XTENDEX® Series

ST-FOUSB4K18GB-LC

HDMI over Fiber Extender
4K HDMI & USB/IR/RS232 Fiber Extender with Optical Transceiver

Transmitter   **Receiver**

Introduction

ST-FOUSB4K-18GB-LC is an Optical HDMI Extender (XTENDEX) that overcomes the length restriction of standard HDMI cables by using duplex single mode optical fiber to send high definition audio and video signals over distances of up to 2km. It also supports USB extension for KVM applications requiring keyboard and mouse. Using built-in selection switches, you can choose to 1) extend RS232 , 2) extend an IR remote control or 3) extend keyboard and mouse functions from a PC.   When extending RS232 you can transfer RS232 (up to 115kbps) in both directions, allowing you to connect serial devices such as touch screens and barcode scanners.

Features
- Supports 4K@60hz (18Gbps) 4:4:4 8bits, High Dynamic Range (HDR).
- Supports HDMI 2.0/HDCP 2.2.
- IR/RS232/USB extension selection.
    - Support IR Remote Control
    - Support Bi-directional RS232 signal.
    - USB keyboard and mouse.
- Uses plug in SFP+ 10 Gig module.
- Package includes pre-installed 10G SFP+ 2KM single mode optical transceiver x 2 units.
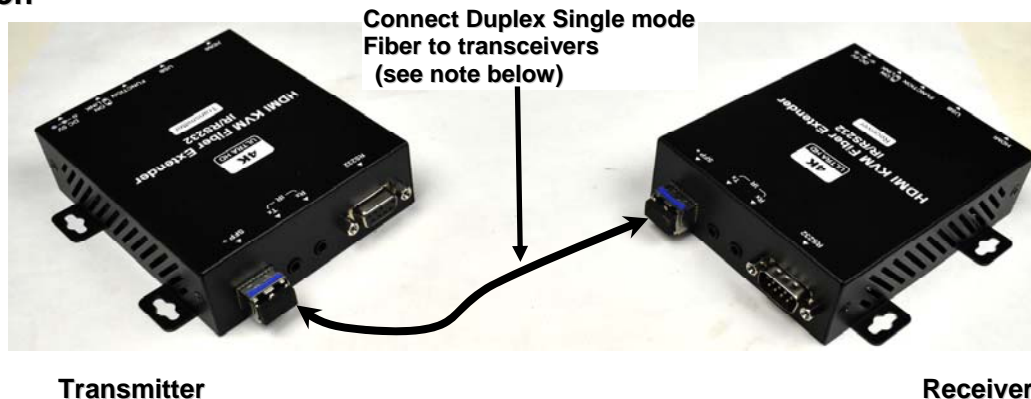
Materials Supplied:
- ST-FOUSB4K18GB-LC XTENDEX Transmitter x 1
- ST-FOUSB4K18GB-LC XTENDEX Receiver   x 1
- 10G SFP+ 2KM single mode optical transceiver x 2 (These are **Pre-installed**)
- 100-240VAC 50/60Hz: 5VDC 2A AC Adapter x 2
- IR Emitter cable x 1
- IR Receiver cable x 1
- URL Slip with path to this manual

