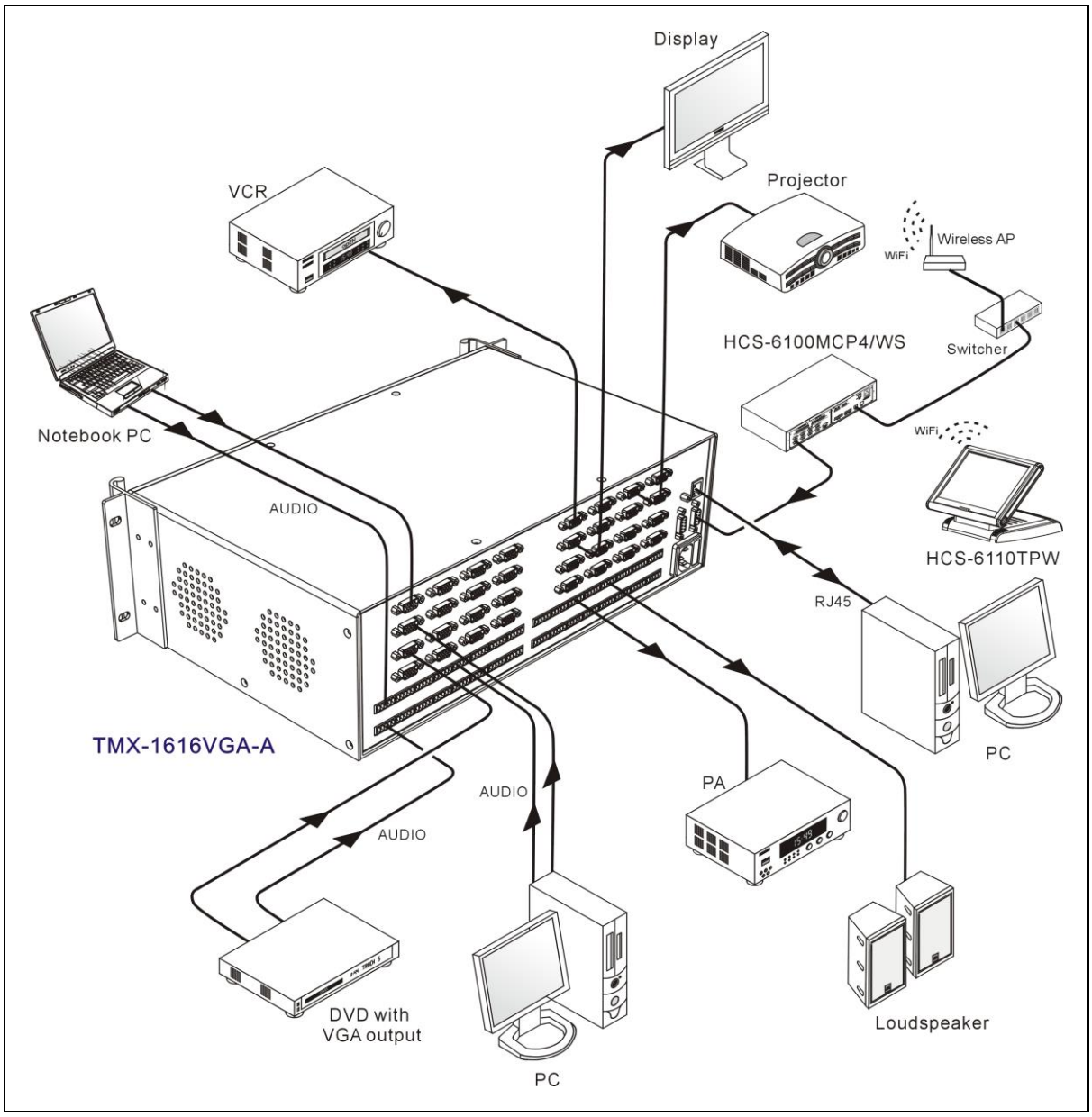
General specs

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 × w ×d (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-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

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
Connectors	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

Ordering Information

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

TMX-0804A
8×4 Stereo Audio Matrix Switcher

Features

- **Routing: 8 × 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, 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

Ordering Information

TMX-0804A	8×4 Stereo Audio Matrix Switcher, Audio stereo on RCA Connectors

TMX-0808A
8×8 Stereo Audio Matrix Switcher

Features

- **Routing: 8 × 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; 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	>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

Ordering Information

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

TMX-0401MA
4×1 Mixed Switcher

Features

- **Routing: 4 × 1 mixed switcher**
- **4 × 1 VGA (15-pin HDF), 350 MHz (Full loaded, -3 dB)**
- **4 × 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

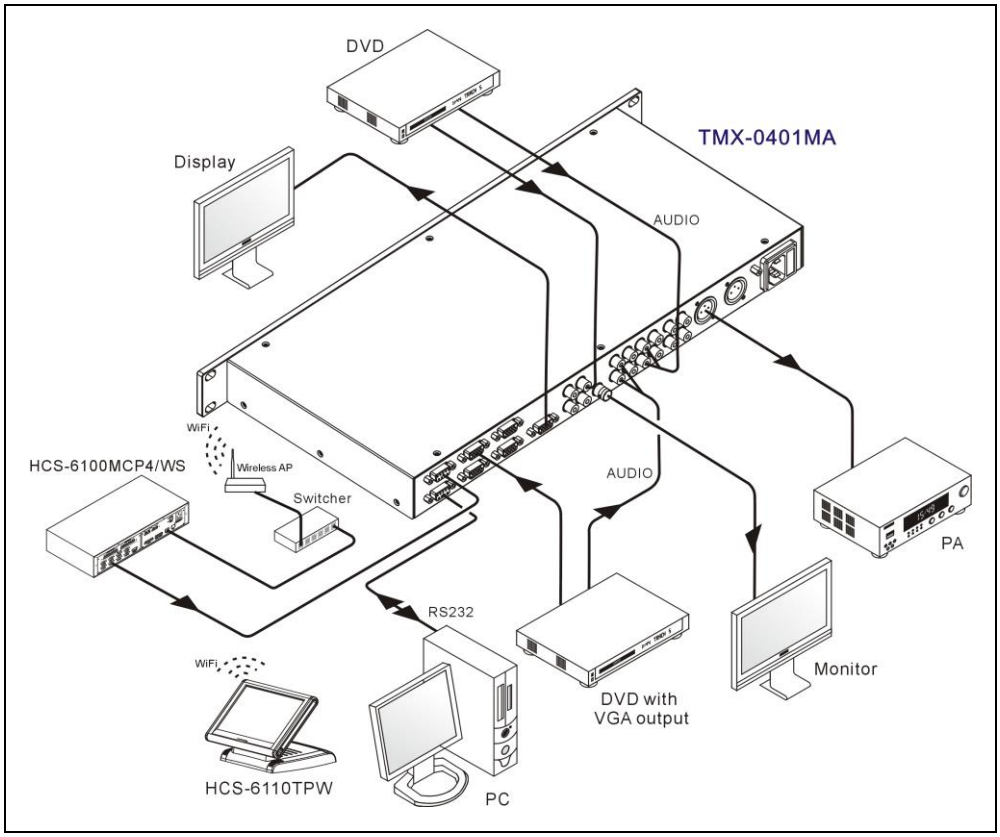
General spec

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 × w ×d (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 × 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	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	8×4 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-0808V
8×8 Composite Video Matrix Switcher

Features

- **Routing: 8 × 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. 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	2.6 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
8×2 AV Matrix Switcher

Features

- **Routing: 8 × 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 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**
- **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	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; output: 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 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 × w ×d (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	8×2 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	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

Signal type	Input: 8 stereo, unbalanced; output: 4 stereo, unbalanced
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, 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 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 × w ×d (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	8×4 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 × 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	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	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

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 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 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 × w ×d (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 × 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	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	2.7 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 × 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. 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	2.8 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608V	16×8 Composite Video Matrix Switcher, 50 M, BNC Connectors

TMX-1616V
16×16 Composite Video Matrix Switcher

Features

- **Routing: 16 × 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	-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
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	2.8 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	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	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: 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, 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 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 × w ×d (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	16×4 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 × 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	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. 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: 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	>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 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 × w ×d (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	16×8 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 × 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	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	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

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, 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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

