

Features

- All optical non-blocking 48x48 matrix switch
- High density compact 1RU chassis
- Ultra-low insertion loss and superior optical specifications
- Fully bidirectional optics
- Protocol and bit-rate agnostic up to 100Gbps and beyond
- Optional output optical power monitoring and protection switching
- Supports single and mixed-format signals: TDM, CWDM and DWDM
- Dual redundant power and network interface cards
- Built-in user-friendly web GUI interface and network management tools
- Optional optical power monitoring w/alarms
- Protocol and bit-rate agnostic up to 100Gbps and beyond
- Supports all video and audio formats: AES SMPTE, ASI/DVB, NTSC, PaL, QaM
- Analog RF fiber switching
- Near-zero signal latency
- Fully bidirectional optics
- Optional optical signal power monitoring
- Seamless integration with today's routing infrastructure
- Eco-friendly with very low power consumption

Applications

- Broadcast & transmission facilities
- Sports venues
- Outside broadcast vehicles
- Cross-campus networks
- Post-production
- Satellite uplink management



A true Optical-to-Optical switch eliminates fiber patch panels, making it easy to re-route any fiber optic path, including one-way and bi-directional camera, audio, and data/ethernet streams.

TROUBLE-FREE OPTICAL ROUTING

The LightningSwitch all-optical routing switch uses highly reliable piezoelectric DirectLight beam-steering technology that sets the industry standard for low optical loss and high optical performance.

ALL-OPTICAL SWITCHING ADVANTAGES

The LightningSwitch helps to maximize the benefits of fiber routing in a broadcast infrastructure because its all-optical switch core does not use any Optical-to-Electrical-to-Optical (OEO) conversions and is format and bit-rate independent.

MULTIPLEXED & BIDIRECTIONAL SIGNALS

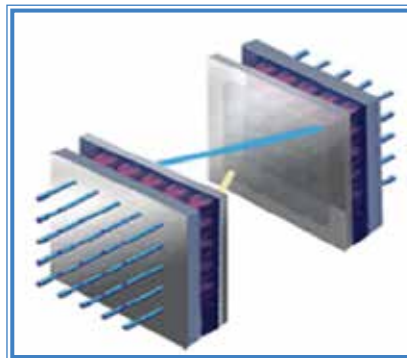
The LightningSwitch can route one-way and bi-directional optical signals that are multiplexed via TDM, CWDM and DWDM technologies with line speeds from below 1.5Gbps to 100Gbps and beyond. This means that any combination of cameras, audio paths and other broadcast gear can be combined onto a single optical crosspoint.

INDIVIDUAL SIGNALS

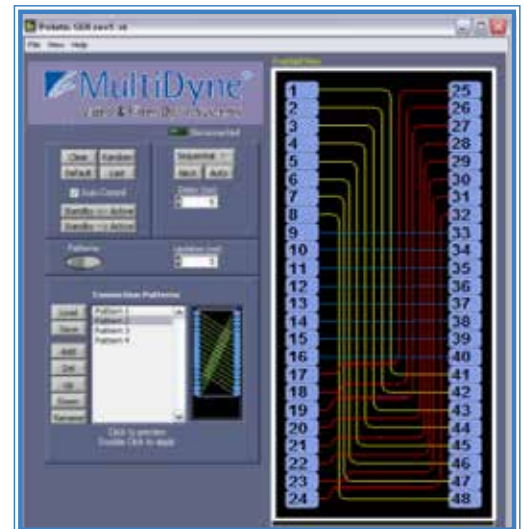
LightningSwitch is capable of handling any individual optical audio and video signal, whether analog or digital. The LightningSwitch series supports all protocols and feed rates— AES, SMPTE-276M, 259M, 292M, 424, ASI/DVB, NTSC, PAL, QAM, MADI, and others. With virtually zero signal latency, there is no need to re-clock or re-sync incoming signals and unlike electrical routing, no jitter is accumulated through multiple switches.

