ARCHITECTURAL SPECIFICATIONS
Voyager Fiber Optic Matrix
VG-Matrix 160 and/or 48
(HDCP compliant - HDMI, DVI, VGA, Component, Composite, S-Video, Audio, RS232 Control, USB, Output Video Scaling Fiber Optic Switch**)**

DESIGN

- Digital Media Switcher shall include a 3 year warranty with system support for 3 years after discontinuance of the product.
- Digital Media Switcher shall provide end-to-end distribution of analog and digital audio with embedding or de-embedding, plus video including Analog (VGA, component, S-Video, composite), HDMI, DVI w/ HDCP, RS232 control, and USB 2.0. Digital Media Switchers that do not provide end-to-end distribution of analog and digital audio with embedding or de-embedding, plus video including Analog (VGA, component, S-Video, composite), HDMI, DVI w/ HDCP, RS232 control, and USB 2.0 shall not be accepted.
- Digital Media Switcher must independently route USB, Video, Audio and RS232. Digital Media Switchers that do not independently route USB, Video, Audio and RS232 shall not be accepted.
- Digital Media Switcher shall provide the ability to reassign any fiber port as an input or an output upon initial configuration and on the fly via GUI, or 3rd party control. Digital Media switchers which do not provide this functionality will not be accepted.
- Digital Media Switcher shall be able to support any arrangement of up to 20 hot-swappable I/O cards, where hot-swappable SFPs can be changed between Singlemode and Multimode in any port on every I/O card. Digital Media Switchers that do not support any arrangement of these hot-swappable boards shall not be accepted.
- Digital Media Switcher shall include at least one (1) 1-Gbps Ethernet link port. Digital Media Switchers that do not include at least one (1) 1-Gbps Ethernet link port shall not be accepted.
- Digital Media Switcher must support the following distances based on various fiber optic cabling; OM1: 1640ft (500m), OM2: 2200ft (670m), OM3: 3300 (1km), OM4: 6600ft (2km), OS1 18.6miles (30km) Digital Media Switchers that do not support these fiber optic cable specific distances shall not be accepted.
- Digital Media Switcher must support Single or Dual LC terminated fiber with 62.5 or 50 micron core diameter Multimode fiber with 125 micron outer diameter and 9 micron core diameter Singlemode fiber with 125 micron outer diameter with any port on any I/O card. Digital Media Switchers which are not capable of accepting this type of fiber without changing I/O cards will not be accepted.
- Digital Media Switcher must have built in true redundant and hot-swappable power supplies. Digital Media Switchers that do not have built in true redundant and hot-swappable power supplies shall not be accepted.
- Digital Media Switcher must support beyond 2000 ports by adding and cascading matrix frames, providing a full matrix which can expand and grow without removing any hardware. Digital Media Switchers that do not have the ability to expand beyond 2000 ports will not be considered.
- Digital Media Switcher must include a hot-swappable fan tray assembly. Digital Media Switchers that do not include a hot-swappable fan tray assembly shall not be accepted.
- Digital Media Switcher shall include the capacity 6.25Gbps of data per port. Digital Media Switchers that do not include the capacity of 6.25Gbps per port shall not be accepted.
- Fiber Transmitters must have either 2 or 4 ports for fiber all ports must be able to utilize MM or SM SFPs. Any Transmitters that do not have 2 or 4 configurable ports will not be accepted.
- Fiber Transmitters must work as a Distribution Amplifier allowing 1 video input to be distributed to all 2 or 4 fiber ports. Transmitters that do not function as a DA will not be accepted

- Fiber Receivers must have either 2 or 4 ports for fiber all ports must be able to utilize MM or SM SFPs. Any Receivers that do not have 2 or 4 configurable ports will not be accepted.
- Fiber Receivers must function as an auto sensing and auto switching switch. Allowing for any active video on any of the 2 or 4 ports to be switched to, or controlled to be switched. Any Receivers that do not function as auto sensing auto switching switches will not be accepted
- Fiber Receivers must be able to daisy chain via fiber. Allowing the fiber signal to re-clock and thus be sent full distance before needing to be re-clocked again. Any Fiber receivers unable to daisy chain and re-clock signals will not be accepted.
- Fiber Receivers containing 4 fiber ports must be able to be configured to have any permutation of 4, ie 1 in 3 out, 2 in 2 out etc. Any Fiber receivers unable to be configured in this way, will not be accepted.
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PROGRAMMING