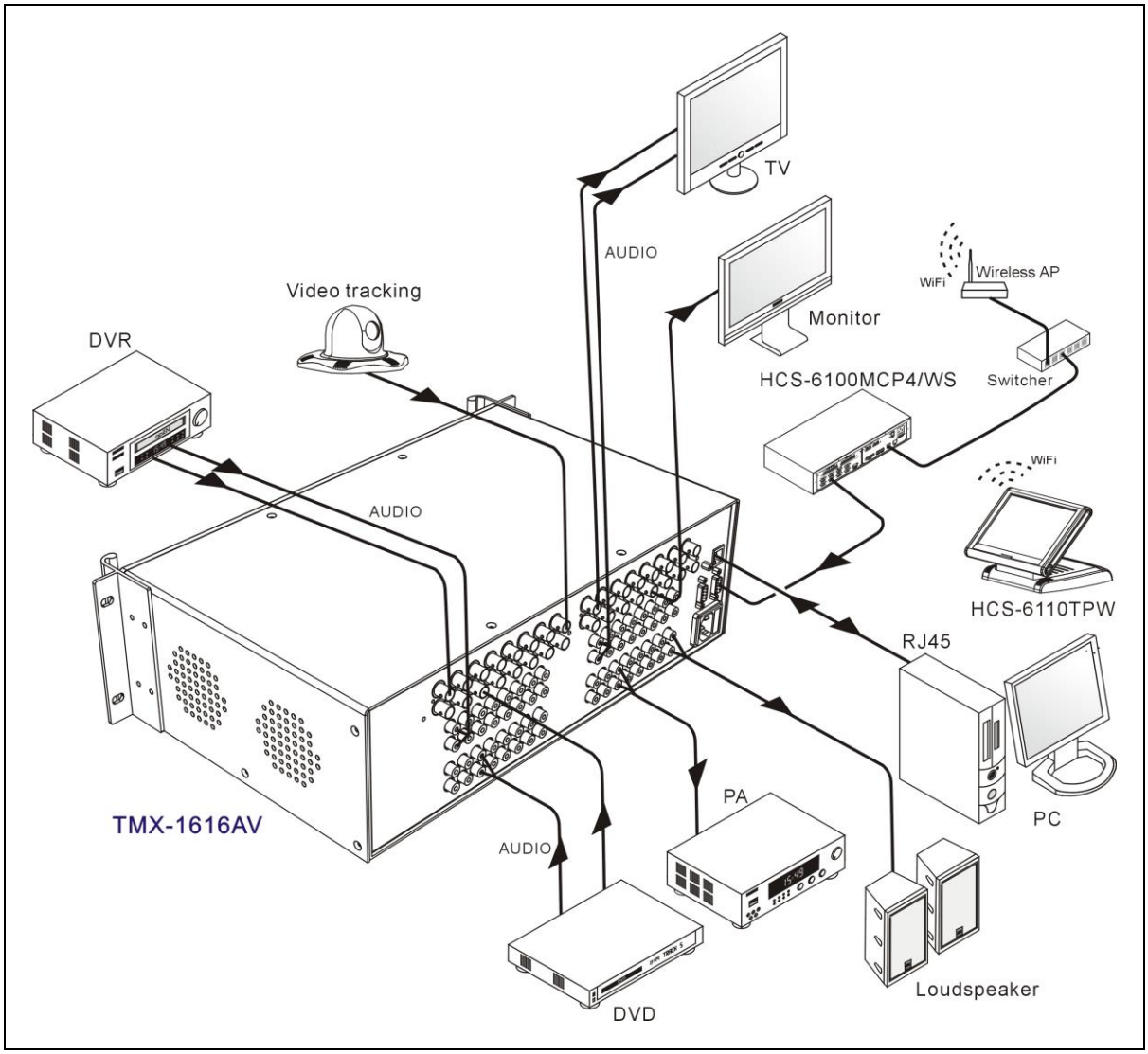
General spec

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 × w ×d (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	16×16 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: 8×4 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

Signal type	Input: 8 stereo, balanced/unbalanced; output: 4 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 4 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	8×4 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: 8×8 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	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

Signal type	Input: 8 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	8×8 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: 16×8 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	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. 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: 16 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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	16×8 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: 16×16 Composite Video & Balanced/Unbalanced Stereo Audio Matrix Switcher**
- **Video interface: BNC female**
- **Audio interface: 5-pin 3.81 mm Phoenix**
- **Fully loaded video bandwidth: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	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	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

Signal type	Input: 16 stereo, balanced/unbalanced; output: 16 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

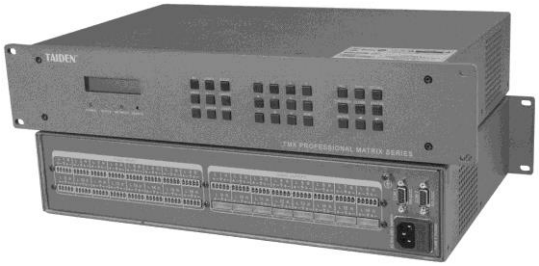
General spec

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 × w ×d (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	16×16 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: 16×8 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 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

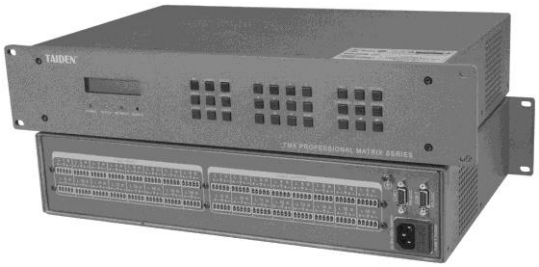
General spec

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 × w ×d (mm)	88 × 478 × 310 (2U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	3.9 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1608A-B	16×8 Balanced/Unbalanced Stereo Audio Matrix Switcher, Audio stereo on 5-pin 3.81 mm Phoenix Connectors

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



Features

- **Routing: 16×16 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: 16 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (mm)	88 × 478 × 310 (2U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.0 kg
Mean time between failures	30,000 hours

Ordering Information

TMX-1616A-B	16×16 Balanced/Unbalanced Stereo Audio Matrix Switcher, Audio stereo on 5-pin 3.81 mm Phoenix Connectors

TMX-3208V
32×8 Composite Video Matrix Switcher

Features

- **Routing: 32 × 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	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

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 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)	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 × 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
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 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)	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 × 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

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

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

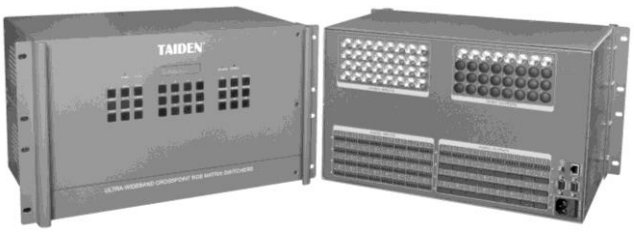
General spec

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)	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: 32×8 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
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

Signal type	Input: 32 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 32 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

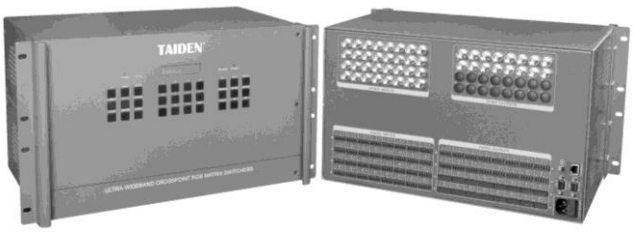
General spec

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 × w ×d (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
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

Audio

Signal type	Input: 32 stereo, balanced/unbalanced; output: 16 stereo, balanced/unbalanced
Connectors	Input: 32 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

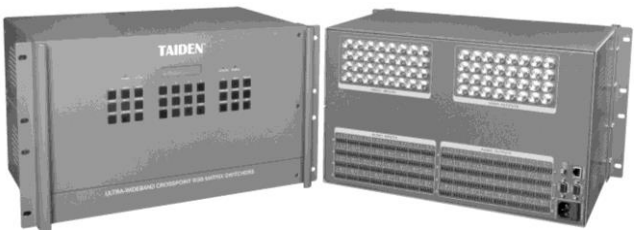
General spec

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 × w ×d (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	32×16 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: 32×32 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
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

Signal type	Input: 32 stereo, balanced/unbalanced; output: 32 stereo, balanced/unbalanced
Connectors	Input: 32 × 5-pin 3.81 mm Phoenix; output: 32 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

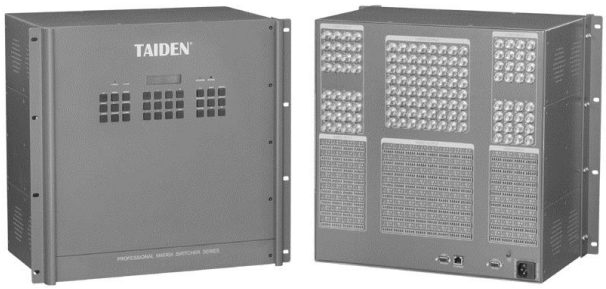
General spec

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 × w ×d (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	32×32 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: 64×64 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
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	64 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: 64 stereo, balanced/unbalanced; output: 64 stereo, balanced/unbalanced
Connectors	Input: 64 × 5-pin 3.81 mm Phoenix; output: 64 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

