Specifications — MTPX Plus Series

**Video**

Routing

<table>
<thead>
<tr>
<th>Model</th>
<th>Matrix Type</th>
<th>Local Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTPX Plus 816</td>
<td>8 x 16 matrix, 3 x 1 local</td>
<td></td>
</tr>
<tr>
<td>MTPX Plus 128</td>
<td>12 x 8 matrix, 4 x 2 local</td>
<td></td>
</tr>
<tr>
<td>MTPX Plus 168</td>
<td>16 x 8 matrix, 3 x 1 local</td>
<td></td>
</tr>
<tr>
<td>MTPX Plus 1616</td>
<td>16 x 16 matrix, 3 x 1 local</td>
<td></td>
</tr>
<tr>
<td>MTPX Plus 1632</td>
<td>16 x 32 matrix, 6 x 2 local</td>
<td></td>
</tr>
<tr>
<td>MTPX Plus 3216</td>
<td>32 x 16 matrix, 6 x 2 local</td>
<td></td>
</tr>
<tr>
<td>MTPX Plus 3232</td>
<td>32 x 32 matrix, 6 x 2 local</td>
<td></td>
</tr>
</tbody>
</table>

Gain

- Unity ±1 dB

Crosstalk

- 128 models: -76 dB @ 1 MHz, -55 dB @ 10 MHz, -45 dB @ 30 MHz, -30 dB @ 100 MHz
- 816, 168, 1616 models: -80 dB @ 1 MHz, -71 dB @ 5 MHz, -55 dB @ 10 MHz, -45 dB @ 30 MHz, -37 dB @ 100 MHz
- 1632, 3216, 3232 models: -90 dB @ 1 MHz, -76 dB @ 5 MHz, -72 dB @ 10 MHz, -60 dB @ 30 MHz, -50 dB @ 100 MHz

Switching speed

- 200 ms (max.)

**Video input — local**

Number/signal type

- 3, 4, or 6 analog RGBHV, RGBS, RGsB, RsGsBs, component video (bi-level and tri-level sync), S-video, composite video

Connectors

- 3, 4, or 6 female 15-pin HD

Nominal level

- 1 Vp-p for Y of component video and S-video, and for composite video
- 0.7 Vp-p for RGB and for R-Y and B-Y of component video
- 0.3 Vp-p for C of S-video

Impedance

- 75 ohms ±5%

Horizontal frequency

- 15 kHz to 130 kHz

Vertical frequency

- 30 Hz to 150 Hz

Return loss

- < -30 dB @ 5 MHz

DC offset (max. allowable)

- 250 mV

**Video input — main (see transmitters' output specifications)**

Number/signal type

- 8, 16, or 32 proprietary analog signals

Connectors

- 8, 16, or 32 (depending on configuration) female RJ-45 connectors

**Video output — local**

Number/signal type

- 1 or 2 analog RGBHV, RGBS, RGsB, RsGsBs, component video (bi-level and tri-level sync), S-video, composite video

Connectors

- 1 or 2 female 15-pin HD

Nominal level

- 0.7 Vp-p for RGB

Impedance

- 75 ohms ±10%

Return loss

- < -30 dB @ 5 MHz

DC offset

- < ±40 mV with input at 0 offset

**Video output — main (see receivers' input specifications)**

Number/signal type

- 8, 16, or 32 proprietary analog signals

Connectors

- 8, 16, or 32 (depending on configuration) female RJ-45 connectors

**Sync — local inputs and outputs only**

Input type

- RGBHV, RGBS, RGsB, RsGsBs

Output type

- See receiver specifications (on Web site).

