# User Manual

# WOXCON

## TPHD463
## HDBaseT Lite Transmitter/PoH

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**Version: 2016V1.0**

# Preface

Read this user manual carefully before using this product. Pictures shown in this manual is 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. Any changes of functions and parameters since then will be informed separately. Please refer to the dealers for the latest details.

# Trademarks

Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior written consent.

# 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 insure 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.

# Contents

# 1. Introduction

## 1.1 Product Overview

The product is an under table mounted switcher designed to be the primary PC interface for classrooms, boardrooms, and conference centers. It features VGA + Audio to HDMI conversion with VGA scaling up to 1920x1200 and an HDMI input.

The HDBaseT Lite Transmitter utilizes HDBaseT technology to extend the digital output up to 70 meters away using solid core shielded Category 5e or greater cable. This transmitter device is compatible with several HDBaseT receivers, but is designed to work primarily with the HDBaseT Receiver. The unit features multiple EDID modes to eliminate user confusion, and incompatible video formats. An HDMI output is available for use to connect to a local display.

The HDBaseT Lite Transmitter can be powered from the rear panel or by Power over HDBaseT (PoH), including midspan injectors that support Power over Ethernet (PoE) Alternative A. The HDBaseT Lite Transmitter may also power compatible HDBaseT receivers. Built-in surge protection and diagnostic LEDs ensure hassle-free and robust installations. The HDBaseT Lite Transmitter also features a customizable power management system, which will put the unit into a low power state after no video for 30 minutes or being inactive for 3 hours by default.

The HDBaseT Lite Transmitter will detect which input has an active video input, and switch to that input – if both inputs are active, the "last in" will be selected. RS232 control of the HDBaseT Lite Transmitter can be accomplished by connecting to the RS232 port on a compatible receiver, such as a HDBaseT Receiver, or through a direct connection on the RS232 input of the device.

The HDBaseT Lite Transmitter can be programmed to control the connected display. This allows display power and input to be automatically controlled based on video activity, eliminating the need for a third party control system in many installations.

## 1.2 Package Contents

- HDBaseT Lite Transmitter
- 12V DC Power Supply
- RS232 cable (3-pin to DE9)
- 3-pin Removable Screw Terminal
- USB Programming Cable
- User Manual

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

# 2. Panel Description



1. Micro USB port for firmware updating.

2. HDCP status LED.

3. HDBaseT Link status LED.

4. VGA input status LED.

5. HDMI input status LED.

6. Power LED.

A. HDBaseT output with PoH support.

B. Local HDMI output.

C. HDMI input.

D. VGA with analog audio input.

E. RS232 connection

F. 12V DC power input

**Note:** Pictures shown in this manual are for reference only, different model and specifications are subject to real product.
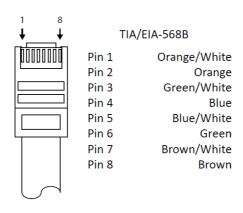
# 3. Installation Instructions

## 3.1 Basic Installation

1. Turn off power and disconnect the audio/video equipment by following the manufacturer's instructions.
2. Connect shielded Category 5E or greater twisted pair cable with the TIA/EIA-568B crimp pattern between the transmitter (HDBaseT Lite Transmitter) and the HDBaseT receiver.
3. If the HDBaseT receiver cannot provide power to the HDBaseT Lite Transmitter or the receiver requires remote power, connect the included power supply to the 12V DC power input of the device.
4. Connect an HDMI cable between the display and the HDBaseT receiver per the manufacturer's instructions
5. If a local display is part of the installation, connect an HDMI cable between the display and the HDMI output port on the HDBaseT Lite Transmitter.
6. Power on attached audio/video devices.
7. Apply power to the HDBaseT receiver.
8. If the HDBaseT receiver cannot provide power to the HDBaseT Lite Transmitter or the receiver requires remote power, connect the power supply going to the HDBaseT Lite Transmitter an AC outlet.
9. Connect HDMI or VGA/Audio sources. The analog audio input is only paired with the VGA input.

**HDBaseT Cabling Requirements**

For all HDBaseT Cabling, the EIA/TIA-568B crimp pattern must be used on Category 6 or greater cable. In areas with large amounts of electromagnetic (EM) or radio frequency (RF) interference, a shielded variety of Category 5e or greater cable is recommended with shielded connectors on both ends of the selected cable.

