



4K Wireless HDMI KVM Extender Set, 4K/60Hz, 100 m



Installation Manual

DS-55360

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1. Introduction

The 4K Wireless HDMI KVM Extender Set enables the wireless transmission of HDMI video and audio signals in impressive Ultra HD resolution (4K/60Hz) over a distance of up to 100 meters - completely cable-free and with a clear view. Thanks to the latest code chip design (proprietary parallel processing architecture) and ultra-low latency of just 16 to 48 ms (average: approx. 32 ms), content is transmitted with virtually no delay - ideal for presentations, streaming or gaming applications. The integrated KVM functionality (2x USB-A) allows a mouse and keyboard or to be connected on the receiver side, enabling convenient remote control of the connected source. A touch display can also be connected here to enable touch control (touch panel back control). A local monitor can also be connected directly via the HDMI loop-out on the transmitter unit in order to monitor the signal on the transmitter at the same time. Thanks to Plug & Play, no additional software or driver installation is required - simply connect and get started. Automatic channel selection always ensures a stable connection via the best available WiFi channel. AES 128-bit encryption and WPA2 authentication ensure maximum security during transmission. Additional convenience is provided by the bi-directional IR extension, which allows both the signal source and the output device to be conveniently controlled by remote control. With support for HDMI 2.0, HDCP 2.2 and HDR10, the set is future-proof and delivers brilliant picture quality in every application.

2. Package content

- 1x Transmitter unit
- 1x Receiver unit
- 2x HDMI connection cable (1.5 m)
- 1x USB-A to USB-C cable (1.0 m)
- 2x IR extension cable (1.5 m)
- 2x Power supply unit 12V/1.5A (1.5 m)
- 1x Installation Manual



User Manual

3. Main Features

- Wireless HDMI signal transmission in 4K/60Hz up to 100 m (unrestricted view)
- Ultra-low latency: 16 ms (min.) - 48 ms (max.) / average: 32 ms
- State-of-the-art code chip design: The proprietary parallel processing architecture is optimized for video compression and decompression
- Additional connectivity & control: KVM function for connecting mouse & keyboard as well as touch screen support on the receiver side
- HDMI Loop-Out: Connection of a local monitor to the transmitter unit (TX)
- Simple operation and handling thanks to Plug & Play - plug in and go, no drivers or software required
- Automatic pairing & connection: Automatically establishes a connection via the most advantageous WiFi channel to ensure the best possible WiFi performance
- Bi-directional IR (infrared) extension for controlling the signal source or the display
- AES 128 bit encryption / WPA2 protocol
- HDMI 2.0 / HDCP 2.2

4. Product Specification

4.1. Transmitter specification

HDMI in Version	HDMI 2.0
HDCP Version	HDCP 2.2
Input Resolution	4096x2160/60fps/30fps/24fps; 3840x2160/60fps/30fps/24fps; 1080p/120/60fps; 1080p/60fps; 1080p/30fps; 1080p/24fps; 1080i/50fps; 1080i/60fps; 720p/30fps; 720p60fps; 480p/60fps
HDMI Loop-out	4K/60Hz max.
Transmission Resolution	4K/60Hz max.
HDR Supported	HDR10
Audio Channel	7.1
Dolby Atmos / DTS Bypass	Wireless streaming Dolby Atmos and DTS to TV for decoding and playback
Latency	16 ms (min.) - 48 ms (max.) Remark: Depending on the complexity of the video and WiFi interference, the latency may fluctuate ranging from 16 ms to 48 ms
Security	WPA2-AES128 Advanced Encryption Standard, Proprietary coding protocol and transmission algorithms to ensure high data security
IR Extended Function	38 KHz to 56 KHz wide frequency
USB KVM	Mouse/Keyboard/Touch panel back control
Wireless Standard	IEEE 802.11a/b/g/n/ac, 5.8G
Frequency	5.150Ghz ~ 5.825Ghz
Frequency Bands	5150-5350MHz; 5470-5725MHz; 5725-5850MHz; 5850-5925MHz The specific frequency bands utilized are upon the legal regulations by each country
Bandwidth	866 Mbps (5Ghz)
Bitrate	270 Mbps (max.)
Channel Width	20 MHz, 40 MHz, and 80 MHz
RF Power Amplifier	20 dBm (max.)