Standards

- NTSC 3.58, NTSC 4.43, PAL, SECAM

Input level

- 3.5 V to 5.0 Vp-p, DC

Output level

- See receiver specifications (on Web site).
Specifications — MTPX Plus Series, cont’d

Input impedance .................. 611 ohms ±5%
Output impedance ................. 105 ohms ±30 ohms
Max. output voltage .............. =4.0 VDC with a 2k ohm load
Max. rise/fall time ............... 4 ns
Polarity ................................ Positive or negative

Audio
Routing
MTPX Plus 816..................... 8 x 16 mono matrix, 3 x 4 local
MTPX Plus 128..................... 12 x 8 mono matrix, 4 x 2 local
MTPX Plus 168..................... 16 x 8 mono matrix, 3 x 4 local
MTPX Plus 1616................... 16 x 16 mono matrix, 3 x 4 local
MTPX Plus 1632................... 16 x 32 mono matrix, 6 x 8 local
MTPX Plus 3216................... 32 x 16 mono matrix, 6 x 8 local
MTPX Plus 3232................... 32 x 32 mono matrix, 6 x 8 local
Gain (local inputs and outputs) .. Unbalanced output: 0 dB ±2 dB with a 600 ohm load, single ended
Balanced output: +6 dB ±2 dB with a 600 ohm load, single ended
Frequency response ................ 20 Hz to 20 kHz, ±1 dB
THD + Noise ....................... =0.15% @ 1 kHz at nominal level
S/N .................................. >70 dB at maximum output (unweighted)
CMRR ................................ >43 dB @ 20 Hz to 20 kHz

Audio input — local
Number/signal type ............... 3, 4, or 6 stereo, balanced/unbalanced
Connectors ........................ (3, 4, or 6) 3.5 mm captive screw connectors, 5 pole
Impedance .......................... >10k ohms unbalanced
Nominal level ...................... +4 dBu (1.23 Vrms), -10 dBV (316 mVrms)
Maximum level ..................... +18 dBu, (unbalanced) at 1% THD+N

NOTE 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

Audio input — main (see transmitters' output specifications)
Number/signal type ............... 8, 16, or 32 proprietary analog signals
Connectors ........................ 8, 16, or 32 (depending on configuration) female RJ-45 connectors

Audio output — local
Number/signal type ............... 2, 4, or 8 dual mono, balanced/unbalanced
Connectors ........................ (2, 4, or 8) 3.5 mm captive screw connectors, 5 pole
Impedance .......................... 50 ohms unbalanced, 100 ohms balanced ±10%
Gain error .......................... ±2 dB channel to channel
Maximum level (=10k ohms) ..... +16 dBu, balanced or unbalanced at 1% THD+N
Maximum level (600 ohm) ......... +15 dBm, balanced or unbalanced at 1% THD+N

Audio output — main (see receivers' input specifications)
Number/signal type ............... 8, 16, or 32 proprietary analog signals
Connectors ........................ 8, 16, or 32 (depending on configuration) female RJ-45 connectors

Control/remote — switcher host control
Serial host control ports
MTPX Plus 128..................... 1 RS-232, rear panel 3.5 mm captive screw connector, 3 pole
All other models .................. 1 RS-232 or RS-422, rear panel female 9-pin D connector
1 RS-232 front panel 2.5 mm mini stereo jack
Baud rate and protocol .................. 9600 baud (default), 19200, 38400, and 115200 (adjustable); 8 data bits; 1 stop bit; no parity

Serial control pin configurations

- 9-pin female D connector . RS-232: 2 = Tx, 3 = Rx, 5 = GND
  RS-422: 2 = Tx-, 3 = Rx-, 5 = GND, 7 = Rx+, 8 = Tx+
- Mini stereo jack ................. Tip = Tx, ring = Rx, sleeve = GND
- Captive screw connector . RS-232: 1 = Tx, 2 = Rx, 3 = GND

USB control ports

- MTPX Plus 128 .................. 1 front panel female mini USB B

USB standards

- MTPX Plus 128 .................. USB 2.0, low speed

Ethernet control port .................. 1 RJ-45 female connector

Ethernet data rate .................. 10/100Base-T, half/full duplex with autodetect

Ethernet protocol .................. ARP, ICMP (ping), IP, TCP, UDP, DHCP, HTTP, SMTP, Telnet

