User Manual

ALTIMIUM

FOE308H-4K

HDMI 2.0 Fiber Optical Extender

Preface

Read this user manual carefully before using the product. Pictures shown in this manual are for reference only. Different models and specifications are subject to real product.

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till June, 2019. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

SAFETY PRECAUTIONS

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

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.

- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.

- Using supplies or parts not meeting the specifications of product may cause damage, deterioration or malfunction.

- Refer all servicing to qualified service personnel.

- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.

- Do not put any heavy items on the extension cable in case of extrusion.

- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.

- Install the device in a place with fine ventilation to avoid damage caused by overheat.

- Keep the module 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 to the housing, unplug the module immediately.

- Do not twist or pull by force ends of the optical cable. It can cause malfunction.

- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

- Unplug the power cord when left unused for a long period of time.

- Information on disposal for scrapped devices: do not burn or mix with general household waste, and please treat them as normal electrical wastes.

Table of Contents

1. Product Introduction

Thanks for choosing the HDMI 2.0 Fiber Optical Extender which is designed to extend 4K@60HZ 4:4:4 12 bits HDCP encrypted HDMI signal up to 300m via single-mode or multi-mode(OM3/OM4) fiber or non-HDCP encrypted signal up to 2km via single-mode fiber.

The extender also allows signal across the fiber cable for bi-directional IR and RS232 control.

2. Features

- Supports HDMI 2.0 and HDCP2.2.
- Supports 4K@60 Dolby Vision.
- Supports HDR.
- Bi-directional IR and RS232 pass-though.
- Supports ARC.
- Transmission distance: 300m with HDCP encrypted signal using via single-mode or OM3/OM4 multimode. / 2000m with non-HDCP encrypted signal using single-mode fiber.

3. Package List

- 1x Transmitter
- 1x Receiver
- 2x Power Adapter (12V DC 1A)
- 1x RS232 Cable (3-pin to DB9)
- 1x 3-pin Terminal Block
- 4x Mounting Ears
- 16x Mounting Screws
- 8x Plastic Cushions
- 1x User Manual

Note: Please contact your distributor immediately if any damage or defect in the components is found.

4. Specification

Transmitter	
Input	(1) HDMI IN
Input Connector	(1) Type-A female HDMI
Output	(2) OPTICAL OUT; (1) AUDIO OUT
Output Connector	(2) LC connector; (1) Toslink connector
Control	(1) IR IN; (1) IR OUT; (1) RS232
Control Connector	(2) 3.5mm mini jacks; (1) 3-pin terminal block
Receiver	
Input	(2) OPTICAL IN; (1) AUDIO IN
Input Connector	(2) LC connector; (1) Toslink connector
Output	(1) HDMI OUT
Output Connector	(1) Type-A female HDMI
Control	(1) IR IN; (1) IR OUT; (1) RS232
Control Connector	(2) 3.5mm mini jacks; (1) 3-pin terminal block
General	
Video Resolution	Up to 4Kx2K 60Hz 4:4:4 HDR
Audio Format	PCM, Dolby Digital, DTS, DTS-HD
HDMI Standard	2.0
HDCP Version	2.2
CEC	Supported
EDID Pass-through	Supported
HPD	Supported
Transmission Distance	≤300m via single-mode or OM3/OM4 multi-mode fiber cables.
Operation Temperature	-10℃ ~ +55℃
Storage Temperature	-25℃ ~ +70℃
Relative Humility	10%-90%
Power Supply	Input: AC 100~240V, 50/60Hz; Output: 12V DC 1A.
Power Consumption	9W (max)
Dimension (W*H*D)	130mm x 20mm x 84mm
Net Weight	175g

5. Panel Description

5.1 Transmitter

No.	Name	Description
①	Power LED	Turns red when DC power present.
②	Link status LED	Turns green when the transmitter and receiver link successful.
③	Work status LED	Turns green when the signal data is transmitted between transmitter and receiver.
④	Audio Mode Switch	▪ ARC (Default): Switch the audio mode to ARC. ▪ AUDIO: Switch the audio mode to AUDIO. The DIP switch must be worked with another switch on receiver, for more details, please refer to the ***6.system connection***.
⑤	FW	USB port, used for firmware update.
⑥	OPTICAL OUT	Connect to the OPTICAL IN port on receiver via two fiber cables (A-B; B-A).
⑦	HDMI IN	Connect to HDMI source.
⑧	AUDIO OUT	Connect to audio broadcast device.
⑨	IR IN	Work with far-end IR OUT port on receiver, connect to IR receiver (with carrier) to collect IR signal to control far-end display.
⑩	IR OUT	Work with far-end IR IN port on receiver, connect to IR Emitter to send IR signal to control source device.
⑪	RS232	Makes up bi-directional RS232 pass-through control with the RS232 port on receiver. If one is connected to control device (e.g. PC), and the other should be connected to the third-party that need to be controlled.
⑫	DC 12V	Connect to 12V DC power adaptor.

