HDMI 2.0 Fiber Dongle Extender Kit

User Manual

500487

94-001089-A/SE-001089-A

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1. Safety Precautions

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for future reference.

- Follow basic safety precautions to reduce the risk of fire, electrical shock, and injury.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burns.
- Do not open or remove the housing of the device as you may be exposed to dangerous voltage or other hazards.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture and do not install this product near water. Keep the product away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on the housing, unplug the module immediately.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Using supplies or parts not meeting the product specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- Install the device in a place with adequate ventilation to avoid damage caused by overheat.
- Unplug the power when left unused for a long period of time.
- Information on disposal of devices: do not burn or mix with general household waste, please treat them as normal electrical waste.

2. Introduction

The HDMI 2.0 Fiber Dongle Extender Kit (model: 500487) is an HDMI extender that uses fiber optic cable with LC connection to transmit uncompressed 4K60 HDMI signals. It supports EDID and HDCP pass-through over multi-mode fibers. Its small compact size and pig-tail design allow for easier installation in any AV application.

3. Features

- Supports resolution up to 4K60
- Supports distance up to 300m
- Requires power only on the receiver side
- Supports EDID and HDCP
- Supports Dolby Vision and HDR10+
- Supports LPCM, Dolby and DTS Audio
- Plug and Play

4. Package Contents

- One (1) HDMI 2.0 Fiber Dongle Extender Kit (Transmitter)
- One (1) HDMI 2.0 Fiber Dongle Extender Kit (Receiver)
- One (1) 5VDC 1A Power Adapter
- One (1) User manual (available via download)

5. Specifications

Technical	
Environment	Custom audio-video systems in a structured cabling environment.
Application	Head-end installations, conference room, home installation
Standard	HDMI 2.0, HDCP 2.2
Video Resolution	Up to 4K60 4:4:4
Distance	up to 300m using OM3 Multi-mode Fiber
Wavelenght	850nm
Dynamic Range	SDR, HDR, HDR10, HDR10+ and Dolby Vision
Audio Format	LPCM, Dolby, DTS, Dolby Atmos and DTS:X
Latency	Less than 1 frame at 300m with a resolution of 4K60 4:4:4
Fiber Type	Muti-mode fiber OM3 or OM4 recommanded
Hardware Interfaces	
HDMI Port	1 x HDMI Type A [19-pin female] with Pig-tail
Fiber Port	1 x LC fiber [female], supporting multi-mode fiber
Power Port	1 x USB-C connector
Status Led	Bi-color LED: off no power, red powered and purple HDMI signal transferring
General	
Power Supply	USB-C 5V
Power Consumption	Transmitter: 0.70W, Receiver: 0.30W
Temperature	Operating: 0° to 55°C Storage: -40° to 80°C Humidity: Up to 90% non-condensing
Dimensions	62.2 mm x 25 mm x 12 mm (Excluding pig-tail of 190 mm)
Weight	45.6 g
Compliance	Regulatory: FCC, CE, RoHS
Warranty	2 Years
Order Information	500487 HDMI 2.0 Fiber Dongle Extender Kit (UPC: 627699004876)

