

MPTP-T70-WPT-4K

4K Wallplate HDBaseT Transmitter



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Version: MPTP-T70-WPT-4K_2021V1.0

Preface

Read this user manual carefully before using this product. Pictures shown in this manual are for reference only, different model and specifications are subject to real product.

This manual is only for operation instruction only, not for any maintenance usage. The functions described in this version are updated till February, 2020. Any changes of functions and parameters since then will be informed separately. Please refer to the dealers for the latest details.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference

Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.



SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

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1. Introduction

1.1 Product Introduction

Connect, switch and extend HDMI and 1 VGA+ audio input to displays or projectors in conference rooms, classrooms and control centers. Inputs are automatically switched (or manually selected) to permit seamless transfer from one source to the next. Extend signal up to 70 meters (230ft) over a single Category cable. Certified HDBaseT technology for a complete professional installation including HD video, power, RS232 control. This device uses Power over HDBaseT (PoH) to provide the flexibility for powering the transmitter from the receiver at the display over the same Category cable. This product is used with HDBaseT 70M extender Receiver.

1.2 Features

- HDBaseT Alliance certified.
- Dual gang Decora form factor with matte anodized aluminum finish.
- Delivers full uncompressed HD video 3D and 4Kx2K (VESA resolutions up to 1920x1200@60Hz, and HDTV resolutions up to 2160p) over single Category cable up to 70m (230ft).
- Supports key features of HDMI 1.4 including EPG, EDID, and HDCP.
- Built-in scaling function to automatically match signals to display native resolution.
- PoH (power over HDBaseT) allows powering from the receiver at the display end.
- Locking features for input connectors.

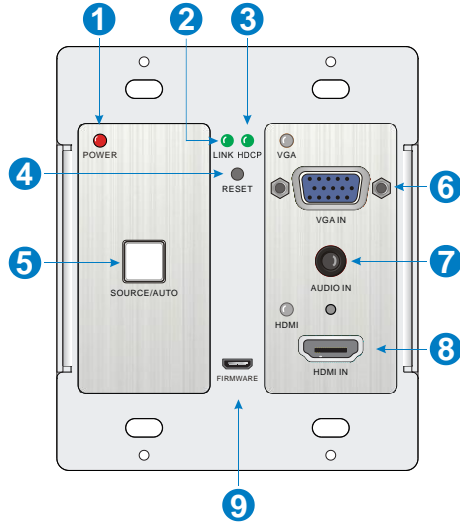
1.3 Package List

- 1 x 4K Wallplate HDBaseT Transmitter
- 4 x Mounting Screws
- 1 x 2-pin Pluggable Terminal Block
- 1 x 4-pin Pluggable Terminal Block
- 1 x Top Cover
- 1 x Power Adaptor (12V DC 2A)
- 1 x User Manual

Note: Please confirm if the product and the accessories are all included, if not, please contact with the dealers.

2. Panel Description

2.1 Front Panel

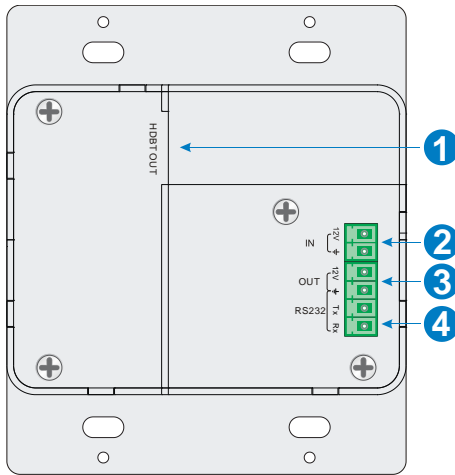


| No. | Name | Description |
|-----|--------------|--|
| ① | POWER | LED indicator glows red when power is applied. |
| ② | LINK | LED indicator glows green when an HDBaseT link is established. |
| ③ | HDCP | LED indicator glows green when an HDCP link is established. |
| ④ | RESET | This button performs a soft reboot of the 4K Wallplate HDBaseT Transmitter. |
| ⑤ | SOURCE/AUTO | Button switches sources and upon push and hold changes mode between Auto and Manual source select. LED indicator glows green when in Auto mode. |
| ⑥ | VGA & VGA IN | <ul style="list-style-type: none"> VGA – LED indicator glows green when the VGA input is active, amber when a source is available, and does not light when there is no source connected. VGA IN – HD 15 connector. |
| ⑦ | AUDIO IN | 3.5mm stereo audio connector supplies audio for the VGA input. |