TIA/EIA-568B

| Pin | Color |
|-----|-------|
| Pin 1 | Orange/White |
| Pin 2 | Orange |
| Pin 3 | Green/White |
| Pin 4 | Blue |
| Pin 5 | Blue/White |
| Pin 6 | Green |
| Pin 7 | Brown/White |
| Pin 8 | Brown |

## 3.2 Device Power

The HDBaseT Lite Transmitter supports two types of power input: PoH (Power over HDBaseT) and rear panel input.

When using PoH, a compatible HDBaseT receiver can power the HDBaseT Lite Transmitter by inserting power onto the twisted pair cable. When using a compatible HDBaseT receiver, there is no need to use the rear panel power input.

If using a different receiver that does not supply power or the receiver requires remote power, you must connect power to the rear power input. Using this method, the included 12V DC 2A power supply must be used.

## 3.3 RS232 Connections

The HDBaseT Lite Transmitter can be controlled via RS232 by connecting to a computer's serial port or third party control system via the connected HDBaseT receiver. The HDBaseT Lite Transmitter may also be directly controlled via the RS232 connection on the rear panel. Additionally, a third party device connected to the local RS232 port may communicate directly to the display via RS232 through the HDBaseT receiver.

To use the RS232 extension capabilities of the HDBaseT Lite Transmitter, connect the TX, ground, and RX control signal wires to the removable 3-pole terminal block. Consult the manual of the control device(s) to determine which pins the TX and RX signals are carried on. Be sure to always connect TX to RX and RX to TX.

With the built-in Display control functionality, the HDBaseT Lite Transmitter can automatically turn on and turn off the display when a source is connected or removed from the device. Please see *4.8 Display Control Functionality*.

| Controller | Transmitter | | Receiver | Display |
|---|---|---|---|---|
| RXD ————— | RXD | | RXD ————— | RXD |
| GND ————— | GND | ⟨⟩ | GND ————— | GND |
| TXD ————— | TXD | | TXD ————— | TXD |

The default setting for the RS232 connections are:

● 9600 baud.

● 8 Data Bits

● 1 Stop Bit

● Parity=none

# 4. General Operation

## 4.1 Automatic Switching

The HDBaseT Lite Transmitter will switch automatically to the "last in" connected input. For example, if a VGA signal is currently displayed, and then connect an HDMI source, the unit will switch to the HDMI input. When the HDMI source is removed, the unit will switch back to the VGA input.

## 4.2 RS232 Switching

By connecting the RS232 port of the HDBaseT receiver to a third party control system, serial commands can perform switching functions, as well as provide greater information about the units status. RS232 control can be used simultaneously with Auto operation, but not when using the Display Control functionality.

## 4.3 LED indicators

*Inputs*

The HDBaseT Lite Transmitter has two bi-color LEDs to provide switching status.

| LED State | Description |
|-----------|-------------|
| Off (both) | Unit is in low power mode. |
| Off (one) | Unit is in on- no signal detected on input, input not selected. |
| Green | Input selected. |
| Amber | Input has active video, input not selected. |

*Status*

The HDBaseT Lite Transmitter has two LEDs to provide connectivity status.

| LED State | Description |
|-----------|-------------|
| Link On | Connected to active HDBaseT receiver. |
| Link Off | Not connected to active HDBaseT receiver or in low power mode. |
| HDCP Solid | Encrypted HDCP signal to display. |
| HDCP Flashing | Non-encrypted HDCP signal to display. |
| HDCP Off | No HDCP link between source and display or in low power mode. |

## 4.4 Firmware Port

This port is used for updating firmware. Please contact our after-sales department for more details.