5.2 Receiver

No.	Name	Description
①	Power LED	Turns red when DC power present.
②	Link status LED	Turns green when the transmitter and receiver link successful.
③	Work status LED	Turns green when the signal data is transmitted between transmitter and receiver.
④	Audio Mode Switch	▪ ARC (Default): Switch the audio mode to ARC. ▪ AUDIO: Switch the audio mode to AUDIO. The DIP switch must be worked with another switch on transmitter, for more details, please refer to the ***6.system connection***.
⑤	FW	USB port, used for firmware update.
⑥	OPTICAL IN	Connect to the OPTICAL OUT port on transmitter via two fiber cables (A-B; B-A).
⑦	HDMI OUT	Connect to HDMI display.
⑧	AUDIO IN	Connect to audio source device.
⑨	IR IN	Work with far-end IR OUT port on transmitter, connect to IR receiver (with carrier) to collect IR signal to control far-end source device.
⑩	IR OUT	Work with far-end IR IN port on transmitter, connect to IR Emitter to send IR signal to control display device.
⑪	RS232	Makes up bi-directional RS232 pass-through control with the RS232 port on receiver. If one is connected to control device (e.g. PC), and the other should be connected to the third-party that need to be controlled.
⑫	DC 12V	Connect to 12V DC power adaptor.

6. System Connection

Usage Precautions:

- Make sure all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before power on.

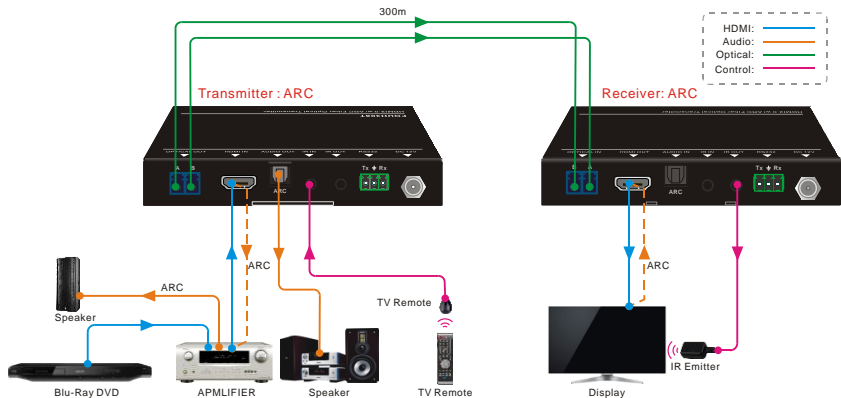There are four connection ways can be chosen via audio mode switch.

Mode	Switch Status		Description
	Transmitter	**Receiver**	
①	ARC	ARC	The audio signal is transmitted from the display back to **HDMI IN** and **AUDIO OUT** ports.
②	ARC	AUDIO	The audio signal is transmitted from the **AUDIO IN** to **HDMI IN** and **AUDIO OUT** ports.
③	AUDIO	ARC	The audio signal is transmitted from the display back to the **AUDIO OUT** port.
④	AUDIO	AUDIO	The audio signal is transmitted from the **AUDIO IN** to the **AUDIO OUT** port.

Note: When the switch status is set as mode 1,2 or 3, the amplifier, display must support ARC.

Mode ①: Transmitter: ARC; Receiver: ARC

The audio signal is transmitted from the display back to **HDMI IN** and **AUDIO OUT** ports.

Connection procedure:

Step1. Connect the **OPTICAL OUT** port of the transmitter to the **OPTICAL IN** port of the receiver with two OM3/OM4 multi-mode fiber cables.

Step2. Connect an amplifier to the **HDMI IN** port of Transmitter, and then connect HDMI source device (e.g. Blue-ray DVD) and Speaker to the amplifier.

Step3. Connect a broadcast device (e.g. Speaker) to the **AUDIO OUT** port of transmitter with toslink audio cable.

Step4. Connect a display device (e.g. TV) to the **HDMI OUT** port of receiver with HDMI cable.

Step5. Bi-directional IR control: Both transmitter and receiver have **IR IN** and **IR OUT** port. When one model use for IR signal receiver, the IR signal must be sent out by the other model.

