

# THE FUTURE OF AV EXTENSION AND SWITCHING



## Magenta's Voyager Fiber Optic Signal Distribution Platform

is an interoperable set of transmitters, receivers and matrix switchers. When combined together, these components enable a virtually limitless variety of end to end configurations for the distribution of uncompressed video, audio and RS-232 signals over fiber. Designed to deliver exceptional high resolution image quality and 24/7 reliability, the Voyager series offers advanced functionality and usability for digital signage and ProAV systems integration.

- Mix and match numerous video formats with auto format conversion
- Integrate multiple signal types, including video, audio and serial
- Configure, interchange or upgrade video & auxiliary signal types in the field
- Cost effectively extend all signals over industry standard fiber
- Mix and "manage" protected vs. unprotected content (HDCP)

**magenta**

MAGENTA RESEARCH

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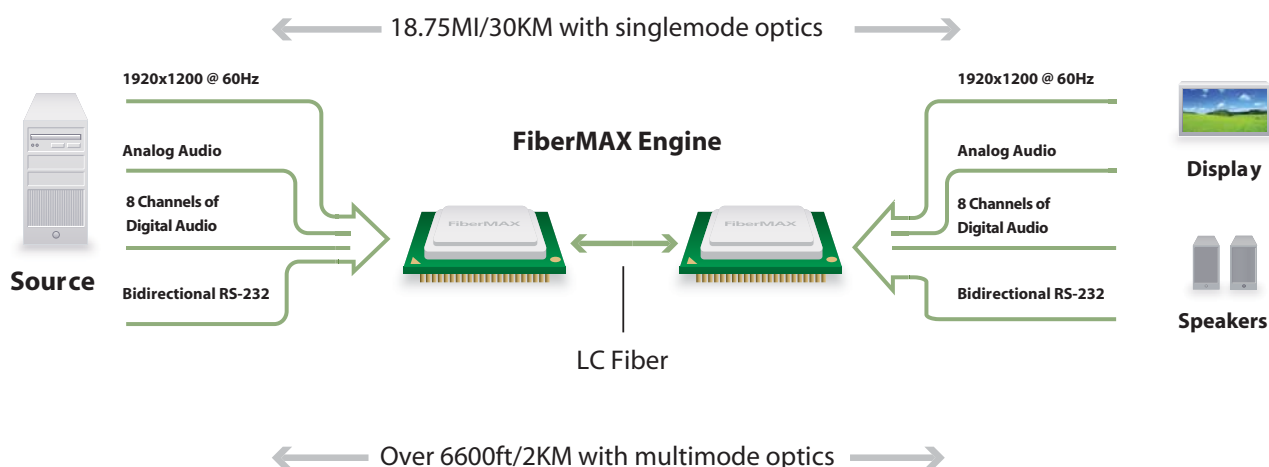
  
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The ProAV and Digital Signage industries have been screaming for a cost effective solution to simplify the integration of digital and analog signals into a single platform that supports HDCP, is easy to scale, configure and install, and cost-effective.

Innovative engineering and design from Magenta Research has resulted in unique new technologies that allow old barriers to be broken and new frontiers of solutions to be reached.

### FiberMax Engine

The backbone of Magenta's Voyager platform, FiberMax is an ultra high-speed data sequencing and streaming engine capable of driving standard SFP optics at maximum efficiency. The resulting benefit is the unique capability of simultaneously transmitting uncompressed 1920x1200 video with HDCP at 60Hz, 8-Channel 24-bit DTS-HD Master Audio, and bidirectional RS-232, all on industry standard SFP optics and cabling.