## 4.5 EDID Management

An essential part of operations is the EDID table, which is transmitted to the source from the HDBaseT Lite Transmitter input.
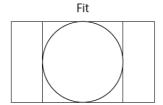
*HDMI EDID*

The HDBaseT Lite Transmitter features a pass through EDID mode for the HDMI input. The preferred native timing of the display will be transmitted to the source. If the resolution of the TV connected to the output is 1080p, then the switcher will request the source to output 1080p. The benefit of this method is that the video output by the source will be formatted perfectly for the display.
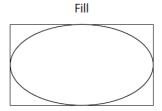
In addition to the default EDID pass-through mode, there are many built-in EDID settings to define the source video output resolution. The built-in EDID tables range from XGA (1024×768) up to UHD/30 (3840×2160 at 30 Hz). Changing the EDID is performed via RS232, and the commands can be found on ***5.1.9 EDID Configuration***.

*Video EDID and Scaling*

The HDBaseT Lite Transmitter features a single EDID setting for the VGA input of 1366×768. An analog video scaler in the device will scale the video content to many common video resolutions up to WUXGA (1920×1200). Since the content will always be scaled, there are options to change the scaling to either fit the original content to the scaled video output or fill the display with the video content.

Changing the scaling options is performed via RS232, and the commands can be found on ***5.1.10 VGA Scaling Configuration***.

Fit

Fill

## 4.6 HDCP Management

The HDBaseT Lite Transmitter offers advanced HDCP management to allow greater compatibility with other devices. The output will always be encrypted or unencrypted, following the status of the source content. If the content is encrypted, the output of the HDBaseT receiver will be encrypted; if the content is unencrypted, the output of the HDBaseT receiver will be unencrypted.

*HDMI HDCP*

The HDBaseT Lite Transmitter ships with the HDMI input set to "HDCP compliant". This will work for most applications; however, the HDBaseT Lite Transmitter allows you to set the input to "Not HDCP compliant". This is important for systems using not-compliant sinks (such as a video conferencing or recording system). To set the unit to "Not HDCP compliant", simply connect via RS232 and send the RS232 command as described on *5.1.5 HDCP Compliance*.

*VGA HDCP*

The VGA input will convert analog video to digital and will not add encryption to the content.

## 4.7 Low Power Mode

The HDBaseT Lite Transmitter has a low-power or standby mode that it will automatically return to, based upon input signal and switching activity.

*No Signal*

If the HDBaseT Lite Transmitter detects no video on either the HDMI or the VGA input for a set amount of time, the HDBaseT Lite Transmitter will go into low-power mode. The default time is 30 minutes, which can be adjusted by sending an RS232 command. The timeout clock is accurate to +/-4%.

*No Activity*

If the unit does not switch inputs or communicate via RS232 for a set amount of time, the HDBaseT Lite Transmitter will go into low-power mode. The default time is 3 hours, which can be adjusted by sending an RS232 command. The timeout clock is accurate to +/-4%.

*Changing Low Power Mode Settings*

The No Signal and No Activity timeouts can be changed by sending the unit different timeout commands via RS232.

If sending RS232 commands, the Turn Display Control OFF command (DFGO) command needs to be sent first. To disable the timeout, the next two commands to send to the unit would be Disable the "No Signal" Timeout (DNS000) and Disable the "No Activity" Timeout (DNA000). These commands are found on ***5.1.11 Display Control Settings***.

## 4.8 Display Control Functionality

The HDBaseT Lite Transmitter may be used to control power and input status of the LCD or projector connected to an HDBaseT receiver. When the HDBaseT Lite Transmitter is woken up from low-power mode, it will send the preprogrammed "Power On" commands, followed by the "Input Select" command. When the HDBaseT Lite Transmitter times out due to lack of video or activity, it will send the preprogrammed "Power Off" command. This will effectively synchronize the power states of the display and the HDBaseT Lite Transmitter, eliminating the need for a third party control system in many installations.

The Display Control functionality may be set up through RS232 commands direct to the HDBaseT Lite Transmitter or via HDBaseT through a compatible receiver. The HDBaseT Lite Transmitter can store commands up to 25 characters (25 hex bytes) long.

# 5. RS232 Control

### 5.1.1 Installation/uninstallation of RS232 Control Software

● **Installation** Copy the control software file to the computer connected with HDBaseT Lite Transmitter.