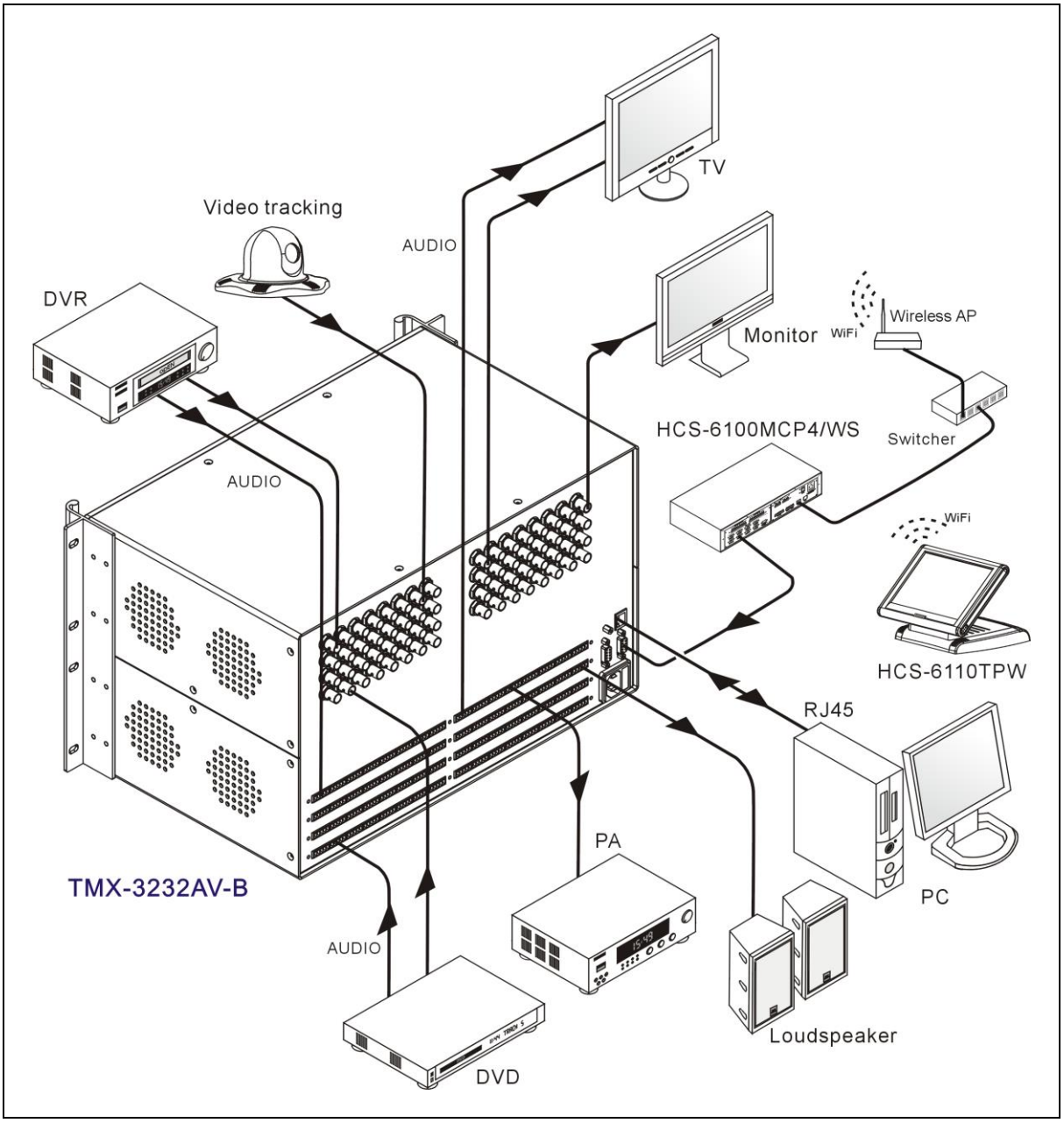
General spec

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 × w ×d (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	64×64 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

Features

- **Routing: 1 × 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**

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 × 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 × w ×d (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-0104VGA	1×4 VGA Distribution Amplifier, 300 M, 15HDF Connectors

TMX-0108VGA
1×8 VGA Distribution Amplifier

Features

- **Routing: 1 × 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: 8 × 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 × w ×d (mm)	43 × 483 × 208 (1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0108VGA	1×8 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 × 15-pin HDF connectors

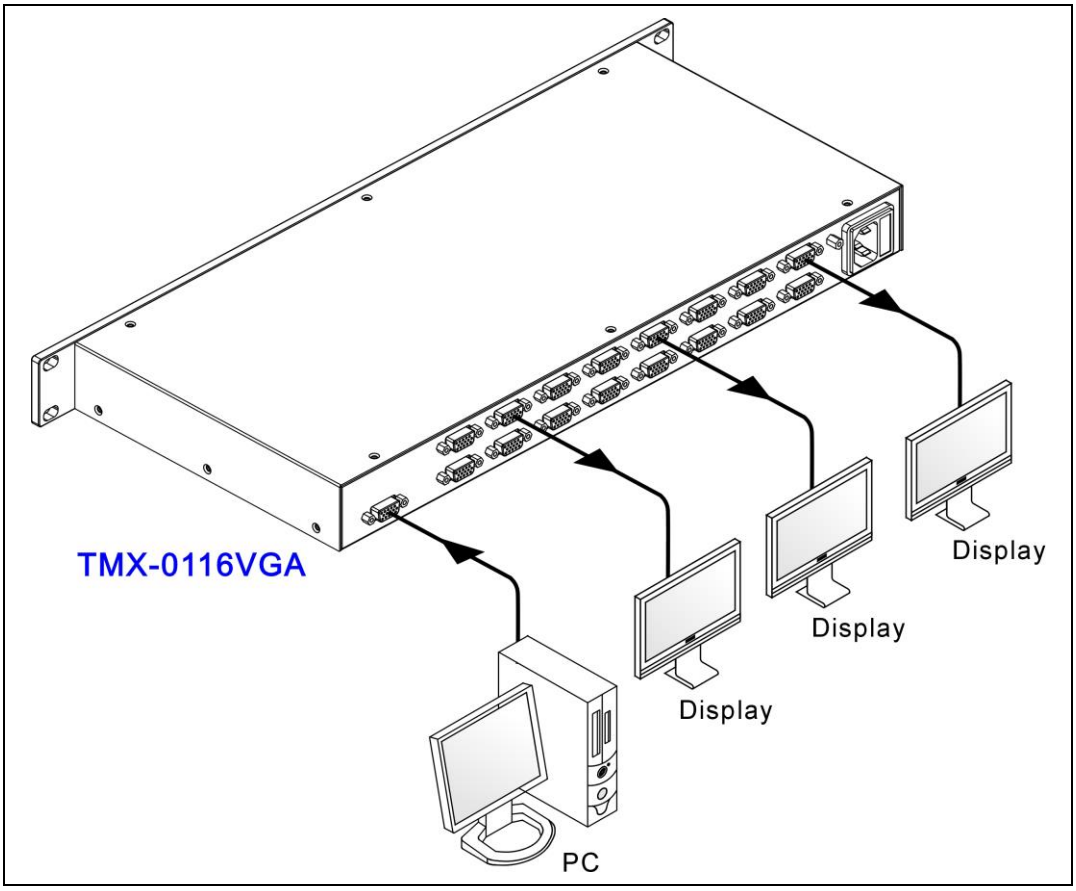
General specs

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 × w ×d (mm)	43 × 483 × 208 (1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0116VGA	1×16 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
Input/output impedance	75 Ohm
Signal type	Composite video
Connectors	Input: 1 BNC female, 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 × w ×d (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-0108V	1×8 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
Input/output impedance	75 Ohm
Signal type	Composite video
Connectors	Input: 1 BNC female, 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 × w ×d (mm)	43 × 483 × 208 (1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0116V	1×16 Video Distribution Amplifier, 125 M, BNC Connectors

TMX-0132V
1×32 Video Distribution Amplifier

Features

- **Routing: 1×32 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 × w ×d (mm)	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 impedance	75 Ohm
Signal type	Composite video
Connectors	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

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-0104AV	1×4 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 × w ×d (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 impedance	75 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

