Stretch DisplayPort™

User's Manual
(M1-5000)

Manual Contents

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Pictorials

Welcome!

Congratulations on your purchase of the **Stretch DisplayPort**^{TM} M1-5000 Optical DisplayPort Extension Cable. This manual contains information that will assist you in installing and operating the product.

Product Description

Shipping Group

☐ **M1-5000 Optical DisplayPort Cable:** One (1) unit, length as your request.
☐ **DisplayPort Copper Cable:** Two (2) units, 0.5M.
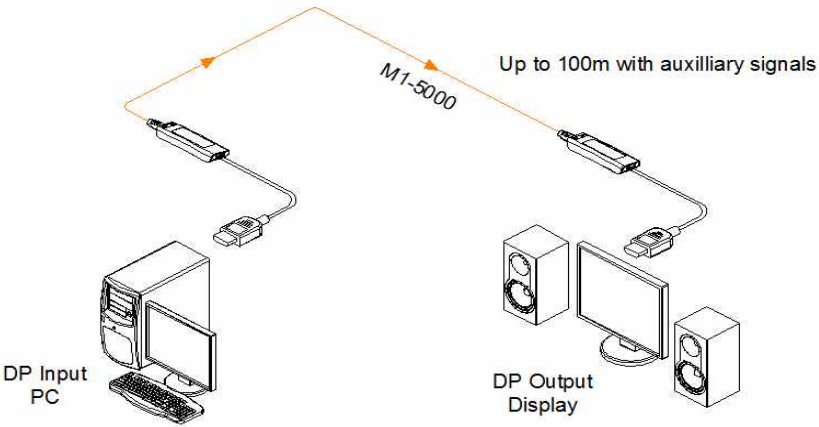☐ **+5V AC/DC power adapter :** One (1) unit
☐ **User's Manual**

Figure 1 – Optical DP extension Cable, M1-5000

System Requirements for Setup

☐ **Hardware requirements**

■ You have to have a DisplayPort multimedia systems (PC, DVD, AV Receiver, STB, Displaying Monitor etc.) or graphic cards. It should support the maximum graphic resolution feature of Monitors to be connected.

■ No special requirements of memory size, CPU speed and chipsets, if you've already properly installed your DP systems or DP graphic cards.

☐ **Software requirements**

■ No special restrictions, if you've already properly installed your DP systems.

☐ **AC/DC Power Adapter Technical Advisory**

The M1-5000 is designed to use only +5V external power.
(#. To plug the power either Tx module or Rx module makes each modules supplied over a copper wire of the hybrid cable.)

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 DP plug of the Tx side of M1-5000 into the DP receptacle of DP source (PC or Graphic Source). Do **NOT** recommend to use any intermediate cable or adapter between them. It may deteriorate the signal transmission performance.
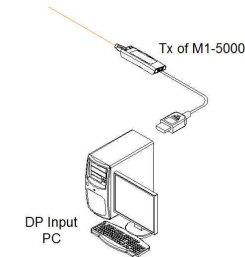

Figure 2 – Tx Module of M1-5000 Cable

Step 3
As shown in Figure 3, plug the +5V power adaptor in the shipping group to the Tx module (or Rx Module).
Connecting 5V power adaptor to M1-5000 Cable is indispensable procedure for working.
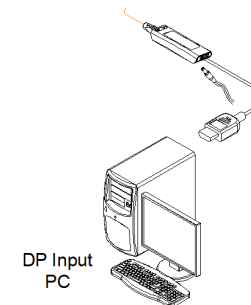

Figure 3 – Tx Module of M1-5000 Cable with power adapter

Step 4
Plug the DP plug of the Rx side of M1-5000 into the DP receptacle of a Display. Do **NOT** recommend to use any intermediate cable or adapter between them. It may deteriorate the signal transmission performance.
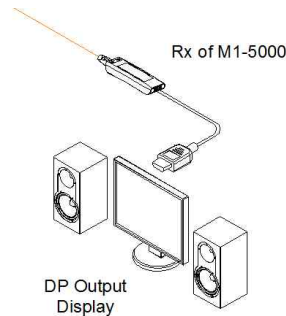

Figure 4 – Rx Module of M1-5000 Cable

Step 5
Power ON the device of a DP source and a Monitor.