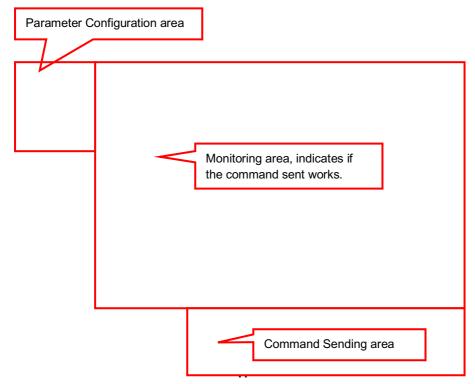● **Uninstallation** Delete all the control software files in corresponding file path.

### 5.1.2 Basic Settings

First, connect HDBaseT Lite 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.

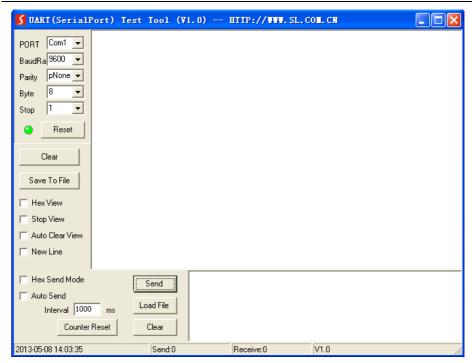Here we take the software **CommWatch.exe** as example. The icon is showed as below:

CommWatch.exe

The interface of the control software is showed as below:

Parameter Configuration area

Monitoring area, indicates if the command sent works.

Command Sending area

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.

**Default RS232 Settings:** 9600 baud, 8 Data bits, 1 Stop bit, Parity=None.

### 5.1.3 Switching Commands

| Description | Command | Response |
|---|---|---|
| Select HDMI input. | SET HDMI<CR><LF> | SET HDMI!<CR><LF> |
| Select VGA input. | SET VGA<CR><LF> | SET VGA!<CR><LF> |
| Get selected input. | GET IN<CR><LF> | GET IN!<CR><LF> ***AND*** HDMI 1!<CR><LF> ***OR*** *This response indicates HDMI input is selected.* VGA 1!<CR><LF> *This response indicates VGA* |

| | | *input is selected.* |
|---|---|---|
| Get HDMI video status. | GET HDMI<CR><LF> | HDMI 1!<CR><LF> **OR** *This response indicates video present on HDMI input.* HDMI 0!<CR><LF> *This response indicates no video present on HDMI input.* |
| Get VGA video status | GET VGA<CR><LF> | VGA 1!<CR><LF> **OR** *This response indicates video present on VGA input.* VGA 0!<CR><LF> *This response indicates no video present on VGA input.* |

**5.1.4 Power Management**

In addition to going to a low-power mode when using the Display Control functions, the HDBaseT Lite Transmitter can be set to low-power mode via RS232.

| Description | Command | Response |
|---|---|---|
| Enter low-power mode. | STANDBY<CR><LF> | STANDBY!<CR><LF> |
| Exit low-power mode. | WAKE<CR><LF> | WAKE!<CR><LF> |

**5.1.5 HDCP Compliance**

| Description | Command | Response |
|---|---|---|
| HDCP Compliance ON. | HDCP ON<CR><LF> | HDCP ON!<CR><LF> |
| HDCP Compliance OFF. | HDCP OFF<CR><LF> | HDCP OFF!<CR><LF> |
| Get HDCP Compliance status. | GET HDCP<CR><LF> | HDCP ON! <CR><LF> *OR* HDCP OFF!<CR><LF> |

**5.1.6 Device Baud Rate**

The default baud rate for the HDBaseT Lite Transmitter is 9600. This can be changed to accommodate various installation needs: 2400, 4800, 9600, 19200, 38400, 57600, and 115200.

| Description | Command | Response |
|---|---|---|
| Change device baud rate (xxxx = new baud rate) | SET xxxx<CR><LF> | baud rate is set to xxxx<CR><LF> |
| Get device baud rate. | GET BAUD<CR><LF> | baud rate is set to xxxx<CR><LF> |

**5.1.7 Device Information**

| Description | Command | Response |
|---|---|---|
| Get firmware revision | REV?<CR><LF> | V1.0.3<CR><LF> |

### 5.1.8 Factory Reset

The factory reset command will reset every setting to the factory defaults. EDID, HDCP, scaling, and Display Control settings will all be reset to the original settings. Use extreme caution when the device is used in a live environment.

