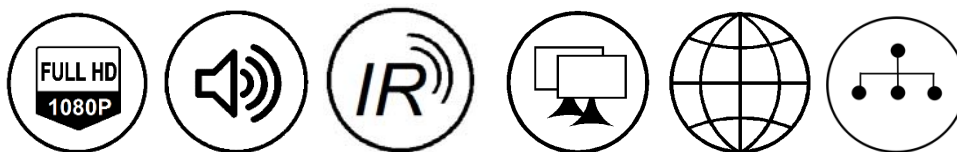# HDMI Extender Over Fiber TS-MCHDMI-FO-1K

Overview

Commercial-grade HDMI extender over fiber is used to extend the transmission of HDMI audio and video signals, are usually used in the HDMI cable limit length cannot meet the transmission distance.This product transmits HDMI audio and video signal to 20KM user through the fiber, up to 120KM, equipment supports TCP/IP network protocol, can realize one transmitter to multiple receiver transmission through ethernet switches, remote transmission while supporting local HDMI output, support infrared return transmission, independent audio transmission, remote control of signal source (host-KVM, TV box-IR infrared), to ensure the stability of the signal while reducing the cost for the user.the EDID built-in audio of commercial-grade HDMI extender over fiber greatly improves the compatibility of the device.The equipment has a long transmission distance, low use cost, convenient installation, good compatibility, and is a stable and efficient transmission mode.

Widely used in information release system, security monitoring, video conferencing system, HD teaching system, LCD splicing Large screen, LED splicing screen, engineering projection fusion and other projects.

Product Type Selection

1.1 HDMI video with local loop out + 1 forward 3.5 audio + 1 reverse IR signal

2.1 HDMI video with local loop out + KVM + 1 forward 3.5 audio + 1 reverse IR signal

support 1080P ; independent audio transmission ; support infrared return ; local loop out ; TCP/IP protocol ; point to multi-communication

Features

1.HDMI video support maximum resolution 1920*1080P@60Hz downward compatibility

2.Integrated HDCP decrypt engine to receive protected audio and video content

3.EDID transparent transmission mode, automatically matching the signal source and display equipment

4.Transmitter supports the local loop out monitoring function

5.Support 24bit-embedded digital audio

6.Support independent analog of 3.5mm audio

7.Support audio embedding/unembedding function

8.Support KVM function (keyboard and mouse)
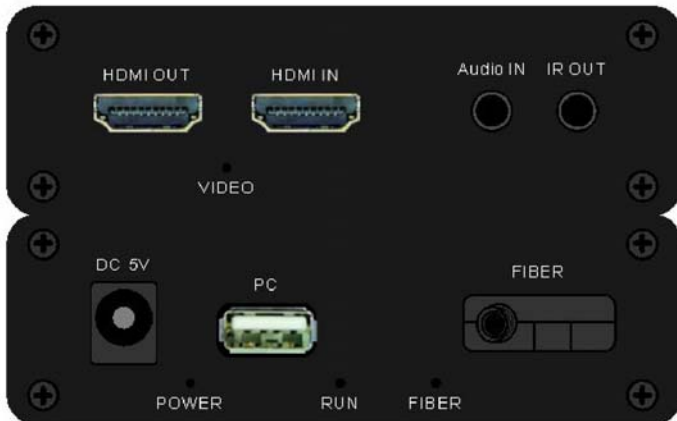
9.Support reverse IR infrared function

10.Support point to point,point to many,many to many transmission through ethernet switches (up to 255 points)

11.Support single fiber/dual fiber (optional)

12.Single mode/multi-mode compatibility, multi-mode transmission distance of 1KM, single-mode transmission distance of 20KM, can customize up to 120km

13.Built-in ESD electrostatic protection circuit, simple to install, plug and play

14.The equipment has a differentiated transmitter (signal source), a receiver (display end)

