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› Swallow house 60M USB KVM HDMI Extender HKE60 User Manual

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Model: HKE60

1. INTRODUCTION

The Swallow house 60M USB KVM HDMI Extender (Model HKE60) allows for the transmission of high-definition HDMI signals, USB KVM control, and R/L audio over a single CAT5E or CAT6 Ethernet cable up to 60 meters. This device is designed to extend your PC or laptop's display and control to a remote monitor, TV, or projector, supporting resolutions up to 1080p at 60Hz. It is suitable for various applications including teaching environments, financial institutions, control systems, and computer room management.

2. PACKAGE CONTENTS

Please verify that all items listed below are included in your package:

- 1 x HDMI Transmitter Unit
- 1 x HDMI Receiver Unit
- 1 x IR Receiver Cable
- 1 x IR Transmitter Cable
- 2 x 5V Power Adapters
- 1 x User Manual (this document)

3. PRODUCT OVERVIEW

The HKE60 KVM HDMI Extender system consists of two main units: a Transmitter (TX) and a Receiver (RX). Each unit features various ports for connectivity and control.



Figure 3.1: The Swallow house 60M USB KVM HDMI Extender units. The top unit is the Receiver, and the bottom unit is the Transmitter. Both units are compact and feature a silver-grey metal casing with ventilation slots on the sides.

3.1 Transmitter Unit (TX)

The Transmitter unit connects to your source device (PC, laptop, Blu-ray player). It features an HDMI input, a USB-PC port for KVM functionality, an IR-TX port for infrared signal transmission, an R/L audio output, an RJ45 output for the Ethernet cable, and a DC 5V power input.

Transmitter

Front Side



Back Side



Figure 3.2: Front and back views of the Transmitter unit. The front panel shows the USB-PC port, IR-TX port, and R/L audio output. The back panel includes the DC 5V power input, EDID button, CAT5E/6 OUT port, and HDMI IN port.

3.2 Receiver Unit (RX)

The Receiver unit connects to your display device (monitor, TV) and KVM peripherals (keyboard, mouse). It features an HDMI output, two USB ports (USB1, USB2) for KVM, an IR-RX port for infrared signal reception, an R/L audio output, an RJ45 input for the Ethernet cable, and a DC 5V power input.

