



TPHD2-WP1
HDBaseT Lite Wall Plate
User's Guide
79066



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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 unit 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 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.

Introduction

The TPHD2-WP1 is a Decora style HDBaseT Lite transmitter that installs in a double-gang wall box to provide a convenient interface for both HDMI and VGA sources. A VGA HD scaler is utilized to improve the performance of older laptops when used with higher resolution displays. HDMI 1.4 with 4k & 3D signals including HDCP are supported. Switching between HDMI and VGA is provided using both auto and manual switching. The HDBaseT output supports 200' video transmission and can be powered from a matching receiver. Bi-directional RS232 communication is also provided by HDBaseT transmission.

Main Features

Along with the ability to provide HDMI and VGA source connections, the TPHD2-WP1 is designed to support the TEKVOX TekTouchPad with power and RS232 on its back side for easy integration. Special RS232 commands are utilized to improve communication between the TekTouchPad and TekMonitor.

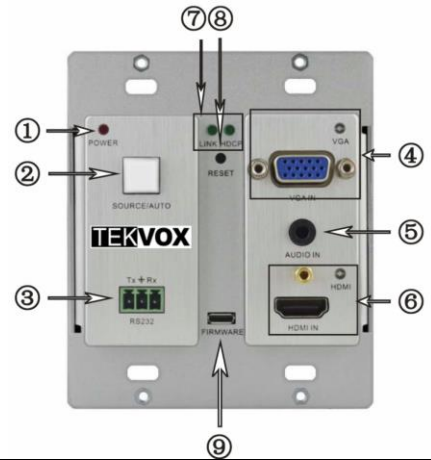
Features

- 4K HDMI 1.4
- Support VGA output resolution up to 1920x1200
- VGA scaler to support older laptops
- HDCP Compliant
- Auto or manual video switching modes
- Supports multiple control methods including remote control of wall plate, pass through and video detection
- Supports USB firmware upgrading
- Decora style for easy floor box installations
- HDBaseT Lite for 200' Transmission using a single CAT 6 cable
- Remotely powered by its receiver using PoC (Power over Cable)
- Rear RS232 and power connections for interfacing with the TEKVOX TekTouchPad
- Supports auto power of display with TekMonitor or third party control system



Description

Front Panel



No.	Name	Description
1	Power indicator	Illuminates red when power is on
2	SOURCE/AUTO	While backlight off - Used as video source selection button: Press to toggle between HDMI and VGA sources. The indicator of the selected input source will illuminate green. Press and hold for 3 seconds or more to enter in Auto-switching mode While backlight on – Auto-switching mode Press and hold for 3 seconds or more to enter in Manual-switching mode.
3	RS232	Front panel serial port: 3-pin pluggable terminal block. Used to setup and control the TPHD405PT-WPB or send bi-directional RS232 data to remote device.
4	VGA IN	Connect with VGA source device. The indicator illuminates yellow when there is VGA signal present, and illuminates green when the input is selected. Turns off when there is no VGA input signal present.
5	AUDIO IN	Used to embed audio with the VGA source only.
6	HDMI IN	Connect with HDMI source device. The indicator illuminates yellow when there is HDMI signal present, and illuminates green when the input is selected. Turns off when there is no HDMI input signal present.
7	LINK & HDCP	LINK: Twisted Pair Link status indicator - Illuminates green when successfully connected. HDCP: HDCP compliance indicator - Illuminates green when the source signals has HDCP, blinks when HDCP is not present, and turns off when there is no source signal.
8	RESET	Press the button to reboot TPHD2-WP1.
9	FIRMWARE	USB port, used for firmware update Plug a flash disk or other storage device with update file (MERGE.bin), and send command 40698% to update firmware.

Side Panel



1. HDBaseT OUT: RJ45 port - Connect with receiver via a CAT5e/6 cable to deliver Audio/ Video signals with support for PoC from receiver. Note: The TPHD2-WP1 supports unidirectional PoC and cannot be used to power far-end receiver.