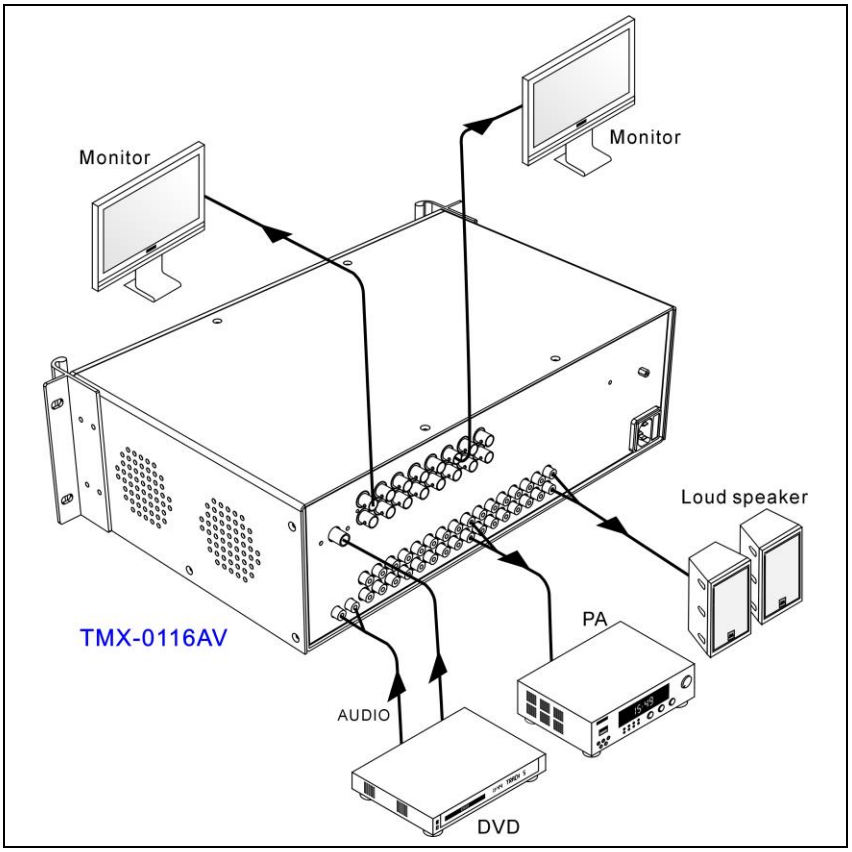
General specs

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 × w ×d (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	-∞ ~ +10 dB / adjustable
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 × w ×d (mm)	70 × 483 × 222
Weight	2.8 kg

Ordering Information

HCS-4112M/29	1×29 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

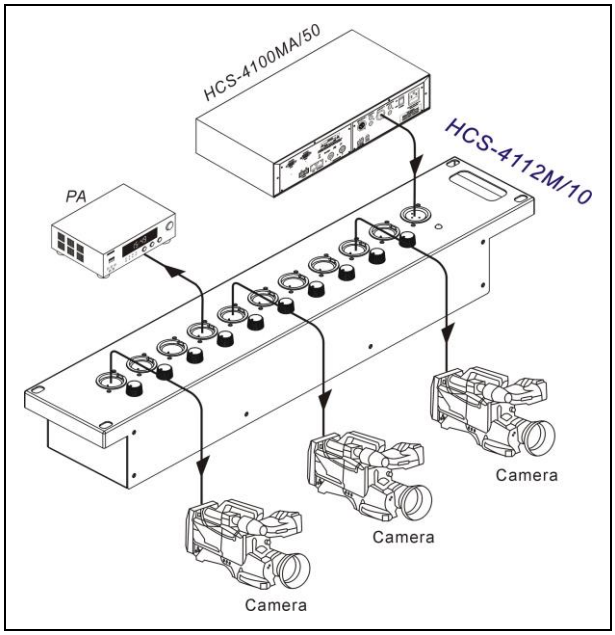
General specs

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	1×10 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: 8×4 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 ≤ ± 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	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	4 × 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

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 × w ×d (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	8×4 Component Video Matrix Switcher, BNC Connectors

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

Features

- **Routing: 8×4 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 ≤ ± 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: 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: 4 × 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 × 5-pin 3.81 mm Phoenix; output: 4 × 5-pin 3.81 mm Phoenix
Gain: Unbalanced 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: >80 dB @ 1 kHz
CMRR: >75 dB @ 20 Hz to 20 kHz
Impedance: Input: >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 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 × w ×d (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	8×4 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: 8×8 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 ≤ ± 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	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 × 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

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 × w ×d (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: 8×8 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 ≤ ± 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	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 × 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: 8 stereo, balanced/unbalanced
Connectors	Input: 8 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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 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 × w ×d (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-A	8×8 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: 16×8 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 ≤ ± 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	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 × 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

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 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 × w ×d (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	16×8 Component Video Matrix Switcher, BNC Connectors

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

Features

- **Routing: 16×8 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 ≤ ± 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	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 × 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: 16 stereo, balanced/unbalanced; output: 8 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 8 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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
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 × w ×d (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	16×8 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 ≤ ± 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	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	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)
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
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

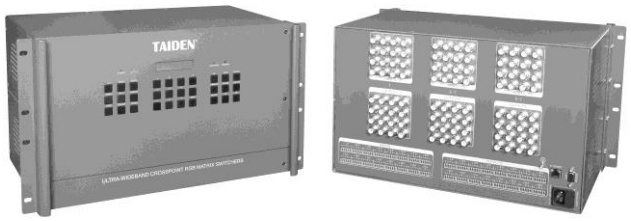
General specs

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 × w ×d (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	16×16 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 ≤ ± 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	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	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)
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: 16 stereo, balanced/unbalanced; output: 16 stereo, balanced/unbalanced
Connectors	Input: 16 × 5-pin 3.81 mm Phoenix; output: 16 × 5-pin 3.81 mm Phoenix
Gain	Unbalanced 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	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Impedance	Input: >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
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

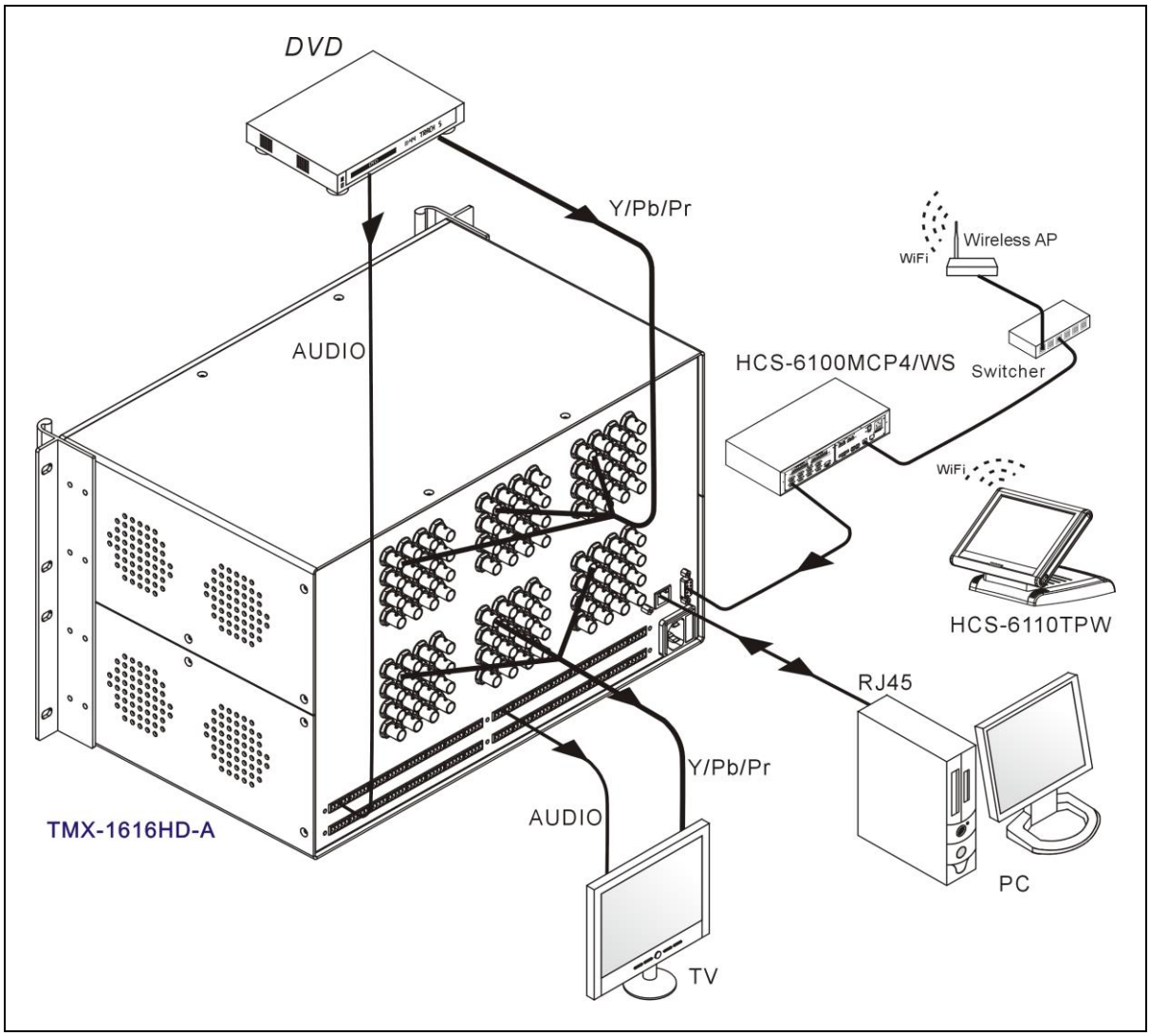
General specs

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 × w ×d (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