6. Panel View

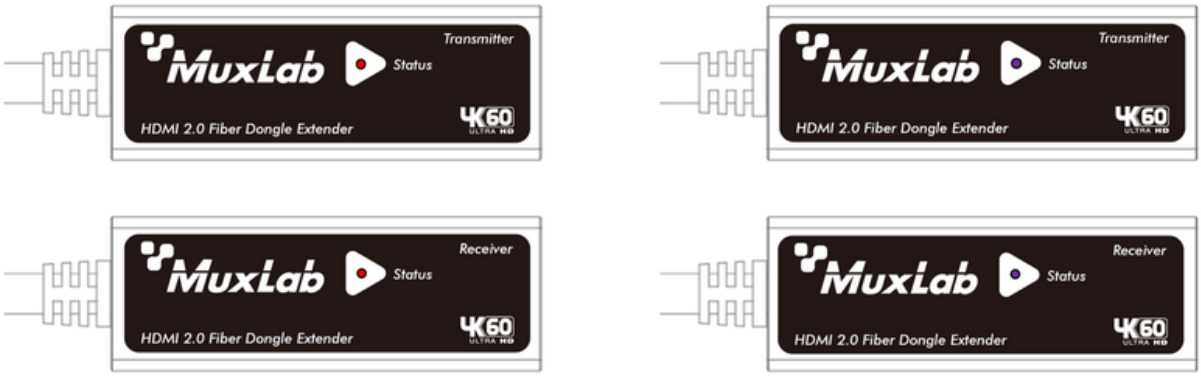
Transmitter

Item	Interface	Description
1	HDMI® Input	To connect to HDMI® source
2	LED Indication	Refer to LED Indication
3	USB Type-C	To input 5VDC power (Optional)
4	LC Fiber Connector	To connect multi-mode fiber cable

Receiver

Item	Interface	Description
1	HDMI® Output	To connect to monitor or TV
2	LED Indication	Refer to LED Indication
3	USB Type-C	To input 5VDC power
4	LC Fiber Connector	To connect multi-mode fiber cable

LED Indication



	LED Status	Extender Status
Transmitter/Receiver	Off	Not powered
	Red	Powered
	Purple	Powered and HDMI signals transferring

7. Supported Resolutions

HDMI 2.0 Fiber Dongle Extender Kit supports various resolutions as shown in the table below

Resolution	
3840x2160	30/50/60Hz
2560x1600	60Hz
2560x1440	60Hz
1920x1200	60Hz
1920x10801	30/50/60/120Hz
1680x1050	60Hz
1600x1200	60Hz
1600x900	60Hz
1440x900	60Hz
1280x1024	60Hz
1280x720	50/60Hz
1024x768	60/75Hz
800x600	60/75Hz
640x480	60/75Hz

8. Fiber Optic Interface

The HDMI 2.0 Fiber Dongle Extender Kit integrates multi-mode modules for its fiber optic transmission functionality, offering flexibility and scalability in extending HDMI signals over various distances.
The HDMI 2.0 Fiber Dongle Extender converts electrical HDMI signals into optical signals by the fiber Transmitter module for transmission over fiber optic cables, while it converts optical signals back into electrical HDMI signals with the fiber Receiver module at the receiving end. The kit is compatible with multi-mode fiber optic cables, offering flexibility in deployment based on distance requirements and installation environments.

9. Latency

The HDMI 2.0 Fiber Dongle Extender Kit has a latency less than one frame according to our test, and here is our test condition.
The Test result is shown as follows:

HDMI 2.0 Fiber Dongle Extender Kit - Latency Test -			
Test condition			Test result
Distance	Resolution	Cable used	
300m	4K60Hz 4:4:4	PRYSMIAN UC FIBRE ZIPCORD F0 CABLE LSZH ZICM202M3 180110217 2x50/125UM OM3	< 1 frame

10. Transmission Distance

The HDMI 2.0 Fiber Dongle Extender Kit integrates multi-mode modules, which are optimized for long-distance transmission, with a specified transmission distance up to 300m.
The transmission distance will vary depending on the quality of the fiber optic cable used.