Default settings .................. Link speed and duplex level = autodetected
  IP address = 192.168.254.254
  Subnet mask = 255.255.0.0
  Gateway = 0.0.0.0
  DHCP = off

Web server .................. Up to 200 simultaneous sessions
  16 MB nonvolatile user memory

Program control .................. Extron control/configuration program for Windows®
  Extron Simple Instruction Set™ (SIS™)
  Microsoft® Internet Explorer® version 6 or higher, Telnet

Control/remote — external device (pass-through, unidirectional, or bidirectional)

Serial control ports .................. RS-232, 3.5 mm captive screw connectors, 3 pole

- 3232 and 1632 models ......... 16 connectors
- 3216, 1616, 128, and 816 models ...... 8 connectors
- 168 models .................. 4 connectors

Baud rate and protocol .................. Up to 38400 baud, 9600 baud (default); 5-8 data bits; 1 or 2 stop bits; odd, even, or no parity; XON, XOFF, or no flow control

NOTE  Protocol is mirrored between the switcher and the receiver.

Serial control pin configurations. 1 = Tx, 2 = Rx, 3 = GND

General

Recommended cable type ............ Shielded or unshielded CAT 5/5e/6/7 or
  Extron Enhanced Skew-Free™ A/V UTP

Power ............................. 100 VAC to 240 VAC, 50-60 Hz, internal
  1632, 3216, 3232 models .... 220 watts
  816, 168, 1616 models ...... 120 watts
  128 model .................. 73 watts

Temperature/humidity ............... Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing
  Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing

Cooling .......................... Fan, left to right (as viewed from the front panel)
Specifications — MTPX Plus Series, cont’d

Thermal dissipation

128 model
- 115 VAC, 60 Hz........ 231.1 BTU/hr
- 240 VAC, 50 Hz........ 223.8 BTU/hr

1616 model
- 115 VAC, 60 Hz........ 348.3 BTU/hr
- 240 VAC, 50 Hz........ 353.0 BTU/hr

3232 model
- 115 VAC, 60 Hz........ 607.1 BTU/hr
- 240 VAC, 50 Hz........ 595.3 BTU/hr

Rack mount.............................. Yes

Enclosure type .......................... Metal

Enclosure dimensions........ Depth excludes connectors, width excludes rack ears.
- 1632, 3216, 3232 models.... 5.25” H x 17.0” W x 9.4” D (3U high, full rack wide)
  (13.3 cm H x 43.1 cm W x 23.9 cm D)
- 816, 168, 1616 models..... 3.5” H x 17.0” W x 9.4” D (2U high, full rack wide)
  (8.9 cm H x 43.1 cm W x 23.9 cm D)
- 128 model ....................... 1.7” H x 17.4” W x 12.0” D (1U high, full rack wide)
  (4.3 cm H x 44.2 cm W x 30.5 cm D)

Product weight
- 1632, 3216, 3232 models.... 16.0 lbs (7.3 kg)
- 816, 168, 1616 models....... 8.5 lbs (3.9 kg)
- 128 model ....................... 3.7 lbs (1.6 kg)

Shipping weight
- 1632, 3216, 3232 models.... 26 lbs (11.8 kg)
- 816, 168, 1616 models....... 18 lbs (9 kg)
- 128 model ....................... 7 lbs (4 kg)

DIM weight (International)
- 1632, 3216, 3232 models.... 26 lbs (11.8 kg)
- 816, 168, 1616 models....... 18 lbs (9 kg)
- 128 model ....................... 7 lbs (4 kg)

Vibration............................. ISTA 1A in carton (International Safe Transit Association)

Regulatory compliance

Safety............................... CE, c-UL, UL

EMI/EMC ......................... CE, C-tick, FCC Class A, ICES, VCCI Class A

Environmental ................... Complies with the appropriate requirements of WEEE.

Warranty............................ 3 years parts and labor

**NOTE** All nominal levels are at ±10%.

**NOTE** Specifications are subject to change without notice.

7.6-021910-D16-112012