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**CABLES & ACCESSORIES**

## 4K HDMI Extender over Single SC Fiber Optic Cable



**Model #: FO-HDM4K-200-EMIX**

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## Product Application & Market Sectors



Corporate



House Of Worship



Military



Residential



Education



Industrial



Medical



Aviation



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## SECTION I: GETTING STARTED

### I.1 IMPORTANT SAFEGUARDS

Please read all of these instructions carefully before you use the Fiber Optic cable. Save this manual for future reference.

#### What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
- Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
- Repair or attempted repair by anyone not authorized by us.
- Any damage of the product due to shipment.
- Removal or installation of the product.
- Causes external to the product, such as electric power fluctuation or failure.
- Use of supplies or parts not meeting our specifications.
- Normal wear and tear.
- Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

### I.2 SAFETY INSTRUCTIONS

The Avenview FO-HDM4K-200-EMIX, HDMI Extender over fiber Optic has been tested for conformity to safety regulations and requirements, and has been certified for international use. However, like all fibre optic products, the FO-HDM4K-200-EMIX should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

On no account should you:




- ⚠ Look into a fiber while the system lasers are on;
- ⚠ Use unfiltered handheld magnifiers or focusing optics to inspect fiber connectors;
- ⚠ Connect a fiber to a fiberscope while the system lasers are on;
- ⚠ Touch the end of the fiber connectors;
- ⚠ Pull forcefully on the fiber cable;
- ⚠ Reuse any specified fiber cleaning material more than once;
- ⚠ Touch the clean area of a any specified fiber cleaning material;
- ⚠ Use alcohol around an open flame or spark - Alcohol is Very Flammable;
- ⚠ Use alcohol or wet cleaning without a way to ensure that it does not leave residue on the polished connector;
- ⚠ Dismantle the housing or modify the connector.



## 1.3 REGULATORY NOTICES FEDERAL COMMUNICATIONS COMMISSION (FCC)

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

Warning symbols	Description
	<p style="text-align: center;">LASER RADIATION DO NOT STARE INTO BEAM &lt; 1 MILLIWATT LASER DIODE CLASS 2 LASER PRODUCT</p> <p>Risk levels increase. These lasers emit a visible beam, from 400 to 780 Nanometres (nm), with an upper power limit of 1 milliwatt. An example is a (mw) bar code scanner. Momentary viewing is not hazardous, but extended viewing is. Laser protective eyewear is recommended for even momentary viewing and necessary for extended viewing</p>
	<p style="text-align: center;">DO NOT TAMPER WITH THE FIBER CABLE; DOING SO WILL VOID THE WARRANTY AND CONTINUED USE OF THE PRODUCT.</p>
	<p style="text-align: center;">LASER BEAM USED IN OPTICAL COMMUNICATIONS ARE INVISIBLE AND CAN SERIOUSLY DAMAGE THE EYES. VIEWING IT DIRECTLY DOES NOT CAUSE ANY PAIN TO THE EYE BUT SERIOUS DAMAGE CAN BE DONE TO THE RETINA OF THE EYE</p>

	<p style="text-align: center;"><b>⚠ WARNING</b></p> <p>Read &amp; understand user guide before using this device.</p> <p>Failure to follow the proper installation instructions could result in damage to the product and preventing expected results.</p>
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## 2. INTRODUCTION

The Avenview **FO-HDM4K-200-EMIX-SET** ULTRA HD Extender set over single SC optical fiber cable has been designed to extend UHD (3840x2160 @60Hz) and 4K (4096x2160@60Hz) video and multi-channel audio formats to any 4K compatible monitor up to 200m.

**Video Signals:** 4K2K@60 (Ultra HD), 3D and Full HD 1080p@60 Hz.

**Audio signals:** Multi-channel audio formats (DTS-HD Master Audio, Dolby TrueHD).

The FO-HDM4K-200-EMIX-SET includes two (2) units: Sending unit (TX) FO-HDM4K-200-EMIX-S and Receiving unit (RX) FO-HDM4K-200-EMIX-R with one (1) FTP output port which allows the user to extend video and audio up to 200m (656ft). The FO-HDM4K-200-EMIX-SET input and output supports HBR2 cable assembly to handle upto 5.4Gbps/lane data rate.

The bonus features is the NEW box type design which can be easily installed into any enviroment, behind the monitor and rack mounted on a rack shelf. This features has been added to the unit to give the installer and user a complete solution with the new trends in rack mounted 4K sources streaming, network connected devices and new demand in Smart TV, Ultra HD monitors and content.