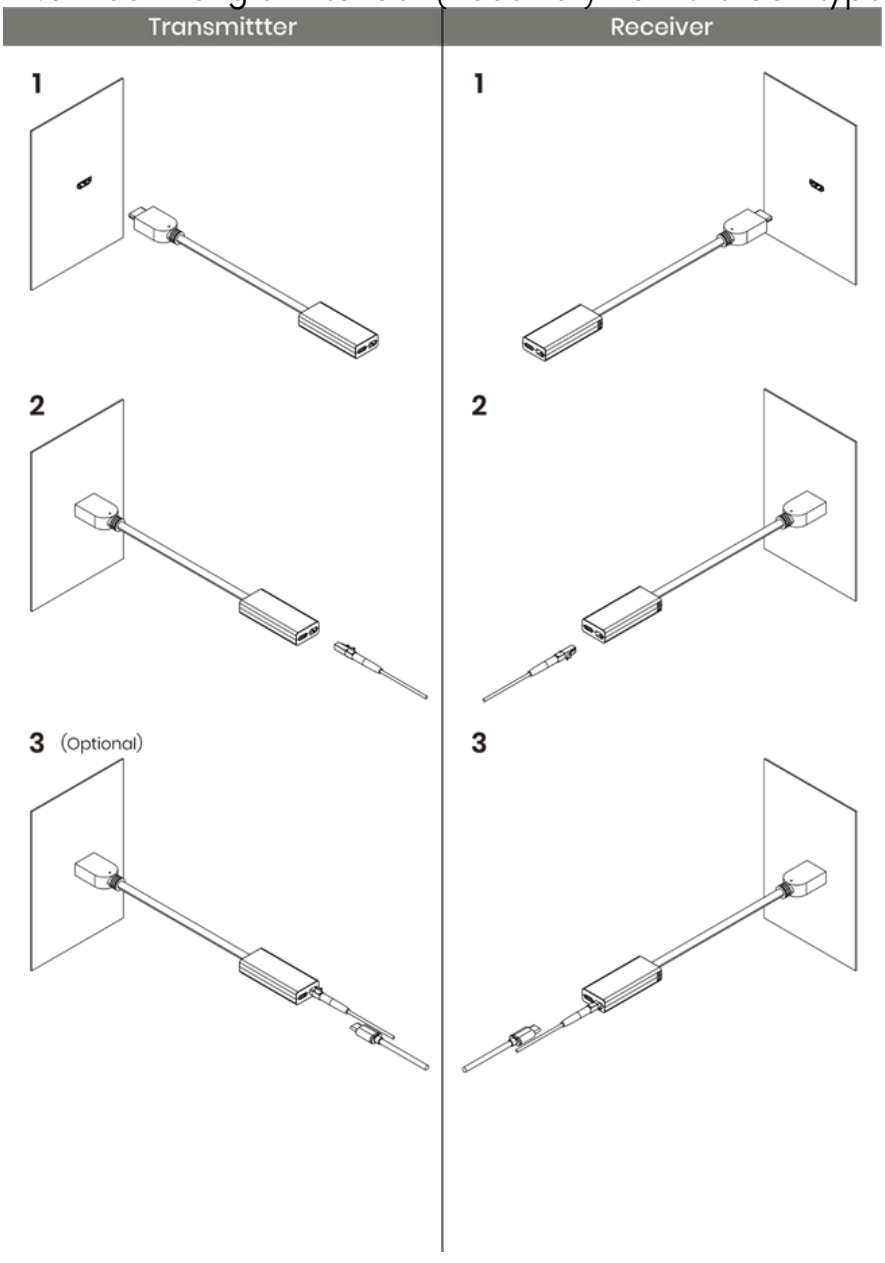
HDMI 2.0 Fiber Dongle Extender Kit - Transmission Distance Test -		
Test condition		Test result
Resolution	Cable used	
4K60Hz 4:4:4	PRYSMIAN UC FIBRE ZIPCORD F0 CABLE LSZH ZICM202M3 180110217	300m

11. Fiber Connector Type

The HDMI 2.0 Fiber Dongle Extender Kit uses Lucent Connector (LC) type single fiber connectors for seamless integration with existing fiber optic infrastructure. The LC connector's small form-factor and single fiber design enable high-density connections and efficient use of fiber optic cables in networking environments.

12. Installation

1. Connect HDMI 2.0 Fiber Dongle Extender (Transmitter) to an HDMI source.
2. Connect the optical fiber cable to HDMI 2.0 Fiber Dongle Extender (Transmitter).
3. Power on HDMI 2.0 Fiber Dongle Extender (Transmitter) from the USB type-C port. (optional)
4. Connect HDMI 2.0 Fiber Dongle Extender (Receiver) to an HDMI Device.
5. Connect the optical fiber cable to HDMI 2.0 Fiber Dongle Extender (Receiver).
6. Power on HDMI 2.0 Fiber Dongle Extender (Receiver) from the USB type-C port.



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