Stretch HDMI^{TM}
HDMI 2.0 Detachable
Active Optical Cable

User Manual
LHM2-P

Manual Contents

_____

Welcome!

Product Description

Congratulations on your purchase of the *Stretch* **HDMI**™ LHM2-P, Detachable Active Optical Cable for HDMI 2.0. This manual contains information that will assist you in installing and operating the product.
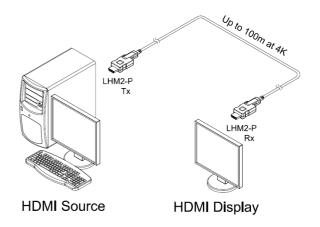
OPTICIS active optical HDMI 2.0 cable, LHM2-P is designed for critical display applications that demand flawless HDMI signal integrity and it provides transparent signal transmission over plenum graded, LSZH graded, or TPU hybrid cable.

It enables to deliver 4K DCI (4096x2160) at 60Hz signal up to 100m (384ft). It avoids any scaling or data compression for lessening a burden of data transmission.

LHM2-P offers perfect flexibility during installation by separating HDMI connector part and Active Optical Cable part. It gives slim, light, easy installation like a general copper HDMI cable.
LHM2-P is powered by external 5V micro USB power supply cable

Shipping Group

- ☐ **LHM2-P, Active Optical Cable:** One (1) unit, length as you inquire.
- ☐ **5V Micro Power Supply**
- ☐ **User Manual**
- ☐ **Optional:**
  - ■ HDMI M/F to USB AM, 540mm

System Requirements for Setup

☐ **Hardware requirements**

- You must have a HDMI display source (Media player, PC or laptop). It should support the maximum graphic resolution feature of Display (TV, Monitor or Projector) to be connected.

- No special requirements memory size, CPU speed and chipsets, if you've already properly installed your HDMI systems.

☐ **Software requirements**

- No special restrictions, if you've already properly installed your HDMI / DVI systems.

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

The LHM2-P is designed to use +5V internal power supplied through a HDMI pin (#18) on the graphic source port. However, LHM2-P requires USB power supply on RX side to power up.

Note that if either of Display source or Display does not support HDMI 2.0 standard, LHM2-P would not transmit HDMI 2.0 signal. Just like copper cable, transmitting information will follow lower resolution of the two.
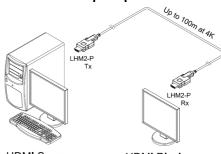**(Example: 4K Display source – 2K Display → 2K resolution,**
2K Display source – 4K Display → 2K resolution)

<u>**Warning**</u>
Do not connect micro HDMI connector, which is place on the end part of core cable, directly to any micro HDMI receptacle other than LHM2-P body part. Using micro HDMI connector without LHM2-P connector will damage cable and/or HDMI devices.

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
Connect both connector and cable of LHM2-P if they are not engaged with each other.

Step 3
Power ON the body connector by using the micro USB power supply provided.

Step 4
Directly plug the TX side into the HDMI receptacle of HDMI source without powering up of the devices.

Step 5
Plug the RX side into the HDMI receptacle of a HDMI Display.

Step 6
Power ON the device of a HDMI source and a Display.

Step 7
If the system does not work properly, go to page 1-4, trouble shooting.

<u>**Note:**</u> It is **NOT** recommended for customer to use any intermediate cable or adapter between them. It may deteriorate the signal transmission performance.
<u>**Note:**</u> Do not use electric screw driver to tighten the screw. Excessive force on screw may damage the product.
<u>**Note:**</u> Do not pull the cable with excessive force.
<u>**Note:**</u> This cable is directional cable. Please be cautious with the direction.
<u>**Note:**</u> Do not bent the neck (strain relief) of the cable too much.

Troubleshooting

The display shows black screen.
Ensure that the HDMI ports are firmly plugged into the HDMI source and display. Ensure that the TX and RX modules are plugged correctly to the HDMI source and display respectively, the cable guides which side to insert.

Check if the HDMI source and display are powered on and properly booted.
Reset the system by de-plugging and re-plugging the TX HDMI port or RX HDMI port.
Re-boot up the system while connecting the optical HDMI cable system.

Check if the cable or its jacket is not physically damaged.
Check if the cable is not bent or kinked.

Screen is distorted or displays noises.
Ensure connections of both plugs while disconnecting and reconnecting the optical HDMI cables.

Maintenance

No special maintenance is required for the optical HDMI cables. 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 our website at www.opticis.com

Product Specifications

LHM2-P, HDMI 2.0 Detachable Active Optical Cable

- ☐ **Supports HDMI 2.0 Standards**

- ☐ **Extends** up to 4K (4096x2160) at 60Hz (RGB & YCbCr : 4:4:4)

- ☐ **Transmits** HDMI 2.0 data up to 100m(328feet) over hybrid cable

- ☐ **Offers** perfect flexibility during installation by separating HDMI connector from cable

- ☐ **Cable Options:**

  -LHM2-PPxx: Plenum Jacket

  -LHM2-PLxx: LSZH Jacket

  -LHM2-PTxx: TPU Jacket

  *Note: "xx" stands for the length of the cable.

  Ex: 10m of LHM2-PP → LHM2-PP10 ("A0" for 100m)

- ☐ **Operates** by external USB power supply on the display(RX) side

- ☐ **Provides** USB power on display source(TX) side for insufficient power supply(optional)

- ☐ **Supports** 3D contents transmission

- ☐ **Complies** with CEC, EDID and HDCP 2.2

- ☐ **Supports** HDR at 10 bit or 12 bit speeds respectively within its maximum bandwidth, 18Gbps

- ☐ Tensile load: 500N
  - ■ Minimum bending radius: 6mm
  - ■ Outer diameter of cable: 3.4mm (±0.2)

- ☐ **Mechanical specifications of TX and RX module parts**
  - ■ **Dimensions:** 71.7mm / 24.2mm / 10.1mm (L/W/H)

- ☐ **Environmental Specifications**
  - ■ Operating temperature: 0°C to 50°C
  - ■ Storage temperature: - 30°C to 70°C
  - ■ Operating humidity: 5% to 85%

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) days 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.

Certifications
CE, FCC, Laser Safety Conformance (Verification) Report

Safety of laser product
Standard – This product is Class 1 laser product comply with IEC 60825-1:2014 and EN 60825-1:2014/A11:2021 standards. Also, this product is Class 1 consumer laser product according to EN 50689:2021 standard.

Laser safety precaution – Any modification of this product is not allowed without authorization of the manufacturer. Do not disassemble or cut cables arbitrarily.

Caution – Use of controls or adjustments or performances of procedures other than those specified herein may result in hazardous radiation exposure.

'Intended use as a consumer laser product is described at contents 1-1

to 1-4 of this manual'

Opticis Locations

OPTICIS HQ

Opticis Co., Ltd.

3F, 305, Sanseong-daero

Sujeong-gu, Seongnam-si

Gyeonggi-do, 13354

South Korea

Tel: +82 (31) 719-8033

Fax: +82 (31) 719-8032

www.opticis.com

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