- Input: HDMI 2.0 with 3D & ULTRAHD, 1080p, DPCP compliant;
- Bandwidth: from 18 Gbps;
- Video Data Rate: 5.4 Gbps;
- HD resolutions: Up to 4K (4096x2160@60Hz) UHD (3840x2160@60Hz) WQXGA 2560x1600@60Hz and 1080p (1920x1080@60Hz);
- Audio supported: LPCM 7.1CH, Dolby TrueHD, Dolby Digital plus and DTS-HD Master Audio;
- Audio transmission: (32-192kHz sample rate);
- Distance: up to 200 meters over OM3 SC Fiber Optic cable.

### NOTE:

- Displaying 4K Ultra HD resolution would require the standard HDMI Cable and Display for accurate results.



## 2.1 PACKAGE CONTENTS

Before you start the installation of the converter, please check the package contents.

1	(FO-HDM4K-200-EMIX-SET) FO-HDM4K-200-EMIX-S (TX) FO-HDM4K-200-EMIX-R (RX)	
2	POWER ADAPTER (5V/2A DC)	
3	HDMI (COPPER CABLE - 3FT)	
4	USER'S MANUAL	



### 3. APPLICATION DIGRAM

## FO-HDM4K-200-EMIX-SET

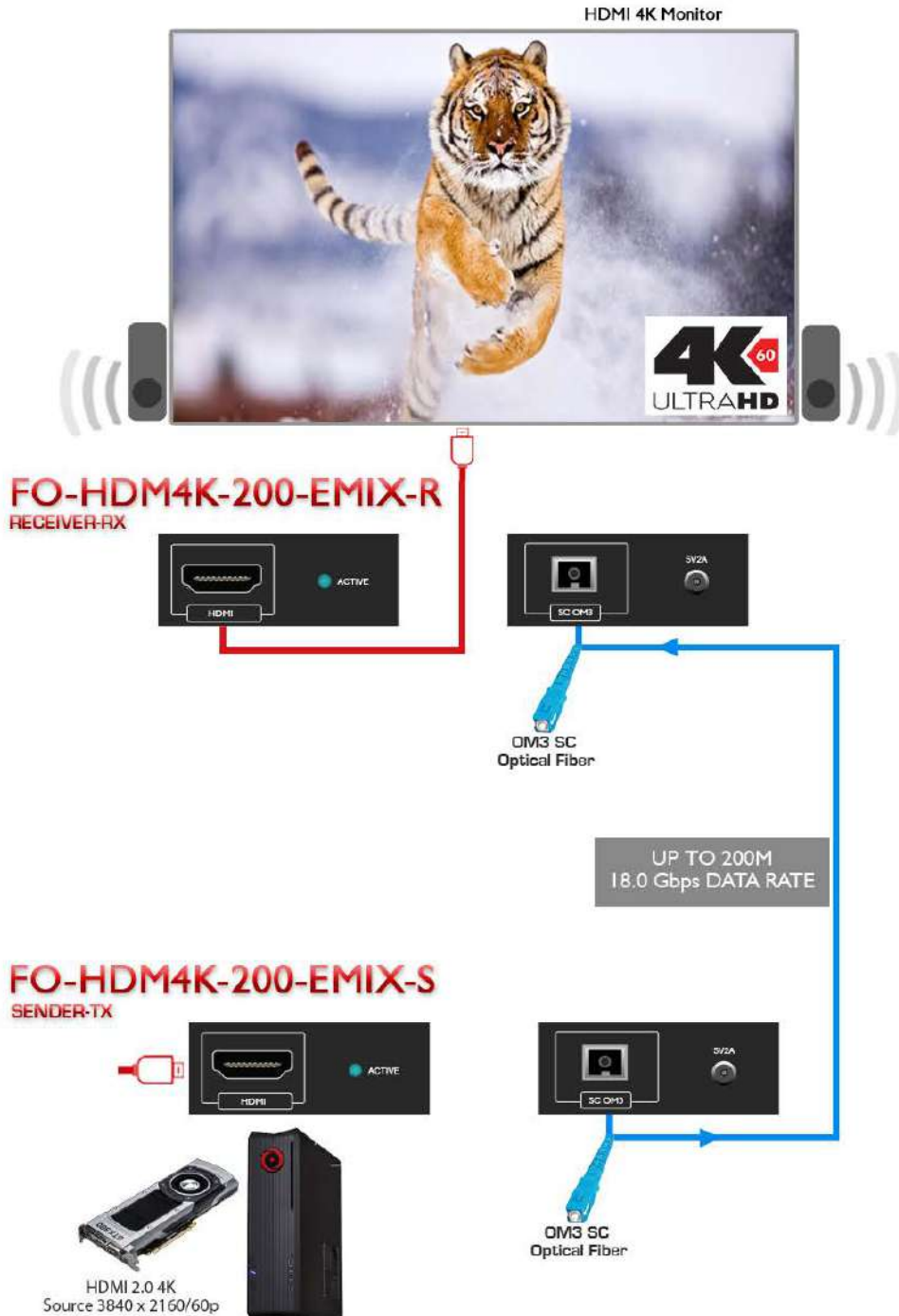
#### CABLE INDEX

- Input / Output
- OPTICAL FIBER

Application Diagram 1

#### EXTENDED PIONT TO POINT

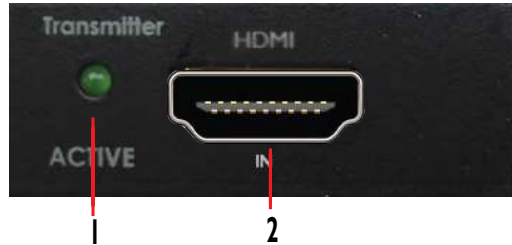
4K(3840x2160)@60Hz = 200m (657 feet) **OM3 FIBER**





## 4. PANEL DESCRIPTION

### 4.1 FRONT PANEL (Sender, HDM4K-200-EMIX-S)



1. LED Light: Green light indicates an active connection.

2. HDMI IN

### 4.2 REAR PANEL (Sender, FO-HDM4K-200-EMIX-S)

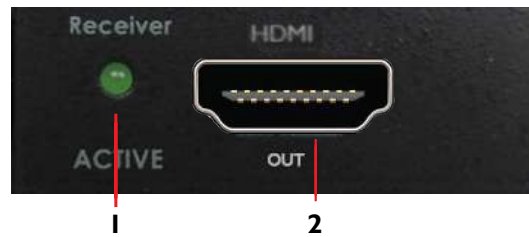


1. LAN: Connect Cat 5/6 For media streaming linking to Receiver

2. 5V 2A Power Supply Jack

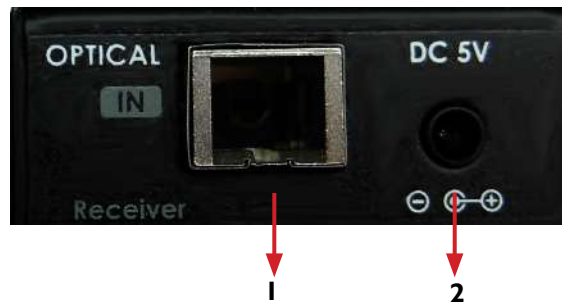


