Specifications

SMX System MultiMatrix Switchers

Video — composite video (SMX 84/88/1616 V)

Routing	
SMX 84 V	8 x 4 matrix
SMX 88 V	8 x 8 matrix
SMX 1616 V	16 x 16 matrix
Gain	Unity
Bandwidth	150 MHz (-3 dB), fully loaded
Differential phase error	1.0° at 3.58 MHz and 4.43 MHz
Differential gain error	1.0% at 3.58 MHz and 4.43 MHz
Crosstalk	-60 dB @ 5 MHz
Switching speed	100 ms (max.)

Video input — composite video (SMX 84/88/1616 V)

Number/signal type	8 or 16 composite video, S/PDIF digital audio (not reclocked)
Connectors	8 or 16 female BNC
Nominal level	1 Vp-p for composite video
Minimum/maximum levels	Analog: 0.1 V to 2.0 Vp-p with no offset
Impedance	75 ohms
Return loss	<-40 dB @ 5 MHz
DC offset (max. allowable)	1.0 V

Video output — composite video (SMX 84/88/1616 V)

Number/signal type	4, 8, or 16 composite video, S/PDIF digital audio (not reclocked)
Connectors	4, 8, or 16 female BNC
Nominal level	1 Vp-p for composite video
Minimum/maximum levels	0.1 V to 2.0 Vp-p (follows input)
Impedance	75 ohms
Return loss	<-40 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset

Sync — composite video (SMX 84/88/1616 V)

Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM

Video — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Routing	
SMX 84 SV/YC	8 x 4 matrix
SMX 88 SV/YC	8 x 8 matrix
SMX 1616 SV/YC	16 x 16 matrix
Gain	Unity
Bandwidth	150 MHz (-3 dB), fully loaded
Differential phase error	1.0° at 3.58 MHz and 4.43 MHz
Differential gain error	1.0% at 3.58 MHz and 4.43 MHz
Crosstalk	-60 dB @ 5 MHz
Switching speed	100 ms (max.)

Video input — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Number/signal type	8 or 16 S-video, composite video
Connectors	
SMX 84/88/1616 SV	8 or 16 female 4-pin mini DIN
SMX 84/88/1616 YC	8 or 16 x 2 female BNC
Nominal level	1 Vp-p for Y S-video 0.3 Vp-p for C of S-video
Minimum/maximum levels	Analog: 0.1 V to 2.0 Vp-p with no offset
Impedance	75 ohms
Return loss	<-40 dB @ 5 MHz
DC offset (max. allowable)	1.0 V

Video output — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Number/signal type	4, 8, or 16 S-video, composite video
Connectors	
SMX 84/88/1616 SV	4, 8, or 16 female 4-pin mini DIN
SMX 84/88/1616 YC	4, 8, or 16 x 2 female BNC
Nominal level	1 Vp-p for Y S-video 0.3 Vp-p for C of S-video
Minimum/maximum levels	0.1 V to 2.0 Vp-p (follows input)
Impedance	75 ohms
Return loss	<-40 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset

Sync — S-video (SMX 84/88/1616 SV, SMX 84/88/1616 YC)

Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM

Video — wideband (SMX 84/88/1616 WB)

Routing	
SMX 84 WB	8 x 4 matrix
SMX 88 WB	8 x 8 matrix
SMX 1616 WB	16 x 16 matrix
Gain	Unity
Bandwidth	400 MHz (-3 dB), fully loaded
Crosstalk	
8x8	-82 dB @ 1 MHz, -72 dB @ 5 MHz, -68 dB @ 10 MHz, -61 dB @ 30 MHz, -53 dB @ 100 MHz
16x16	-74 dB @ 1 MHz, -64 dB @ 5 MHz, -56 dB @ 10 MHz, -48 dB @ 30 MHz, -38 dB @ 100 MHz
Switching speed	200 ms (max.)

