



# HD-H704K-WP Extender Set

## User Manual

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## HD-H704K-WP Extender

### Statement

Thanks for choosing this product, please read this user manual carefully before using this product.

### Safety Precaution

- Do not dismantle the housing or modify the module to avoid electrical shock or burn.
- Using supplies not meeting the products' specifications may cause damage, deterioration, or malfunction.
- Do not expose the unit to rain, moisture or install this product near water.
- Install the device in a place with good ventilation.
- Do not twist or pull by force ends of the cables used. It can cause damage.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.
- Unplug the power when not used for a long period of time.
- Refer all servicing to qualified service personnel.

## HD-H704K-WP Extender

### Product Introduction

Thanks for choosing the 18G HDMI Extender which consists of a transmitter and a receiver. The extender adopts PoC technology to extend 4K@60Hz 4:4:4 HDMI video to distances up to 40 meters (131 feet) and 1080p@60Hz video to distances up to 70 meters (230 feet) over a single CATx cable. It supports bi-directional RS232 and IR pass-through to control source or display devices remotely. It also supports CEC pass-through. HDBaseT (PoC) feature allows the transmitter to be powered by the receiver over the CATx cable.

### Features

- A one-gang decora wall plate and a brick receiver.
- Support HDMI 2.0, HDR, HDCP 2.2 compliant.
- Transmission distance up to 4K/40m or 1080p/70m.
- Toslink output for audio de-embedding.
- Supports video resolution down-scaling, the 4K input can be automatically converted to 1080p output for compatibility with a 1080p display.
- Bi-directional RS232 pass-through and IR pass-through.
- Tx is powered by Rx via 24V PoC.

### Packing List

Transmitter	<ul style="list-style-type: none"><li>• 1x HD-H704K-WP</li><li>• 2x 2-pin Terminal Block</li><li>• 1x 3-pin Terminal Block</li></ul>
Receiver	<ul style="list-style-type: none"><li>• 1x HD-H704K-WP-Rx</li><li>• 2x Mounting Ears with 2 Screws</li><li>• 4x Plastic Cushions</li><li>• 1x 3-pin Terminal Block</li><li>• 1x IR Emitter Cable</li><li>• 1x Power Adapter (DC 24V 1.25A)</li></ul>
	<ul style="list-style-type: none"><li>• 1x User Manual</li></ul>

**Note:** Please contact your distributor immediately if any damage or defect is found with these devices.

## HD-H704K-WP Extender

### Technical Specification

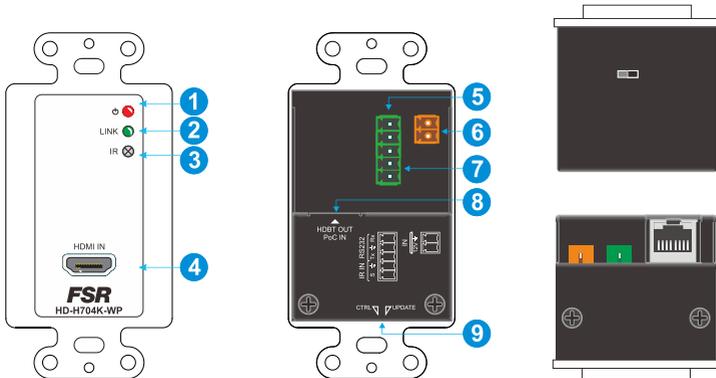
<b>TPUH703T</b>	
Input	(1) HDMI
Input Connector	(1) Type-A female HDMI
Output	(1) HDBT
Output Connector	(1) RJ45
Control	(1) RS232, (1) IR In (1) Built-in IR Receiver
Control Connector	(1) 3-pin terminal block, (1) 2-pin terminal block
<b>TPUH703R</b>	
Input	(1) HDBT
Input Connector	(1) RJ45
Output	(1) HDMI
Output Connector	(1) Type-A female HDMI
Control	(1) RS232, (1) IR In (1) IR Out
Control Connector	(1) 3-pin terminal block, (2) 3.5mm mini jacks
Audio Output	(1) AUDIO Out
Audio Output Connector	(1) SPDIF
Output level	$\pm 0.05$ dBFS
Frequency Response	20 Hz to 20 kHz, $\pm 1$ dB
THD+N	< 0.05%, 20 Hz – 20 kHz bandwidth, 1 kHz sine at 0 dBFS level (or max level)
SNR	> 90dB, 20Hz-20 kHz bandwidth
Noise	-90dB
<b>General</b>	
Video Resolution	Up to 4K@60Hz 4:4:4, HDR
HDMI Audio Format	LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS:X™, and DTS-HD® Master Audio™ pass-through.
Bandwidth	18Gbps
Color Space	Supports RGB, Rec. 601, and rec. 709 BT2020
HDMI Standard	2.0
HDCP Version	2.2, 1.4 compliant, follows the display.
CEC	Pass-through
EDID	Pass-through
Transmission Standard	HDBaseT
Transmission Distance	4K@60Hz 4:4:4 $\leq$ 40 meters (131 feet), 1080p@60Hz $\leq$ 70 meters (230 feet)
Operation Temperature	0~ +55°C