### 4.3 FRONT PANEL (Receiver, FO-HDM4K-200-EMIX-R)



1. LED Light: Green light indicates an active connection.	2. HDMI OUT
---	-------------

### 4.4 REAR PANEL (Receiver, FO-HDM4K-200-EMIX-R)



1. LAN: Connect Cat 5/6 For media streaming linking to Receiver	2. 5V 2A Power Supply Jack
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## 5. INSTALLATION

This product is composed of a Transmitter and a Receiver.

The Transmitter should be connected to the source (Computer's HDMI Port ) and the Receiver should be connected to the HDMI of the digital display device (Monitor). Avenview FO-HDM4K-200-EMIX-SET Transmitter / Receiver is designed to be used with SC type standard optical cable (Multi-Mode optical fiber: 50/125, 62.5/125um)

### 5.1 BEFORE INSTALLATION

- Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction.
- Don't place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power adapter with correct specifications and supplied with the unit. If improper power supply is used the unit may malfunction and cause a fire.
- Do not twist or pull by force ends of the video cable. It can cause malfunction.

*Note: The Transmitter and the Receiver modules must be connected to the included power supplies for proper operation.  
**Transmitter module must be powered on first.***





We highly recommend achieving best results with our FO-HDM4K-200-EMIX you acquire a high quality 26 or 24 AWG HDMI cable with the below specifications to maintain signal integrity and distances.