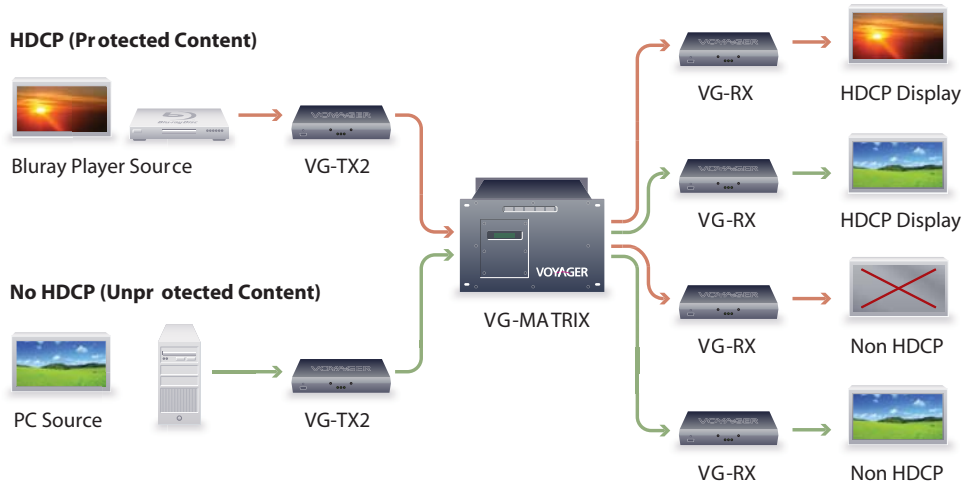


# VOYAGER

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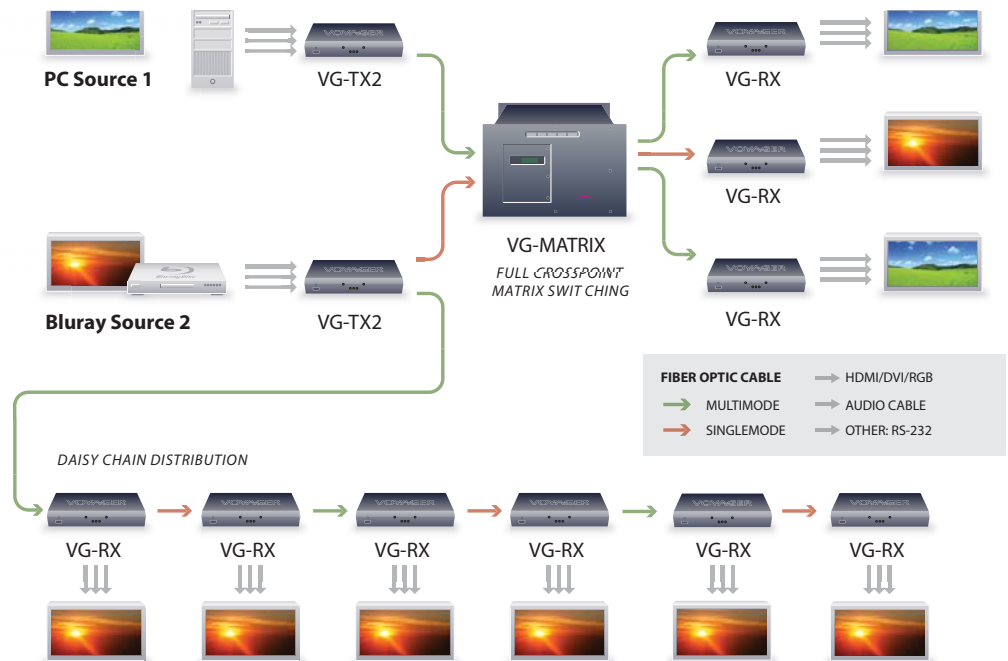
### Advanced HDCP and EDID Management

Whether distributing one source to several displays, or within full crosspoint matrix switching environments, Magenta's Voyager series offers seamless management of HDCP and EDID between devices.



### Interoperable, Modular and Scalable

The Voyager series offers a comprehensive set of interoperable building block components to enable any application requirement with virtually infinite configuration possibilities. These include multi-port transmitters, daisychain receivers with input switching support, distribution amplifiers and small to large scale full crosspoint matrix switchers. Being modular and scalable, Voyager installations are field configurable and field upgradable.



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The Voyager series uses a modular building block approach to deliver hundreds of different product configurations with numerous video and auxiliary signal types, fiber types and component types.