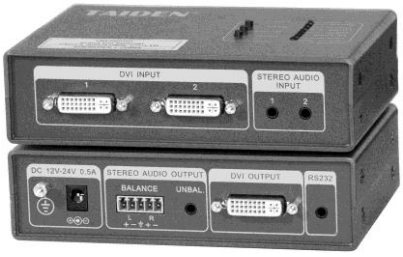
Ordering Information

TMX-1616HD-A	16×16 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 × 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 × DVI-I connector
Equalization	6 dB, 12 dB

Video output

Signal type	TMDS
Connector	1 × DVI-I connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Audio input

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

Audio output

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

Control

COM (RS232)	3.5 mm TRS jack, R = TX, T = RX, S = GND
Connecting to central 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	2×1 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 × 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 × DVI-I connector
Pre-emphasize	0 dB, 2 dB, 4 dB, 6 dB

Audio input

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

Audio output

Signal type	1 stereo, unbalanced
Connectors	1 × 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

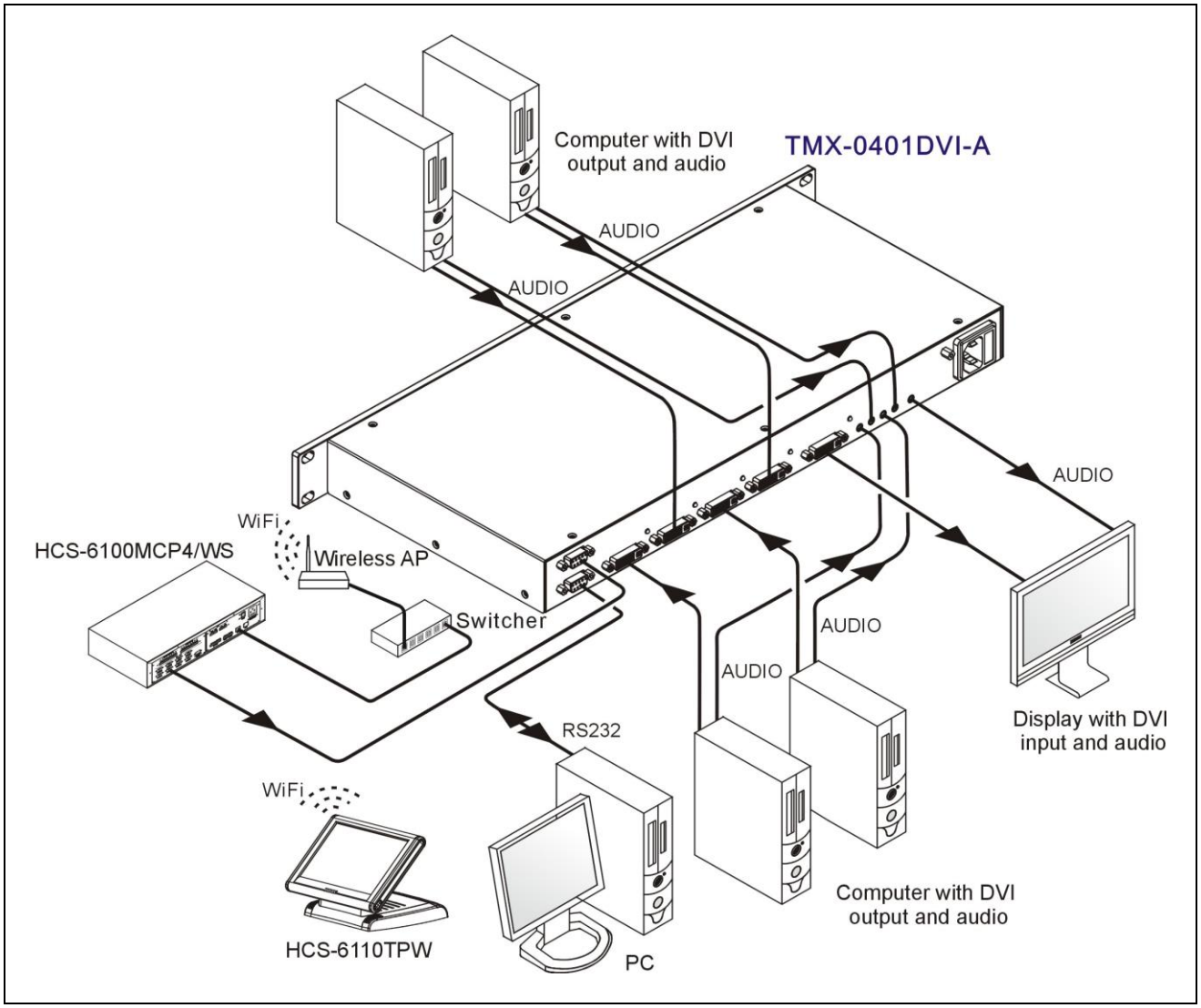
General specs

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 × w ×d (mm)	43 × 483 × 208 (1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

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 × DVI-I connector
Equalization	Automatic, max. 40 dB

Video output

Signal type	TMDS
Connectors	2 × 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	2×2 DVI Matrix Switcher, 1.65 Gbps, DVI-I Connectors

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

Features

- **Routing: 2 × 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 × DVI-I connector
Equalization: Automatic, max. 40 dB

Video output

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

Audio input

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

Audio output

Signal type: 2 stereo, unbalanced
Connectors: 2 × 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 × w ×d (mm): 43 × 483 × 208 (1U high, full rack width)
Color: Gray (PANTONE 425 C)
Weight: 2.7 kg

Ordering Information

TMX-0202DVI-A: 2×2 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 × DVI-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 × w ×d (mm)	43 × 483 × 208 (1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0204DVI	2×4 DVI Matrix Switcher, 1.65 Gbps, DVI-I Connectors

TMX-0204DVI-A
2×4 DVI & Audio Matrix Switcher

Features

- **Routing: 2 × 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 × DVI-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 × 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 × w ×d (mm): 43 × 483 × 208 (1U high, full rack width)
Color: Gray (PANTONE 425 C)
Weight: 2.7 kg

Ordering Information

TMX-0204DVI-A: 2×4 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	8 × DVI-I 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 × w ×d (mm)	132 × 478 × 310 (3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.4 kg

Ordering Information

TMX-0804DVI	8×4 DVI Matrix Switcher, 2.25 Gbps, DVI-I Connectors

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

Features

- **Routing: 8 × 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

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

Audio input

Signal type: 8 stereo, balanced/unbalanced
Connectors: 8 × 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
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 × 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: 8×4 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 × 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	8 × DVI-I connector
Equalization	Automatic, max. 12 dB

Video output

Signal type	TMDS
Connectors	8 × 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 × w ×d (mm)	132 × 478 × 310 (3U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	4.5 kg

Ordering Information

TMX-0808DVI	8×8 DVI Matrix Switcher, 2.25 Gbps, DVI-I Connectors

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

Features

- **Routing: 8 × 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 1920×1200 @ 60 Hz

Video input

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

Video output

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

Audio input

Signal type: 8 stereo, balanced/unbalanced
Connectors: 8 × 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
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