## Features

- Full UHD 4K/ 60 to 18Gbps High Speed at up to 48 Bit Deep Color
- UHD 4K/60 to 10.2 Gbps High Speed Deep Color up to 50ft (Active Series), 25ft Passive
- Full HD Up to 1080p/60 up to 75ft
- True Professional grade heavy-duty 24 or 26 gauge oxygen-free construction
- ProGrip connector utilizes up to 16 lbs of retention force to help keep connector in place
- SureLength length indicators on the connector heads make it easy to organize for installations
- Available in 7 colors for easy cable identification
- Up to 32 audio channels and 21:9 aspect ratio
- Simultaneous delivery of dual video and audio streams to multiple users
- Pro Grade Triple Shielding with 2x 100% coverage and 85% Premium Tinned Copper Braid construction
- Ethernet Capable
- 3D Ready
- Supports Deep Color and x.v. Color (Up to 48 Bit)
- 5.1/7.1 Lossless Dolby TrueHD and DTS-HD Surround Sound
- Audio Return Channel & Lip-sync
- ATC Certified
- 99.9% High Purity Copper Center Conductor
- Molded 24k Gold Plated HDMI male connectors on each end
- X-tra Flex CL3 rated jacket for easy installation
- RoHS Certified
- Lifetime Warranty



- **HDMI Premium Certified Cable label**  
This label ensures that the product was tested under the Premium HDMI Cable Certification Program
- **SECURE QR Code**  
Encrypted data in the QR code to identify the product with the Premium HDMI Cable app
- **SECURE fingerprint**  
Random elements in the hologram are recognized by the Premium HDMI Cable app, thus each label has its unique "fingerprint" and ensure the authenticity and quality of the product

## 5.3 Installation Steps

1. Connect the Transmitter module to the HDMI source device.
2. Connect the Receiver module to the display.
3. Connect a single strand multi-mode SC terminated optic fiber (50/125um) from the Transmitter to the Receiver module.
4. Connect the included +5V DC power supply into the Receiver.
5. Green LED indicator on the modules will light up after all connections are completed.

## 6. OPTICAL FIBER HAZARD



- Persons installing fiber optic products must take all necessary safety precautions, such as wearing protective clothing and goggles and observing warning signs.
- To ensure that the required personnel and equipment is properly installed, secure from unnecessary failure of the components or failure of the whole system, injury to one's self and in addition to legal responsibility; everyone is responsible for his own health
- Keep exposed optical fiber ends away from skin and eyes.
- The waste fragments should be treated with care and not picked up with bare hands, but rather with special gloves.
- Dispose of waste in a suitable container via an approved agency. Make sure that the quantity of optical fiber waste is minimized.
- Closures containing termination points for optical fiber cabling must be labeled with appropriate warning signs or clearly visible text.
- Make sure that the quantity of optical fiber waste is minimized. Closures containing termination points for optical fiber cabling must be labeled with appropriate warning signs or a clearly viewable text.
- There are four Laser Classifications based on risk levels. Laser manufacturers are required to label their lasers accordingly.



## 7. GENERAL TROUBLESHOOTING

Problem	Possible Solutions
<b>NO IMAGE</b>	<ul style="list-style-type: none"><li>• Check if the PC power is on</li><li>• Check if connection to the computer and the monitor are correct.</li><li>• Turn the PC power off and on again.</li><li>• Please use DC adapter (5V, 2A) included in the package for transmitter and receiver.</li></ul>
<b>LCD SCREEN DEFECTS APPEAR</b>	<ul style="list-style-type: none"><li>• Check the resolution range of the LCD Screen.</li><li>• Check the maximum resolution range of the graphics card.</li></ul>

### 7.1 Trouble Shooting depending on LED indicator status

No display TX Solid / RX Blink

- Check if monitor is powered on
- Check if HDMI source is selected on monitor input setting

No display TX Blink / RX Solid

- Check if the PC and display are powered on and properly booted.
- Check if optic fiber is connected properly.

No display TX Blink / RX Blink

- please make sure that power supply is connected into TX and RX.
- Reset the system by de-plugging and re-plugging all connections





## 8. CAUTION

1. Do not put heavy object on top of the FO-HDM4K-200-EMIX. It may cause product malfunction.
2. Put the product on even and stable location. If the product falls down or dropped, it may get damaged.
3. Keep away from high temperature (over 50°C), low temperature (under 0°C) or high humidity. It may cause a fire and injury by electrical shock.
4. Use DC power adapter with correct specification. Otherwise it may cause fire.
5. Use the multimode (50/125um) optical fiber.
6. Do not view directly laser module of transmitter or the end of the other side of optical cable connected to transmitter with optical instrument.
7. Do not twist or pull by force either ends of the optical cable. It can cause malfunction. Minimum bending diameter is 45mm