For example: When **IR IN** port of transmitter connects with an IR receiver, the IR Emitter must be connected to the **IR OUT** port of receiver.
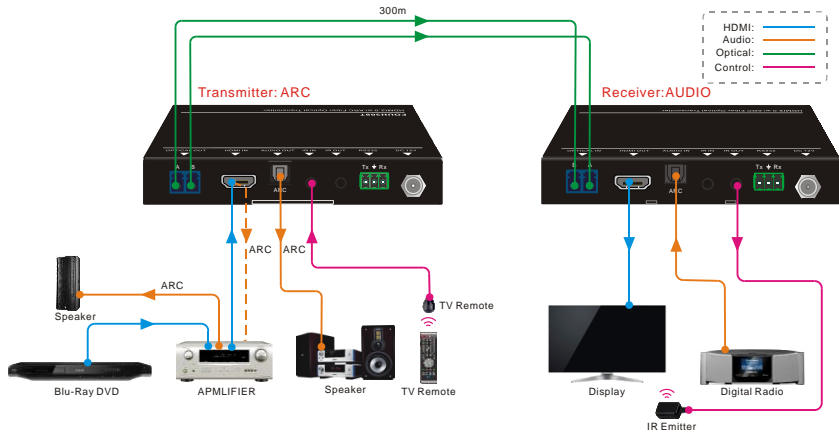
Step6. Bi-directional RS232 control: Both transmitter and receiver have **RS232** port. When one model use for control device, the other must be used for the third-party device needed to be controlled.

For example: When **RS232** port of transmitter connects with a control PC, the third-party device must be connected to the **RS232** port of receiver.
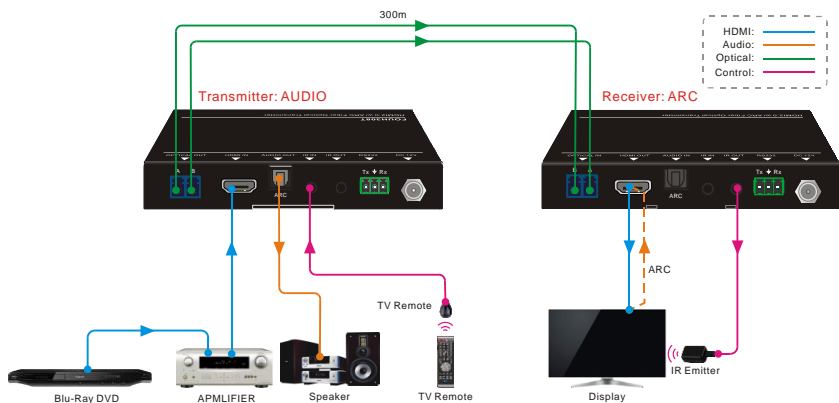
Mode ②: Transmitter: ARC; Receiver: AUDIO

The audio signal is transmitted from the **AUDIO IN** to **HDMI IN** and **AUDIO OUT** ports.

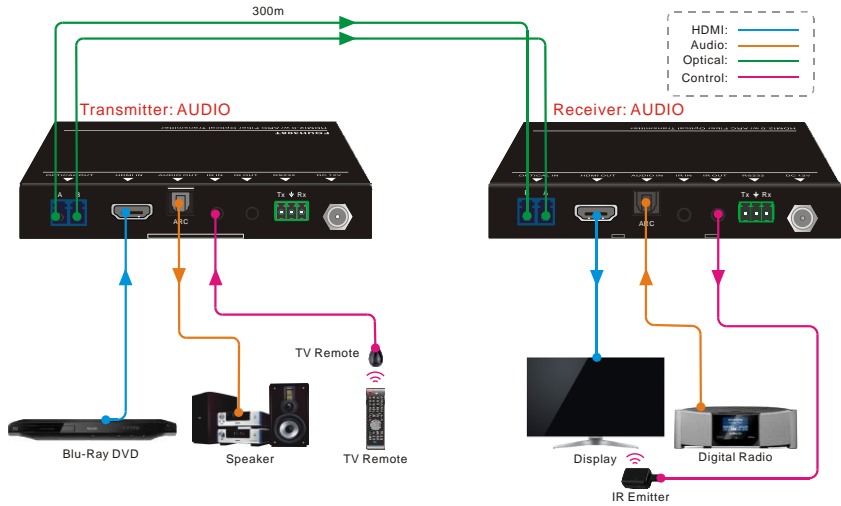**Mode ③: Transmitter: AUDIO; Receiver: ARC**