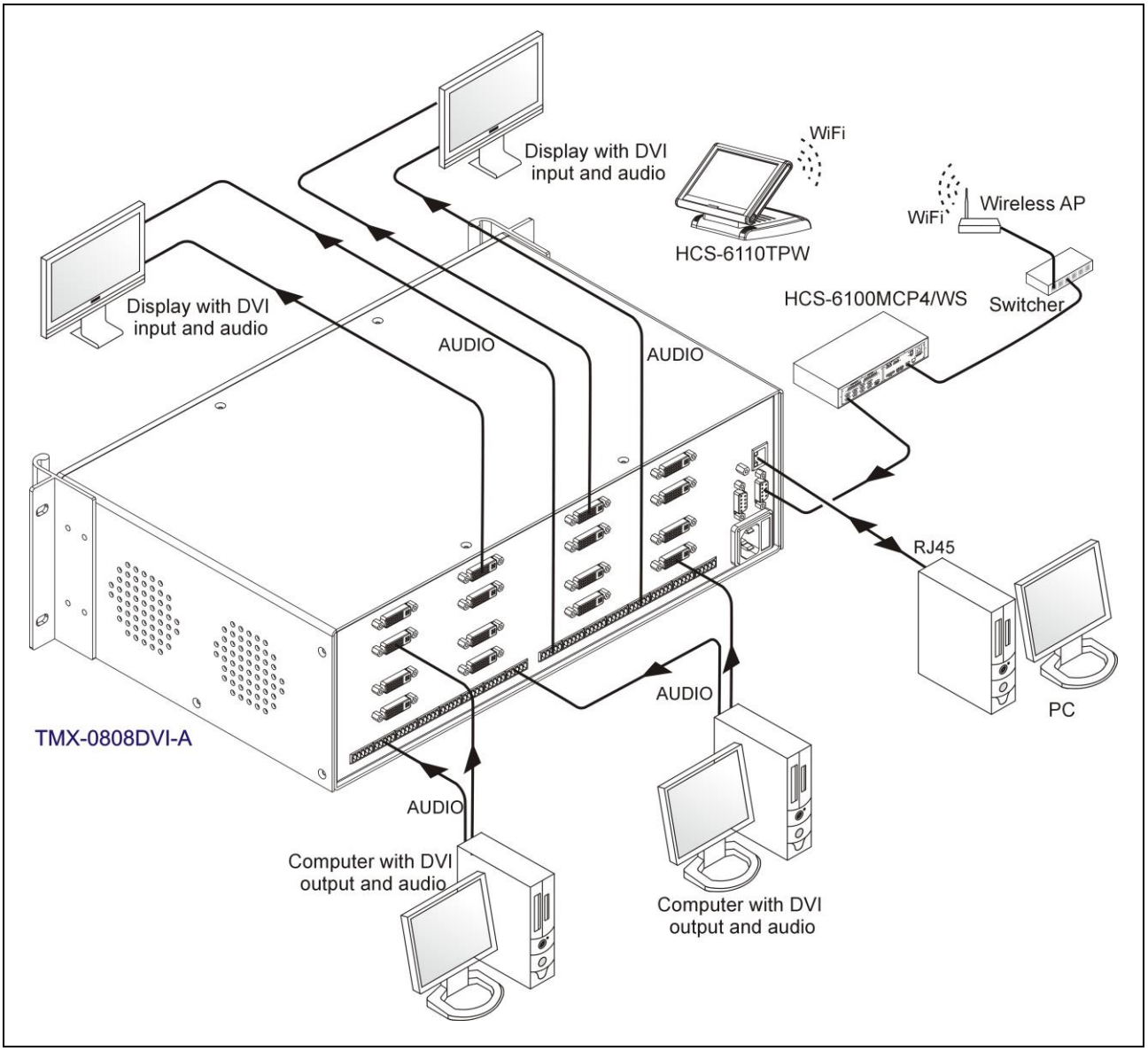
General specs

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 × 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: 8×8 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 × 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 × female HDMI type A connector
Equalization	6 dB, 12 dB

Output

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

Control

COM (RS232)	3.5 mm TRS jack, R = TX, T = RX, S = GND
Connecting to central 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	0.35 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
Connectors: 1 × female HDMI type A connector
Pre-emphasize: 0 dB, 2 dB, 4 dB, 6 dB

Control

COM (RS232): 3.5 mm TRS jack, R = TX, T = RX, S = GND
Connecting to central 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: 0.38 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 × 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

Signal type	TMDS
Connectors	8 × female HDMI type A connector
Equalization	6 dB, 12 dB

Output

Signal type	TMDS
Connectors	1 × 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 protocol	TCP/IP
Ethernet speed	10 M/100 M, full-duplex or half-duplex with autodetect
PC control	Matrix switcher

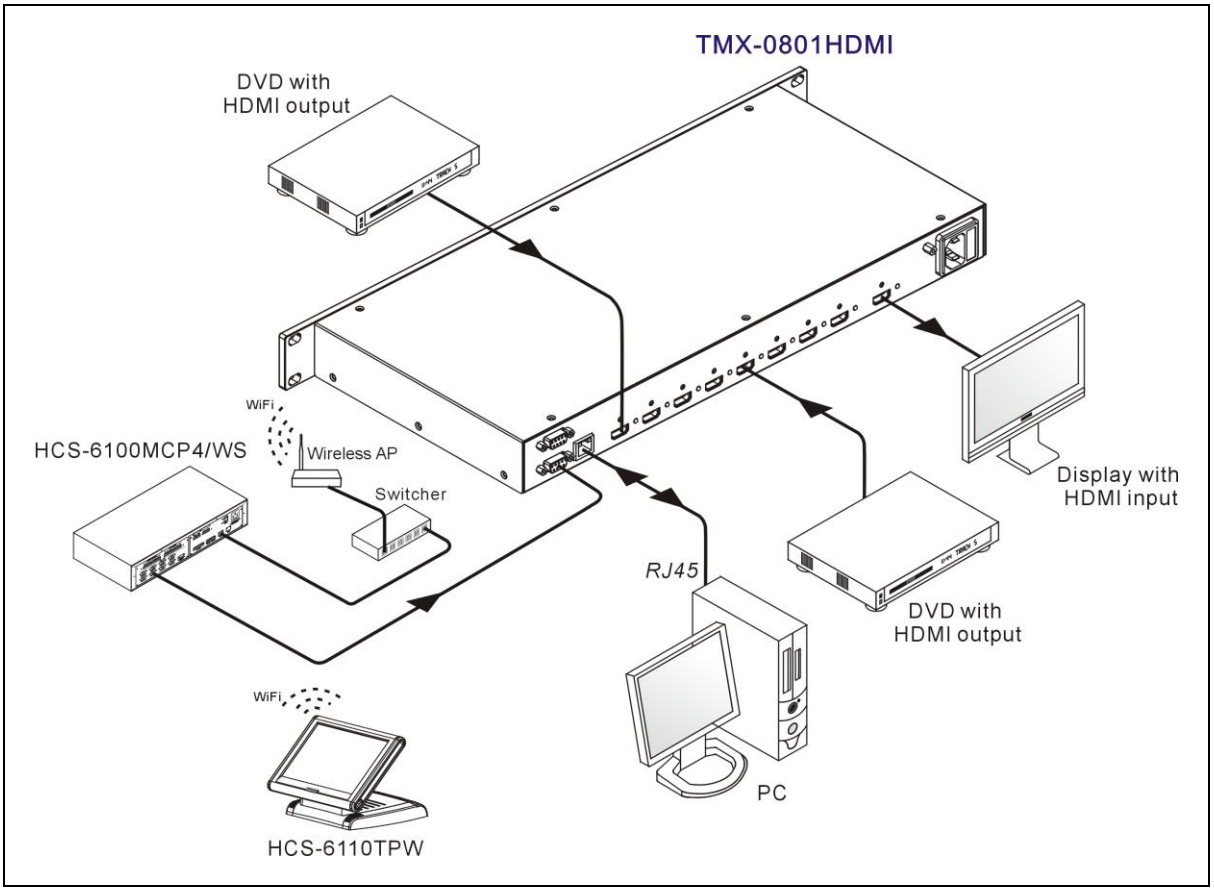
General specs

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 × w ×d (mm)	43 × 483 × 208 (1U high, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg

Ordering Information

TMX-0801HDMI	8×1 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 error	0.04°, @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
Min./Max. level	-2 Vp-p / +2 Vp-p
Impedance	75 Ω
Return loss	<-40 dB@5 MHz
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	<-15 dB, DC@1 MHz to 1.5 GHz
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, 3 = RX, 5 = GND
COM	Variable baudrate, data: 8 bits, stop: 1 bit, no parity