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| | | |
|---|----------------|---|
| ⑧ | HDMI & HDMI IN | <ul style="list-style-type: none"> HDMI - LED indicator glows when HDMI input is active, amber when a source is available, and does not light when there is no source connected. HDMI IN – HDMI connector with locking feature. |
| ⑨ | FIRMWARE | Micro-USB connector used to update firmware. |

2.2 Rear Panel



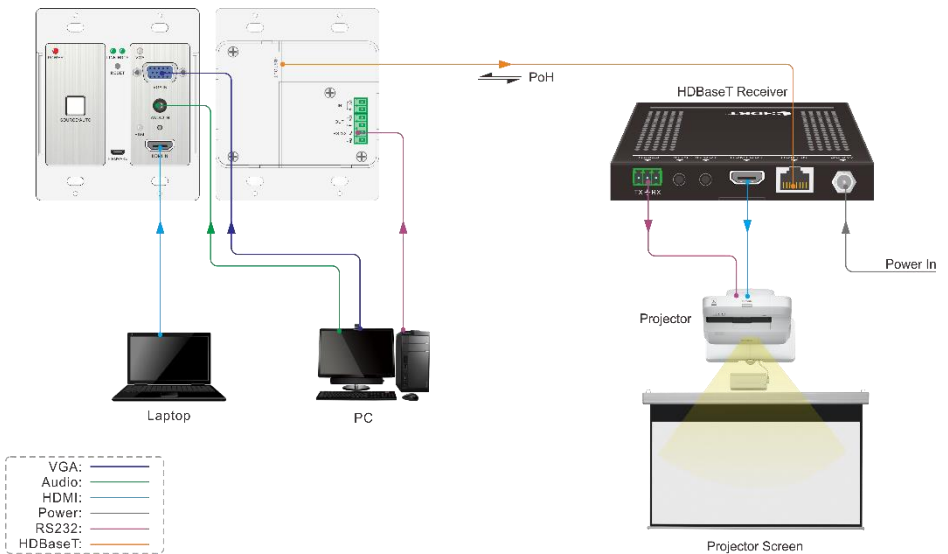
| No. | Name | Description |
|-----|----------|---|
| ① | HDBT OUT | HDBaseT output, connects with HDBaseT Receiver over a single Category cable to deliver AV signals, support PoC. |
| ② | IN | 12V input, connects with power adapter. |
| ③ | OUT | 12V output, connects with Control Panel to energize it. |
| ④ | RS232 | Serial port for control MPTP-T70-WPT-4K and the third-party device via RS232 commands. Please refer to the <u>5. RS232 Control</u> for more details. |

3. System Connection

Usage Precautions

- System should be installed in a clean environment and has a prop temperature and humidity.
- All of the power switches, plugs, sockets and power cords should be insulated and safe.
- All devices should be connected before power on.

Overview:



Installation

- ① If installing in a back-box, it is recommended that the 4K Wallplate HDBaseT Transmitter be installed in a 4-5/8" square box at a minimum. The 4-5/8" square box has sufficient space to terminate the cables with jacks behind the unit when fully installed.
- ② Run one twisted pair cable from the 4K Wallplate HDBaseT Transmitter location to the location where the HDBaseT Receiver will be located (somewhere near the display device). See the installation instructions for the 70M HDBaseT Receiver.
- ③ If using the Control Panel, run another twisted pair cable from the 4K Wallplate

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HDBaseT Transmitter location to the location that the Control Panel will be mounted.

- ④ All twisted pair cables should be terminated with jacks. This allows the permanent link between the two devices to be tested.
- ⑤ Use the appropriate category rated patch cable to connect the HDBaseT link to the HDBT OUT connector.
- ⑥ If using the Control Panel, use the supplied adapter cable to connect with the second cable and follow the installation instructions for the HDBaseT Receiver and Control Panel.

Note: We recommends Category 6A cabling with alien crosstalk prevention technology for the performance of HDBaseT link.