Antennas	2x 5 dBi High Sensitive Antennas
Distance	up to 100 m (unrestricted view)
I/O Ports	1x HDMI in / 1x HDMI out 1x USB-C / 1x IR in / 1x IR out 1x Power button / 1x DC
LED	3x Status LED
Power Supply	12V/1.5A
Consumption	About 10W
Dimension	W 16,1 x D 9,4 x H 3,4 cm
Weight	340 g
Operating Temperature:	0°C to +40°C
Storage Temperature:	0°C to +60°C
Operating Humidity:	10% to 80% relative humidity
Storage Humidity:	5% to 90% relative humidity

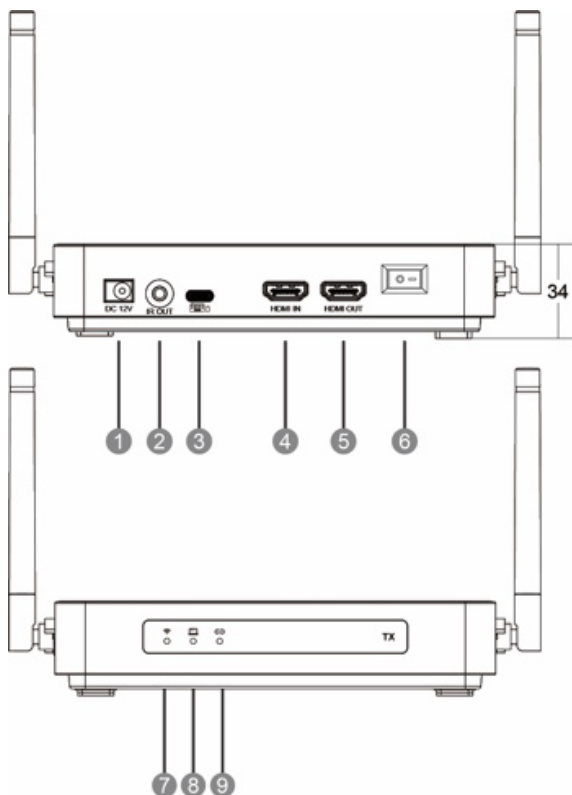
4.2. Receiver specification

HDMI out Version	HDMI 2.0
HDCP Version	HDCP 2.2
HDMI out resolution	4K/60Hz max.
Transmission Resolution	4K/60Hz max.
HDR Supported	HDR10
Audio Channel	7.1
Dolby Atmos / DTS Bypass	Wireless streaming Dolby Atmos and DTS to TV for decoding and playback
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Dimension	W 16,1 x D 9,4 x H 3,4 cm
Weight	340 g
Operating Temperature:	0°C to +40°C
Storage Temperature:	0°C to +60°C
Operating Humidity:	10% to 80% relative humidity
Storage Humidity:	5% to 90% relative humidity

5. Product Overview

5.1. Transmitter overview

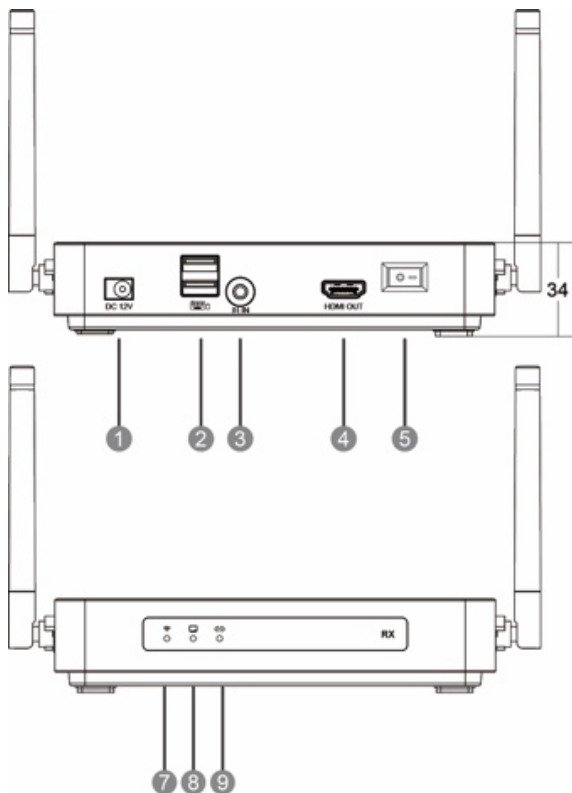


1. Power Supply DC (12V/1.5) in
2. IR in Port: Connect with IR receive cable
3. USB-C: Connect with USB of video source for USB KVM function or touch panel back control
4. HDMI in: Connect with the video source
5. HDMI out (Loop-Out): Connect with local display for pass-through
6. Power Switch: Turn on/off the product

