



Stretch HDMI™

User's Manual (M1-2000)

Manual Contents

Manual Contents	1-0
Welcome!, Product Description	1-1
System Requirements for Setup	1-2
Installation	1-3
Troubleshooting, Maintenance, Technical Support	1-5
Product Specifications	1-6
Warranty Information	1-7
Regulatory Statements	1-8

Pictorials

Figure 1 – Optical HDMI Extension Cable, M1-2000	1-1
Figure 2 – Tx Module of M1-2000 Cable	1-3
Figure 3 – Rx Module of M1-2000 Cable	1-4

Welcome!

Congratulations on your purchase of the **Stretch HDMI™** M1-2000 Optical HDMI (High Definition Multimedia Interface) Extension Cable. This manual contains information that will assist you in installing and operating the product.

Product Description

Shipping Group

- **M1-2000 Optical HDMI Cable:** One (1) unit, length as your inquire.
- **+5V AC/DC power adapter :** One (1) unit
- **User's Manual**

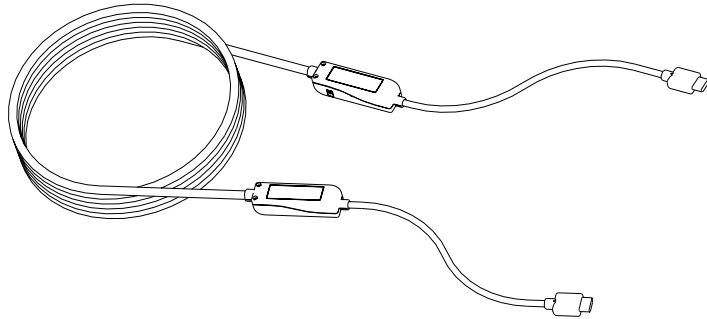


Figure 1 – Optical HDMI extension Cable, M1-2000

System Requirements for Setup

- **Hardware requirements**
 - You have to have a HDMI / DVI multimedia systems (DVD, AV Receiver, STB etc.) or graphic cards. It should support the maximum graphic resolution feature of TVs to be connected.
 - No special requirements memory size, CPU speed and chipsets, if you've already properly installed your HDMI systems or DVI graphic cards.
- **Software requirements**
 - No special restrictions, if you've already properly installed your HDMI / DVI systems.
- **AC/DC Power Adapter Technical Advisory**

The M1-2000 is designed to use either +5V internal power supplied through a HDMI pin (#18) / DVI pin (#14) from the graphic source port or one external +5V AC/DC power adaptor to drive the Tx/Rx modules. To plug the power into Tx module makes the Rx module supplied over a copper wire of the hybrid cable.

Tips: In general, many HDMI sources are capable to supply sufficiently DC powers for two modules.

Installation

Important: Please use the installation procedure below. Improper, or no operation may result if the start-up sequence is not correctly followed.

Step 1

Carefully unpack the contents of the shipping group.

Step 2

Plug directly the HDMI plug of the Tx side of M1-2000 into the HDMI receptacle of HDMI source (DVDP or Set-top Box) without power up of TV and HD devices. Do **NOT** recommend to use any intermediate cable or adapter between them. It may deteriorate the signal transmission performance.

Step 3

As shown in Figure 2, plug the +5V power adaptor in the shipping group to the Tx module.

Note: after having done the installing procedure and confirming the system works, for your convenience, you could try to deplug the power adaptor. If it still works, you could make sure it runs without the power adaptor. If it doesn't, just plug it again. If you have a system hang-up, then got to Step 1.

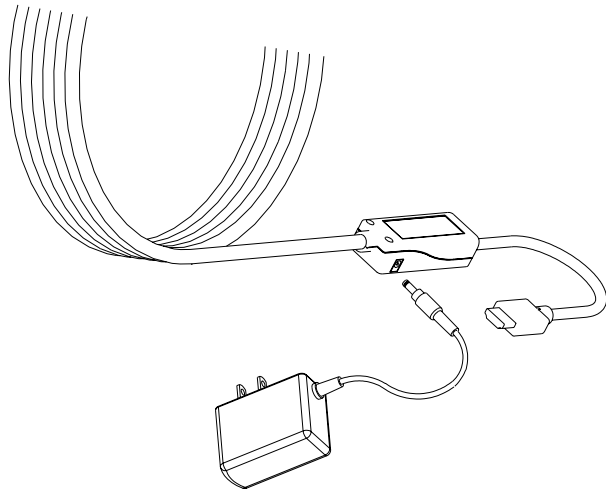


Figure 2 – Tx Module of M1-2000 Cable

Step 4

Plug the HDMI plug of the Rx side of M1-2000 into the HDMI receptacle of a TV. Do **NOT** recommend to use any intermediate cable or adapter between them. It may deteriorate the signal transmission performance.

Step 5

Power ON the device of a HDMI source and a TV.