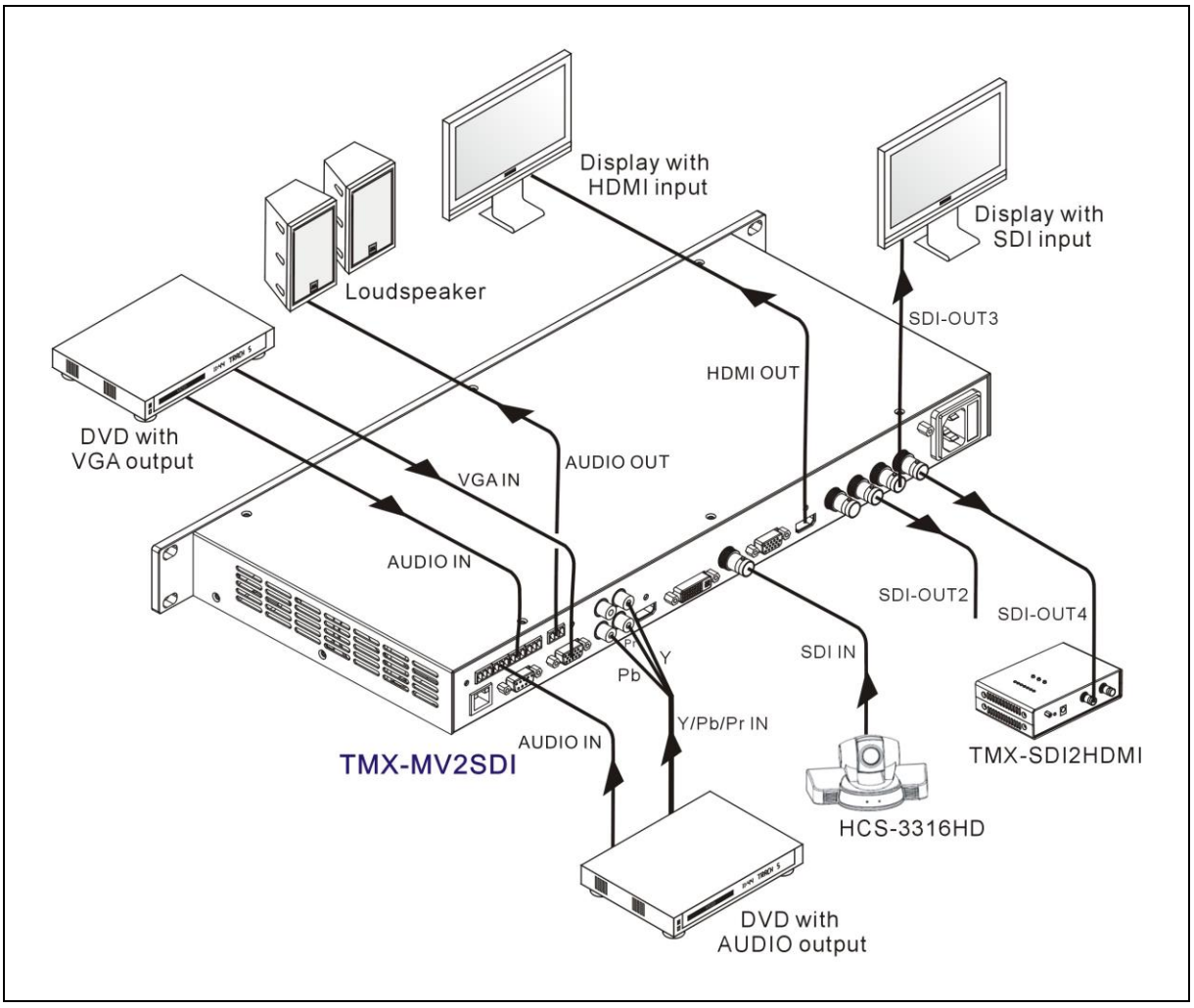
General specs

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	Storage: 10% to 90%; operating: 10% to 90%
Dimensions h × w ×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

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

Video output

Signal type	1 analog RGBHV
Connector	1 × VGA 15-pin HDF connector; 5 × 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)

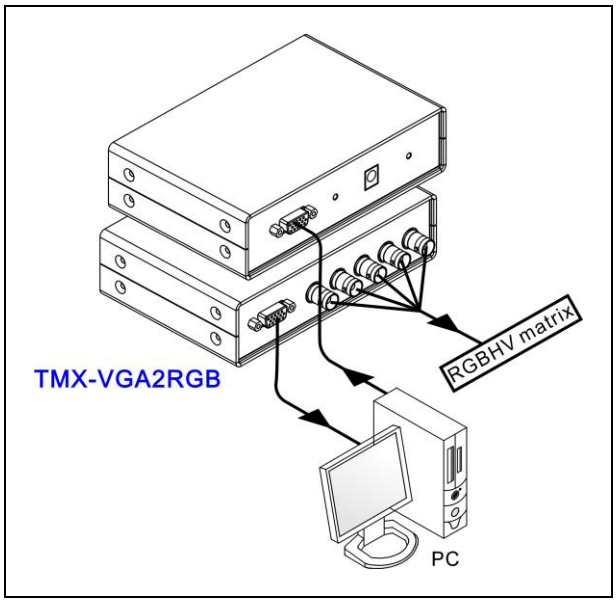
General specs

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 × w ×d (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

TMX-VGA2RGB	VGA to RGBHV Converter

System Connection



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 × VGA 15-pin HDF connector; 5 × BNC female
Nominal level	RGB: 0.7 Vp-p
Resolution	Adjustable

Sync

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

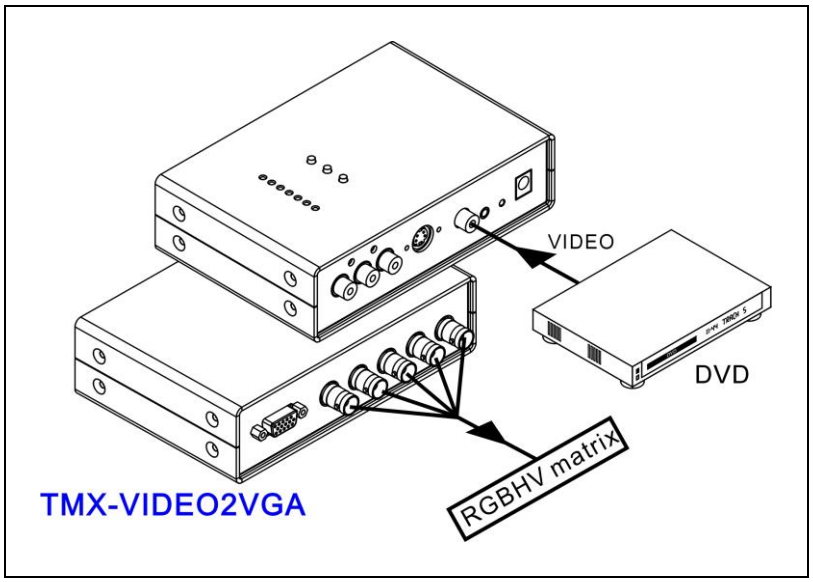
General specs

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 × w ×d (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.44 kg

Ordering Information

TMX-VIDEO2VGA	VIDEO to VGA Converter

System Connection



CBL-VGA2RGB
VGA to RGBHV Converting Cable

Features

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

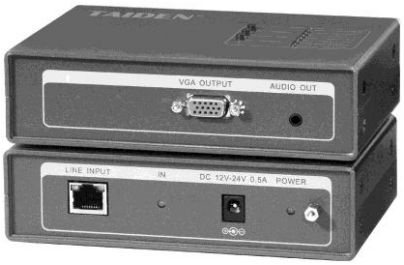
Ordering Information

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 × RJ45 socket

Video output

Signal type	1 analog RsGsBs/ YPbPr
Connector	1 × VGA 15-pin HDF connector
Nominal level	RGB: 0.7 Vp-p
Min./max. levels	0.7 V - 1.2 Vp-p
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	＜±20 mV with input at 0 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
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 × RJ45 socket

Audio output

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

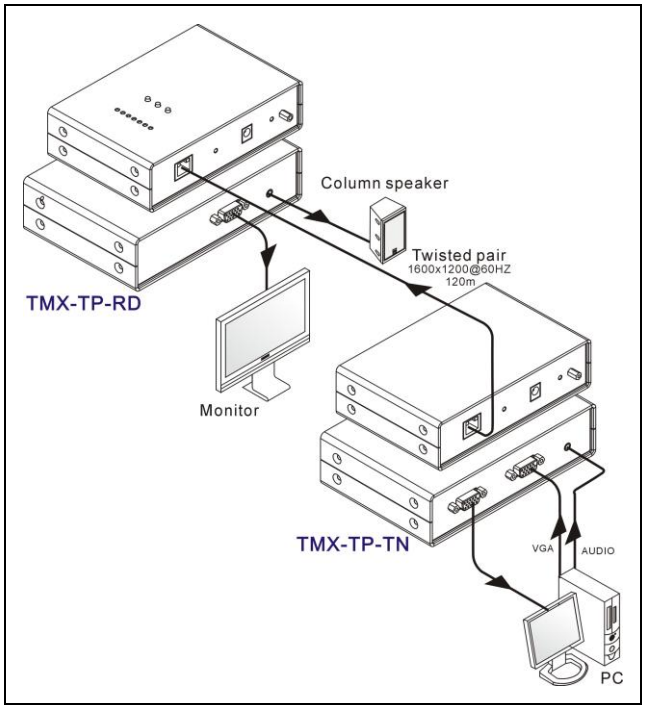
General specs

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 × w ×d (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)