Note: M1-5000 must be connected by +5V power adaptor. To plug it into Tx module makes the Rx module supplied over a copper wire in the hybrid cable.
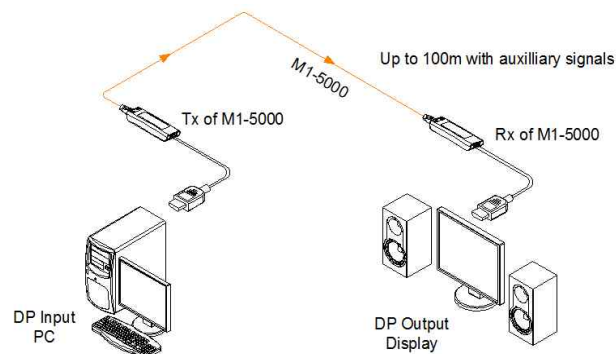

Figure 5 – Whole Connection of M1-5000 Cable

Step 7
If the system does not work properly, go to page 1-5, trouble shooting.

1-4 Installation (continued)

Troubleshooting

The display shows 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 DP ports are firmly plugged in to the DP source/PC and Monitor/TV. Ensure that the Tx and Rx module parts plug correctly to the DP source/PC and Monitor, respectively.
Check if the DP source/PC and Monitor are powered on and properly booted.
Reset the system by de-plugging and re-plugging the Tx DP port or Rx DP port, or by de-plugging and re-plugging the power cord plugs of Tx module.
Re-boot up the system while connecting the optical DP cable system.

Screen is distorted or displays noises.
Ensure connections of both plugs while disconnecting and reconnecting the optical DP cables or DC power adapters.

Maintenance

No special maintenance is required for the optical DP 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.

1-5 Troubleshooting, Maintenance, Technical Support

Product Specifications

M1-5000 Optical DP Extension Cable

- □ **Compliance with DisplayPort standard:** support DP 1.1 with 36-bit color depth and DVI 1.0 (DDC2B), fully implemented by fiber-optic communication.

- □ **Extension limit:** 100m (330feet) for WQXGA (2560x1600) at 60 Hz refresh rate.

- □ **Graphic Transmission Bandwidth:** Support 2.7Gbps per one lane.

- □ **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:** 35mm / 16mm / 99.4mm (W/H/D)
  - ■ **Clamping strength to cable**: $14kg_f$

- □ **Environmental Specifications**
  - ■ Operating temperature: 0°C to 50°C
  - ■ Storage temperature: - 10°C to 85°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 5V and outer is GND.

Warranty Information

1 (One) Year Warranty

Opticis warrants this optical DP 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 reminder 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.

Dispose of Old Electrical & Electronic Equipment
(Applicable in the European Union and other European countries with separate systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

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.

UL/IEC Statement

This equipment has been tested and found to comply with the limits for medical devices in IEC 60601-1:1994. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation.

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 other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to other devices, 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:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

- Type of protection against electric shock: Class I equipment
- Degree of protection against electric shock: Not classified - no applied parts
- Classification according to the degree of protection against ingress of water as detailed in the current edition of IEC 529: IPX0, ordinary equipment
- This equipment is not suitable for use in the presence of flammable anesthetics or oxygen
- Mode of operation: continuous operation

Certification of Eye Safety

This laser product is inside implemented by using 1300/1550nm optical module, manufactured by Opticis Co., Ltd., which are all certified by IEC/EN60825-1 referred in Accession Number 07-1334-0217 as classified in Laser Class1.

CLASS 1 LASER PRODUCT

Opticis Locations

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For order support, please contact your Distributor or Reseller.

For technical support, check with the Opticis web site www.opticis.com or
contact techsupp@opticis.com