



## HDMI Extender SET over Single Fiber Optic Cable with EMI Shielding



Model #: FO-HDM-1000M-EMI

**HDMI WUXGA TRUE HD** **HD ready 1080p**  
**HDCP 1920x1200**

© 2010 Avenview Inc. All rights reserved.

The contents of this document are provided in connection with Avenview Inc. ("Avenview") products. Avenview makes no representations or warranties with respect to the accuracy or completeness of the contents of this publication and reserves the right to make changes to specifications and product descriptions at any time without notice. No license, whether express, implied, or otherwise, to any intellectual property rights is granted by this publication. Except as set forth in Avenview Standard Terms and Conditions of Sale, Avenview assumes no liability whatsoever, and disclaims any express or implied warranty, relating to its products including, but not limited to, the implied warranty of merchantability, fitness for a particular purpose, or infringement of any intellectual property right. Reproduction of this manual, or parts thereof, in any form, without the express written permission of Avenview Inc. is strictly prohibited.

## Table of Contents

Section 1: Getting Started .....	3
1.1 Important Safeguards .....	3
1.2 Safety Instructions .....	3
1.3 Regulatory Notices Federal Communications Commission (FCC) .....	4
1.4 Introduction .....	4
1.5 Package Contents.....	4
1.6 Before Installation.....	4
1.7 Installation .....	5
Section 2: Specifications.....	6
2.1 Case Dimensions .....	6
2.2 Absolute Maximum Ratings .....	7
2.3 Signal Pin Assignment .....	7
2.4 Optical Fiber Cable .....	8

## Section 1: Getting Started

### 1.1 Important Safeguards

Please read all of these instructions carefully before you use the device. 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.

### 1.2 Safety Instructions

The Avenview FO-HDM-1000M-EMI, HDMI Extender SET over Single Fiber Optic, has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment's, the FO-HDM-1000M-EMI 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.

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- 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.
- Have the module checked by a qualified service engineer before using it again.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

## 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.

## 1.4 Introduction

Avenview FO-HDM-1000M-EMI optical HDMI extension module, is designed to let digital flat panel display extend over 1000 meters away from host based on HDMI standard by optical transmission technology. Its small package and transmit up to four video and one low-speed lane, while simultaneously receiving one low-speed signal, all on one multimode fiber.

- High Speed and long distance transmission by 1 channel SC type Multi-mode Fiber
- Supports resolution up to HDTV/1080P, PC/WUXGA(1920x1200)
- Transmit up to 1000m (3300 feet) at 1280 x 1024 by multi-mode SC Type one fiber optic cable
- Transmit up to 500m (1650 feet) at 1920 x 1200 by multi-mode SC Type one fiber optic cable
- TMDS video signal and EDID data is transmitted by 1 channel multimode optical fiber
- HDCP support by DDC channel
- Supports 12Bit Deep Color
- Small size for insertion into internal system
- Optional external power supply (Automatic power switch is included.)

## 1.5 Package Contents

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

- FO-HDM-1000M-EMI Transmitter                    x 1
- FO-HDM-1000M-EMI Receiver                    x 1
- User's Manual    x 1

## 1.6 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. If inappropriate power supply is used then it may cause a fire.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.



## 1.7 Installation

Avenview FO-HDM-1000M-EMI is composed of a Transmitter converting the graphic signal of a computer to optical and Optical Fiber propagating the optical signal and Receiver supplying electrical signal to monitor converted from the optical signal to electrical signal. The Transmitter should be connected to computer and the Receiver should be connected to a monitor.

Avenview FO-HDM-1000M-EMI is designed to self-detect the resolution of the monitor and change the resolution accordingly. Follow these steps for connecting to a device:

To setup Avenview FO-HDM-1000M-EMI follow these steps for connecting to a device:

1. Power on your display
2. Connect Transmitter to the PC and Receiver to the Display.
3. Connect the optical fiber between Transmitter and Receiver.
4. Restart the computer.