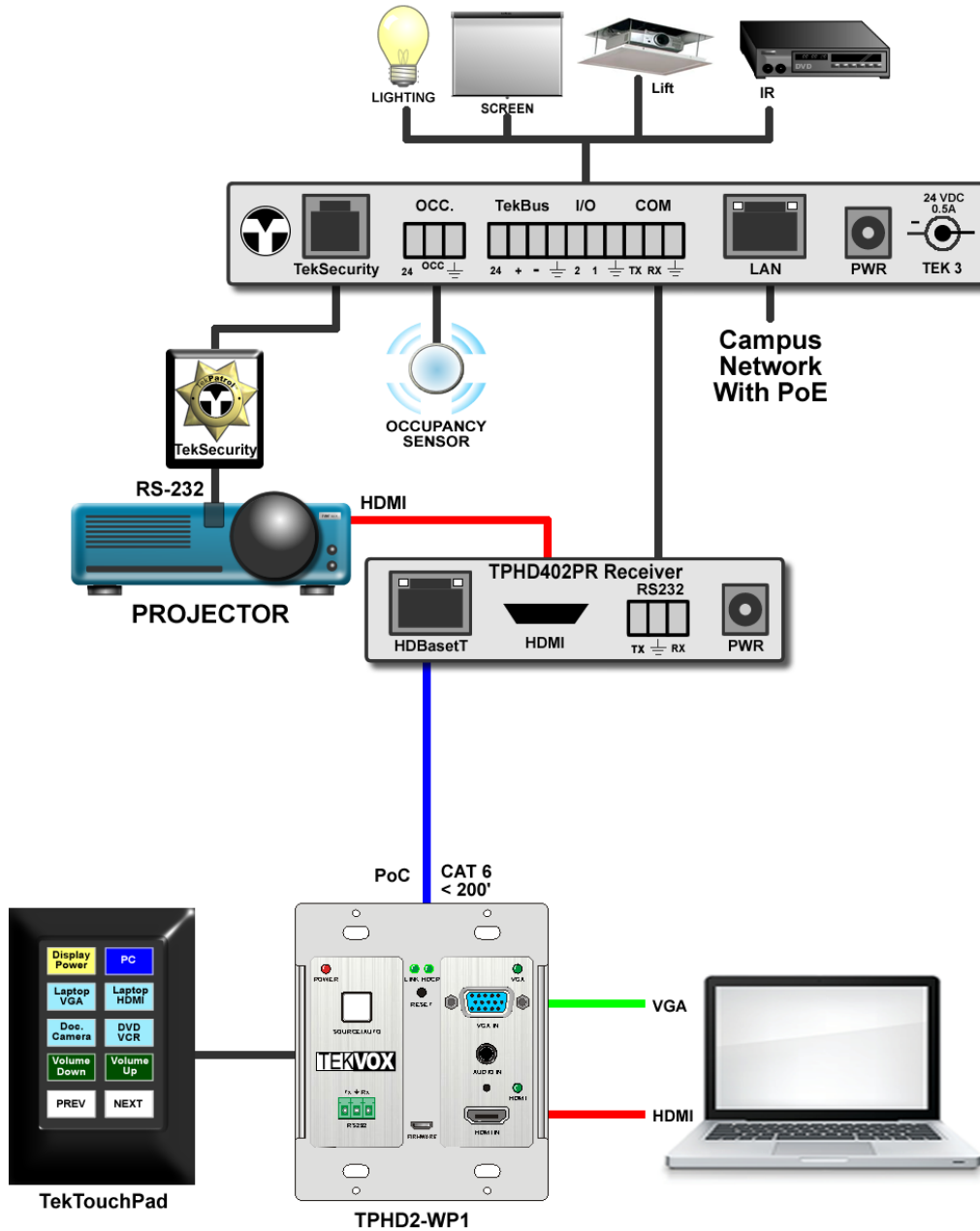
Rear Panel



No.	Name	Description
1	Power In	Power in port - 2-pin pluggable terminal block, connect with DC 12V power adapter, if not being powered from receiver.
2	Power Out	Supplies 12 volt power for TEKVOX TekTouchPad.
3	RS232	Bi-directional RS232 port for connection to TEKVOX TekTouchPad. This port can be used to control the TPHD2-WP1 or control a remote device connected to the receiver.

Application

By using the TPHD2-WP1 wall plate with the TekTouchPad and TekMonitor a simple controlled audiovisual system can be implemented. With the RS232 and power connections on the rear of the wall plate, it makes it easy to connect to a TekTouchPad. When using a TekMonitor such as a TEK 3, the TekTouchPad is programmed only to communicate with the TEK 3 and not the display. The TEK 3 will have the drivers to communicate with the display. This makes it easy to install several systems or change out the display in the future.



