

## HDMI EXTENDER OVER FIBER

HDMI Fiber Extender with KVM (20km) 4K60Hz



Where every Moment comes Alive

**ER2871EXF**

**HDMI**<sup>®</sup>  
HIGH-DEFINITION MULTIMEDIA INTERFACE

## Introduction

The **EiRA ER2871EXF HDMI/KVM Fiber Extender** is a high-performance device that utilizes advanced **optical fiber transmission technology** and a **standard SFP optical module** to extend HDMI signals up to **20 kilometers** over a **single-mode LC fiber** connection — ensuring **lossless, high-fidelity signal transmission**.

It supports **4K@60Hz (4:4:4 HDR)** video for crystal-clear, ultra-high-definition display quality, making it ideal for professional AV installations. In addition to HDMI signal extension, the device also supports **IR control**, **RS232 communication**, and **KVM functionality**, allowing users to control remote systems efficiently.

Designed with a **bidirectional single-fiber LC interface**, the ER2871EXF offers a **cost-effective, stable, and reliable** transmission solution for long-distance applications. This extender is perfectly suited for **security monitoring, inter-building high-definition video links, large digital signage displays, command centres, and other professional AV environments** that demand uncompromised performance and stability.

## Features

- Supports HDMI 2.0, HDCP 2.2 / 1.4
- HDMI 4K@60Hz 4:4:4 HDR10 / Dolby Vision / HLG
- Support 3.5mm stereo output
- Audio format: DTS-HD, Dolby-TrueHD, AC3, PCM, ATMOS
- HDMI loop out available at transmitter
- Supports KVM, IR, and RS232 transparent transmission
- Supports 4K→1080p downscaling
- Fiber wavelength: 1270/1330nm
- Transmission distance: up to 20km (single-mode LC fiber)
- Complies with SFP+ MSA, SFF-8472, and SFF-8431 standards
- Plug and Play, no software or driver required
- Pure hardware solution for professional use
- Support 7.1 channels

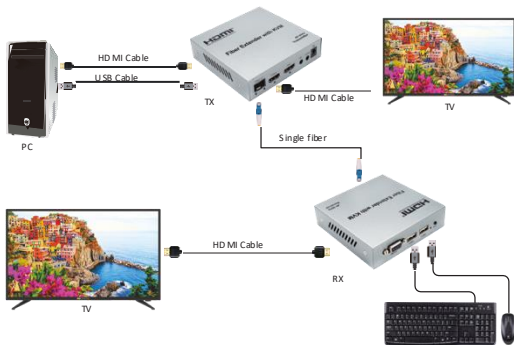
## Specifications

|                              |                                                 |
|------------------------------|-------------------------------------------------|
| <b>Brand</b>                 | EiRA                                            |
| <b>SKU Code</b>              | ER2871EXF                                       |
| <b>Product Name</b>          | HDMI/KVM Extender over Fiber 20km (4K@60Hz)     |
| <b>Video Resolution</b>      | Up to 3840×2160@60Hz                            |
| <b>Audio Format</b>          | DTS-HD / Dolby-TrueHD / Dolby-AC3 / ATMOS / PCM |
| <b>Fiber Wavelength</b>      | 1270/1330nm                                     |
| <b>Transmission Distance</b> | 20km (Single-mode LC)                           |
| <b>Supported Protocols</b>   | SFP + MSA, SFF-8472, SFF-8431                   |
| <b>Control Interface</b>     | RS232 / IR / KVM                                |
| <b>Audio Output</b>          | 3.5mm Stereo                                    |
| <b>Loop Out</b>              | HDMI Loop Output on Transmitter                 |
| <b>Power Supply</b>          | DC 5V / 1.5A                                    |
| <b>Connection Interface</b>  | HDMI, USB, RS232, LC Fiber                      |
| <b>Color Format</b>          | 4:4:4 HDR                                       |
| <b>Max Current (TX/RX)</b>   | 1.1A @ 5V DC (TX) / 0.7A @ 5V DC (RX)           |
| <b>Operating Temperature</b> | -10°C ~ +55°C                                   |
| <b>Dimensions (L×W×H)</b>    | 106×106×17mm                                    |
| <b>Weight</b>                | TX: 272g / RX: 273g                             |

| Resolution                                   | Input | Output | Total cable length | Cable requirement |
|----------------------------------------------|-------|--------|--------------------|-------------------|
| 4K@60Hz                                      | ≤5M   | ≤5M    | ≤10M               | 26AWG             |
| 4K@30Hz                                      | ≤10M  | ≤10M   | ≤20M               | 26AWG             |
| 1080@ 60Hz                                   | ≤15M  | ≤15M   | ≤30M               | 24AWG             |
| Tips: Please buy the right cable as required |       |        |                    |                   |

PS: The above data are obtained from the laboratory tests.

## Connection diagram



## Application scene



## Physical interface diagram



| Interface | Function                  |
|-----------|---------------------------|
| RS232     | RS232 port                |
| USB-PC    | USB port (connect to PC)  |
| RST       | Reset button              |
| Fiber-LC  | Fiber -LC type fiber port |
| Output    | HDMI Signal output port   |
| Input     | HDMI Signal input port    |
| R/L       | 3.5mm stereo output       |
| IR-TX     | IR transmitter port       |
| DC        | 5V Power Interface        |

| Interface | Function                          |
|-----------|-----------------------------------|
| RS232     | RS232 port                        |
| USB1      | USB port (connect with keyboard ) |
| USB2      | USB port (connect with mouse)     |
| RST       | Reset button                      |
| Fiber-LC  | Fiber -LC type fiber port         |
| Output    | HDMI Signal output port           |
| R/L       | 3.5mm stereo output               |
| IR-RX     | IR receiver port                  |
| DC        | 5V Power Interface                |

## Package include

- 1 × HDMI Fiber Extender Transmitter
- 1 × HDMI Fiber Extender Receiver
- 2 × DC 5V/1.5A Power Adapters
- 1 × IR Cable
- 1 × User Manual