Video input — wideband (SMX 84/88/1616 WB)

Number/signal type	8 or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video, S/PDIF digital audio (not reclocked)
Connectors	8 or 16 female BNC
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	Analog: 0.3 V to 1.5 Vp-p with no offset
Impedance	75 ohms
Horizontal frequency	15 kHz to 150 kHz
Vertical frequency	30 Hz to 150 Hz
Return loss	<-30 dB @ 5 MHz
DC offset (max. allowable)	1.0 V

Video output — wideband (SMX 84/88/1616 WB)

Number/signal type	4, 8, or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video, S/PDIF digital audio (not reclocked)
Connectors	4, 8, or 16 female BNC
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	0.3 V to 1.5 Vp-p (follows input)
Impedance	75 ohms
Return loss	<-30 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset
Switching type	Triple-Action

Sync — SMX 88 SYNC, SMX 88 H+V, SMX 1616 SYNC

Input type	
SMX 88 SYNC, SMX 1616 SYNC	Composite sync (S)
SMX 88 H+V	Separate H and V sync
Output type (follows input)	
SMX 88 SYNC, SMX 1616 SYNC	Composite sync (S)
SMX 88 H+V	Separate H and V sync
Input level	0.5 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.0 V to 5.0 V p-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Horizontal frequency	15 kHz to 150 kHz
Vertical frequency	30 Hz to 150 Hz
Max. propagation delay	35 ns
Max. rise/fall time	4 ns
Polarity	Positive or negative (follows input)

Video — VGA (SMX 84/88/1616 VGA)

Routing	
SMX 84 VGA	8 x 4 matrix
SMX 88 VGA	8 x 8 matrix
SMX 1616 VGA	16 x 16 matrix
Gain	Unity
Bandwidth	350 MHz (-3 dB), fully loaded
Crosstalk	
8x8	-82 dB @ 1 MHz, -72 dB @ 5 MHz, -68 dB @ 10 MHz, -61 dB @ 30 MHz, -53 dB @ 100 MHz
16x16	-74 dB @ 1 MHz, -64 dB @ 5 MHz, -56 dB @ 10 MHz, -48 dB @ 30 MHz, -38 dB @ 100 MHz
Switching speed	200 ms (max.)

Video input — VGA (SMX 84/88/1616 VGA)

Number/signal type	8 or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video
Connectors	8 or 16 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	Analog: 0.3 V to 1.5 Vp-p with no offset
Impedance	75 ohms
Horizontal frequency	15 kHz to 150 kHz
Vertical frequency	30 Hz to 150 Hz
Return loss	<-36 dB @ 5 MHz
DC offset (max. allowable)	1.0 V

Video output — VGA (SMX 84/88/1616 VGA)

Number/signal type	4, 8, or 16 VGA-QXGA RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video
Connectors	4, 8, or 16 female 15-pin HD
Nominal level	0.7 Vp-p for RGB
Minimum/maximum levels	0.3 V to 1.5 Vp-p (follows input)
Impedance	75 ohms
Return loss	<-36 dB @ 5 MHz
DC offset	±6 mV with input at 0 offset
Switching type	Triple-Action

Sync — VGA (SMX 84/88/1616 VGA)

Input type	RGBHV, RGBS, RGsB, RsGsBs
Output type	RGBHV, RGBS, RGsB, RsGsBs (follows input)
Input level	0.5 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.0 V to 5.0 V p-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Horizontal frequency	15 kHz to 150 kHz
Vertical frequency	30 Hz to 150 Hz
Max. propagation delay	40 ns
Max. rise/fall time	18 ns
Polarity	Positive or negative (follows input)

Digital video — SMX 44/84/88/1616 SDI

Routing	
SMX 44 HD SDI	4 x 4 matrix
SMX 84 HD SDI	8 x 4 matrix
SMX 88 3G-SDI	8 x 8 matrix
SMX 1616 3G-SDI	16 x 16 matrix
Gain	Unity
Maximum data rate	2.97 Gbps
Data types	8 or 10 bit
Operation standards	
4x4, 8x4	SMPTE 292M, SMPTE 259M, ITU-RBT.601, ITU-RBT.1120
8x8, 16x16	SMPTE 292M, SMPTE 259M, SMPTE 424M, ITU-RBT.601, ITU-RBT.1120