Caution:
1.   For best performance, see table on page four for recommended cables.
2.   Do not position the IR Emitter and Receiver cables too closely to avoid interference with each other.
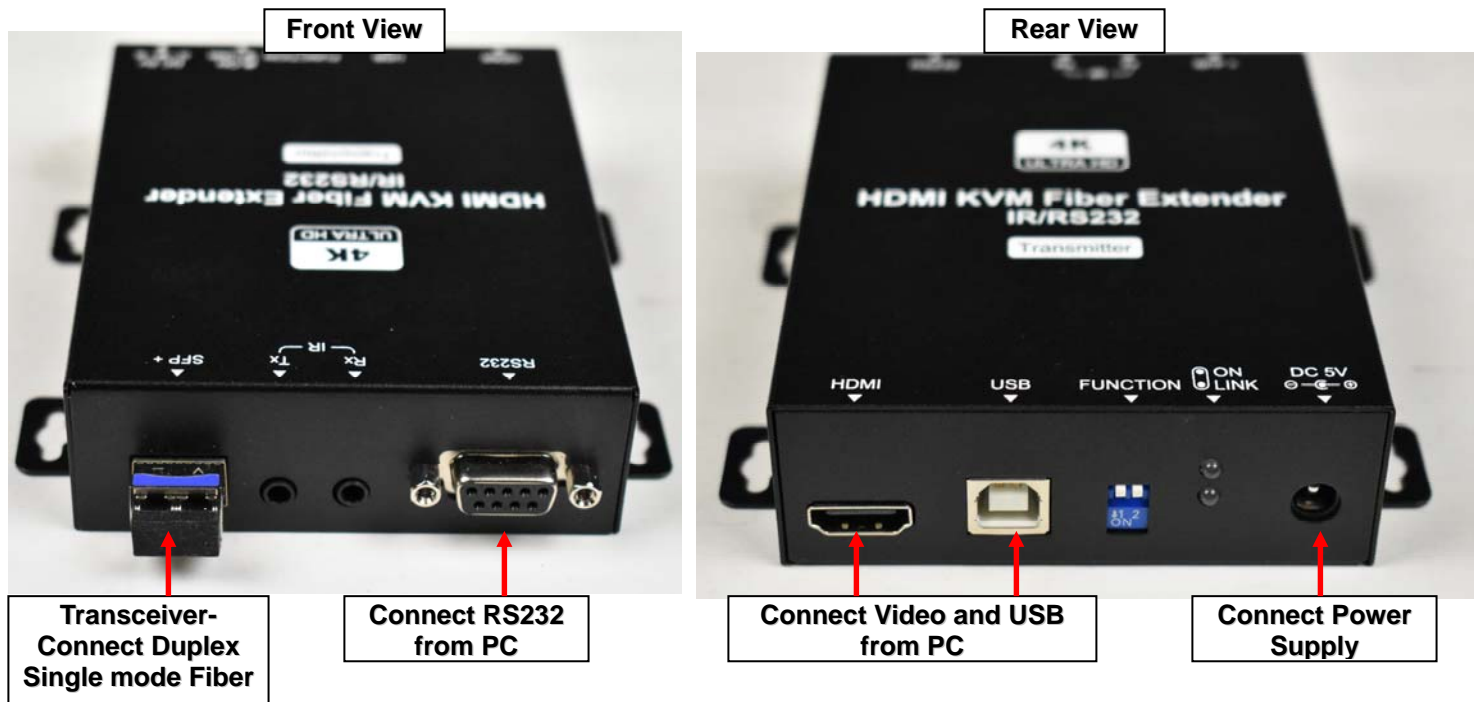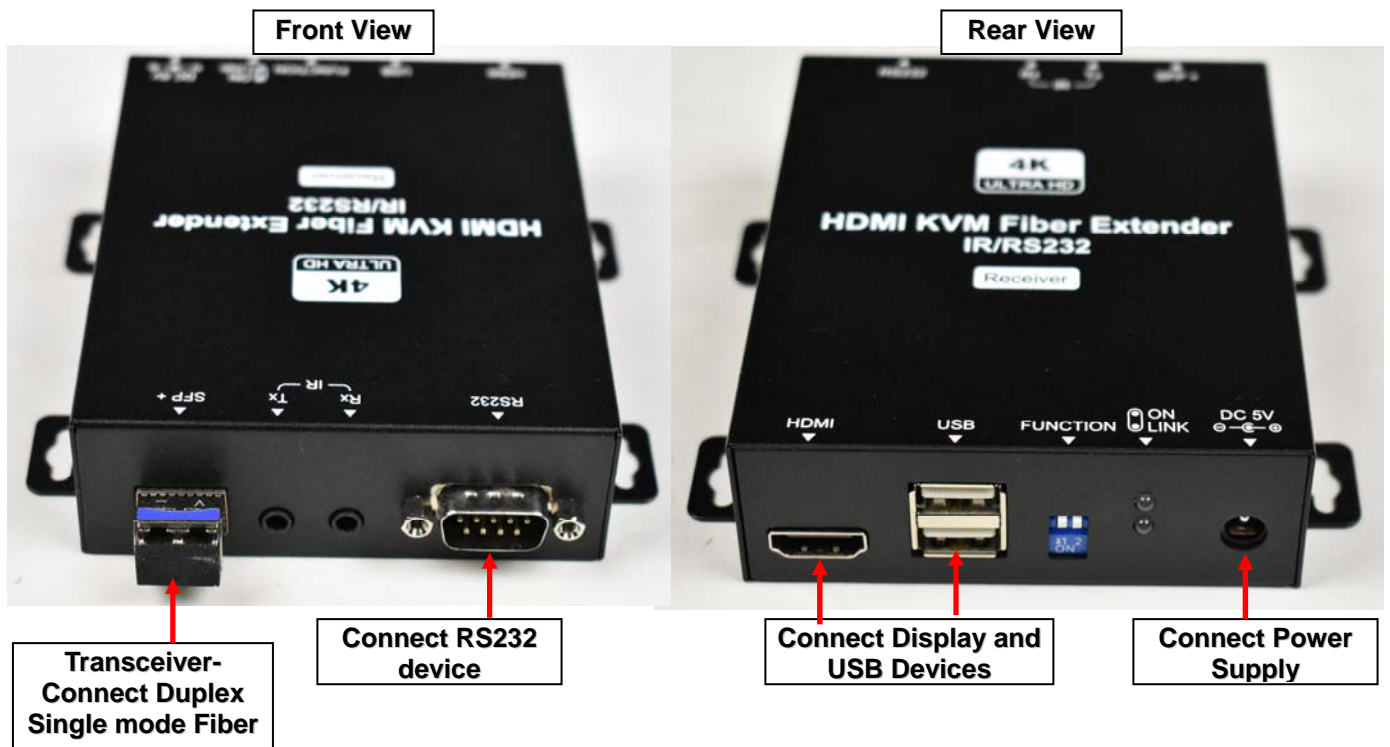3.   This Device does not support CEC