4. Button Control

SOURCE/AUTO Button

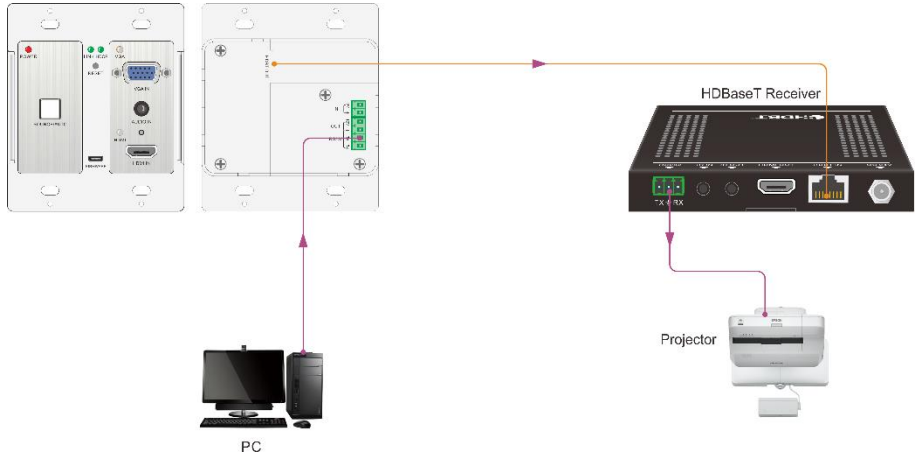
Press and hold the SOURCE/AUTO button for approximately 3 seconds. When the button lights up green the 4K Wallplate HDBaseT Transmitter is in AUTO mode. This mode automatically selects the last video source connected to the 4K Wallplate HDBaseT Transmitter and outputs it to the display. Press and hold again for approximately 3 seconds, the light will go out, and the device will be in Manual mode which will allow the user to momentarily press the button to toggle between the two sources.

5. RS232 Control

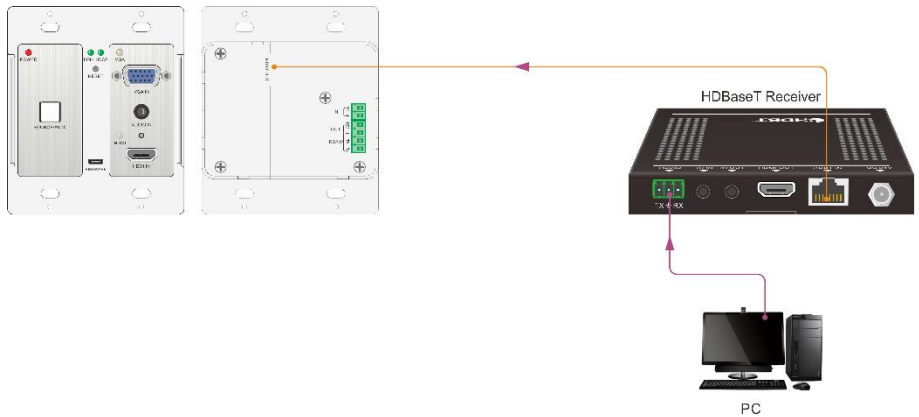
5.1 RS232 Control Connection

There are two RS232 control modes switching via sending 50779% or 50780%.

- ① Control this Wallplate HDBaseT Transmitter and far-end third-party device (such as Projector) device by local PC, and the connection diagram shown as below:



- ② Control the Wallplate HDBaseT Transmitter by the remote PC which is connected with Receiver



The RS232 control mode can be chosen via RS232 commands, please refer to the [**5.3.1 RS232 mode switching**](#) for more details.

5.2 RS232 Control Software

- **Installation:** Copy the control software file to the control PC.
- **Uninstallation:** Delete all the control software files in corresponding file path.