TYPE	NAME	CONFIGURATIONS	DISTANCE OPTIONS
Transmitters	VG-TX2	2-port	Multimode Optics 6600ft/2Km
Receivers	VG-RX	Daisy-chain, 2x1 Switch	
Matrix Switchers	VG-Matrix 48x	8x8 – 64x64	Singlemode Optics 18.75 miles/ 30Km
	VG-Matrix 160x	8x8 – 160x160	

The Core module determines the building block component type such as transmitter or receiver. The Video module determines the video format while the optional Auxiliary module determines the supported auxiliary signal types. Both plug easily into the Core module to deliver numerous video and auxiliary signal combinations. These are summarized below.

	TRANSMITTERS	RECEIVERS	
Core Modules	VG-TX2	VG-RX MM	VG-RX SM
Configuration	2-port	Daisy-chain	
Fiber Type (Max Distance)	Receiver Dependent	Multimode (>6600ft/2Km)	Singlemode (18.75miles/30Km)
VIDEO SIGNAL OPTION MODULES			
HDMI, DVI, (HDCP)	TX-HDMI	RX-HDMI	
HDMI, DVI, (w/o HDCP)	TX-DVI	RX-DVI	
VGA, YPbPr, Composite, Y/C	TX-VGA		
AUXILIARY SIGNAL OPTION MODULES <sup>1</sup>			
Audio, RS-232	TX/RX-ISA	TX/RX-ISA	

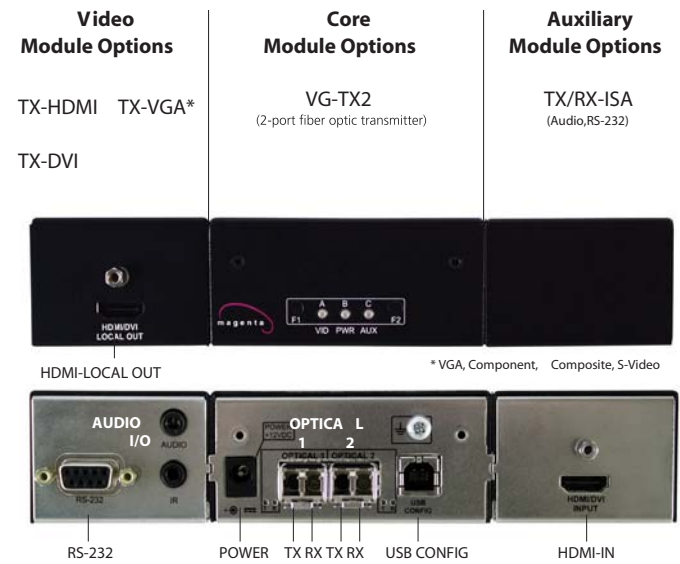
## Key Features

- Fully interoperable fiber extension, distribution & switching platform for AV
- Uncompressed multi-format digital & analog video at 1920x1200
- Multi-format audio & RS-232 Auto format conversion between video & audio signal types
- FiberMAX Engine for high bandwidth, multi-signal transmission on standard SFP optics
- Range of up to 6600ft/2KM (multimode) and 18.75MI/30KM (singlemode)
- Modular Flex-VCA architecture for field upgradability & interchangeability of signal types
- Advanced EDID management and HDCP compliance
- Magenta quality and reliability for 24/7 operation

## Other Features

- Real-time status LED indicators
- Rack-mount and wall-mount support
- Industry standard LC connectors
- Locking power connectors (optional)
- ESD protection
- Audio gain, attenuation adjustment and muting capability

## Voyager VG-TX 2-port Optic Transmitters



VG-TX 4 HDMI-ISA Shown (HDMI with Audio, RS-232)

The Voyager VG-TX is a high performance transmitter for short or long haul transmission of uncompressed hi-definition video, audio and RS-232 control signals over fiber optic cabling. Multi-port fiber outputs enable multi-point distribution capability.