| Description | Command | Response |
|---|---|---|
| Factory Reset | RST<CR><LF> | *No response for 7 seconds until device power cycles* |

### 5.1.9 EDID Configuration

The EDID settings listed below will only be passed to the HDMI input.

| Description | Command | Response |
|---|---|---|
| UHD/30 | EDID UHD<CR><LF> | EDID UHD!<CR><LF> |
| 1080p | EDID FHD<CR><LF> | EDID FHD!<CR><LF> |
| 720p | EDID HD<CR><LF> | EDID HD!<CR><LF> |
| 1920x1200 | EDID WUXGA<CR><LF> | EDID WUXGA!<CR><LF> |
| 1360x768 | EDID WXGA2<CR><LF> | EDID WXGA2!<CR><LF> |
| 1280x800 | EDID WXGA<CR><LF> | EDID WXGA!<CR><LF> |
| 1600x1200 | EDID UXGA<CR><LF> | EDID UXGA!<CR><LF> |
| 1400x1050 | EDID SXGAP<CR><LF> | EDID SXGAP!<CR><LF> |
| 1024x768 | EDID XGA<CR><LF> | EDID XGA!<CR><LF> |
| EDID from display | EDID PT<CR><LF> | EDID PT!<CR><LF> |
| Get EDID setting | GET EDID<CR><LF> | EDID PT!<CR><LF> |

### 5.1.10 VGA Scaling Configuration

The EDID for the VGA input is 1366x768. Below is a list of the output resolutions the built-in scaler can output.

| Description | Command | Response |
|---|---|---|

| 1080p (default) | SCALE FHD<CR><LF> | Resolution: 1920x1080<CR><LF> |
|---|---|---|
| 720p | SCALE HD<CR><LF> | Resolution: 1280x720<CR><LF> |
| 1920x1200 | SCALE WUXGA<CR><LF> | Resolution: 1920x1200<CR><LF> |
| 1360x768 | SCALE WXGA2<CR><LF> | Resolution: 1360x768<CR><LF> |
| 1280x800 | SCALE WXGA<CR><LF> | Resolution: 1280x800<CR><LF> |
| 1600x1200 | SCALE UXGA<CR><LF> | Resolution: 1600x1200<CR><LF> |
| 1400x1050 | SCALE SXGAP<CR><LF> | Resolution: 1400x1050<CR><LF> |
| 1024x768 | SCALE XGA<CR><LF> | Resolution: 1024x768<CR><LF> |
| Preferred native timing of display. | SCALE PT<CR><LF> | Resolution: 1920x1080<CR><LF> |
| Get VGA scaling setting | GET SCALE<CR><LF> | Resolution: 1920x1080<CR><LF> |
| Set aspect ratio to fit | SET FIT<CR><LF> | AspectRatio: Fit<CR><LF> |
| Set aspect ratio to fill | SET FILL<CR><LF> | AspectRatio: Fill<CR><LF> |

## 5.1.11 Display Control Settings

| Description | Command | Response |
|---|---|---|
| Turn Display Control ON | DFG1 | DFG1!<CR><LF> Display Control On<CR><LF> |

| Turn Display Control OFF | DFG0 | DFG0!<CR><LF><br>Display Control<br>Off<CR><LF> |
|---|---|---|
| Store the ON command for Display Control (xx = up to 25 characters) | DONxx<br>***Example:***<br>DONpwron | DON!<CR><LF><br>pwron<CR><br><CR><LF> |
| Store the OFF command for Display Control (xx = up to 25 characters) | DOFxx<br>***Example:***<br>DOFpwroff | DOF!<CR><LF><br>pwroff<CR><br><CR><LF> |
| Store the input select command for Display Control (xx = up to 25 characters) | DISxx<br>***Example:***<br>DIShdmi1 | DIS!<CR><LF><br>hdmi1<CR><br><CR><LF> |
| Store the time between power on and input select commands (xxx = time in seconds – 3 characters) | DDCxxx<br>***Example for 5 sec.:***<br>DDC005 | DDC!<CR><LF><br>Input Delay Time: 10<br>S<CR><LF> |
| Store the "No signal" timeout value (xxx = time in minutes – 3 characters) | DNSxxx<br>***Example for 30 min.:***<br>DNS030 | DNS!<CR><LF><br>No Signal Time: 30<br>M<CR><LF> |
| Disable the "No signal" timeout | DNS000 | DNS!<CR><LF><br>No Signal Time: 0<br>M<CR><LF> |
| Store the "No activity" timeout value (xxx = time in hours – 3 characters) | DNAxxx<br>***Example for 4 hours:***<br>DNA004 | DNA!<CR><LF><br>No Activity Time: 4<br>H<CR><LF> |