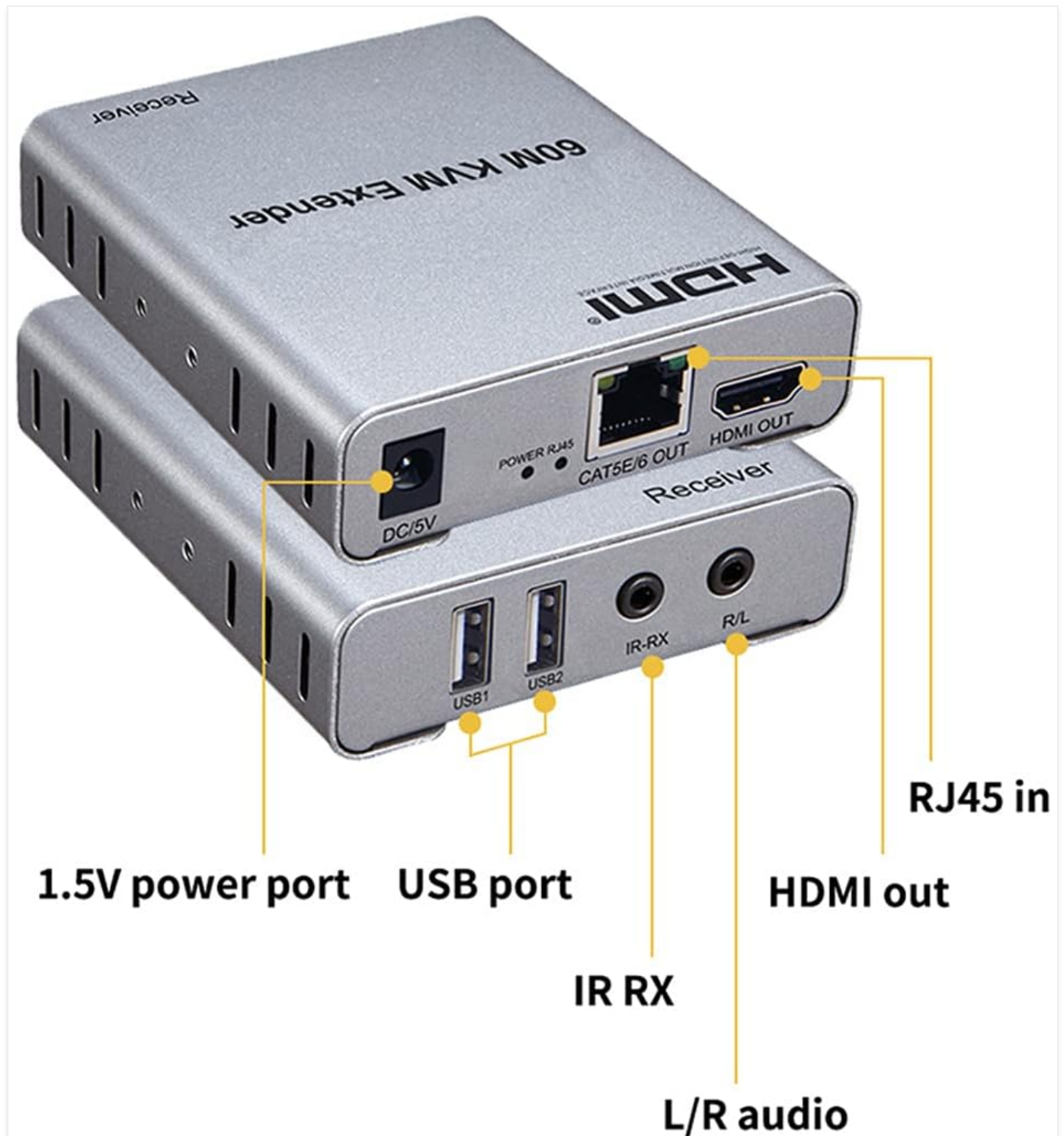


Figure 3.3: Labeled ports on the Receiver unit. From left to right on the front: USB1, USB2, IR-RX, R/L audio output. On the back: DC 5V power input, RJ45 IN, HDMI OUT.

4. SETUP INSTRUCTIONS

Follow these steps to set up your KVM HDMI Extender system:

1. Connect the Source Device to the Transmitter (TX):

Use an HDMI cable to connect the HDMI output of your source device (e.g., PC, laptop) to the HDMI IN port on the Transmitter unit.

2. Connect USB for KVM (TX):

Connect a USB cable from your source device to the USB-PC port on the Transmitter unit. This enables KVM functionality.

3. Connect the Display Device to the Receiver (RX):

Use an HDMI cable to connect the HDMI output of the Receiver unit to the HDMI input of your display device (e.g., monitor,

TV, projector).

4. Connect USB Peripherals (RX):

Connect your USB keyboard and mouse to the USB1 and USB2 ports on the Receiver unit.

5. Connect the Ethernet Cable:

Connect a single CAT5E or CAT6 Ethernet cable (up to 60 meters) between the CAT5E/6 OUT port on the Transmitter and the CAT5E/6 IN port on the Receiver. Ensure the cable is properly terminated.

6. Connect IR Cables (Optional):

If using IR remote control extension, connect the IR Transmitter cable to the IR-TX port on the Transmitter unit and position the IR emitter near the source device's IR receiver. Connect the IR Receiver cable to the IR-RX port on the Receiver unit and position the IR receiver to face your remote control.

