



ABERMAN
professional audio-video solutions

EXT-2K-TRL



1080p over CAT6 Extender
up to 150 meters

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1. Introduction

Aberman EXT-2K-TRL – is an HDMI interface extender over one CAT6 cable. System supports point-to-point extension, featured bidirectional transmission for IR ports. The extension range is up to 150 meters. Extender supports the maximum signal resolution up to 1080p@60 with 4.95Gbps video bandwidth. Transmitter equipped with HDMI loop throughout for local display connection. Transmitter unit has factory preprogrammed EDID information to provide maximum compatibility between different sources and display devices. Extender offers long-range transmission of FullHD digital video with embedded two channel audio and bidirectional IR control signals using standard category cabling system. The recommended type of category cable is CAT6 or CAT6a. Connectors wiring follows the TIA/EIA-568-B specifications. Transmitter and receiver units housed in the compact and robust metal cases and ensure protection and cooling the system components. Thanks to fixing plates both units could be easy mounted to the walls or under desktop or any other surface.

2. Features

- Support HDMI signals up to 1080p60
- HDCP 1.4 compliant
- Supports 4.95Gbps video bandwidth
- The maximum supported resolution is 1920x1200@60 RB
- Color space: RGB 4:4:4, YCbCr 4:4:4, 4:2:2
- Supports PCM 2.0 Audio Format
- Extension distance up to 150 meters
- Uses Standard RJ45 connectors and CAT6 cable
- Factory preprogrammed EDID
- Local HDMI output on transmitter
- Two-way IR extension
- Units are housed in compact cases with wall mount ability

3. Package Contents

- 1× EXT-2K-TRL-TX Transmitter Unit
- 1× EXT-2K-TRL-RX Receiver Unit
- 1× IR Receiver cable (1.5 meters)
- 1× IR Blaster cable (1.5 meters)
- 2× Power Supply 5V, 1A
- 1× User Manual

4. Warranty Information

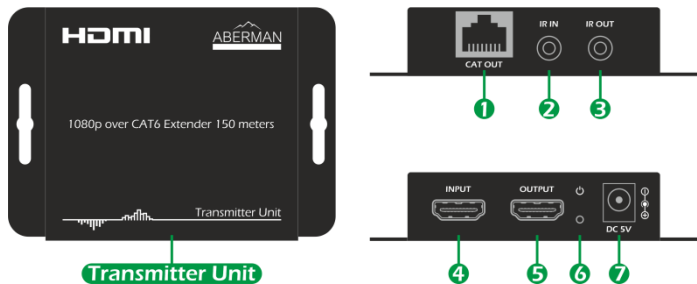
Aberman warrants all units to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchasing from authorized reseller.

If a product does not work as it warranted during this period, Aberman will repair or replace the defective product or its part. Replacement products may be new or reconditioned.

Warranty ends if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or servicing other than by Aberman or its authorized centers, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.

5. Unit's interfaces

5.1 Transmitter Unit



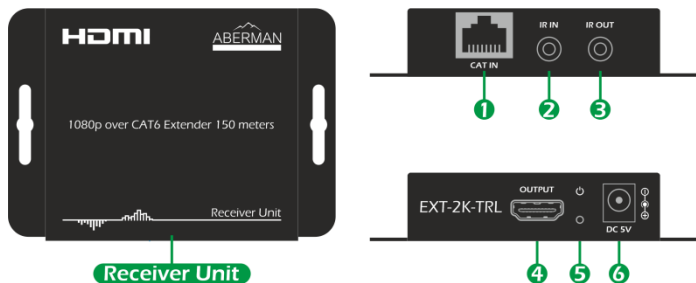
N	Type	Description
1	RJ45 Socket	Link Output Interface – connect CAT cable to Receiver
2	mJack 3.5mm Socket	IR Input Port – connect IR Receiver cable
3	mJack 3.5mm Socket	IR Output Port – connect IR Blaster cable
4	HDMI Socket 19 pin	HDMI Input – connect to Source Device
5	HDMI Socket 19 pin	HDMI Loop Through Output – connect to local Display
6	LED Green	Power Indicator, active when power is applied to the unit
7	Power Socket	DC Power Connector, 5V, 1A – connect Power Supply

5.2 EDID Management

Extender does not pass EDID data from local or remote Displays to the Source device. The transmitter unit contains the factory preprogrammed EDID information. This feature helps to solve the most of common issues when different sources and displays used in a complex system. The native resolution is set to 1920x1080p@60.