Digital video input — SMX 44/84/88/1616 SDI

Number/signal type	4, 8, or 16 single-link SDI, HD-SDI, 3G-SDI; or dual-link HD-SDI
Connectors	4, 8, or 16 female BNC
Nominal level	0.80 Vp-p ± 10%
Impedance	75 ohms
Return loss	<-15 dB @ 1 MHz to 1.5 GHz <-10 dB @ 1.5 GHz to 3.0 GHz
Equalization	Automatic
Input cable equalization distance	
HD-SDI, 3G-SDI	
Extron SHR, Belden 1694A cable	500' (152 m)
Extron HR, Belden 1505A cable	400' (122 m)
SDI	
Extron SHR, Belden 1694A cable	750' (229 m)
Extron HR, Belden 1505A cable	550' (168 m)

NOTE: The transmission distance varies depending on the signal resolution and on the type of cable, graphics card, and display used in the system.

Digital video output — SMX 44/84/88/1616 SDI

Number/signal type	4, 8, or 16 single-link SDI, HD-SDI, 3G-SDI; or dual-link HD-SDI
Connectors	4, 8, or 16 female BNC
Nominal level	0.80 Vp-p ± 10%
Impedance	75 ohms
Return loss	<-15 dB @ 1 MHz to 1.5 GHz <-10 dB @ 1.5 GHz to 3.0 GHz
DC offset	±0.5 V with input at 0 offset
Re-clocking	Automatic, or use available bypass mode for nonstandard rates
Jitter	<0.2 UI
Rise/fall time (20-80%)	
SDI	700 ps ±100 ps
HD-SDI	250 ps ±100 ps
3G-SDI	110 ps ±30 ps

Video — SMX 44/48/84/88 DVI

NOTE: *Appropriate DVI-D-to-HDMI cables or adapters are required for HDMI signal input/output.

Routing	
SMX 44 DVI	4 x 4 matrix
SMX 48 DVI	4 x 8 matrix
SMX 84 DVI	8 x 4 matrix
SMX 88 DVI	8 x 8 matrix
Gain	Unity
Maximum data rate	4.95 Gbps (1.65 Gbps per color)
Maximum pixel clock	165 MHz
Resolution range	Up to 1920x1200 @ 48, 50, or 60 Hz; or 1080p @ 60 Hz
Signal type	Single-link DVI digital video signals are supported.
Digital video	RGB digital video (DVI standards), actively buffered (supports all single link DVI standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)

NOTE: These SMX DVI Series boards support TMDS data rates up to 4.95 Gbps and are not HDCP compliant.

NOTE: These SMX DVI Series boards are not compatible with HDMI 1.3.

Digital audio	Embedded audio from HDMI sources can be passed, as long as it is not HDCP encrypted content
Consumer Electronics Control (CEC)	Not supported
EDID and DDC	Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.
HDCP	Not supported
HPD	Supports hot plug detection (HPD) of display as a pass-through signal.
Standards	DVI 1.0, HDMI 1.2
Switching speed	200 ns, max.

Video input — SMX 44/48/84/88 DVI

Number/signal type	4 or 8 (depending on model) digital RGB single-link DVI-D (or HDMI*)
Connectors	4 or 8 female DVI-I
Equalization	Automatic
Input cable length	>100' (30 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p; 8 bit color

NOTE: The transmission distance varies depending on the signal resolution and on the type of cable, graphics card, and display used in the system.

Video output — SMX 44/48/84/88 DVI

Number/signal type	4 or 8 (depending on model) digital RGB single-link DVI-D (or HDMI*)
Connectors	4 or 8 female DVI-I
Re-clocking	Automatic
Peripheral device power	250 mA per output

Video — SMX 44/48/84/88 DVI PRO

NOTE: *Appropriate DVI-D to HDMI cables or adapters are required for HDMI signal input/output.