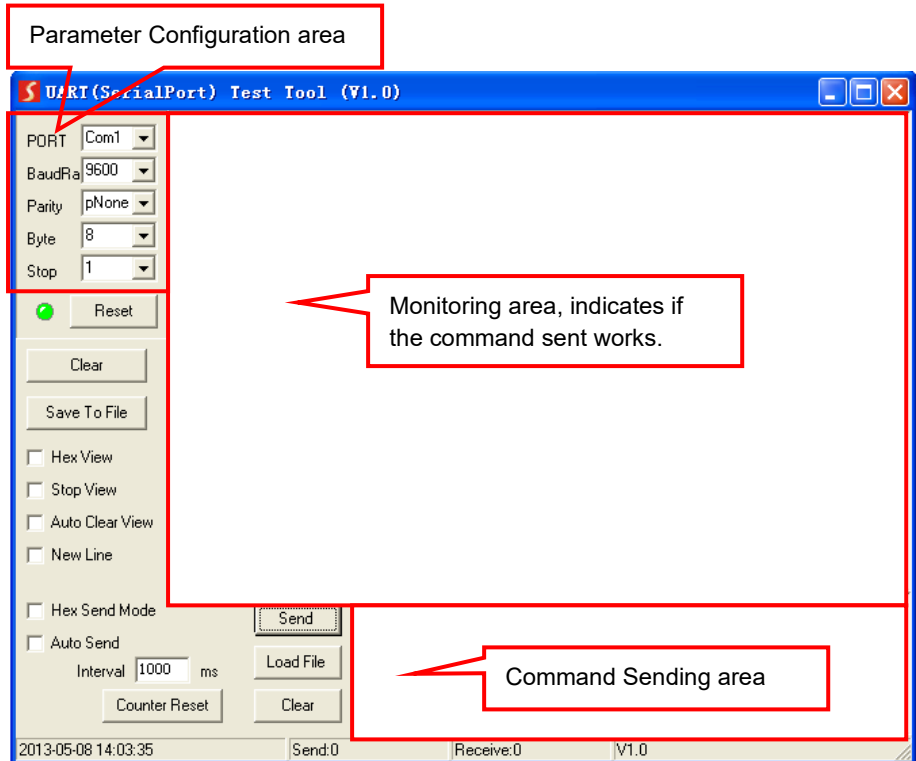
Basic Settings:

First, connect 4K Wallplate HDBaseT Transmitter with all input devices and output devices needed, then to connect it with a computer which is installed with RS232 control software. Double-click the software icon to run this software.

Here we take the software **CommWatch.exe** as example. The icon is showed as below:



The interface of the control software is showed as below:



Please set the parameters of COM number, bound rate, data bit, stop bit and the parity bit correctly, and then you are able to send command in Command Sending Area.

5.3 RS232 Commands

Communication protocol: RS232 Communication Protocol

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

5.3.1 Control Mode Switching

| Command | Function | Feedback Example |
|---------|--|--|
| 50779% | Switch to RS232 mode 1 (Default) , control scaler switcher and the far-end third-party device. | RS232 Mode 1: RS232 Control Scaler & Remote. |
| 50780% | Switch to RS232 mode 2, control the scaler switcher from remote. | RS232 Mode 2:RS232 & Remote Control Scaler |

5.3.2 Signal Switching

| Command | Function | Feedback Example |
|---------|------------------------|------------------|
| 50770% | Enable auto-switching | Auto Switching |
| 50771% | Disable auto-switching | Manual Switching |
| 50701% | Switch to HDMI input | Switch to HDMI |
| 50704% | Switch to VGA input | Switch to VGA |

5.3.3 VGA Scaling Configuration

The default output resolution for VGA is 1920x1080. Below is a list of the output resolutions the built-in scaler can output.

| Command | Function | Feedback Example |
|---------|--|-----------------------|
| 50632% | Check the output resolution | Resolution: xx |
| 50619% | Change the resolution to 1360X768 HD | Resolution: 1360x768 |
| 50626% | Change the resolution to 1024X768 XGA | Resolution: 1024x768 |
| 50627% | Change the resolution to 1280X720 720P | Resolution: 1280x720 |
| 50628% | Change the resolution to 1280X800 WXGA | Resolution: 1280x800 |
| 50629% | Change the resolution to 1920X1080 1080P | Resolution: 1920x1080 |

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|---------------|--|-----------------------|
| 50620% | Change the resolution to1920X1200 WUXGA | Resolution: 1920x1200 |
| 50621% | Change the resolution to1600X1200 UXGA | Resolution: 1600x1200 |

5.3.4 HDCP Compliance

| Command | Function | Feedback Example |
|----------------|---|---|
| 50790% | Set the HDCP status of HDMI output socket to Active | HDCP Active |
| 50791% | Set the HDCP status of HDMI output socket to On | HDCP On |
| 50792% | Set the HDCP status of HDMI output socket to Off | HDCP Off |
| 50793% | Check HDCP status | HDCP Off/ HDCP On/ HDCP Active (default) |