Installation

Connect Duplex Single mode Fiber to transceivers (see note below)

Transmitter   **Receiver**

Note: When the HDMI signal is not encrypted by HDCP, the maximum transmission distance is 2km.
When the HDMI signal is encrypted by HDCP, the maximum transmission distance is 500m.
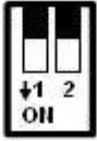
Panel View

Transmitter

Front View

Rear View

Transceiver-Connect Duplex Single mode Fiber

Connect RS232 from PC

Connect Video and USB from PC

Connect Power Supply

Receiver

Front View

Rear View

Transceiver-Connect Duplex Single mode Fiber

Connect RS232 device

Connect Display and USB Devices

Connect Power Supply

LED Indication:

LED Color	Meaning
GREEN	Power ON/OFF
BLUE	Fiber Link/Unlink

DIP Switch Function:

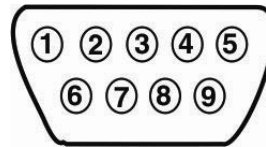| SW1	SW2	FUNCTION
OFF	OFF	none
ON	OFF	IR Extension supported
OFF	ON	RS232 Extension supported
ON	ON	USB Keyboard/Mouse Extension supported

ON = Switch Down   OFF = Switch Up
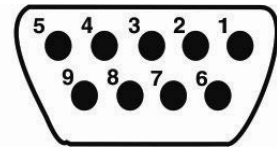
RS232 Connector Pinout:

DB9M(Male)

RS232	
Pin	Signal
Pin 2	TX In
Pin 3	RX Out
Pin 5	GND

DB9F(Female)

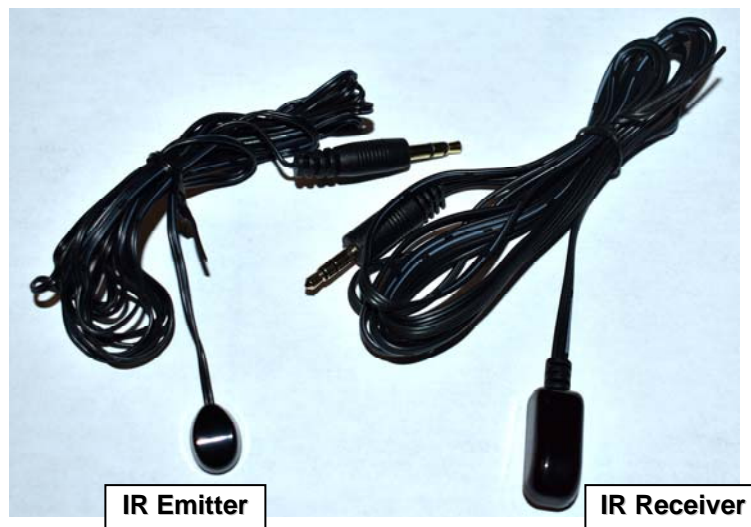| RS232	
Pin	Signal
Pin 2	TX Out
Pin 3	RX In
Pin 5	GND

