

# **CAMPLEX<sup>®</sup>**

## **BROADCAST FIBER OPTIC SOLUTIONS**

### **USER MANUAL**

#### **CMX-FMCH002 4K/2K HDMI 2.0 Over Fiber Extender Set 18Gbps HDCP 2.2**

**with 10G Ethernet and RS-232 Support**



#### **FEATURES**

- Supports HDR 18gbps 4:4:4
- Up To 40km Over Single Mode Single Optic Fiber Cable
- HDMI Loop-Out & Audio Separation
- Zero Latency & Compression
- Arc/EARC
- Bi-Directional IR

#### **INCLUDES**

- (1) CMX-FMCH002 Extender Set (Transmitter and Receiver)
- (2) DC5V/2A
- (1) SFP+ Optical Module (T1270NM/R1330NM)
- (1) SFP+ Optical Module (T1330NM/R1270NM)
- (1) IR Blaster Extension Cable
- (1) IR Blaster Receiver Cable
- (8) Mounting Brackets
- (16) Black Counter Sunk Screws
- (2) Silver Screws
- (2) Phoenix Plugs



**CAMPLEX Broadcast Fiber Solutions**

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**CAMPLEX<sup>®</sup>**  
BROADCAST FIBER OPTIC SOLUTIONS  
**CMX-FMCH002 Transmitter**

Front



1 2 3 4 5 6

- |                                      |                    |
|--------------------------------------|--------------------|
| 1 Power / Status / Arc LED Indicator | 4 ARC Port         |
| 2 IR In                              | 5 RS-232 Port      |
| 3 IR Out                             | 6 Factory Use Only |



1 2 3 4 5

- |                      |                   |
|----------------------|-------------------|
| 1 Power Supply Input | 4 SFP Module Port |
| 2 HDMI Input         | 5 Reset Button    |
| 3 Loop Output        |                   |

**CMX-FMCH002 RECEIVER**

Front



1 2 3 4 5 6 7

- |                                      |                    |
|--------------------------------------|--------------------|
| 1 Power / Status / Arc LED Indicator | 4 Optical Out      |
| 2 IR In                              | 5 ARC Switch       |
| 3 IR Out                             | 6 RS-232 Port      |
|                                      | 7 Factory Use Only |



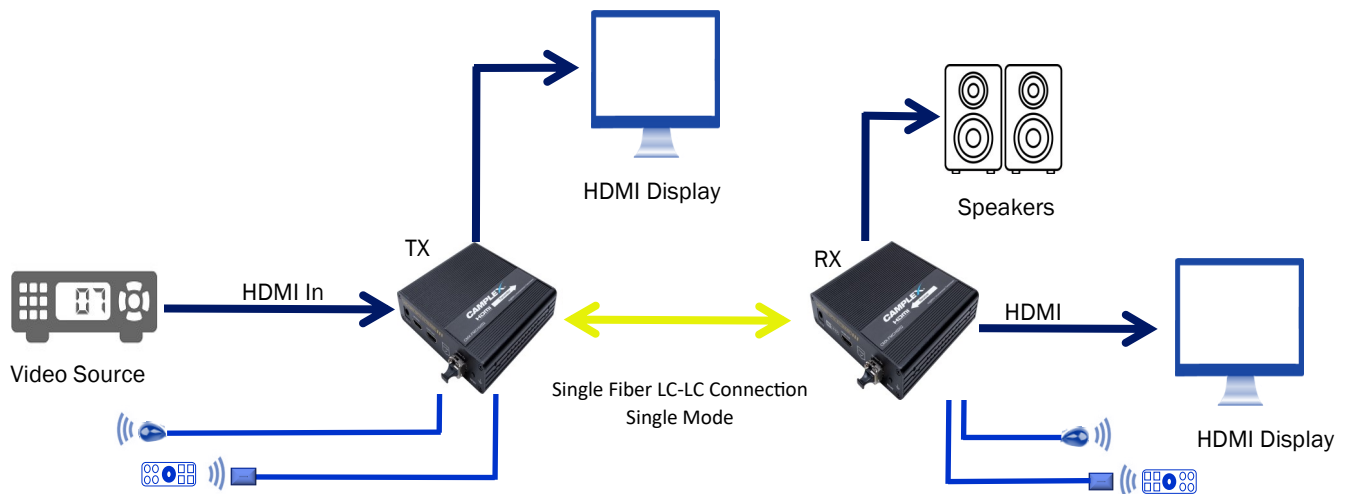
1 2 3 4

- |                      |                   |
|----------------------|-------------------|
| 1 Power Supply Input | 3 SFP Module Port |
| 2 HDMI Out           | 4 Reset Button    |

## CONNECTION DIAGRAM

### Connection Instructions:

1. Connect the source device to the HDMI In port of the transmitter with an HDMI cable, connect the HDMI Out port of the receiver to the display device with another HDMI cable.
2. If it is a one to one connection, then use a fiber optic cable to connect the SFP port to the transmitter and receiver.
3. If using the HDMI loop out feature, connect the display device to the HDMI Out port of the transmitter.
4. If using the IR pass back function, the IR blaster extension cable should be plugged into the IR out port of the transmitter and receiver, the IR receiver extension cable should be plugged into the IR In port of the transmitter and receiver.
5. If using the HDMI ARC feature, connect the ARC interface of the transmitter to the speaker with an optical fiber cable. If you need additional audio from the receiver, connect the S/PDIF Out interface of the receiver to the audio device with an optical fiber cable.
6. If using the RS-232 function, connect the RS-232 port of the transmitter or receiver to an external device.
7. Plug the power supply into the devices to get started.