5.3.5 VGA Image Adjusting

| Command | Function | Feedback Example |
|----------------|---------------------------------|---------------------------|
| 50636% | Check the brightness | Brightness: xx (xx=00~99) |
| 502xx% | Set the brightness to xx. | Brightness: xx (xx=00~99) |
| 50637% | Check the contrast | Contrast: xx (xx=00~99) |
| 503xx% | Set the contrast to xx. | Contrast: xx (xx=00~99) |
| 50638% | Check the saturation | Saturation: xx (xx=00~99) |
| 504xx% | Set the saturation to xx. | Saturation: xx (xx=00~99) |
| 50639% | Check sharpness | Sharpness: xx (xx=00~99) |
| 505xx% | Set the sharpness to xx. | Sharpness: xx (xx=00~99) |
| 50606% | Auto-adjust the input parameter | VGA Input Auto |

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|---------------|--|--|
| 50640% | Check the color temperature | Color Temperature: xx (xx can be medium, warm, user, or cool.) |
| 50607% | Adjust the color temperature | Color Temperature: xx (xx can be medium, warm, user, or cool.) |
| 50635% | Check the image aspect ratio | Aspect Ratio: xx (xx can be 16:9, 4:3, or auto.) |
| 50608% | Set the aspect ratio | Aspect Ratio: xx (xx can be 16:9, 4:3, or auto.) |
| 50633% | Check the picture mode | Picture Mode: xx (xx can be dynamic, standard, mild, or user.) |
| 50614% | Set the picture mode | Picture Mode: xx (xx can be dynamic, standard, mild, or user.) |
| 50707% | Check the present resolution and polarity | 1920x1080 Hpolarity:1 Vpolarity:0 |
| 50705% | Change the horizontal polarity to the opposite | Hpolarity:0/1 |
| 50706% | Change the vertical polarity to the opposite | Vpolarity:0/1 |
| 50678% | Enable screen output adjusting | Enter Output Position Adjust |
| 50679% | Disable screen output adjusting | Exit Output Position Adjust |
| 50670% | Move the image to left | Output Position Adjust X xx |
| 50671% | Move the image to right | Output Position Adjust X xx |
| 50672% | Move the image up | Output Position Adjust Y xx |
| 50673% | Move the image down | Output Position Adjust Y xx |

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|---------------|--|-------------------------|
| 50674% | Pull left from right side (decrease image width) | Output Width Adjust xx |
| 50675% | Stretch right from right side (increase image width) | Output Width Adjust xx |
| 50676% | Stretch upwards from bottom side (decrease image height) | Output Height Adjust xx |
| 50677% | Stretch downwards from bottom side (increase image height) | Output Height Adjust xx |

5.3.6 EDID Configuration

| Command | Function | Feedback Example |
|----------------|--|--|
| 50772% | EDID pass-through (default) | EDID: bypass mode |
| 50773% | Set EDID data to 1080P PCM 2.0ch | EDID:1080P&PCM 2ch |
| 50774% | Set EDID data to 1080P Dolby 5.1 | EDID:1080P&5.1ch |
| 50775% | Set EDID data to 1080P3D Dolby 5.1 | EDID:1080P3d&5.1ch |
| 50776% | Set EDID data to 1080i PCM 2.0ch | EDID:1080i&PCM 2ch |
| 50777% | Set EDID data to 4Kx2K PCM 2.0ch | EDID:4K&PCM 2ch |
| 50778% | Check EDID data | EDID: bypass mode EDID:1080P&PCM 2ch EDID:1080P&5.1ch EDID:1080P3d&5.1ch EDID:4K&PCM 2ch |
| 50799% | Program EDID file, send EDID data within 10s | Waiting for edid within 10 secs! |

Note: EDID commands are for HDMI sources only.