Technical Indexes

Fiber index	
Wavelength	1310-1550nm
Tx power	＞-8db
Rx sensitivity	＞-26db
Fiber connector	SC default FC / LC / ST (Optional)
Video index	
Video version	HDMI 1.3 (full-digital)
HDCP protocol	1.2
Maximum pixel clock	148.5MHZ
Resolution	720 (1440) x 480i @ 59.94/60Hz
	720 (1440) x 576i @ 50Hz
	720 x 480p @ 59.94/60Hz
	720 x 576p @ 50Hz
	1280 x 720p @ 59.94/60Hz
	1280 x 720p @ 50Hz
	1920 x 1080i @ 59.94/60Hz
	1920 x 1080i @ 50Hz
	1920 x 1080p @ 23.98/24Hz
	1920 x 1080p @ 59.94/60Hz
	1920 x 1080p @ 50Hz
Effective cable length	Less than 10m
Physical interface	The HDMI-A interface
KVM(USB) index	
Version	1.1
Tx physical interface	USB female type A
Rx physical interface	USB female type A
Audio index	
Sampling frequency	32k、44.1k、48k、64k、88.2k、96k、176.4k、192kHz
Sampling depth	24bit
Dynamic bandwidth	96db
Total harmonic distortion(THD)	-88db
Signal to noise ratio （SNR）	96db
Audio input / output impedance	600Ω
Signal level	VPP 3.3V
Physical interface	3.5mm stereo audio socket

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Signal type	Analog stereo channel
IR index	
Infrared interface	Standard 3.5mm interface
Infrared frequency	Standard with 20-60KHz
Signal type	Digit signal
Infrared transmission direction	Reverse transmission
Other indexes	
Operating temperature	-20°C ~70°C
Storage temperature	-40°C ~85°C
Product size	104*104*28mm
Product net weight (Pair)	0.35/kg
Product weight (including outer packaging)	0.6/kg
Product outer packaging dimensions	275*220*55mm
Power supply	5V 1A
Power dissipation	≤2.5W

Transmitter panel printed / indicator description

Panel printed description

HDMI IN	HDMI signal input
LOOP	HDMI signal loop out
AUDIO IN	3.5mm audio input
IR OUT	Infrared receiver
DC 5V	5V power supply interface
PC	Host USB
FIBER	Fiber interface

● Power amplifier audio signal cannot be directly given to the transmitter, which will lead to the burning machine;

● The transmitter is connected to independent 3.5 audio and the receiver is connected to independent 3.5 audio, embedded audio is off and audio embedding mode;

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Indicator

FIBER	Light on：fiber signal
	Light off：no fiber signal
RUN	Blinking：the main board works normally
	Off：the main board failure
POWER	On：the device is powered on
	Off：the device is powered off
VIDEO	Light on：video signal
	Light off：no video signal

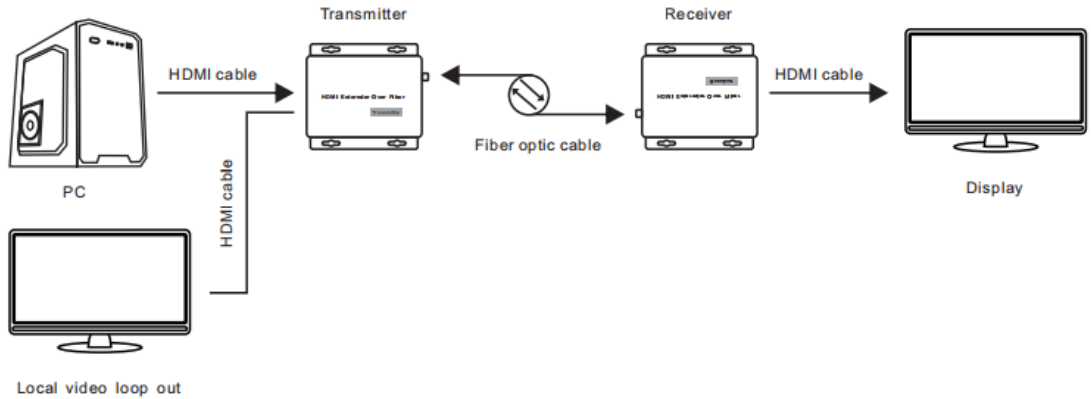## Receiver panel printed / indicator description