The EDID data stored in the non-volatile memory and can be updated at factory on production step only. If you need a special or custom EDID, please consult the Aberman tech team staff or your local distributor first.

5.3 Receiver Unit



N	Type	Description
1	RJ45 Socket	Link Input Interface – connect CAT cable to Transmitter
2	mJack 3.5mm Socket	IR Input Port – connect IR Receiver cable
3	mJack 3.5mm Socket	IR Output Port – connect IR Blaster cable
4	HDMI Socket 19 pin	HDMI Output – connect to Display
5	LED Green	Power Indicator, active when power is applied to the unit
6	Power Socket	DC Power Connector, 5V, 1A – connect Power Supply

5.4 RJ45 Connector Indication

The RJ45 Connector has two LEDs which are could be used for understanding the current state of the system. Use the Green LED to check the HDMI input signal activity and the Yellow for the Link status:



LED	Status	Description
Green	Constantly lit	HDMI signal is detected on input
	Not lit	HDMI signal is not detected on input
Yellow	Slow Flashing	Extension Link is established, no signal is transmitted
	Fast Flashing	Extension Link is established, video signal is transmitted
	Not lit	Connection between TX and RX is not established

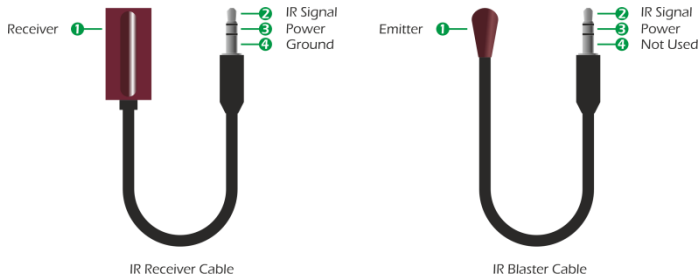
5.5 IR Extension Usage

Extender supports to send IR control data in both directions simultaneously. For example, this feature allows user to control a remote display device using its IR Remote control from the transmitter side – by sending IR data to receiver and at the same time - send IR control signals from the remote location to an HDMI source using its IR Remote control.

The supported IR range is 20 – 60KHz. The actual distance could vary depending on several IR parameters and environment conditions. The aiming of IR Remote is very important for distance. To achieve best results always point IR Remote to IR Receiver in between 45 to 90 degree angle, then the working distance will be about 5 to 8 meters in the line of sight.

5.6 IR Cables Pinout

We recommend use only IR cables from the set of the unit. The pinout of the mini Jack connector for IR cables may differ for different vendors. Always carefully check the connection of the peripheral equipment before powering the system.



6. Best Practice

Aberman engineers design products at the highest quality standards. To get the best results from our products, please read this manual carefully. We recommend using the best quality connectors, cables, and adapters. Consider the points below when you choose accessories and position equipment.

For best results with HDMI/DVI, use good quality cables up to 5 meters long for 4K and up to 15 meters for 1080p, or shorter if you are using any connection adapters. If you need to place your equipment more than 15 meters apart, we recommend using a signal extender. See Aberman Smart Extension product line of signal extenders to find correct one. Use only graded Speed HDMI cables. In industrial environments, use shielded CAT cables (STP, FTP, F/UTP or S/FTP) with digital extenders. To achieve best performance and maximum distance use appropriate fiber optical cable type cores (MM or SM) with optical extenders.

7. Safety Instructions

WARNING: To reduce the risk of fire or electric shock, do not expose this device to rain or moisture. Do not use this device near water. Clean only with a dry cloth.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device. This unit must be connected to an earthed mains socket outlet with the supplied cable. The AC wall outlet should be installed near to the unit and be easily accessible.

If using extenders which run a long distance, the protective earth circuit of the socket should be verified by a skilled person to ensure equipotential earth bonding. Do not use unit on objects or installations where power lines have grounding and/or different phase issues.

