



## GBOX: GBX-F-HDMI-VGA 4K UHD Multimedia Transport over Fiber



### GBOX Series Features

- Supports resolutions from HD 1080p to 4K/UHD 3840x2160/30Hz
- HDMI units extend HDMI 1.4b (true HDCP) and support HEAC (HDMI / Ethernet / Audio Return Channel / Control)
- Supports legacy VGA and Component devices
- Supports remote KVM with USB-HID (for keyboard / mouse)
- Optional USB 2.0
- Supports bidirectional Stereo Analog Audio
- Supports control via CEC, IR, bi-directional RS-232, and 10/100 Ethernet
- 10.3 Gbps optics: multimode fiber up to 0.3 km (1000 ft) or singlemode fiber up to 10 km (6 mi)

### Applications

- Digital Signage / Remote Kiosks
- Command & Control
- Live Events
- Video Conferencing
- Houses of Worship
- Auditoriums
- KVM Extension

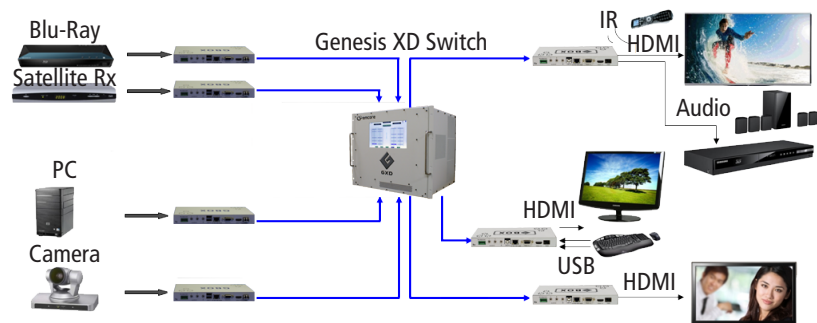
### 4K UHD Multimedia Transport

EMCORE's new GBOX Series provides multimedia transport of video over Fiber, CATx/HDBaseT and IP with H.264 encoding / decoding, along with audio, data, and remote KVM functionality, up to 3840x2160/30Hz. GBOX transmitters and receivers can be used as point-to-point fiber links or can be connected through our new Genesis XD Matrix Switch, an all-in-one converting, switching, routing and distribution solution for point-to-multipoint applications.

The first of the GBOX series, GBX-F-HDMI-VGA, shown here, is a single fiber extender that supports two auto-detecting video interfaces: HDMI 1.4b for digital video sources with Audio Return Channel (ARC), Ethernet and CEC, as well as VGA & Component video for legacy analog sources. The GBX-F-HDMI-VGA offers separate stereo analog, 10/100 Ethernet, bi-directional RS-232, CEC and IR support. The fiber SFP+ port handles up to 10 Gbps over multimode fiber up to 300 meters, or singlemode fiber up to 10 km. Transmitter and receiver units are sold separately, and an external power supply is included.

The GBOX Series are rugged tabletop or wall-mountable units designed for connectivity and support for any short or long distance 4K UHD multimedia or KVM application and, when connected through the Genesis XD, virtually unlimited topologies are possible.