Panel printed description

HDMI OUT	HDMI signal output
AUDIO OUT	3.5mm audio output
IR IN	Infrared transmitter
DC 5V	5V power supply interface
KEYBOARD	Keyboard input
MOUSE	Mouse input
FIBER	Fiber interface

● Power amplifier audio signal cannot be directly given to the transmitter, which will lead to the burning machine;

● The transmitter is not connected to independent 3.5 audio and the receiver is connected to independent audio, embedded audio is on and audio unembedding mode;
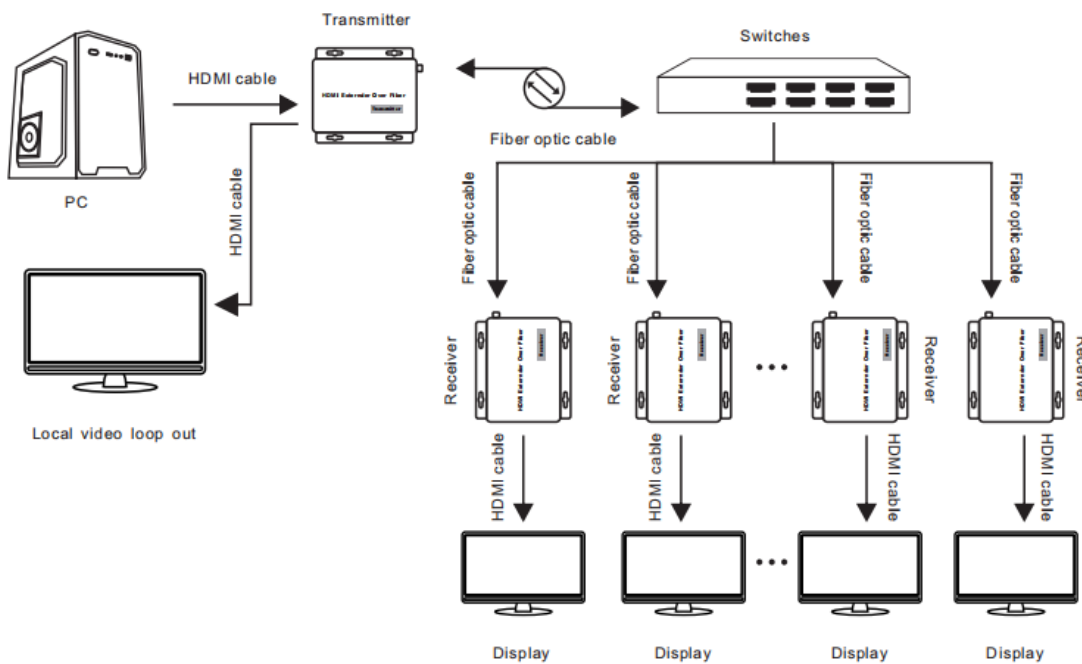
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Connection Diagram

Case 1:one to one

Case 2: one to many

Attention

Lightning protection, static electricity and grounding:

It is recommended that when install the device, consideration should be given to the impact of grounding by lightning, and take prevention measures. Strong static electricity will damage the optical device and data chip in the equipment. It is recommended that when plug/unplug the data port of the optical converter, please disconnect the power supply of the optical converter first.

Fiber and optical components:

Be careful when plugging the optical fiber as optical components of the optical converter is very fragile, and it should avoid causing damage to the optical components. It should be noted that the light source produced by the optical

components of the optical converter will be harmful to eyes, so do not have direct eye contact with the optical components of optical converter. If you need to detect the optical power of the optical converter, please use the optical power meter.

Equipment and installation procedures:

（1）Optical fiber installation: please carefully insert the optical fiber into the optical fiber interface of the optical terminal after confirming that the optical fiber link meets the installation requirements.

（2）Power amplifier audio signal cannot be directly given to the transmitter, which will lead to the burning machine.

（3）Equipment installation: The equipment can be distinguished between transmitter and receiver, and it is stated clearly on the label and printed on the chassis of the equipment.