## HD-H704K-WP Extender

Storage Temperature	-25 ~ +70°C
Relative Humidity	10%-90%
Power Supply	Input:100V~240V AC; Output: 24V DC 1.25A
Power Consumption	TX&RX 11.5W (Max)
Dimension (W*H*D)	TX: 50mm (2") x 103.44mm (4") x 53.3mm (2") RX: 130mm (5.1") x 18mm (.7") x 84.4mm (3.3")
Net weight	TX: 180g (6.3 oz) RX: 255g (9 oz)

## HD-H704K-WP Extender

### Transmitter Panel Description



- 1. Power LED:** The LED illuminates red when power is applied and is off when no power is present.
- 2. Link LED:** The LED illuminates green when there is a valid HDBaseT connection with the receiver. The LED flashes when there is no valid link.
- 3.** Built-in IR sensor, receive IR signal sent from IR remote.
- 4. HDMI In:** Type-A female HDMI input port to connect an HDMI source device.
- 5. RS232:** 3-pin on terminal block to connect the RS232 control device (e.g. PC) or a third-party device to be controlled by RS232 commands.
- 6. DC IN:** 2-Pin terminal block, connect with a power supply if powered locally.
- 7. IR In:** 2-pin on terminal block to connect IR receiver or IR system for IR pass-through.
- 8. HDBT (PoC):** RJ45 HDBaseT output port to connect to the **HDBT IN** port of the receiver by a CATx cable. It supports 12V-48V PoC and compatible with 48V PoH.  
**Note:** STP cable is needed when Transmitter is powered from the Receiver by PoH.
- 9. Switch for determining the behavior of the RS232 connection:**
  - RS232:** When in this position, it serves as an RS232 serial Pass-through.
  - FW Update:** When in this position, it allows you to update the firmware by connecting to a PC and running the batch file.

## HD-H704K-WP Extender

### Receiver Panel Description



1. **Power LED:** The LED illuminates red when power is applied and is off when no power is present.
2. **HDMI Out LED:** The LED illuminates green when there is an HDMI video output.
3. **Switch for determining the behavior of the RS232 connection:**
  - **RS232:** When in this position, it serves as an RS232 serial extension.
  - **FW Update:** When in this position, it allows you to update the firmware by connecting to a PC and running the batch file.
4. **HDBT In:** RJ45 port to connect the **HDBT Out** port of transmitter by CATx cable. The left HDCP LED illuminates green when the video contains HDCP content. The right Link LED illuminates yellow when there is a valid HDBaseT link between the transmitter and the receiver.  
  