### Point-to-Multipoint Applications



# GBOX: GBX-F-HDMI-VGA

## 4K UHD Multimedia Transport over Fiber

### Models

Transmitter	Receiver
GBX-F-HDMI-VGA-XMT-XX/XX-LC	GBX-F-HDMI-VGA-RCV-XX/XX-LC

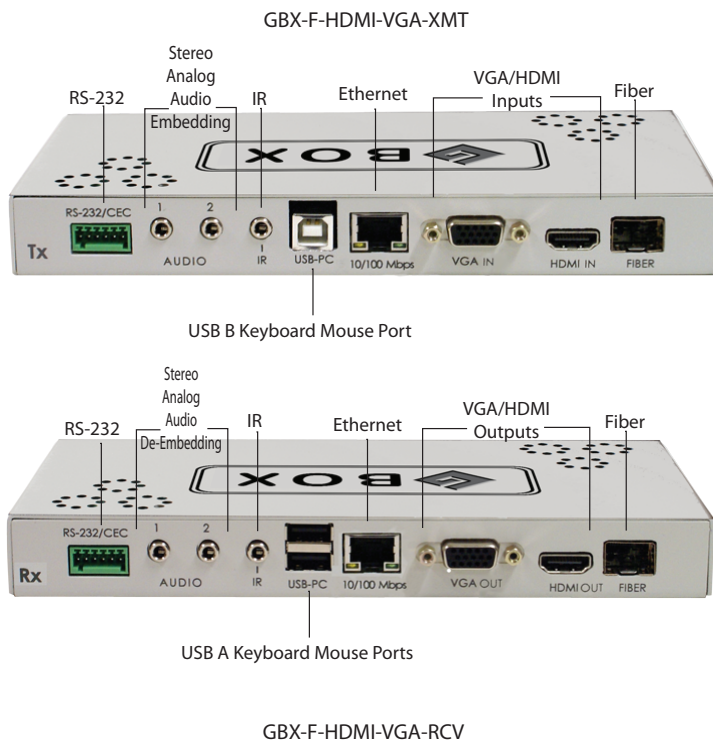
- When ordering replace "XXXX" with one of the Optical Codes
- Chromatic dispersion as well as other losses should also be taken into account
- Stated distances are the maximum range, shorter distance may require attenuation
- Standard connection type is UPC

### Duplex Optical Specifications: 10.3 Gbps / 2K4K / UHD

Optical Code "XX/XX"	Fiber Type / Number	Wavelength (nm)	Min. Output Power (dBm)	Rx Sensitivity (dBm)	Optical Budget (db)	Distance (km)	Connector
F0/F0	MM/2	850	-7.3	-11.1	4	0.3	LC (Dual)
F2/F2	SM/2	1310	-8.2	-12.5	4	10	LC (Dual)
L4x6/L4x6*	SM/1	1270 & 1330 (CWDM)	-7.2	-13.6	6.4	10	LC (Dual)

- 10.3 Gbps "F" optics supports 2K4K/UHD up to 2560x1600/60Hz and 3840x2160/30Hz
- \*Use "XXXX" as is for ordering transmitter models but reverse for ordering receiver model
- When ordering CWDM, replace "x" in the Optical Code L4x6 with A (1270 nm) or D (1330 nm)

### Connection Diagram



### Video

Specifications	Values
Inputs/Outputs	HDMI 1.4b, VGA
HDCP Compliance	V1.2
EDID	Plug & Play
Color Depth	24-bit
Max Resolutions Supported	VGA/Component: 1920x1080p HDMI: 3840x2160/30Hz

Video Format	Pixel Clock Frequency
720x480p@59.94/60Hz	27/27.027MHz
1280x720p@59.94/60Hz	74.175/74.25MHz
1920x1080i@59.94/60Hz	74.175/74.25MHz
1920x1080p@59.94/60Hz	148.35/148.50MHz
720x576p@50Hz	27MHz
720(1440)x576i@50Hz	27MHz
1280x720p@50Hz	74.25MHz
1920x1080i@50Hz	74.25MHz
1920x1080p@50Hz	148.5MHz
3840x2160@30Hz	297MHz

### Audio

Specifications	Values
Audio Inputs	2ch Stereo Analog Audio
Audio Outputs	2ch Stereo Analog Audio

### Data & Control

Specifications	Values
USB	USB-HID, USB 2.0 optional
USB Connector	TX: 1x USB type B RX: 2x USB type A
IRD	Uni-directional IR
IR connector	3.5mm
RS-232 connector	Terminal block
Ethernet	10/100

### General

Specifications	Values
Dimensions (each box)	8.1" x 4" x 1"
Weight (each box)	4 oz.
Operating Temperature	0° to +50°C
Storage Temperature	-30°C to +85°C
Humidity	0 to 95% (non-condensing)
Power Consumption	~6 Watts
Power Supply Voltage	12V
Warranty	3 Years

### Compliance (Pending)