## Key Features

- Two duplex fiber output ports (VG-TX2)
- Uncompressed multi-format video at 1920x1200
- Multi-format audio and RS-232
- Auto format conversion between video & audio signal types
- Distance range of up to 18.75MI/30KM determined by receiver
- Singlemode or multimode fiber support
- Advanced EDID management and HDCP compliance

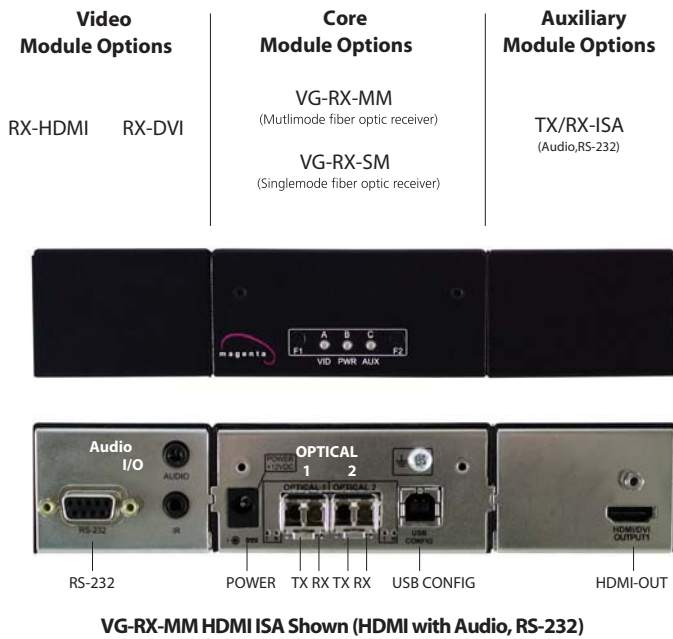
## Available Configurations

VG-TX transmitters are available in numerous combinations of video and auxiliary signal types. Each VG-TX transmitter consists of a core module (VG-TX2), a choice of video modules (HDMI, DVI, VGA) and an optional auxiliary module for other signal types (audio, RS-232).

## Modes of Operation

- |  |  |
|--|--|
| <b>Simplex mode</b><br>One strand LC fiber   | <b>Duplex mode</b><br>Two strands (duplex) LC fiber  |
| <ul style="list-style-type: none"> <li>Video (without HDCP)</li> <li>Audio, unidirectional RS-232</li> <li>Daisy-chain output support (RX only)</li> </ul> | <ul style="list-style-type: none"> <li>Video (with HDCP)</li> <li>Audio, bidirectional RS-232</li> <li>Daisy-chaining</li> </ul> |

## Voyager VG-RX Fiber Optic Receivers with Daisy-chain and Input Switching



The Voyager VG-RX is a high performance receiver for short or long haul transmission of uncompressed hi-definition video, audio and RS-232 control signals over fiber optic cabling. The VG-RX offers built-in full-duplex daisy-chaining capability and dual-input switching capability.

### Key Features

- Singlemode or multimode fiber (VG-RX-SM, VG-RX-MM)
- Uncompressed multi-format video at 1920x1200
- Multi-format audio & RS-232
- Daisy-chain capability with full bidirectional signal support
- Advanced EDID management and HDCP compliance

### Available Configurations

Voyager VG-RX receivers are available in numerous combinations of video and auxiliary signal types. Each VG-RX receiver consists of a core module (VG-RX-MM, VG-RX-SM), a choice of video modules (HDMI, DVI) and an optional auxiliary module for other signal types (audio, RS-232).

### Distance Range

- Multimode (VG-RX-MM): 1640ft/500m (OM1), 2200ft/671m (OM2), 3300ft/1KM (OM3), 6600ft/2KM (OM4)
- Singlemode (VG-RX-SM): 2.5MI/4KM and 18.75MI/30KM (4KM and 30KM optics available from Magenta)

*\*Maximum fiber distance is limited by optical dB loss of system infrastructure*



### Auxiliary Option Modules

Interchangeable Plug & Play Modules for Audio & RS-232

Magenta's innovative Flex-VCA architecture also allows each Voyager transmitter and receiver to support a wide variety of auxiliary signal types through plug and play field interchangeable modules. With the unique FiberMAX engine, all auxiliary signal types can be simultaneously transmitted at full bandwidth with hi-definition video over fiber reducing the need for additional extenders and cabling.