Mating Face of DB9 Male   Mating Face of DB9 Female

IR Function:

The IR Emitter is used to send the control signal to the video source.   It connects to the "IR Tx" port on either the XTENDEX Transmitter or the XTENDEX Receiver.   The IR Emitter must be positioned with 10 degrees horizontally or vertically of the IR receiver on the video source.

The IR Receiver is used to receive and send the IR control signal from the Remote Control for the video source.   It connects to the "IR Rx" port on either the XTENDEX Transmitter or XTENDEX Receiver.   The IR Receiver should be positioned such that the Remote Control can send a signal within 55 degrees horizontally or vertically of the IR Receiver.

IR Emitter   IR Receiver

Specifications

Criteria	Transmitter	Receiver
HDMI Input /Output	HDMI Type A x 1	HDMI Type A x 1
HDMI Resolution	4K@60Hz 4:4:4 18Gbps（6Gbps per color）, 1080p@60Hz 16bit,3D,HDR,Dolby vision	
HDMI Audio	LPCM 7.1 @ 192KHz,Dolby TrueHD,DTS-HD MA,ATMOS,DTS:X	
HDMI Version	HDMI 2.0	
HDCP Compliance	HDCP 2.2	
Color Format	RGB, YCbCr 4:4:4 / 4:2:2 / 4:2:0	
Color Depth	Up to 48-bit deep color	
Link Interface	SFP 10G+	
Transmission Distance	2Km (Max) w/o HDCP / 500m w/ HDCP using Single-Mode fiber	
RS-232 Interface	DB9(Female)	DB9(Male)
RS-232 Data Rate	115200 bps / Full Duplex	
IR Input /Output	3.5mm Phone Jack x 2	
IR Frequency carrier/receive angle/receive distance	30~60KHz / T：± 10°/ R：± 55°/ 5M /Bi-Directional	
Keyboard／ Mouse	USB Type B x 1	USB Type A x 2
Power Consumption	Max 5 W	Max 5 W
Power Supply	100-240VAC 50/60Hz: 5VDC 2A AC Adapter	
Environmental	Operating: 14~113°F (-10~45°C) Storage: -22 ~158°F (-30~70°C) Humidity: up to 95% Non-Condensing	
Dimensions WxDxH (In.)	4.31x4.69x1.18 (109.6x119x30 mm)	4.31x4.69x1.18 (109.6x119x30 mm)
Weight (g)	280	280
Agency approvals	RoHS, CE	

Use NTI HDMI Cables for Input and Output cables

Available Cables	Supported Resolution	
	1080p@60Hz	4096x2160 and 3840x2160
HD-xx-MM Where x=3,6,10,15,20, 30 and 50 ft	Yes	Max. 20 ft (@ 30/60Hz)
HD-ACT-xx-MM Where xx= 20,25,30,40 and 50 ft	Yes	Yes (@ 30/60Hz)
HD-ACT-xx-MM Where xx= 60,75 and 100 ft	Yes	No
HD4K18GB-FO-xxM-MM Where xx= 10,15,20,25,30,50,70 and 100 meters	Yes	Yes (@ 30/60Hz)
DVI-HD-xM-MM Where x= 1,2,3 and 5 meters	Yes	No

Warranty Information

The warranty period on this product (parts and labor) is two (2) years from the date of purchase.   Please contact Network Technologies Inc at **(800) 742-8324**   (800-RGB-TECH) or **(330) 562-7070** or visit our website at http://www.networktechinc.com for information regarding repairs and/or returns.   A return authorization number is required for all repairs/returns.

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