Routing

SMX 44 DVI PRO	4 x 4 matrix
SMX 48 DVI PRO	4 x 8 matrix
SMX 84 DVI PRO	8 x 4 matrix
SMX 88 DVI PRO	8 x 8 matrix
Gain	Unity
Resolution range	Up to 1080p (HDTV) or 1920x1200 (the highest resolution of the single link DVI standard) @ 60 Hz
Signal type	Single-link DVI digital video signals are supported.
Digital video	RGB digital video (DVI and HDMI standards) or Y, Cr, Cb digital component video (HDMI), actively buffered (supports all single link DVI and HDMI (if using an optional adapter) standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)

NOTE: The SMX DVI PRO Series boards support TMDS data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D**, HD lossless audio, and other HDMI 1.3 specification features.

**Extron strongly recommends compatibility testing while designing, and before installing any 3D system. There are several unique 3D formats in use by source devices and display manufacturers. The level of 3D product support is governed by pixel clock, signal format, and communication between source and sink devices. Please contact an Extron Application Engineer for more information.

Digital audio	Supports HDMI audio (if using an HDMI to DVI adapter) transmitted through the RGB and Y, Cr, Cb lines, actively buffered.
Consumer Electronics Control (CEC)	Not supported
EDID and DDC	Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.
HDCP	Compliant with High-bandwidth Digital Content Protection (HDCP) using DVI and HDMI 1.3 standards
HPD	Supports hot plug detection (HPD) of display as a pass-through signal.
Maximum data rate	6.75 Gbps (2.25 Gbps per color)
Maximum pixel clock	165 MHz
Standards	DVI 1.0, HDMI 1.3
Switching speed	200 ns, max.

Video input — SMX 44/48/84/88 DVI PRO

Number/signal type	4 or 8 (depending on model) digital RGB single link DVI-D (or HDMI*)
Connectors	4 or 8 female DVI-I (digital only)
Equalization	Automatic
Input cable length	>100' (30 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p; 8 bit color

NOTE: The transmission distance varies depending on the signal resolution and on the type of cable, graphics card, and display used in the system.

Video output — SMX 44/48/84/88 DVI PRO

Number/signal type..... 4 or 8 (depending on model) digital RGB single link DVI-D (or HDMI*)
Connectors..... 4 or 8 female DVI-I (digital only)
Re-clocking..... Automatic
Peripheral device power..... 250 mA per output

Video — SMX 44/48/84/88 HDMI

NOTE: *Appropriate HDMI to DVI-D cables or adapters are required for DVI signal input/output.

Routing
- SMX 44 HDMI ..... 4 x 4 matrix
- SMX 48 HDMI ..... 4 x 8 matrix
- SMX 84 HDMI ..... 8 x 4 matrix
- SMX 88 HDMI ..... 8 x 8 matrix

Gain..... Unity
Resolution range..... Up to 1920x1200 or 1080p @ 60 Hz
Signal type..... Single-link HDMI (or DVI-D*)
- Digital video..... RGB digital video (DVI and HDMI standards) or Y, Cr, Cb digital component video (HDMI), actively buffered (supports all single-link DVI (if using an optional adapter) and HDMI standards from 640x480 @ 60 Hz to 1600x1200 @ 60 Hz computer video)

NOTE: The SMX HDMI Series boards support TMDS data rates up to 6.75 Gbps, Deep Color up to 12-bit, 3D**, HD lossless audio, and other HDMI 1.3 specification features.

**Extron strongly recommends compatibility testing while designing, and before installing any 3D system. There are several unique 3D formats in use by source devices and display manufacturers. The level of 3D product support is governed by pixel clock, signal format, and communication between source and sink devices. Please contact an Extron Application Engineer for more information.

- Digital audio..... Supports HDMI audio transmitted through the RGB and Y, Cr, Cb lines, actively buffered.
- Consumer Electronics Control (CEC) Not supported
- EDID and DDC ..... Supports Extended Display Identification Data (EDID) and Display Data Channel (DDC) data using DVI and HDMI standards. EDID and DDC signals are actively buffered.
- HDCP..... Compliant with High-bandwidth Digital Content Protection (HDCP) using DVI and HDMI 1.3 standards
- HPD ..... Supports hot plug detection (HPD) of display as a pass-through signal.

Maximum data rate..... 6.75 Gbps (2.25 Gbps per color)
Maximum pixel clock..... 165 MHz
Standards..... DVI 1.0, HDMI 1.3
Switching speed ..... 200 ns, max.