| Disable the "No activity" timeout. | DNA000 | DNA!<CR><LF><br>No Activity Time: 0<br>H<CR><LF> |
|---|---|---|
| Display baud rate 115200. | DBR1 | DBR!<CR><LF><br>Baudrate :<br>115200<CR><LF> |
| Display baud rate 57600. | DBR2 | DBR!<CR><LF><br>Baudrate :<br>57600<CR><LF> |
| Display baud rate 19200 | DBR3 | DBR!<CR><LF><br>Baudrate :<br>19200<CR><LF> |
| Display baud rate 9600 | DBR4 | DBR!<CR><LF><br>Baudrate :<br>9600<CR><LF> |
| Display baud rate 38400 | DBR5 | DBR!<CR><LF><br>Baudrate :<br>38400<CR><LF> |
| Display baud rate 4800 | DBR6 | DBR!<CR><LF><br>Baudrate :<br>4800<CR><LF> |
| Display baud rate 2400 | DBR7 | DBR!<CR><LF><br>Baudrate :<br>2400<CR><LF> |

### 5.1.12 Display Control Queries

The query responses will be identical to the Display Control commands entered into the device.

| Description | Command | Response |
|---|---|---|
| Display Control state? | DFG? | DFG1<CR> **OR** |

| | | DFG0<CR> |
|---|---|---|
| Display On command? | DON? | DONpwron<CR> |
| Display Off command? | DOF? | DOFpwroff<CR> |
| Display input command? | DIS? | DIShdmi1<CR> |
| Display command delay? | DDC? | DDC005<CR> |
| No signal timeout? | DNS? | DNS030<CR> |
| No activity timeout? | DNA? | DNA004<CR> |
| Display baud rate? | DBR? | DBR4<CR> |

### 5.1.13 Display Control Hex Commands

Below are the DON, DOF, and DIS commands in hexadecimal. These may be necessary for displays that require hex commands instead of ASCII.

| Description | Command |
|---|---|
| Store the ON command for Display Control (xx = up to 25 bytes) | 44 4F 4E xx<br>***Example:***<br>44 4F 4E 54 68 69 73 20 69 73 20 4F 4E |
| Store the OFF command for Display Control (xx = up to 25 bytes) | 44 4F 46 xx<br>***Example:***<br>44 4F 46 54 68 69 73 20 69 73 20 4F 46 |
| Store the input select command for Display Control (xx = up to 20 bytes). | 44 49 53 xx<br>***Example:***<br>44 49 53 54 68 69 73 20 69 73 20 49 4E |

# 6. Troubleshooting

● *Device does not power on*

  ➢ Apply an active video signal; the unit may be in standby mode.

  ➢ Transmit the WAKE command via RS232.

  ➢ If using a receiver with PoH, verify that the receiver is powered.

  ➢ If using a receiver without PoH, you must use the included power supply power input on the device.

● *Cannot view 4K (UHD) content*

  ➢ Set EDID to UHD or pass-through.

  ➢ Verify display is 4K (UHD) compatible.

  ➢ Verify source device can output 4K (UHD) content.

  ➢ Verify twisted pair cable does not exceed 40 meters.

● *Cannot hear surround sound audio*

  ➢ Set EDID to pass-through.

  ➢ Verify output can broadcast surround sound audio.

  ➢ Verify source content contains surround sound audio.

● *No video from HDBaseT output*

  ➢ Verify the link LED on the device is lit solid.

  ➢ Verify the twisted pair cable is not damaged.

● *Device does not respond to RS232 commands*

  ➢ Double check RS232 wiring (see *3.3 RS232 Connections*)

  ➢ Verify baud rate matches those of the device.