The audio signal is transmitted from the display back to the **AUDIO OUT** port, but not to **HDMI IN** port.
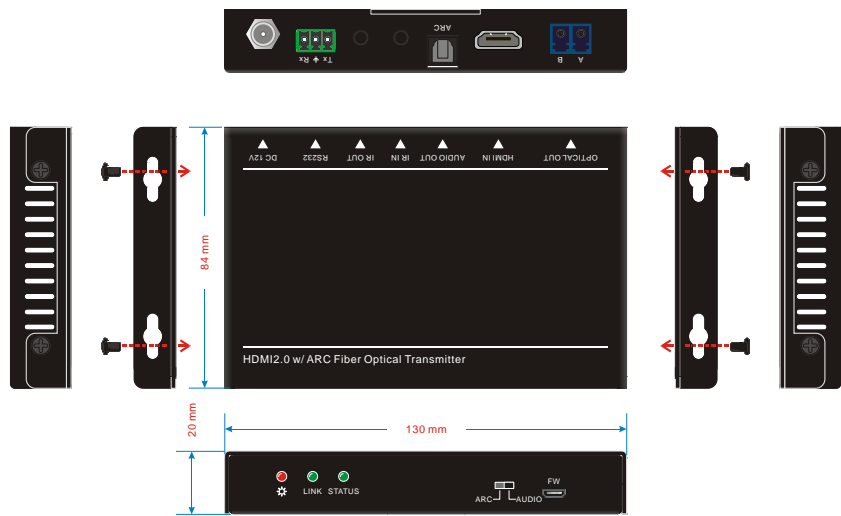
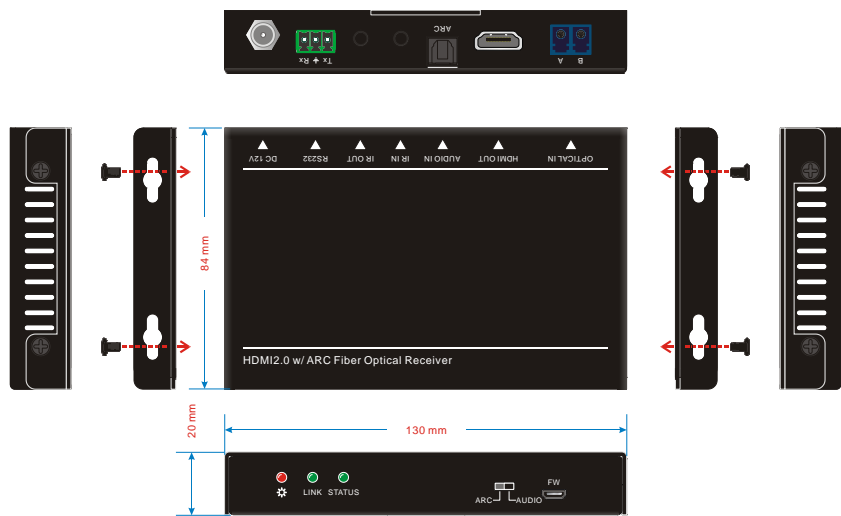## Mode ④:Transmitter: AUDIO; Receiver: AUDIO

The audio signal is transmitted from the **AUDIO IN** to the **AUDIO OUT** port.

7. Panel Drawing

6-1 Transmitter

6-2 Receiver

8. Troubleshooting & Maintenance

Problems	Potential Causes	Solutions
Color losing or vague/ double image in HDMI display.	Poor quality of the optical fiber cable.	Change for qualified OM3 cable.
Power led is off, No response for operations	Not been powered.	Power up the unit.
	Poor contact.	Make sure power adapter is in well contact.
No output on the display.	Source or Display is off.	Turn on the source/ display.
	Poor contact.	Check the DVI ports one by one to make sure they are in well contact.
	The display doesn't support the resolution.	Connect the display to the transmitter and capture its EDID data before using.

Note: If your problem still remaining after following the above troubleshooting steps, please contact your local dealer or distributor for further assistance.

9. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. There terms and conditions may be changed without prior notice.

1) Warranty
The limited warranty period of the product is fixed three years.

2) Scope
These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

3) Warranty Exclusions:
- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - ✓ Normal wear and tear.
  - ✓ Use of supplies or parts not meeting our specifications.
  - ✓ No certificate or invoice as the proof of warranty.
  - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
  - ✓ Damage caused by force majeure.
  - ✓ Servicing not authorized by distributor.
  - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

4) Documentation:
Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: Please contact your local distributor for further assistance or solutions.