Operations

Front panel buttons

From the front panel the TPHD2-WP1 is controlled by pressing the user button or through RS232 port. Both auto and manual switching of HDMI and VGA are supported. By default the TPHD2-WP1 is set to auto switching and the button is illuminated. To set the unit to manual switching press and hold the button for 3 seconds or more or send the RS232 command “40771%”. Once the button is off, the unit can toggle between HDMI and VGA by pressing the button. To set the unit back to auto mode press and hold the button for 3 seconds or more or send the RS232 command “40770%”.

- **Auto switching mode “40770%”**
In this mode the indicator illuminates green and the TPHD2-WP1 switches to the last connected source automatically. If two sources are connected and one is disconnected, the unit will switch to the original source. Otherwise the unit will not switch.
- **Manual switching mode “40771%”**
In this mode the indicator is off and the user must press the button or send an RS232 command to switch between sources. Pressing the button toggles between HDMI and VGA and their respected LED illuminates green. To switch between HDMI and VGA using RS232 commands send “40701%” for HDMI and “40704%” for VGA.

RS232 Control

Wall Plate Control

There are two control modes that the TPHD2-WP1 can operate in for RS232 control. These two modes allow the RS232 connection at the wall plate to control a far-end device or for the far-end device at the receiver to control the TPHD2-WP1.

- **Pass-through control mode “40779%”**
In pass-through control mode RS232 data can be sent to a far-end device to allow control of a far-end device. Use this mode to allow a TekTouchPad to control a TekMonitor or display.

Bi-directional RS232 data can be sent between the wall plate and the TPHD402PR receiver to support control of a TekMonitor or to send commands directly to a display. Supporting baud rates are 2400, 4800, 9600, 19200, 38400, 57600 or 115200.
- **Far-end control mode “40780%”**
In far-end control mode a TekMonitor or a 3rd party control system can control the TPHD2-WP1.

Typical commands used to setup the wall plate to work with the TekTouchPad and TekMonitor:

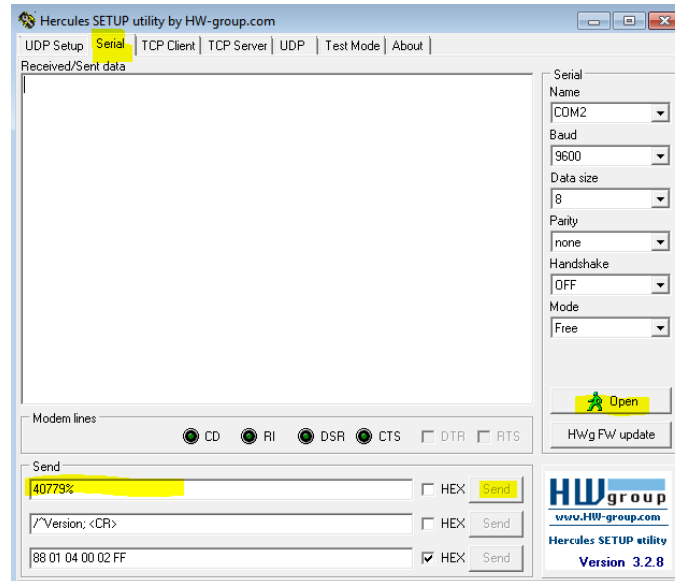
- “40770%” Enable auto-switching
- “40779%” Enable TekTouchPad Control to a TekMonitor or display.
- “40902%” Disable OSD
- “40904%” Disable Feedback



Wall Plate Operation

To send commands to the wall plate an RS232 utility program like Hercules from HW Group http://new.hwg.cz/files/download/sw/version/hercules_3-2-8.exe or CommWatch must be used. The commands cannot be sent using a terminal program as one character at a time and must be sent as a group of characters.

When using Hercules to control the TPHD2-WP1, select the serial port tab, the serial settings and press the Open button. Enter the command you want to send and press the Send button.



Wall Plate RS232 Commands

Communication protocol:

RS232 Communication Protocol Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

Note:

- Commands with grey background are for VGA sources only.
- EDID commands are for HDMI sources only.