EASY TO CONFIGURE

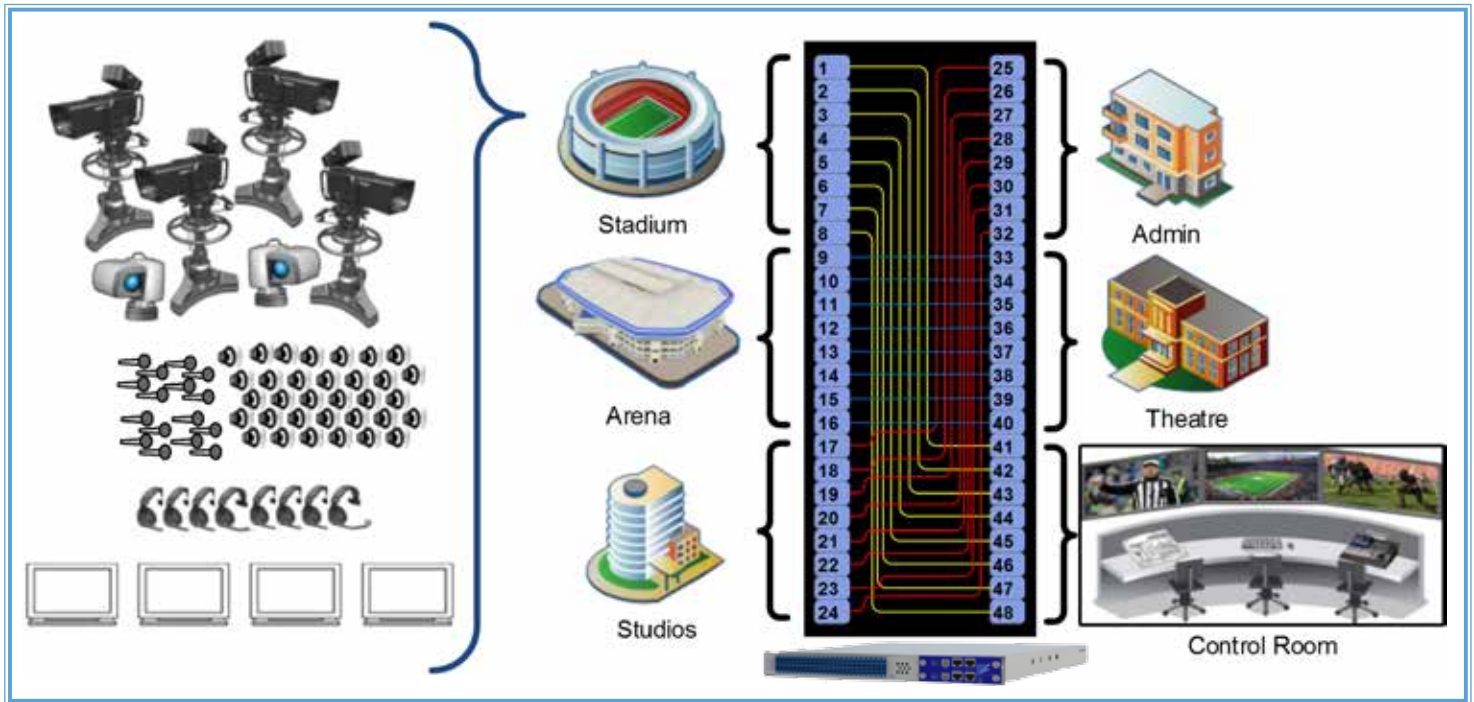
LightningSwitch integrates seamlessly with the existing routing infrastructures and standard broadcast architectures. It supports the popular protocols such as SNMP, TL1 and SCPI command languages for integration with a wide range of management systems. Each switch comes with a user-friendly HTML web browser interface that can be used to setup, monitor and control it. In addition, the switch software can be easily upgraded in the field without affecting in-service operations. These features enable LightningSwitch to be integrated as part of an end-to-end optical solution, or within existing infrastructure using Optical-to-Electrical (OE) converters.



The Lightning Switch's beam-steering technology insures minimum loss optical connections.



The built-in GUI makes it easy to configure the routing paths, or quickly call up previously stored patterns.



ROUTE MULTIPLE VENUES TO ONE CONTROL ROOM

LightningSwitch makes it easy to route all of the fiber optic signals between a control room and multiple venues and/or camera locations with the push of a button.

Specifications

Maximum Matrix Switch Size (NxN)	48x48
Typical Insertion Loss	1.2dB
Maximum Insertion Loss ¹	2.2dB
Maximum Insertion Loss with single OPM	2.8dB
Loss Repeatability	+/-0.1dB
Connection Stability	+/-0.1dB
Dark Fiber Switching	Yes
Bi-Direction Optics	Yes
Max Switching Time	25ms
Polarization Dependent Loss (PDL)	<0.1dB (C+L Bands)
	<0.3dB with optional OPM (1510-1610nm)
Crosstalk	<-50dB
Operating Wavelength Range	1260-1675nm
	1510-1610nm with optional OPMs
Wavelength Dependent Loss (WDL)	<0.3 dB (C+L Band)
Return Loss (with APC connectors)	>50dB
Optional Optical Power Monitoring (OPM)	
	Wavelength range 1510-1610nm
	Dynamic range -25dBm to +24dBm
	Accuracy +/-1.0dBm
Maximum Optical Input Power	+27dBm
	+24dBm with optional OPMs

Switch Lifetime	>10 ⁸ Cycles
Operating Temperature	+10°C to +40°C
	<85% RH non-condensing
Storage Temperature	-40°C to +70°C
	<40% RH non-condensing

Electrical and Mechanical

Fiber Type	Single Mode
Single Fiber Connectors	LC-HD Connectors
	Angled or straight connectors types available
Array Connector Types	MTP-8 (MPX Elite) Array Connectors
Control Languages	OpenFlow, TL1, SCPI & HTML
User Interfaces	RJ45 Dual Ethernet 10/100 Base T and USB
Craft Interface	RS232 Serial or RJ45 Ethernet 10/100 Base T
Power options	Hot Swappable Dual Redun 100-240 VAC 50/60 Hz
	Hot Swappable Dual Redundant -48 VDC
Power Consumption	25W
Fiber Connector	LC or MTP
Size (HxWxD)	1RU x 19" x 22"

All parameters are measured excluding connectors at 1550nm and 20°C with an unpolarized source after thermal equalization unless otherwise noted.

1. Measured using the 3 patch-cord method as defined in ANSI/TIA/EIA-526-7-1998