AUXILIARY OPTION MODULE	BIDIRECTIONAL RS-232	ANALOG AUDIO IN (TX); AUDIO OUT (RX)
TX/RX ISA	✓	✓

### Video Option Modules

Interchangeable Plug & Play Modules for Analog and Digital Video Formats

Magenta's innovative Flex-VCA architecture allows each Voyager transmitter and receiver to support a wide variety of video formats through plug and play field interchangeable modules. With built in auto format conversion, sources and displays of all supported video types can be interconnected on the same network without the need for external converters, thereby reducing both cost and the number of potential failure points. The ability to configure and change video types in the field greatly increases the flexibility in specification, procurement, installation and troubleshooting.

VIDEO MODULE	VIDEO IN (TX) VIDEO OUT (RX)	LOCAL OUT (TX) DUAL OUT (RX)
TX-HDMI	HDMI/DVI/ (HDCP)	✓ (with HDCP)
TX-DVI	HDMI/DVI/ (HDCP)	✓ (HDCP)
TX-VGA	VGA, Composite, Component, S-Video	✓
RX-HDMI	HDMI/DVI/ (HDCP)	—
RX-DVI	HDMI/DVI/ (no HDCP)	—



## Voyager VG-Matrix Fiber Optic Matrix Switchers

Each configured Voyager transmitter and receiver is also compatible with all Voyager series matrix switchers. The VG-Matrix series delivers a modular and scalable full crosspoint matrix switching platform which can be field configured in increments of 8 inputs and/or outputs up to a maximum of 160x160. Fiber I/O cards connect seamlessly to the fiber inputs or outputs of Voyager transmitters and receivers delivering matrix switching and long distance extension in one platform. *Switch sizes larger than 160x160 are available, please contact Magenta for details.*

### Key Features

- Full-matrix crosspoint switching
- Modular & scalable from 8x8 to 160x160
- Uncompressed multi-format digital & analog video at 1920x1200
- Multi-format audio & RS-232
- Auto format conversion between video & audio signal types
- Mixed singlemode and multimode fiber support
- Advanced EDID management and full HDCP compliance
- Redundant, hot swappable power supplies with dual AC inputs
- In duplex mode, each port on the 8-port I/O card can be used as an input or output, delivering a *fully flexible system* capable of 1x7, 2x6, 3x5, 4x4, 5x3, 6x2 or 7x1 configuration per card.

### Distance Range

- Multimode: 1640ft/500m (OM1), 2200ft/671m (OM2), 3300ft/1KM (OM3), 6600ft/2KM (OM4)
- Singlemode: 2.5MI/4KM and 18.75MI/30KM (4KM and 30KM optics available from Magenta)

*\*Maximum fiber distance is limited by optical dB loss of system infrastructure*

### Modes of Operation

- Simplex: Requires only one LC Fiber Video (without auto DDC and HDCP), Audio and Unidirectional RS-232
- Duplex: Requires duplex LC fiber (two strands) Video (with auto DDC and HDCP), Audio and Bidirectional RS-232

	VG-MATRIX 48X	VG-MATRIX 160X
Configuration (simplex mode)	8x8 - 48x48	8x8 - 160x160
Configuration (duplex mode)	I+O = 8 - 48 (5x3, 30x18)	I+O = 8 - 160 (2x6, 100x60)
I/O Granularity (simplex mode)	8 x 8 increments	
I/O Granularity (duplex mode)	I+O = 8 (e.g. 0x8, 1x7, 2x6, 3x5, 4x4, 5x3, 6x2, 7x1, 8x0)	
Input / Output	Fiber I/O, Fiber I/O with HDCP	



**Voyager CF-18: Holds up to 18 Voyager transmitter or receivers**



**Voyager VG-Matrix 160x shown with optional integrated touch-screen controller (front) and fully populated (rear)**



**Voyager VG-Matrix 48x front and rear**

## Voyager CF-18 Rack Mountable Tx/Rx Cage

Designed for applications requiring a large amount of Voyager transmitters or receivers to be densely packed into a small space, the Voyager CF-18 holds up to 18 Voyager CF transmitter or receiver units. Made to fit into a 19" rack, the CF-18 also eliminates the need for separate power supplies, powering all enclosed units with its backplane. Save installation time and space with the Voyager CF-18.