- Compatible Voyager Input/Output Cards for VG-Matrix 160 and/or 48
  - Matrix-I/O HDCP/RS-232, 8 fiber port Duplex Card (2211089-01)
  - Matrix-I/O, 8x8 fiber port Simplex Card (2211088-01)
  - TSC-VG160 Touch Screen Control for VG-Matrix 160 (2330003-01)
- Compatible Voyager Modules:

2310001-01	VG-TX2-MM HDMI	2-port transmitter with HDMI (HDCP); One MMF SFP Included
2310006-01	VG-TX2-MM HDMI-ISA	2-port transmitter with HDMI (HDCP), Audio & RS-232; One MMF SFP Included
2310002-01	VG-TX2-MM DVI	2-port transmitter with DVI (HDCP); One MMF SFP Included
2310007-01	VG-TX2-MM DVI-ISA	2-port transmitter with DVI (HDCP), Audio & RS-232; One MMF SFP Included
2310003-01	VG-TX2-MM-VGA	2-port transmitter with VGA/S-Video/YUV/C; One MMF SFP Included
2310008-01	VG-TX2-MM-VGA-ISA	2-port transmitter with VGA/S-Video/YUV/C; Audio & RS-232; One MMF SFP Included
2310005-01	VG-TX2-MM ISA	2-port transmitter with Audio & RS-232(No Video); One MMF SFP Included
2310011-01	VG-TX4-MM HDMI	4-port transmitter w/HDMI (HDCP); Two MMF SFPs Included
2310016-01	VG-TX4-MM HDMI-ISA	4-port transmitter with HDMI (HDCP), Audio & RS-232; Two MMF SFPs Included
2310012-01	VG-TX4-MM DVI	4-port transmitter with DVI (HDCP); Two MMF SFPs Included
2310017-01	VG-TX4-MM DVI-ISA	4-port transmitter with DVI (HDCP), Audio & RS-232; Two MMF SFPs Included
2310013-01	VG-TX4-MM VGA	4-port transmitter with VGA/S-Video/YUV/C; Two MMF SFPs Included
2310018-01	VG-TX4-MM VGA-ISA	4-port transmitter with VGA/S-Video/YUV/C; Audio & RS-232; Two MMF SFPs Included
2310015-01	VG-TX4-MM ISA	4-port transmitter with Audio & RS-232(No Video); Two MMF SFPs Included
2320001-01	VG-RX-MM HDMI	2-Port receiver with HDMI (HDCP); One MMF SFP Included
2320007-01	VG-RX-MM HDMI-ISA	2-Port receiver with HDMI (HDCP), Audio & RS-232; One MMF SFP Included
2320002-01	VG-RX2-MM SRX HDMI	2-port receiver with scaling HDMI; One MMF SFP included
2320008-01	VG-RX2-MM SRX-ISA HDMI	2-port receiver with scaling HDMI, Audio & RS-232; One MMF SFP included
2320003-01	VG-RX-MM DVI	2-Port receiver with DVI (HDCP); One MMF SFP Included
2320009-01	VG-RX-MM DVI-ISA	2-Port receiver with DVI (HDCP), Audio & RS-232; One MMF SFP Included
2320006-01	VG-RX2-MM ISA	2-port receiver with Audio & RS-232 (No Video); One MMF SFP Included
2320011-01	VG-RX4-MM HDMI	4-Port receiver with HDMI (HDCP); Two MMF SFPs Included
2320017-01	VG-RX4-MM HDMI-ISA	4-Port receiver with HDMI (HDCP), Audio & RS-232; Two MMF SFPs Included
2320012-01	VG-RX4-MM SRX HDMI	4-port receiver with scaling HDMI; Two MMF SFPs Included
2320018-01	VG-RX4-MM SRX-ISA HDMI	4-port receiver with scaling HDMI, Audio & RS-232; Two MMF SFPs Included
2320013-01	VG-RX4-MM DVI	4-Port receiver with DVI (HDCP); Two MMF SFPs Included
2320019-01	VG-RX4-MM DVI-ISA	4-Port receiver with DVI (HDCP), Audio & RS-232; Two MMF SFPs Included
2320016-01	VG-RX4-MM ISA	4-port receiver with Audio & RS-232 (No Video); Two MMF SFPs Included