LED indicator transmitter

No	Icon	Definition
7		Flashing: Wi-Fi connection is functioning properly
8		LED lights up: Video source is connected LED off: Video Source in not connected
9		Flashing: TX and RX are not connected Steady: Connection (TX & RX) successful

5.2. Receiver overview

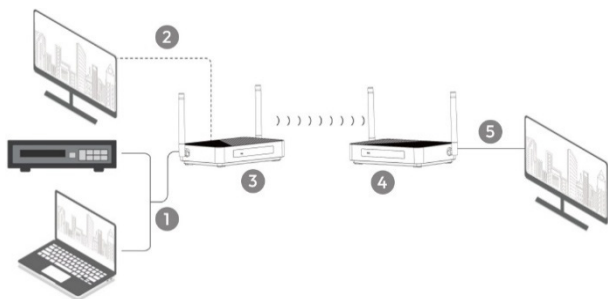


1. Power Supply DC (12V/1.5) in
2. 2x USB-A: Connect with mouse and keyboard for USB KVM function, you can also connect with touch panel USB port for touch panel back control
3. IR in Port: Connect with IR receive cable
4. HDMI out: Connect with local display for pass-through
5. Power Switch: Turn on/off the product

LED indicator receiver

No	Icon	Definition
7		Flashing: Wi-Fi connection is functioning properly
8		LED lights up: Video source is connected LED off: Video Source in not connected
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6. Installation Guide



1. Video Source	2. HDMI Loop-Out (local Display)	3. Sender (TX)
4. Receiver (RX)	5. Display	

1. At first, please connect the receiver on your display.
2. Then connect the transmitter to your video source.

6.1. Connecting the Receiver (RX)

1. Connect the receiver on the “HDMI OUT” via HDMI cable with your display “HDMI IN”
2. Connect the power adapter to the power supply port “DC 12V” on the receiver. Then connect the power adapter to your wall socket
3. Then turn on the power switch on the receiver
4. You will see the start screen on your display
5. Optional: Connect a mouse and keyboard on the two USB-A ports to use the KVM function
6. Optional: Connect the IR cable for IR transmission function on “IR IN”

6.2. Connecting the Transmitter (TX)

The transmitter sends the video signal wirelessly to the receiver. Therefore, place the transmitter near your HDMI source.

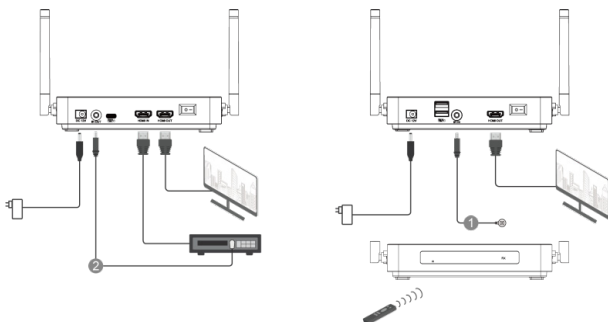
1. Use an HDMI cable to connect the HDMI source to the HDMI port marked “HDMI IN” on the TX.
2. Connect the power adapter to the power supply port “DC 12V” on the receiver. Then connect the power adapter to your wall socket
3. Then turn on the power switch on the receiver
4. Optional: You can connect an additional local display on the “HDMI OUT” to use the HDMI Loop Out function to check what is display on the receiver side
5. Optional: You can the USB cable on the USB-C and then connect it to the source device (i.e. PC) to use the KVM function (use mouse and keyboard on the transmitter side to control the source
6. Optional: Connect the IR cable for IR transmission function on “IR OU”

Auto-Pairing Function

After power on both devices, it takes about 30-50 seconds, the transmitter and receiver will connect automatically and start to transmit the AV signal.

6.3. Connecting infrared transmission

6.3.1. Control the video source via infrared remote control



The wireless HDMI extender set has a built-in “infrared return” that enables continued operation of the connected HDMI sources from another room.