**Note:** It Supports 12V-48V PoC input and is compatible with 48V PoH, and 24V PoC output. Must use STP cable when Transmitter or Receiver is powered from other devices by PoH.
5. **RS232:** 3-pin terminal block to connect the RS232 control device (e.g. PC) or a third-party device to be controlled by RS232 commands.
6. **IR In:** N.A.
7. **IR Out:** 3.5mm mini jack to connect IR emitter for IR pass-through.
8. **HDMI Out:** Type-A female HDMI output port to connect to an HDMI display device.
9. **AUDIO OUT:** Toslink digital audio output port to an audio amplifier or mixer.
10. **DC 24V:** Locking power port for 24V DC power adapter connection.

## HD-H704K-WP Extender

### Video Resolution Down-scaling

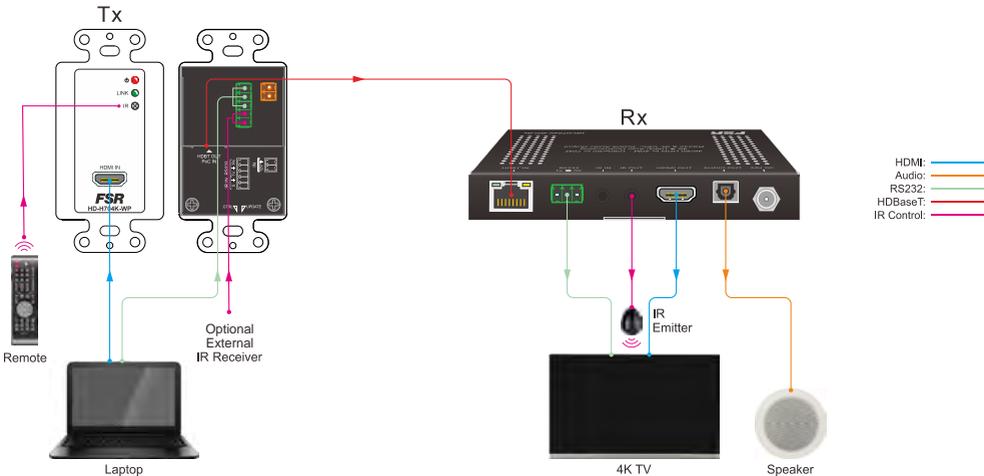
The product supports video resolution down-scaling, the 4K input can be automatically converted to 1080p output for compatibility with 1080p display, shown in the below chart.

	Input			Output	
#	Resolution	Refresh	Color Space	Downscale	1080p Specs
1	3840x2160	60	4:4:4	Support	1080p@60Hz 4:4:4
2	3840x2160	30	4:4:4	Support	1080p@30Hz 4:4:4
3	3840x2160	24	4:4:4	Support	1080p@24Hz 4:4:4
4	3840x2160	60	4:2:0	Support	1080p@60Hz 4:4:4
5	3840x2160	30	4:2:0	Support	1080p@30Hz 4:4:4
6	3840x2160	24	4:2:0	Support	1080p@24Hz 4:4:4
7	3840x2160	60	4:2:2	Not Support	N/A
8	3840x2160	30	4:2:2	Not Support	N/A
9	3840x2160	24	4:2:2	Not Support	N/A