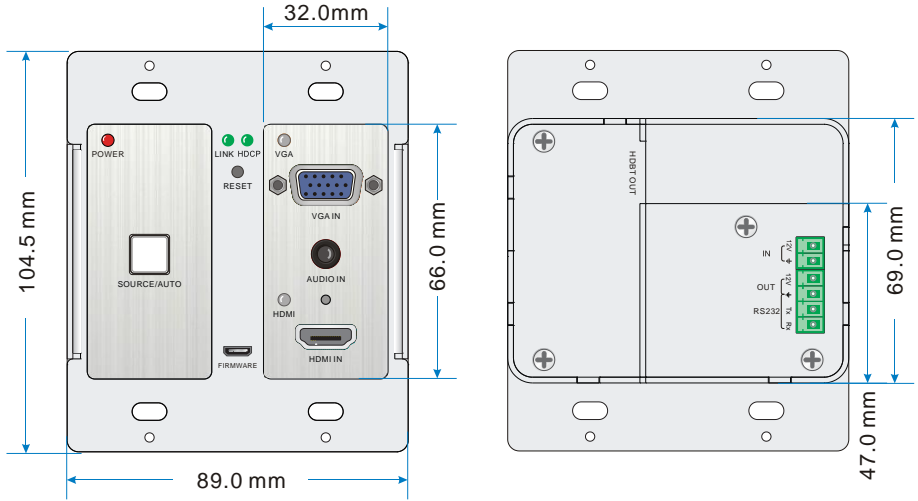
5.3.7 Device Configuration

| Command | Function | Feedback Example |
|----------------|----------------------------|-------------------------|
| 50698% | Software upgrading | |
| 50699% | Check the software version | Version Vx.x.x |
| 50617% | Restore factory default | |

6. Specification

| Input & Output | |
|---------------------------|---|
| Input | (1) HDMI, (1) VGA, (1) AUDIO, (1) 12V POWER |
| Input Connector | (1) 19-pin Type A female HDMI, (1) HD-15 VGA, (1) 3.5mm mini jack, (1) 2-pin Pluggable Terminal Block |
| Output | (1) HDBaseT, (1) 12V POWER |
| Output Connector | (1) RJ45, (1) 2-pin Pluggable Terminal Block |
| Transmission Mode | HDBaseT |
| Control Parts | |
| Control Ports | (1) FIRMWARE, (1) RS232 |
| Control Connector | (1) Micro USB, (1) 3-pin Pluggable Terminal Block |
| General | |
| Video Resolution | VGA - up to 1920 x 1080@60Hz; HDMI - up to 4Kx 2K |
| Audio Impedance | >10KΩ |
| Frequency Response | 20Hz~20KHz |
| SNR | >85db@20Hz~20KHz |
| Transmission Distance | 1080p ≤ 70m; 4Kx2K ≤ 40m |
| Bandwidth | 10.2Gbps |
| HDMI Standard | HDMI 1.4 and HDCP 1.4 |
| Power Supply | Input:100V~240V AC; Output: 12VDC 2A |
| Max Consumption | 9.6W |
| Work Temperature | -10 ~ +40℃ |
| Reference Humidity | 10% ~ 90% |
| Dimension (W*H*D) | 104.5mm x 89.0mm x 44.0 mm |
| Net Weight | 238g |

7. Panel Drawing



8. Troubleshooting & Maintenance

| Problems | Causes | Solutions |
|---|--|--|
| Color losing or no video signal output in HDMI display | The connecting cables may not be connected correctly or it may be broken | Check whether the cables are connected correctly and in working condition. |
| No HDMI signal output in the device while local HDMI input is in normal working state | | |
| Output image with snowflake | | |
| POWER indicator doesn't work or no respond to any operation | Loose or failed power cord connection | Ensure the power cord connection is good |
| Static becomes stronger when connecting the video connectors | bad grounding | Check the grounding and make sure it is connected well. |
| Cannot be controlled by front panel buttons | The unit may have already been broken | Send it to authorized dealer for repairing. |

If your problem persists after following the above troubleshooting steps, seek further help from authorized dealer or our technical support.

9. Customer Service

The return of a product to our Customer Service implies the full agreement of the terms and conditions hereinafter. These terms and conditions may be changed without prior notice.

1) Warranty

The limited warranty period of the product is fixed three years.

2) Scope

These terms and conditions of Customer Service apply to the customer service provided for the products or any other items sold by authorized distributor only.

3) Warranty Exclusions:

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
 - ✓ Normal wear and tear.
 - ✓ Use of supplies or parts not meeting our specifications.
 - ✓ No certificate or invoice as the proof of warranty.
 - ✓ The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
 - ✓ Damage caused by force majeure.
 - ✓ Servicing not authorized by distributor.
 - ✓ Any other causes which does not relate to a product defect.
- Shipping fees, installation or labor charges for installation or setup of the product.

4) Documentation:

Customer Service will accept defective product(s) in the scope of warranty coverage at the sole condition that the defeat has been clearly defined, and upon reception of the documents or copy of invoice, indicating the date of purchase, the type of product, the serial number, and the name of distributor.

Remarks: For further assistance or solutions, please contact your local distributor.