Note: M1-2000 can utilize either the +5V power supplied through a HDMI pin (#18) from the HDMI source or the +5V power adaptor. Nonetheless, you have to confirm the power being capable to supply more than 500mA.

Note: Do **NOT** worry about plugging the +5V power adaptor to the Tx module, irregardless of your HDMI source supplying sufficient power through its connector, since **M1-2000** has a circuitry against such a power conflict.

Note: Many HDMI sources are able to supply sufficiently DC power to two modules. Just in case, not being sufficient, **M1-2000** may require the +5V power adaptor. To plug it into Tx module makes the Rx module supplied over a copper wire in the hybrid cable.

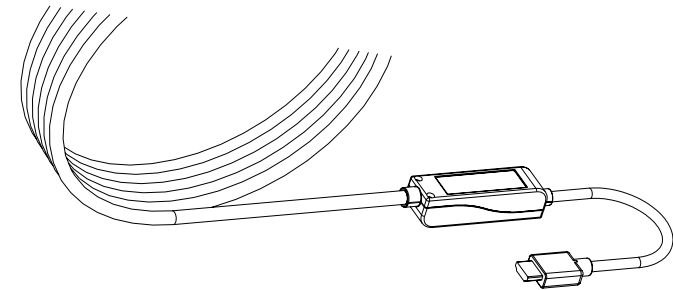


Figure 3 – Rx Module of M1-2000 Cable

Step 7

If the system does not work properly, go to page 1-5, trouble shooting.

Troubleshooting

The display displays only black screen.

Ensure that all AC and DC plugs and jacks used by external power supplies (both Opticis and others) are firmly connected. Ensure that power bars are live.

Ensure that the HDMI ports are firmly plugged in to the HDMI source/DVDP and TV. Ensure that the Tx and Rx module parts plug correctly to the HDMI source/DVDP and TV, respectively.

Check if the HDMI source/DVDP and TV are powered on and properly booted.

Reset the system by de-plugging and re-plugging the Tx HDMI port or Rx HDMI port, or by de-plugging and re-plugging the power cord plugs of Tx module.

Re-boot up the system while connecting the optical HDMI cable system.

Screen is distorted or displays noises.

Ensure connections of both plugs while disconnecting and reconnecting the optical HDMI cables or DC power adapters.

Maintenance

No special maintenance is required for the optical HDMI cables and power supplies. Ensure that the cables and power modules are stored or used in a benign environment free from liquid or dirt contamination.

There are no user serviceable parts. Refer all service and repair issues to Opticis.

Technical Support and Service

For commercial or general product support, contact your reseller. For technical service, contact Opticis by email techsupp@opticis.com or visit its website at www.opticis.com.

Product Specifications

M1-2000 Optical HDMI Extension Cable

- **Compliance with HDMI standard:** support HDMI 1.2 and DVI 1.0 (DDC2B), fully implemented by fiber-optic communication.
- **Extension limit:** 100m (330feet) for 1080p / WUXGA (1,920x1,200) at 60 Hz refresh rate.
- **Graphic Transmission Bandwidth:** support 1080p / WUXGA at 60Hz, or 1.65Gbps bandwidth per graphic channel.
- **Hybrid Fiber-optic Cable:** Flame retardant PVC employing 4 fiber strands and 5 shielded copper wires.
- Tensile load: 180N
 - Minimum bend radius: 15.4cm
 - Outer diameter of cable: 7.2cm
- **Mechanical specifications of Tx and Rx module parts**
 - **Dimensions:** 39mm / 15mm / 105mm (W/H/D)
 - **Clamping strength to cable:** 14kg_f
- **Environmental Specifications**
 - Operating temperature: 0°C to 50°C
 - Storage temperature: - 40°C to 70°C
 - Humidity: 5% to 85%

AC/DC Power Adapter

- **Power Input:** AC 100-240V, 50/60Hz 0.1A
- **Power Output:** +5 V, 1.0A SMPS DC-power Adapter
- **Cord DC Jack:** Core is 5 V and outer is GND.

Warranty Information

1 (One) Year Warranty

Opticis warrants this optical HDMI extension cable to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from Opticis or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Opticis shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of Opticis.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the remainder of the initial warranty period, whichever is longer.

Opticis shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to Opticis for repair under warranty or not.

Warranty Limitation and Exclusion

Opticis shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by Opticis or its authorized agents, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.

FCC/CE Statement

This device complies with part 15 of FCC Rules and EN 55022/55024/61000-3 for CE certification. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 and 2 of FCC Rules and EN 55022/55024/61000-3 for CE certification. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult a service representative for help.

Properly shielded and grounded cables and connectors must be used in order to comply with FCC/CE emission limits. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

UL Statement

This device has completed a UL Commercial Inspection and Testing Services for the multimode DVI cable complied with VW-1 under UL 758. It is validated by the UL file number SV2038 and project number 04CA05353.