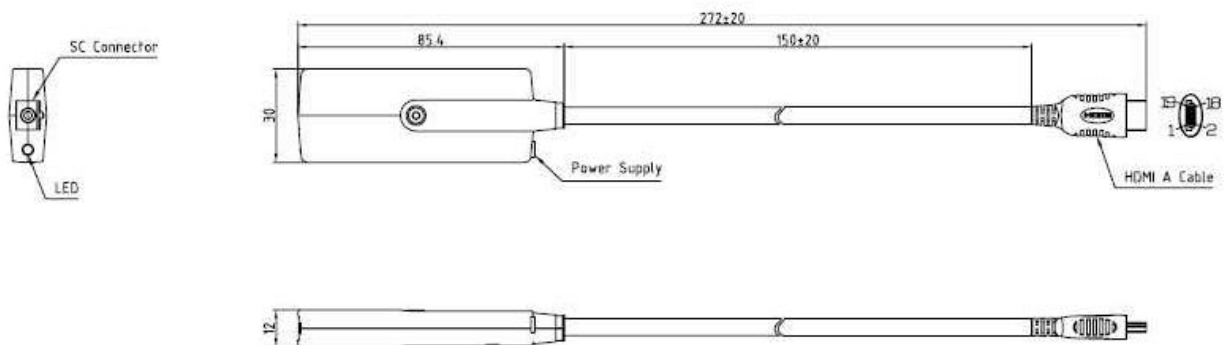
*Use the DC power adapter (optional) with correct specification. The Transmitter which is connected to a computer uses power from the computer.*

*Do not twist or pull by force the both ends of the optical cable. It may cause malfunction*

## Section 2: Specifications

Item	Description	
<b>Units</b>	FO-HDM-1000M-EMI (Transmitter)	FO-HDM-1000M-EMI (Receiver)
<b>Unit Description</b>	HDMI Transmitter over Fiber Optic	HDMI Receiver over Fiber
<b>HDMI Compliance</b>	HDMI 1.3a	
<b>HDCP Compliance</b>	HDCP 1.1	
<b>Video Bandwidth</b>	2.25 Gbps / Channel	
<b>Supported Resolution &amp; Distance</b>	WUXGA 1920 x 1200 @ 500 meters ( 1650 feet) UXGA 1600 x 1200 @ 700 meters (2300 feet) SXGA 1280 x 1024 @ 1000 meters (3300 feet)	
<b>Optical Converter</b>	4 Ch 850 nm Transmit OSA 911nm, 1 Ch VCSEL 980nm, 1 Ch PIN P/D Diode	4 Ch 850 nm Transmit OSA 911nm, 1 Ch VCSEL 980nm, 1 Ch PIN P/D Diode
<b>HDMI Connector</b>	HDMI A Type Plug	
<b>Optical Connector</b>	1 SC Connector	
<b>Fiber Type</b>	50/125 $\mu$ m Multi-mode glass fiber	
<b>Power Consumption</b>	1.0W (max)	0.75W (max)
<b>Power Supply</b>	100 ~ 240V 5V 2A DC	
<b>Dimensions (L x W x H)</b>	10.7" x 1.2" x 0.5"	
<b>Environmental</b>		
<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)	

### 2.1 Case Dimensions



## 2.2 Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Power Supply	VCC	-0.3	5.5	V
Operating Temperature	VOT	0	50	°C
Storage Temperature	VST	-20	70	°C
Relative Humidity	HRH	10	80	RH