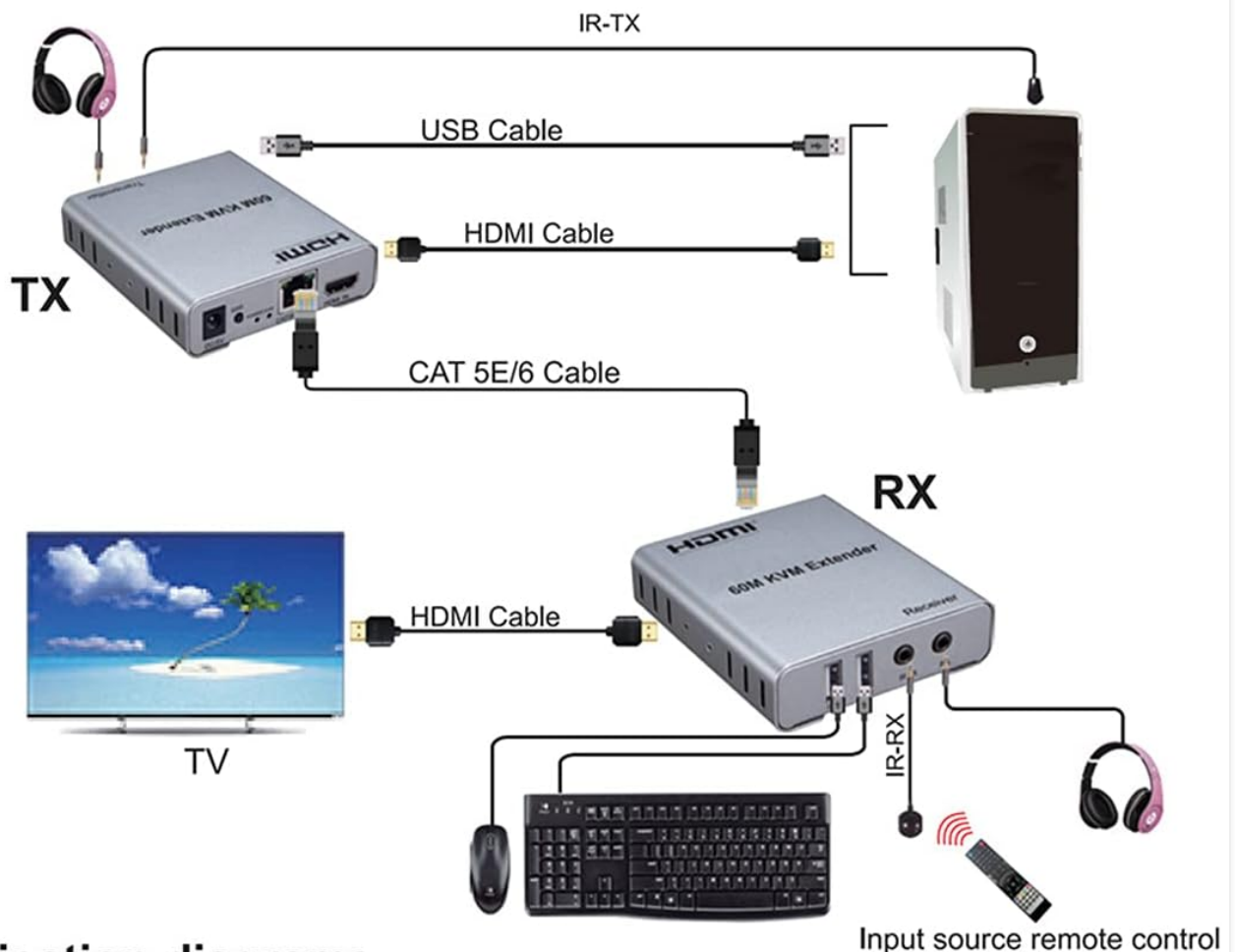
7. Connect Power Adapters:

Connect one 5V power adapter to the DC 5V input on the Transmitter unit and the other 5V power adapter to the DC 5V input on the Receiver unit. Power on both units.

8. Power On Devices:

Power on your source device and display device. The system should automatically detect and display the video signal.

Connection diagram:



Application diagrams:

Figure 4.1: A typical connection diagram for the KVM HDMI Extender. The Transmitter (TX) connects to the PC via HDMI and USB, and to the IR-TX cable. The Receiver (RX) connects to the TV via HDMI, to a keyboard and mouse via USB, and to the IR-RX cable. Both TX and RX units are linked by a CAT 5E/6 cable.