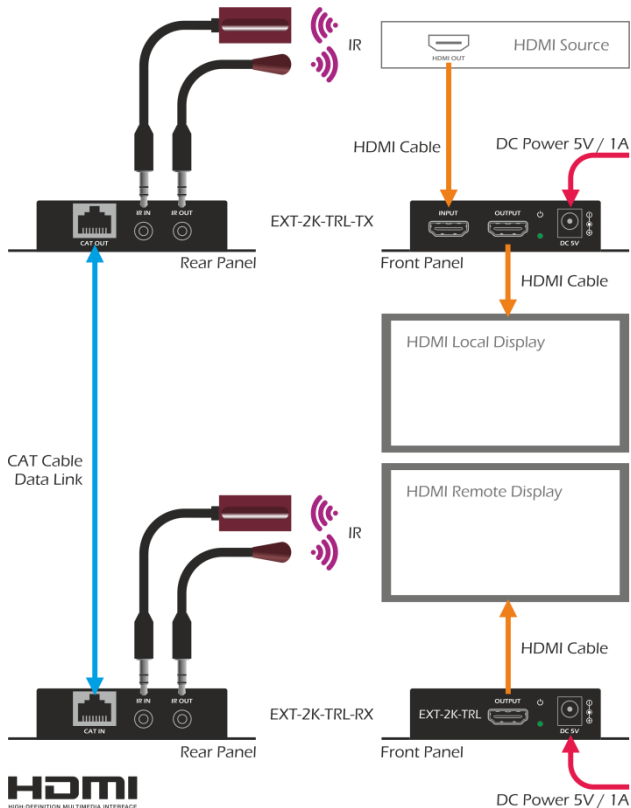
Unplug units during lightning storms or when unused for long periods of time.

Do not install unit near any heat sources such as radiators, heat registers, stoves, or devices (including amplifiers) that produce heat. Do not block any ventilation openings. This unit uses active cooling with fans. Do not install unit in dusty and/or dirty places. Use professional equipment racks with air condition and filters.

8. Specifications

SKU	EXT-2K-TRL
Type	HDMI CAT6 Extender
HDMI Compliance	HDMI 1.3
HDCP Compliance	HDCP 1.4
Video Bandwidth	4.95Gbps
Resolutions supported	480i, 480p, 576i, 576p, 720p, 1080i, 1080p, 1920x1200@60RB
Color Scales, Subsampling	RGB 4:4:4, YUV 4:4:4, 4:2:2
Color Depth Resolution	8-bit
HDMI Audio Formats	LPCM 2.0
IR Level, Range	5Vp-p, 20K – 60KHz
Extension Link	Category Cable
Cable Type	CAT6, CAT6a
Connectors and Wiring	RJ45, TIA/EIA-568-B
Transmission Distance	Up to 150 meters
ESD Protection	IEC 61000-4-2, ±8kV air-gap, ±4kV contact
Enclosure material	Metal
Finished colour	Black
Dimension	74x68x20mm
Weight (each unit)	0,17 kg
Operating Temperature	0°C ~ 40°C
Storage Temperature	-20°C ~ 60°C
Relative Humidity	20%~90% RH (non-condensing)
Transmitter	EXT-2K-TRL-TX
Video Input	HDMI up to 1920x1200@60Hz RB, 4:4:4, HDMI type A , 19-pin
Input Video Bandwidth	4.95Gbps
Video Output (Loop)	HDMI up to 1920x1200@60Hz RB, 4:4:4, HDMI type A , 19-pin
IR Input	1x IR, mJack 3,5 mm, stereo
IR Output	1x IR, mJack 3,5 mm, stereo
Extension Link Output	1xRJ45
Power Supply	AC 110-240V, 50-60Hz / DC 5V,1A
Power Consumption	<1.5W
Receiver	EXT-2K-TRL-RX
Video Output	HDMI up to 1920x1200@60Hz RB, 4:4:4, HDMI type A , 19-pin
Output Video Bandwidth	4.95Gbps
IR Input	1x IR, mJack 3,5 mm, stereo
IR Output	1x IR, mJack 3,5 mm, stereo
Extension Link Input	1xRJ45
Power Supply	AC 110-240V, 50-60Hz / DC 5V,1A
Power Consumption	<1.35W

9. Connection Scheme Example



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