Video input — SMX 44/48/84/88 HDMI

Number/signal type..... 4 or 8 (depending on model) digital RGB single-link HDMI (or DVI-D*)
Connectors..... 4 or 8 female HDMI type A
Equalization ..... Automatic
Input cable length ..... >100' (30 m) at 1920x1200 @ 48, 50, or 60 Hz; or 1080p; 8 bit color

NOTE: The transmission distance varies depending on the signal resolution and on the type of cable, graphics card, and display used in the system.

Video output — SMX 44/48/84/88 HDMI

Number/signal type..... 4 or 8 (depending on model) digital RGB single-link HDMI (or DVI-D*)
Connectors..... 4 or 8 female HDMI type A
Re-clocking..... Automatic
Peripheral device power..... 250 mA per output

Optical specifications — SMX 88/1616 FOX Fiber Optic I/O board

NOTE: The fiber optic I/O cards are class 1 laser products. They meet the safety regulations of IEC-60825.

Number/type..... 8 or 16 singlemode, or 8 or 16 multimode fiber optic inputs and outputs per I/O board

NOTE: Only one fiber is required to transmit video, audio, and unidirectional data. A second fiber is required to transmit return data for bidirectional control/communication.

Connectors..... 16 or 32 LC connectors per I/O board

Operating distance

- Singlemode..... 30 km (18.75 miles) with singlemode (SM) cables with an Extron singlemode distribution amplifier or Tx/Rx unit
- Multimode..... 300 m (985') with 62.5 µm multimode (MM) cables with an Extron multimode distribution amplifier or Tx/Rx unit
  1 km (3280') with 50 µm multimode (MM) cables with an Extron multimode distribution amplifier or Tx/Rx unit
  2 km (6561') with 50 µm 2000 MHz bandwidth laser multimode cable with an Extron multimode distribution amplifier or Tx/Rx unit

NOTE: Operating distance is approximate. These are typical distances. The maximum distance may be greater than these typical numbers depending on factors such as fiber type, fiber bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks.

Nominal peak wavelength..... 850 nm for multimode (MM), 1310 nm for singlemode (SM)

Transmission power

- Singlemode..... -5 dBm, typical
- Multimode..... -5 dBm, typical

Optical loss budget

- Singlemode..... 12 dB, maximum
- Multimode..... 7 dB, maximum

Maximum channel data rate..... 4.25 Gbps

Video — SMX 88/1616 FOX

Routing..... 8 x 8 or 16 x 16 unidirectional (Tx) matrix *or*
4 x 4 or 8 x 8 bidirectional (Tx/Rx) matrix

Gain..... Unity

Pixel data bit depth..... 8 bits per channel, 3 channels (R, G, B)

Video/audio input — SMX 88/1616 FOX

Number/signal type..... 8 or 16 fiber optic signals

Connectors..... 8 or 16 LC connectors per I/O board

NOTE: Input comes from an Extron fiber optic transmitter or fiber optic distribution amplifier.

Video/audio output — SMX 88/1616 FOX

Number/signal type..... 8 or 16 fiber optic signals

Connectors..... 8 or 16 LC connectors per I/O board

NOTE: Output connects to an Extron fiber optic receiver.

USB — SMX 44/84 USB

USB specification..... USB 2.0 compatible

USB data rates..... Low speed (1.5 Mbps), full speed (12 Mbps), high speed (480 Mbps)

USB input — SMX 44/84 USB

Connectors..... 4 or 8 female USB type B

USB output — SMX 44/84 USB

Connectors..... 8 female USB type A

Audio — SMX 84/88/1616A (analog)

Routing	
SMX 84 A	8 x 4 stereo matrix
SMX 88 A	8 x 8 stereo matrix
SMX 1616 A	16 x 16 stereo matrix
Gain	Unbalanced output: -6 dB; balanced output 0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal level
S/N	>102 dB at maximum output (21 dBu, unweighted) (balanced)
Crosstalk	<-95 dB @ 1 kHz, fully loaded
Stereo channel separation	>98 dB @ 1 kHz
CMRR	>70 dB @ 20 Hz to 20 kHz