5. OPERATING INSTRUCTIONS

5.1 KVM Functionality

Once connected, your USB keyboard and mouse connected to the Receiver unit will control the source device connected to the Transmitter unit. This allows for remote control of your computer.

5.2 Audio Output

Both the Transmitter and Receiver units feature 3.5mm R/L audio output ports. You can connect external speakers, headphones, or other audio equipment to either unit to output the audio signal from your source device.

5.3 EDID Management

The Transmitter unit includes an EDID smart switch button. This button allows you to switch between EDID settings that support 720P and 1080P resolutions. By default, the device supports 1080P EDID upon boot-up. If you encounter display issues, especially with older or specific monitors, pressing this button may help resolve compatibility by adjusting the EDID to 720P.

6. SPECIFICATIONS

Technical specifications for the HKE60 KVM HDMI Extender:

Model Number	HKE60
HDMI Resolution Support	1080p/1080i/720p/576p/576i/480p/480i @ 60Hz
Max Transmission Distance	Up to 60 meters (using CAT5E/CAT6 cable)
Max Bandwidth	150MHz
Max Baud Rate	4.5Gbps
Input Video Signal	0.5~1.5 Volts p-p
Output DDC Signal	5 Volts p-p (TTL)
HDMI Cable Distance (Input/Output)	≤10m AWG26 HDMI standard cable
TX Max Working Current	300mA
RX Max Working Current	300mA
Power Adapter Input	AC (50Hz, 60Hz) 100V-240V
Power Adapter Output	DC 5V/1A
Operating Temperature Range	0 to +40°C (32 to +104°F)
Operating Humidity Range	5 to 90% RH (No Condensation)
Dimensions (Each Unit)	Approx. 7.4 x 5.39 x 3.07 inches (Package Dimensions)
Weight (Each Unit)	Approx. 1.56 pounds (Item Weight)
Color	Black (Units are silver-grey)

Wide-range Power Supply

**supports 5V-12V power supply to avoid a unexpected
damaged due to wrong power supply**



Figure 6.1: The extender supports a wide-range power supply from 5V to 12V, which helps prevent damage from incorrect power input. The included adapters are 5V/1A.

7. TROUBLESHOOTING

If you encounter issues with your KVM HDMI Extender, please refer to the following common problems and solutions:

- **No Video Output:**

- Ensure both the Transmitter and Receiver units are powered on and their power indicator lights are active.
- Check all HDMI and Ethernet cable connections. Ensure they are securely plugged in.
- Verify that the Ethernet cable is CAT5E or CAT6 and is not damaged.
- Try a shorter Ethernet cable to rule out cable length issues.
- Test with a different HDMI source or display device to isolate the problem.
- Press the EDID button on the Transmitter unit to switch between 1080P and 720P EDID modes, as some displays may prefer a specific resolution.

- **Poor Video Quality (Flickering, Pixelation, Incorrect Colors):**

- This can indicate a poor quality or excessively long Ethernet cable. Replace with a high-quality CAT6 cable, especially for distances approaching 60 meters.
- Ensure the Ethernet cable is not running near strong electromagnetic interference sources.

- Check HDMI cable quality and connections.

- **No KVM (Keyboard/Mouse) Control:**

- Ensure the USB cable is connected from your source device to the USB-PC port on the Transmitter.
- Verify that your keyboard and mouse are properly connected to the USB1 and USB2 ports on the Receiver.
- Try connecting the keyboard/mouse directly to the source device to confirm they are functional.
- Some high-power USB devices may not be supported. Try standard keyboard/mouse.

- **No Audio Output:**

- Check the 3.5mm audio cable connections to your speakers/headphones.
- Ensure the audio output on your source device is enabled and not muted.
- Verify that your external audio equipment is powered on and functioning correctly.

- **IR Remote Control Not Working:**

- Ensure the IR Transmitter and Receiver cables are correctly plugged into their respective units (IR-TX on Transmitter, IR-RX on Receiver).
- Position the IR emitter directly in front of the source device's IR sensor.
- Ensure the IR receiver is facing your remote control and has a clear line of sight.
- Check the batteries in your remote control.

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