2211108-01	CFS-HDMI-TX2	Compact 2-port TX, HDMI (HDCP), Audio & RS-232: One MMF SFP Included
2211110-01	CFS-HDMI-RX2	Compact 2-port RX, HDMI (HDCP), Audio & RS-232: One MMF SFP Included
2211111-01	CF-18 Chassis	Compact Format chassis. Holds & powers 18 CF Transmitter cards in 4U
2211107-01	CF-HDMI-TX2	CARD - 2-port TX, HDMI (HDCP), Audio & RS-232: Requires CF-18 chassis One MMF SFP Included
2211109-01	CF-HDMI-RX2	CARD - 2-Port RX, HDMI (HDCP), Audio & RS-232: Requires CF-18 chassis One MMF SFP Included
2350500-MM	UDM-USB-KIT-MM	1 CPU and 1 Remote 4 port hub; Two MM SFP, One PSU and One USB A to B cable included – Simplex I/O Card required for VG-Matrix support
2350500-SM	UDM-USB-KIT-SM	1 CPU and 1 Remote 4 port hub; Two SM SFP, One PSU and One USB A to B cable included – Simplex I/O Card required for VG-Matrix support
2350101-MM	UDM-USB-CPU-MM	CPU/Local USB Transceiver; One MMF SFP and One USB A to B cable Included – Simplex I/O card required for VG-Matrix support
2350101-SM	UDM-USB-CPU-SM	CPU/Local USB Transceiver; One SMF SFP and One USB A to B cable Included – Simplex I/O card required for VG-Matrix support
2350201-MM	UDM-USB-REM-MM	Remote USB 4 port hub Transceiver; One MMF SFP and One PSU Included – Simplex I/O card required for VG-Matrix support
2350201-SM	UDM-USB-REM-SM	Remote USB 4 port hub Transceiver; One SMF SFP and One PSU Included – Simplex I/O card required for VG-Matrix support

TECHNICAL SPECIFICATIONS

ITEM	DESCRIPTION
Fiber Optic Cable Required	LC-terminated, fiber-optic cables **When using multi-mode SFP optic modules:** Compatible with standard OM1 through OM4-grade (and better) cables. **When using single-mode SFP optic modules:** Compatible with standard OS1, OS2-grade (and better) cables.
Compliance	CE, FCC Part 15 Class A, C-Tick, cTUVus, RoHS
Serial Characteristics	**Default Serial Format**: 9600 baud rate, no parity, 8 data bits, 1 stop bit (9600,n,8,1) **Available Baud Rates:** 2400, 4800, 9600, 19200, 38400, 57600, 115200, 230400 **Available Data Formats:** 7- or 8-bit ASCII (high bit is forced to 0) **Available Parity Bits:** Odd, even, none, mark, space **Available Stop Bits:** 1, 1.5, 2, none Available Handshaking: None
Connectors	**USB (Host):** 3, Type “A” (if Touchscreen PC option is installed) **USB (Device):** 1 Type, “B” **Serial:** 3, DB-9F (plus 1, DB-9M if Touchscreen PC option is installed) **LAN:** 1, RJ-45 (plus 1, RJ-45 if Touchscreen PC option is installed) **Alarm Relay:** 3-pin Phoenix **160-Port I/O:** Up to 160 SFP Transceiver Modules (Duplex LC Connector). **48-Port I/O:** Up to 48 SFP Transceiver Modules (Duplex LC Connector).
Temperature Tolerance	**Operating:** 32 to 104°F (0 to 40°C); **Storage:** -4 to +140°F (-20 to +60°C)
Humidity Tolerance	Up to 80% noncondensing
Air Filter	Recommended service interval: 30 days
Enclosure Type	**Front Panel:** Powder coat over aluminum **Enclosure:** Aluminum
Power	110 - 240VAC, 50/60Hz, 9A per Power Supply Module 2 independent fully-redundant AC Mains inputs
Power Consumption	760 watts maximum (fully populated chassis)
BTU	2593 BTU/hr
Size	**160-Port:** 15.75" H x 19.0" W x 16.9" D (40 cm H x 48.3 cm W x 43 cm D) **48-Port:** 8.75” H x 19.0” W x 16.9” D (22.23 cm H x 48.3 cm W x 43 cm D)
Weight	**160-Port:** 50.0 lb. (22.7 kg) maximum (depends on configuration) **48-Port:** 27.0 lb (12.2 kg) maximum (depends on configuration)
MTBF	100,000 hours
Rack Mount	**160-Port:** Standard, 9 RU x 19” EIA **48-Port:** Standard, 5 RU x 19” EIA