Specifications — Fiber Matrix 6400

NOTE *The Fiber Matrix 6400 fiber optic I/O boards are class 1 laser products. They meet the safety regulations of IEC-60825, FDA 21, CFR 1040.10, and FDA 21 CFR 1040.11.*

Optical specifications

Number/type ..... 8 singlemode or 8 multimode fiber optic inputs and outputs per I/O boa d

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 ..... 8 LC connectors per I/O board

Operating distance

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

NOTE *Operating distance is approximate. These are typical maximum distances that may vary 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

Maximum receiver sensitivity

- Singlemode..... -18 dBm, typical
- Multimode..... -12 dBm, typical

Optical loss budget

- Singlemode..... 13 dB, maximum
- Multimode..... 7 dB, maximum

Maximum channel data rate..... 4.25 Gbps

Video

Routing ..... 8 x 8 up to 64 x 64 unidirectional (Tx) matrix *or*
4 x 4 up to 32 x 32 bidirectional (Tx/Rx) matrix

Gain ..... Unity

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

Video/audio input

Number/signal type..... 8 to 64 fiber optic signal

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

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

Video/audio output

Number/signal type..... 8 to 64 fiber optic signal

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

NOTE *Output connects to an Extron fiber optic receiver.*

Specifications — Fiber Matrix 6400, cont'd

Digital video — 3G HD-SDI I/O board (multi-rate SDI)

Routing ..... 8 x 8 matrix per I/O card, up to 64 x 64
Gain ..... Unity
Maximum data rate..... 2.97 Gbps
Data types..... 8 or 10 bit
Operation standards ..... SMPTE 292M, SMPTE 259M, SMPTE 424M, ITU-RBT.601, ITU-RBT.1120

Digital video input — 3G HD-SDI I/O board (multi-rate SDI)

Number/signal type..... 8 single link SDI, HD-SDI, or 3 Gbps HD-SDI
Connectors ..... 8 female BNC
Nominal level ..... 0.80 Vp-p ±10%
Impedance..... 75 ohms
Return loss..... <-15 dB @ 1 MHz to 1.5 GHz
Equalization ..... Automatic
Input cable equalization distance
HD-SDI
Extron SHR, Belden 1694A cable
492' (150 m)
Extron HR, Belden 1505A cable
328' (100 m)
SDI
Extron SHR, Belden 1694A cable
984' (300 m)
Extron HR, Belden 1505A cable
656' (200 m)

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

Digital video output — 3G HD-SDI I/O board (multi-rate SDI)

Number/signal type..... 8 single link SDI, HD-SDI, or 3Gbps HD-SDI
Connectors ..... 8 female BNC
Nominal level ..... 0.80 Vp-p ±10%
Return loss..... <-15 dB @ 1 HHz to 1.5 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 VI
Rise/fall time (20-80%)
SDI..... 700 ps ±100 ps
HD-SDI ..... 250 ps ±100 ps

Control/remote — switcher

Serial control port..... 1 bidirectional RS-232 or RS-422, female 9-pin D connector (rear panel)
1 bidirectional RS-232, 2.5 mm mini stereo jack (front panel)
Baud rate and protocol..... 9600 to 115200 baud, 9600 baud (default), 8 data bits, 1 stop bit, no parity
Serial control pin configuration
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 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 3 MB nonvolatile user memory
Program control	Extron control/configuration p ogram for Windows® Extron Simple Instruction Set (SIS™) Microsoft® Internet Explorer ver. 6 or higher, Telnet

General

Power*	2 (positive-negative), 100 VAC to 240 VAC, 50-60 Hz; internal Enclosure without boards: 35 watts at 115 VAC, 60 Hz Enclosure fully loaded with 8 boards: 115 watts at 115 VAC, 60 Hz Each module board: 10 watts at 115 VAC, 60 Hz *A redundant power supply is standard.
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, right to left (as viewed from front panel)
Mounting	
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	12.25" H x 17.0" W x 12.25" D (7U high, full rack wide) (31.1 cm H x 43.1 cm W x 31.1 cm D) (Depth excludes connectors and front handles. Width excludes rack ears.)
Product weight (fully loaded)	35.8 lbs (16.2 kg)
Shipping weight	43 lbs (20 kg)
DIM weight	
USA/Canada	146 lbs (63 kg)
International	171 lbs (78 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
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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