## SPECIFICATIONS

- Transmission Distance: ≤ 40km
- Fiber Type: Single Mode
- Fiber Connector: LC
- SFP+ Optical Fiber Module Wavelengths: 1270nm (T), 1330nm (R)
- Bi-Directional IR-Support Bi-Directional Ir Pass Back, Supports 20-60khz Ir Devices
- Audio Format: LPCM 7.1/DTS-HD/DTS-Audio/Dolby Digital Plus/Dolby TrueHD/Dolby Digital/Dolby Atmos
- Arc-Support Arc Back to Tx
- Rs-232-Support Rs-232 Passthrough and Command Control
- Supported Resolutions: 720P@50/60 Hz / 1080P@24/25/50/60 Hz / 1080i@50/60 Hz / 1024\*768@60 Hz / 1280\*768@60 Hz / 1280\*800@60 Hz / 1280\*960@60 Hz / 1280\*1024@60 Hz / 1440\*900@60 Hz / 1400\*1050@60 Hz / 1600\*900@60 Hz / 1600\*1200@60 Hz / 1680\*1050@60 Hz / 1920\*1080@60 Hz / 1920\*1200@60 Hz / 2560\*1440@60 Hz / 2560\*1600@60 Hz / 3840\*2160@24/25/30/50/60/23.9/29.9/59.9 Hz / 4096\*2160@24/25/30/50/60/23.9/29.9/59.9 Hz

**IR User Guide:**

1. IR blaster extension cable should plug into the IR Out port of the transmitter and receiver, the IR receiver extension cable should plug into the IR In port of the transmitter and receiver.
2. The emitter of the IR blaster extension cable should be as close as possible to the IR receiving window of the source device.
3. Point the remote control at the receiving head of the IR receiver extension cable to operate.

**RS-232 User Guide:**

- This product can passthrough RS-232 commands, and at the same time can use commands to control the transmitter or receiver. The unit retains GND TXD RXD and follows the RS-232 level standard.
- The default configuration is as follows:
- Baud Rate: 115200
- Data Word: 8
- Stop Bits: 1
- Parity Checking: No Check

Function	Control Instruction Code
Factory Reset of the Device	BA A5 11 00 00 11 33
Device Restart	BA A5 10 00 00 10 30
Set the Baud Rate to 2400	BA A5 13 04 00 00 00 09 60 80 0F
Set the Baud Rate to 4800	BA A5 13 04 00 00 00 12 C0 E9 81
Set the Baud Rate to 9600	BA A5 13 04 00 00 00 25 80 BC 67
Set the Baud Rate to 19200	BA A5 13 04 00 00 00 4B 00 62 33
Set the Baud Rate to 38400	BA A5 13 04 00 00 00 96 00 AD C9
Set the Baud Rate to 57600	BA A5 13 04 00 00 00 E1 00 F8 5F
Set the Baud Rate to 115200	BA A5 13 04 00 00 01 C2 00 DA 24
Set the Baud Rate to 230400	BA A5 13 04 00 00 03 84 00 9E AE

Note: If the RS-232 control instruction succeeds, return the control instruction code, if it fails, return the error code: BA A5 02 01 00 01 04 0C

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## **BROADCAST FIBER OPTIC SOLUTIONS**

### **SAFETY PRECAUTIONS**

1. To prevent fire or shock hazard, do not expose this equipment to high humidity and/or dust. Do not use in an unprotected outdoor installation nor any area classified as overly damp or wet.
2. The temperature for installation should be between 32°F to 140°F (0°C to 60°C). Avoid direct sunlight exposure or extreme changes of temperature over a short period of time.
3. Do not disassemble the unit or place it on an unstable base.
4. Do not drop the unit and avoid heavy impact.
5. This unit should not be placed in a built-in installation unless proper ventilation is provided. Any openings in the enclosure must not be blocked or covered as they protect the unit from overheating.
6. Before cleaning, unplug the unit from all connections. Use a clean, slightly damp cloth. Do not use liquid or aerosol cleaners. Use appropriate cleaning kits for fiber optic cables.
7. Do not overload outlets and extension cords as this could result in a fire or electric shock.
8. Enclosure entry is dangerous. Never push objects of any kind, including liquids, into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock.
9. Do not attempt to open or service this unit yourself as opening or removing covers may expose you to dangerous voltage and other hazards.
10. There are no user-serviceable parts inside the unit. If the unit requires service contact your authorized dealer, or an authorized repair service company.