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

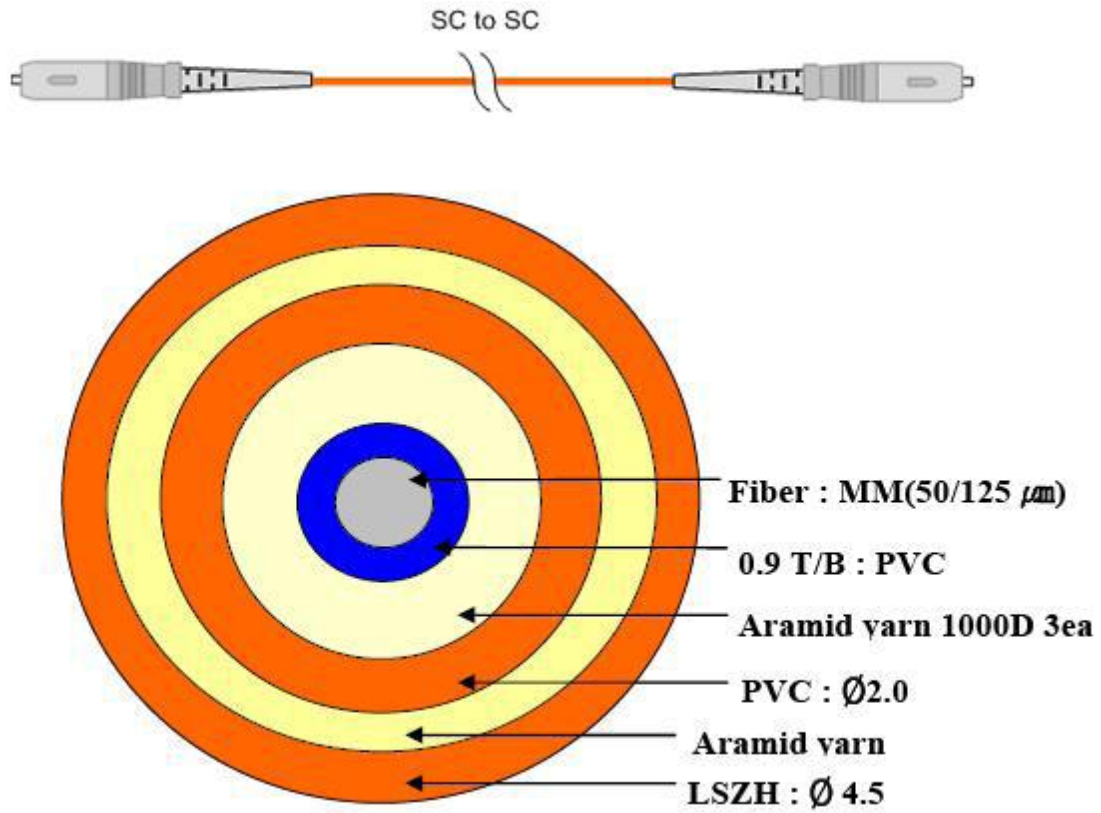
## 2.3 Signal Pin Assignment

### Transmitter / Receiver

Pin	Signal Assignment	Pin	Signal Assignment
1	T.M.D.S. Data2+	11	T.M.D.S Clock Shield
2	T.M.D.S. Data2 Shield	12	T.M.D.S Clock -
3	T.M.D.S. Data2-	13	CEC
4	T.M.D.S. Data1+	14	No Connect
5	T.M.D.S. Data1 Shield	15	SCL
6	T.M.D.S. Data1-	16	DSA
7	T.M.D.S. Data0+	17	DDC/CEC Ground
8	T.M.D.S. Data1 Shield	18	+5V Power
9	T.M.D.S. Data0-	19	Hot Plug Detect
10	T.M.D.S Clock +		

## 2.4 Optical Fiber Cable

The construction of 4 Optical Fibers and 4 Copper wires cable shall be in accordance with Figure and Table below:





**Disclaimer**

While every precaution has been taken in the preparation of this document, Avenview Inc. assumes no liability with respect to the operation or use of Avenview hardware, software or other products and documentation described herein, for any act or omission of Avenview concerning such products or this documentation, for any interruption of service, loss or interruption of business, loss of anticipatory profits, or for punitive, incidental or consequential damages in connection with the furnishing, performance, or use of the Avenview hardware, software, or other products and documentation provided herein.

Avenview Inc. reserves the right to make changes without further notice to a product or system described herein to improve reliability, function or design. With respect to Avenview products which this document relates, Avenview disclaims all express or implied warranties regarding such products, including but not limited to, the implied warranties of merchantability, fitness for a particular purpose, and non-infringement.