The IR cable receives the commands sent by the IR receiver and forwards them to your connected HDMI source.

Connect the IR transmit cable (2) to the transmitter's connector marked “IR OUT”.

Make sure that the LED of the IR cable is attached exactly over the HDMI source's infrared sensor (with some equipment, this needs to be done very precisely). The exact position can be found easily by shining a torch on the front panel and searching for the IR sensor window.

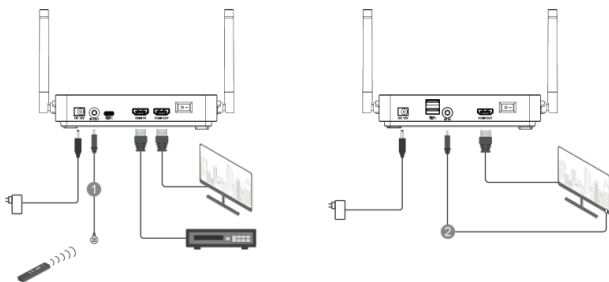
Connect the IR receive cable (1) to the receiver's connector marked “IR IN”. Please experiment with the correct placement before final attachment of the IR LED.

Please note: The adhesive strip may cause discoloration on certain surfaces or leave adhesive residue after removal.

Once you have connected the IR cable according to the above description, aim your remote control towards the probe of the IR receive cable and send a command.

The IR receive cable will now send this command to the transmitter through the receiver. The transmitter will forward this command to the IR transmitter, which then forwards the command to the HDMI source. The HDMI source should now execute the function associated with the command sent by your remote control.

6.3.2. Control the display via infrared remote control



The wireless HDMI extender set supports bi-directional infrared return function.

Connect the IR transmitter cable (2) to the receiver's connector marked "IR OUT".

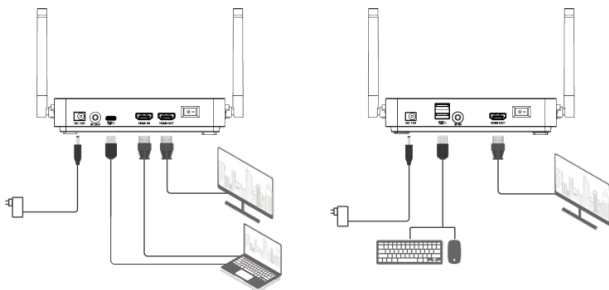
Make sure that the LED of the IR cable is attached exactly over the display's infrared sensor (with some equipment, this needs to be done very precisely). The exact position can be found easily by shining a torch on the front panel and searching for the IR sensor window.

Connect the IR receive cable (1) to the transmitter's connector marked "IR IN".

Once you have connected the IR cable according to the above description, aim your remote control towards the probe of the IR receive cable and send a command to control the display.

6.4. Connecting the USB extension

In addition to an infrared return feature, the wireless HDMI extender set also features a built-in USB extension (KVM) function. This helps you to continue to operate connected HDMI sources, such as a PC from the transmitter (display) side using a mouse and/or keyboard.



1) To the transmitter

Using the included USB-C cable, connect your PC to the USB-C socket marked “mouse/keyboard” on the transmitter.

2) To the receiver

Connect your mouse and/or keyboard to the connectors marked “mouse/keyboard” on the receiver.

Once you have connected the USB-C cable and your mouse/keyboard according to the above description, take your mouse/keyboard and use them.

The receiver will now send the mouse/keyboard signals to the transmitter.

The transmitter will now forward the signal to the PC. The PC now executes the function of your mouse/keyboard.

7. Frequently asked questions (FAQs)

Q1. No (or poor) image and sound on the display

Move the transmitter and the receiver in the same room to test if the connection works well, and please make sure all of below settings are correct.