# 7. Technical Specifications

| Input / Output Connections | |
|---|---|
| HDMI Input | One (1) HDMI Type A Receptacle |
| VGA Input | One (1) PC Video HD-15-F Receptacle |
| Analog Audio | One (1) 3.5 mm TRS Receptacle |
| HDBaseT Port | One (1) 8P8C port (Shielded RJ45) |
| Power | One (1) 5.5 mm OD, 2.6 mm ID Threaded Barrel |
| RS232 Port | One (1) 3-pin Removable Terminal Block Connector |
| Firmware Port | One (1) USB Type B Micro Receptacle |
| **Supported Audio, Video and Control** | |
| Video Resolutions | **SMPTE:** 480i, 480p, 576i, 576p, 720p, 1080i, 1080p, UHD/30<br>**VESA:** Resolutions up to 1920x1200<br>**Color Depth:** 24, 30, 36, 48bit |
| VGA Scaling Resolutions (60 Hz) | 1024x768, 1400x1050, 1600x1200, 1280x800, 1360x768, 1920x1200, 720p, 1080p |
| Maximum Video Compatibility at 70 m | Deep Color 36/30/24 Bit at 1080p |
| Maximum Video Compatibility at 40 m | Deep Color 48 Bit at 1080p, 3D (HDMI Input), UHD/30. |
| Video Compliance | HDMI 1.4 and HDCP 1.4 |
| Embedded Audio | Up to PCM 8 channel, Dolby Digital TrueHD, and DTS-HD Master Audio |
| Analog Audio | Analog stereo line-level (Converted to 2ch 24bit PCM 48kHz) |
| ARC (Audio Return Channel) | No |
| HEC (HDMI Ethernet Channel) | No |
| CEC (Consumer Electronics Control) | Yes (HDMI Pass-through Only) |
| Baud Rate (Wall plate control) | 2400, 4800, 9600 (default), 19200, 38400, 57600, 115200 |
| Supported Baud Rates (Display Control) | 2400, 4800, 9600, 19200, 38400, 57600, 115200 |
| **HDBaseT Signal Characteristics** | |
| Maximum Distance | 70 m (229 ft) |

| Cable Requirements | Continuous solid core Category 5e or greater with TIA/EIA-568B crimp pattern (no couplers in-line) |
|---|---|
| Bandwidth | 10.2 Gbps |
| HDBaseT Chipset | VS010TX |
| **Chassis and Environmental** | |
| Construction | Black Alumininum |
| Dimensions (H x W x D) | 30 mm x 172 mm x 84 mm (1.18 in x 6.77 in x 3.31 in) |
| Shipping Weight | 0.68 kg (11.5 lbs.) |
| Operating Temperature | 0° to +40° C (+32° to +104° F) |
| Operating Humidity | 20% to 90%, Non-condensing |
| Storage Temperature | -10° to +60° C (+14° to +140° F) |
| Storage Humidity | 20% to 90%, Non-condensing |
| **Power and Regulatory** | |
| Power Supply | 12V DC 2A or PoH (Power over HDBaseT) |
| Power over Ethernet (PoE) Compatibility | 802.3af Alternative A |
| Power Consumption | 10 watts |
| Default Automatic Standby Mode | 30 minutes no signal |
| ESD Protection | 16kV |
| Regulatory | CE, RoHS |
| **Other** | |
| Warranty | 2 years |
| Diagnostic Indicators | HDCP, Link, VGA, and HDMI |
| Reset Switch | Microswitch |

# 8. After-sales Service

If there appear some problems when running HDBaseT Lite Transmitter, please check and deal with the problems reference to this user manual. Any transport costs are borne by the users during the warranty.

1) **Product Limited Warranty:** We warrants that its products will be free from defects in materials and workmanship for **two years,** which starts from the first day you buy this product (The purchase invoice shall prevail).
   Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

2) **What the warranty does not cover:**
   - 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.
     - Any other causes which does not relate to a product defect
   - Delivery, installation or labor charges for installation or setup of the product

3) **Technical Support:** Email to our after-sales department or make a call, please inform us the following information about your cases.
   - Product version and name.
   - Detailed failure situations.
   - The formation of the cases.

**Remarks**: For any questions or problems, please try to get help from your local distributor