System Connection



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 × 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
Input level	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)

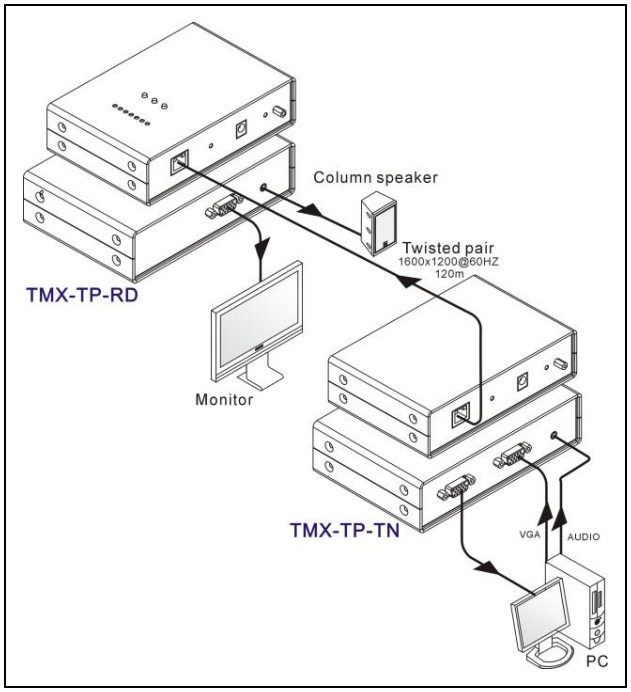
General specs

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 × w ×d (mm)	40 × 150 × 100
Color	Gray (PANTONE 425 C)
Weight	0.4 kg

Ordering Information

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

System Connection



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 × 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 ±20 mV with input at 0 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
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 proprietary analog signal
Connector 1 × RJ45 socket

Audio output

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

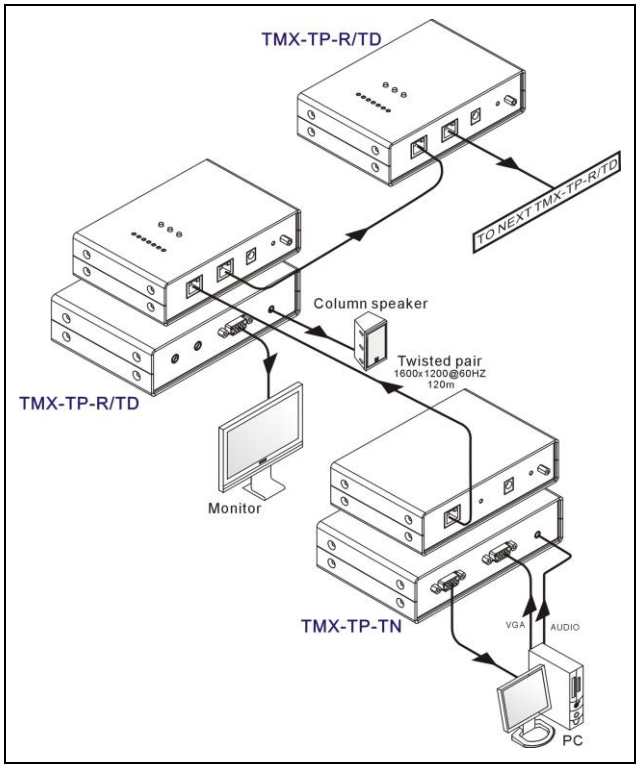
General specs

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 × w ×d (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)

System Connection



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 × 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 75 Ohm
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 × RJ45 socket

Audio output

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

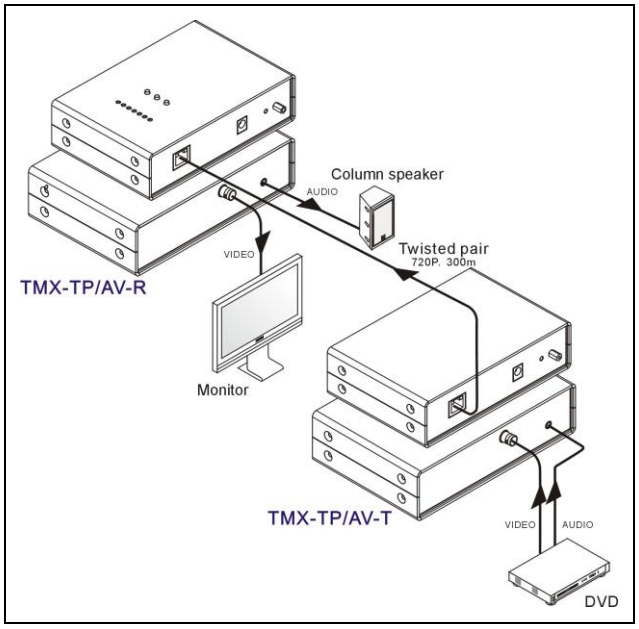
General specs

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 × w ×d (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

System Connection



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 × 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
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 channel audio (L+R), unbalanced
Connector 1 × Ø 3.5 mm mini jack

Audio output

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

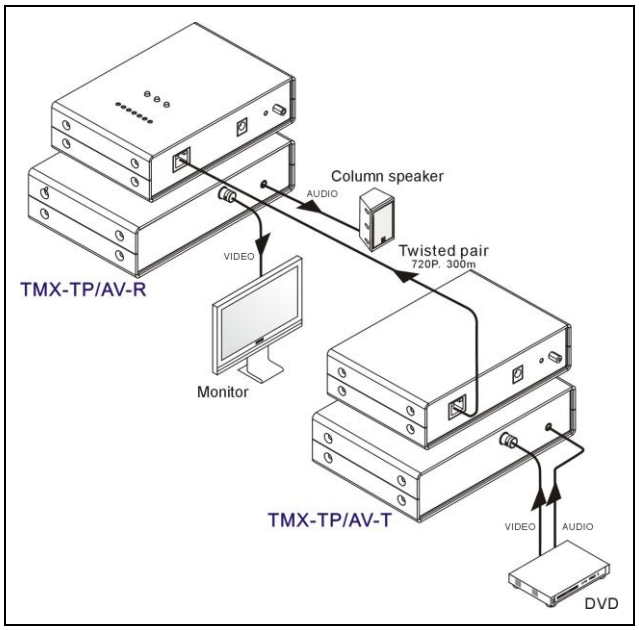
General specs

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 × w ×d (mm) 40 × 150 × 100
Color Gray (PANTONE 425 C)
Weight 0.4 kg

Ordering Information

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

System Connection



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	>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 × 5-pin 3.81 mm Phoenix
Impedance	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
Min./max. levels	0.3 V to 1.2 Vp-p
Impedance	75 Ohm
Vertical frequency response	30 Hz to 150 Hz
Return loss	-30 dB @ 5 MHz
DC offset	±20 mV

Video input (line in)

Signal type	8 × proprietary analog signal
Connectors	8 × RJ45 socket

Video output (local)

Signal type	RGBHV, RGBs, RGsB, RsGsBs, component video, S-video and composite video
Connectors	2 × 15-pin HDF connectors
Nominal level	0.7 Vp-p for RGB
Impedance	75 Ohm
Return loss	-30 dB @ 5 MHz
DC offset	±20 mV

Video output (line out)

Signal type	8 × proprietary analog signal
Connectors	8 × RJ45 socket

Sync (local input/output)

Input signal type	RGBHV, RGBs, RGsB and RsGsBs
Output signal type	follows 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 time	4 ns
Polarity	Positive or negative (follows 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
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 × w ×d (mm)	43 × 483 × 208 (1U, full rack width)
Color	Gray (PANTONE 425 C)
Weight	2.7 kg
Mean time between failures	30,000 hours

Ordering Information

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

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 × w ×d (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 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 × w ×d (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	8×8 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
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-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
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-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

Input signal	4 ×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-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
Interface	15-pin female D connector
Level	0.5 - 2.0 Vp-p s
Impedance	75 Ω

Audio

Input signal	4 × analog audio
Interface	3-pin Phoenix
Frequency respones	20 - 20 kHz
Input impedance	>10 kΩ
Impedance	75 Ω

Normal

Gain	0 dB
Switching speed	Max. 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-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 ×HDMI signal (compatible with DVI), 4 ×analog audio 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 ×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	75 Ω

Audio

Input signal	4 × analog audio
Interface	3-pin Phoenix
Frequency respones	20 - 20 kHz
Impedance	75 Ω

Normal

Gain	0 dB
Switching speed	Max. 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)