Audio input — SMX 84/88/1616 A (analog)

Number/signal type	8 or 16 stereo, balanced/unbalanced
Connectors	(8 or 16) 3.5 mm captive screw connector, 5 pole
Impedance	>10k ohms unbalanced/balanced, DC coupled
Nominal level	0 dBu (0.775 Vrms)
Maximum level	+19.5 dBu, (balanced or unbalanced) at 1% THD+N
Input gain adjustment	–18 dB to +24 dB, adjustable per input; default = 0 dB

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

Audio output — SMX 84/88/1616 A (analog)

Number/signal type	4, 8, or 16 stereo, balanced/unbalanced
Connectors	(8 or 16) 3.5 mm captive screw connector, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.1 dB channel to channel
Maximum level (Hi-Z)	>+21 dBu, balanced or unbalanced at 0.1% THD+N
Maximum level (600 ohm)	>+15 dBm, balanced or unbalanced at 0.1% THD+N
Volume control range	-76 dB to 0 dB (volume numbers 0 through 64) in a 35 dB increment from step 0 to step 1, then in 1 dB increments from steps 1 to 64; default = 64 (0 dB)

NOTE: Attenuation = volume number minus 64. The default is 0 dB = volume number 64.

Control/remote — switcher host ports

Serial host control port	1 bidirectional RS-232 or RS-422, rear panel female 9-pin D connector 1 bidirectional RS-232 front panel 2.5 mm mini stereo jack
Baud rate and protocol	9600 (default), 19200, 38400, 115200 baud (rear port only), 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	
RS-232	Tip = Tx, ring = Rx, sleeve = Gnd
Ethernet control port	1 female RJ-45
Ethernet data rate (for network communication)	10/100Base-T, half/full duplex with autodetect
Ethernet protocol	ARP, ICMP (ping), IP, TCP, DHCP, HTTP, SMTP, Telnet
Ethernet default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Default gateway = 0.0.0.0 DHCP = off

Web server	Up to 200 simultaneous sessions 7.0 MB nonvolatile user memory
Program control	Extron control/configuration program for Windows® Extron Simple Instruction Set™ (SIS™) Microsoft® Internet Explorer® ver. 6 or higher, Telnet

General

Power supply	Internal, with or without redundant power supply Input: 100-240 VAC, 50-60 Hz
Power consumption	15.0 to 180 watts, depending on configuration
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 front panel)
Thermal dissipation, full load	50 to 620 BTU/hr, depending on configuration
Mounting	
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	(Depth excludes connectors. Width excludes rack ears.)
SMX 200 Frame	3.5" H x 17.0" W x 12.0" D (2U high, full rack wide) (8.9 cm H x 43.1 cm W x 30.5 cm D)
SMX 300 Frame	5.25" H x 17.0" W x 12" D (3U high, full rack wide) (13.3 cm H x 43.2 cm W x 30.5 cm D)
SMX 400 Frame	7.0" H x 17.0" W x 12" D (4U high, full rack wide) (17.8 cm H x 43.2 cm W x 30.5 cm D)
SMX 500 Frame	8.75" H x 17.0" W x 12" D (5U high, full rack wide) (22.2 cm H x 43.2 cm W x 30.5 cm D)
Product weight with boards installed	
SMX 200 Frame	16.2 lbs (7.3 kg)
SMX 300 Frame	18.1 lbs (8.2 kg)
SMX 400 Frame	20.3 lbs (9.2 kg)
SMX 500 Frame	23.9 lbs (10.8 kg)
Shipping weight with boards installed	
SMX 200 Frame	20 lbs (10 kg)
SMX 300 Frame	22 lbs (10 kg)
SMX 400 Frame	26 lbs (12 kg)
SMX 500 Frame	30 lbs (14 kg)
Shipping weight of individual boards, if purchased separately	
SMX 88 FOX	2 lbs (1 kg)
SMX 1616 FOX	3 lbs (2 kg)
DIM weight	
SMX 400 Frame	30 lbs (14 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, KCC, VCCI
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

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