# HD-H704K-WP Extender

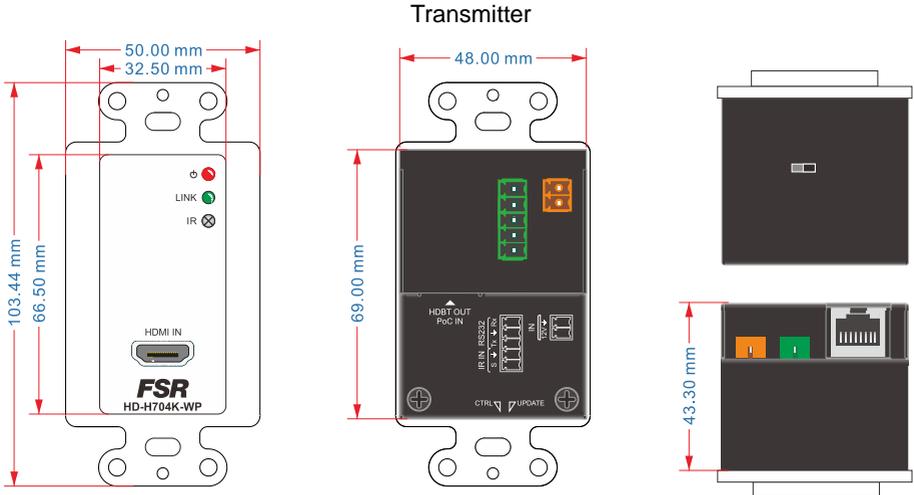
## System Connection

The following diagram illustrates the typical input and output connection of the extender:

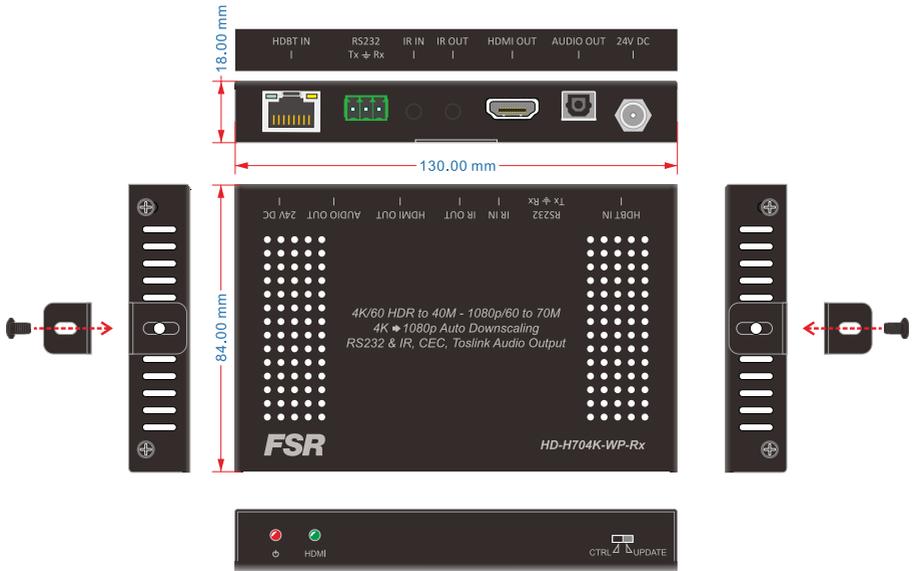


# HD-H704K-WP Extender

## Panel Drawing



## Receiver



## HD-H704K-WP Extender

### Limited Warranty

The HD-H704K-WP is warranted against failures due to defective parts or faulty workmanship for a period of three years after delivery to the original owner. During this period, FSR will make any necessary repairs or replace the unit without charge for parts or labor. Shipping charges to the factory or repair station must be prepaid by the owner, return-shipping charges (via UPS Ground) will be paid by FSR.

This warranty applies only to the original owner and is not transferable. In addition, it does not apply to repairs done by other than the FSR factory or Authorized Repair Stations.

This warranty shall be cancelable by FSR at its sole discretion if the unit has been subjected to physical abuse or has been modified in any way without written authorization from FSR. FSR's liability under this warranty is limited to repair or replacement of the defective unit.

FSR will not be responsible for incidental or consequential damages resulting from the use or misuse of its products. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date (if a Warranty Registration Card was mailed in at the time of purchase, this is not necessary). Before returning any equipment for repair, please read the important information on service below.

## HD-H704K-WP Extender

### SERVICE

Before returning any equipment for repair, please be sure that it is adequately packed and cushioned against damage in shipment, and that it is insured. We suggest that you save the original packaging and use it to ship the product for servicing. Also, please enclose a note giving your name, address, phone number and a description of the problem.

NOTE: all equipment being returned for repair must have a Return authorization (RMA) Number. To get a RMA Number, please call the FSR Service Department (1-800-332-FSR1). Please display your RMA Number prominently on the front of all packages.

#### CONTACT INFORMATION:

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