*NOTE: Optical fiber cords of different types and specifications should not be mixed.  
Please note the color-coding of connectors for different fiber specs to make it easy to avoid confusion*



## 9. SPECIFICATIONS

ITEM	DESCRIPTION	
<b>MODEL</b>	FO-HDM4K-200-EMIX-S	FO-HDM4K-200-EMIX-R
<b>UNIT DESCRIPTION</b>	HDMI Extender Transmitter	HDMI Extender Receiver
<b>INPUT VIDEO PORT</b>	HDMI	Optical
<b>INPUT RESOLUTION</b>	Up to 4K (4096X2160) @ 60Hz	Up to 4K (4096X2160) @ 60Hz
<b>OUTPUT VIDEO PORT</b>	Optical	HDMI
<b>OUTPUT RESOLUTION</b>	Up to 4K (4096X2160) @ 60Hz	Up to 4K (4096X2160) @ 60Hz
<b>DIMENSIONS (L X W X H)</b>	4.4" X 0.9" X 0.7"	4.4" X 0.9" X 0.7"
<b>POWER SUPPLY</b>	5V 2A	5V 2A

### OPTICAL

<b>OPTICAL SOURCE</b>	850nm VCSEI
<b>O/E CONVERTER</b>	PIN Photo Diode
<b>FIBER</b>	Multi-Mode optical fiber(SC Type Connector)
<b>FIBER TYPE</b>	50/125 $\mu$ m Multi-mode glass fiber OM2 or OM3 rated fiber

### ENVIRONMENTAL

<b>OPERATING TEMPERATURE</b>	32° ~ 104°F (0° to 40°C)
<b>STORAGE TEMPERATURE</b>	-4° ~ 140°F (-20° ~ 60°C)
<b>RELATIVE HUMIDITY</b>	20~90% RH (no condensation)





**Notes**



**Notes**



## Avenview Warranty Certificate

AVENVIEW CORP. ("Avenview") warrants Avenview-branded product(s) contained in the original packaging against defects in materials and workmanship when used normally in accordance with Avenview's enclosed manual guidelines for a period of THREE (3) YEARS from the date of original retail purchase - Warranty Period. Avenview's published guidelines include but are not limited to information contained in technical specifications, user manuals and service communications.

**LABOR:** During the Warranty Period of THREE (3) YEARS, Avenview will repair or replace the product(s) at no cost using new or used parts equivalent to novel performance and reliability if the product(s) is determined to have abide by Avenview's published guidelines. Cost of Labor applicable to product(s) after Warranty Period. For labor costs, please contact [support@avenview.com](mailto:support@avenview.com).

**PARTS:** During the Warranty Period of THREE (3) YEARS, Avenview will supply new or rebuilt replacements in exchange for defective parts of the product(s) at no cost if the product(s) is determined to have abide by Avenview's published guidelines. Cost of Parts applicable to product(s) after Warranty Period. For part(s) costs, please contact [support@avenview.com](mailto:support@avenview.com).

To obtain Warranty: (a) proof of purchase in the form of a bill of sale or receipted invoice reflecting that the registered product(s) is within warranty period must be presented to obtain warranty service; (b) product(s) must be registered at time of purchase. Failure to do so will result in applicable parts and labor charges. Returning product(s) must be shipped in Avenview's original packaging or in packaging pertaining equal degree of protection to Avenview's. Both Avenview and purchaser are responsible for freight charges and brokerages when shipping the product(s) to the receiver.

### NOT COVERED BY THIS WARRANTY

This warranty does not apply to any non-Avenview branded product(s); non-registered Avenview product(s). This warranty does not apply: (a) to cosmetic damage, including but not limited to scratches, dents and broken cords; (b) to damage caused by use with another product; (c) to damage caused by accident, abuse, misuse, liquid contact, fire, earthquake or other external cause; (d) to damage caused by operating the Avenview product(s) outside Avenview's manuals or guidelines; (e) to damage caused by service performed by anyone who is not a representative of Avenview or an Avenview authorized personnel; (f) to defects caused by normal wear and tear or otherwise due to the normal aging of the Avenview product(s), or (g) if any serial number has been removed or defaced from the Avenview product(s).

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Some states do not allow the inclusion or limitation of incidental or consequential damages, or allow limitations on duration implements of the Warranty Period; therefore the above limitations or exclusions may not be applicable to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.



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