1. Ensure that the power of the transmitter and receiver is properly connected. Ensure that all HDMI cables are connected properly or replace them
2. Ensure that the HDMI source is turned ON and the correct HDMI input is selected on the TV
3. Ensure that the HDMI source is set to a correct video resolution. If necessary, consult the user manual of your HDMI source
4. Disconnect the power adapters from the wall socket and reconnect them
to reboot the wireless HDMI extender set

Q2. No or bad connection between the transmitter and receiver

1. Move the transmitter and/or the receiver from the immediate vicinity of the connected HDMI sources and Wi-Fi equipment. These may affect the range
2. Slightly adjusting the position of the transmitter and/or receiver may already help out
3. Too much distance or obstacle between transmitter and receiver. Try using shorter distances. The transmission distance with limited visibility cannot be determined across the board and depends on the conditions on site. Walls, glass, etc. shorten the signal coverage or cause signal loss
4. Disconnect the power adapters from the wall socket and reconnect them to reboot the 4K wireless HDMI extender

Q3. The IR blaster doesn't work

1. Make sure to use the original remote control of the video source
2. Please stick the IR emitter probe to the surface of the IR window of the source device if you are not sure of the correct position of the IR window
3. Please refer to the manual of source device
4. Please point the remote control to the IR receiver probe with 5 meters directly
5. The IR extender cable is based on the 20KHz-60KHz remote signal protocol, which supports most of the IR remotes in the market. Special standard or old remote controls may not be supported.

Q4. Why is the latency sometimes higher than 16 ms?

The transmission latency of the device is influenced by several factors. To accurately measure latency, the following conditions must be met:

Display Latency Variation:

Different displays have inherent latency differences. To ensure accurate latency measurements, use identical display models connected to the TX and RX HDMI outputs.

Video Refresh Rate:

Latency can vary depending on the video refresh rate. Ensure that the video source outputs content at 4K at 60 Hz or 1080p at 60 Hz for optimal performance.

Proprietary Low-Latency Codec:

This device utilizes a proprietary low-latency codec capable of achieving a minimum latency of 16 ms, with an average latency of 32 ms. With more complex video content, latency may increase by 16-48 ms and will return to normal once video processing stabilizes. Therefore, during testing, measured latencies of 16 ms, 32 ms, or 48 ms are normal.

Wireless Interference:

Significant wireless interference in the environment can also cause increased latency. Ensure there are minimal competing wireless signals around the device to optimize performance.

8. Safety Instructions

Please read these instructions thoroughly before you use the device and keep them for future reference.

- Observe all warnings and instructions concerning this device
- Only for indoor use
- Do not expose the device to rain, moisture, vapors or liquids
- Do not insert any objects into the device
- Do not attempt to repair the unit yourself or open the cabinet. Risk of electric shock!
- Ensure adequate ventilation to prevent damage due to overheating
- Turn off the power supply and make sure the environment is safe before installation
- In the event of thunderstorms, there is a risk of lightning strike and damage to connected electrical equipment due to overvoltage
- Do not install this device during a thunderstorm
- Disconnect the device from the connected electrical appliances during a thunderstorm
- Use the device inside buildings only
- Dust, moisture, vapors and strong cleaning agents or solvents can damage the device
- Disconnect the device from the power supply and the connected devices before cleaning
- Clean the device with a lint-free cloth
- Do not use the product in a damp environment or near water
- Do not expose the product to extremely high or low temperatures, strong light sources or direct sunlight
- This product is not a toy. Keep out of reach of children
- Connect the adapter to the mains only after you have verified that the line voltage corresponds to the value specified on the type plates
- Never connect a power adapter if it's damaged. In such cases, please contact your supplier

- Disconnect the AC/DC power adapter from the mains when this device is not in use for prolonged time
- Never open the product: the device may contain parts with deadly voltage. Repairs or service should only be performed by qualified personnel
- To completely disconnect the system from the power supply, you must unplug the power supply from the power outlet. You can disconnect the device from the power supply via the power supply unit
- Improper use, self-installed modifications or repairs will void any and all warranties
- We do not accept any product responsibility for incorrect use of the product or use other than for which the product is intended
- We do not accept liability for any consequential damage other than the legal product responsibility

9. Frequency Range & Maximum Transmit Power

- WiFi Standard: IEEE 802.11.b/g/n/ac 5.8G
- Channel: 36/40/44/48
- Core Frequency:
5150-5350MHz; 5470-5725MHz; 5725-5850MHz; 5850-5925MHz
(The specific frequency bands utilized are upon the legal regulations by each country)
- Bandwidth: Support 20MHz, 40MHz, 80Mhz
- Transmitter power: 20dBm
- SW version:
 - TX: V0.251e
 - RX: V0.251e
- HW Version:
 - TX: V16_Vplay_V4
 - RX: V16_Vplay_V4

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