Switch Commands		
Command	Function	Feedback Example
40701%	Switch to HDMI input	Switch to HDMI
40704%	Switch to VGA input	Switch to VGA
40705%	Change the horizontal polarity to the opposite	Hpolarity:0/1
40706%	Change the vertical polarity to the opposite	Vpolarity:0/1
40707%	Check the present resolution and polarity	1920x1080 Hpolarity:1 Vpolarity:0
40600%	VGA Audio Mute	LINE Mute
40601%	VGA Audio Unmute	LINE Unmute
40602%	VGA Audio Up	LINE Volume:xx
40603%	VGA Audio Down	LINE Volume:xx
40901%	Enable OSD	OSD On
40902%	Disable OSD	OSD Off
40770%	Enable auto-switching	Auto Switching
40771%	Disable auto-switching	Manual Switching
Resolution Commands		
40619%	Change the resolution to 1360X768 HD	Resolution: 1360x768
40626%	Change the resolution to 1024X768 XGA	Resolution: 1024x768
40627%	Change the resolution to 1280X720 720P	Resolution: 1280x720
40628%	Change the resolution to 1280X800 WXGA	Resolution: 1280x800
40629%	Change the resolution to 1920X1080 1080P	Resolution: 1920x1080
40620%	Change the resolution to 1920X1200 WUXGA	Resolution: 1920x1200
40621%	Change the resolution to 1600X1200 UXGA	Resolution: 1600x1200



Setup Commands		
Command	Function	Feedback Example
402xx%	Set the brightness to xx. XX ranges from 00 to 99	Brightness: xx
403xx%	Set the contrast to xx. XX ranges from 00 to 99	Contrast: xx
404xx%	Set the saturation to xx. XX ranges from 00 to 99	Saturation: xx
405xx%	Set the sharpness to xx. XX ranges from 00 to 99	Sharpness: xx
40606%	Auto-adjust the input parameter	VGA Input Auto
40607%	Adjust the color temperature	Color Temperature: xx (xx can be medium, warm, user, or cool)
40608%	Set the aspect ratio	Aspect Ratio: xx (xx can be 16:9, 4:3, or auto.)
40614%	Set the picture mode	Picture Mode: xx (xx can be dynamic, standard, mild, or user.)
40699%	Check the system version	Version Vx.x.x
40779%	Pass-through control mode 1	RS232 Mode 1: RS232 Control Scaler & Remote
40780%	Far-end control mode 2	RS232 Mode 2:RS232 & Remote Control Scaler
40790%	Set the HDCP status of HDMI output socket to Active	HDCP Active
40791%	Set the HDCP status of HDMI output socket to On	HDCP On
40792%	Set the HDCP status of HDMI output socket to Off	HDCP Off
40698%	Software update	
40617%	Reset to factory default	
Inquire Commands		
40632%	Check the output resolution	Resolution: xx
40633%	Check the picture mode	Picture Mode: xx
40793%	Check HDCP status	HDCP Off HDCP On HDCP Active
40635%	Check the image aspect ratio	Aspect Ratio: xx
40636%	Check the brightness	Brightness: xx
40637%	Check the contrast	Contrast: xx
40638%	Check the saturation	Saturation: xx
40639%	Check sharpness	Sharpness: xx
40640%	Check the color temperature	Color Temperature: xx

Adjustment Commands		
Command	Function	Feedback Example
40678%	Enable screen output adjusting	Enter Output Position Adjust
40679%	Disable screen output adjusting	Exit Output Position Adjust
40670%	Move the image to left	Output Position Adjust X xx
40671%	Move the image to right	Output Position Adjust X xx
40672%	Move the image up	Output Position Adjust Y xx
40673%	Move the image down	Output Position Adjust Y xx
40674%	Stretch left from left side (increase image width)	Output Width Adjust xx
40675%	Pull right from left side (decrease image width)	Output Width Adjust xx
40676%	Stretch upwards from bottom side (decrease image height)	Output Height Adjust xx
40677%	Stretch downwards from bottom side (increase image height)	Output Height Adjust xx

EDID Commands		
Command	Function	Feedback Example
40772%	EDID pass-through	EDID: bypass mode
40773%	Set EDID data to 1080P PCM 2.0ch	EDID:1080P&PCM 2ch
40774%	Set EDID data to 1080P Dolby 5.1	EDID:1080P&5.1ch
40775%	Set EDID data to 1080P3D Dolby 5.1	EDID:1080P3d&5.1ch
40776%	Set EDID data to 1080i PCM 2.0ch	EDID:1080i&PCM 2ch
40777%	Set EDID data to 4K*2K PCM 2.0ch	EDID:4K&PCM 2ch
40778%	Check EDID data	EDID:1080P&PCM 2ch EDID:1080P&5.1ch EDID:1080P3d&5.1ch EDID:4K&PCM 2ch
40799%	Program EDID file, send EDID data within 10s	Waiting for EDID within 10 secs!
40903%	Enable Feedback	Feedback On
40904%	Disable Feedback	Feedback Off

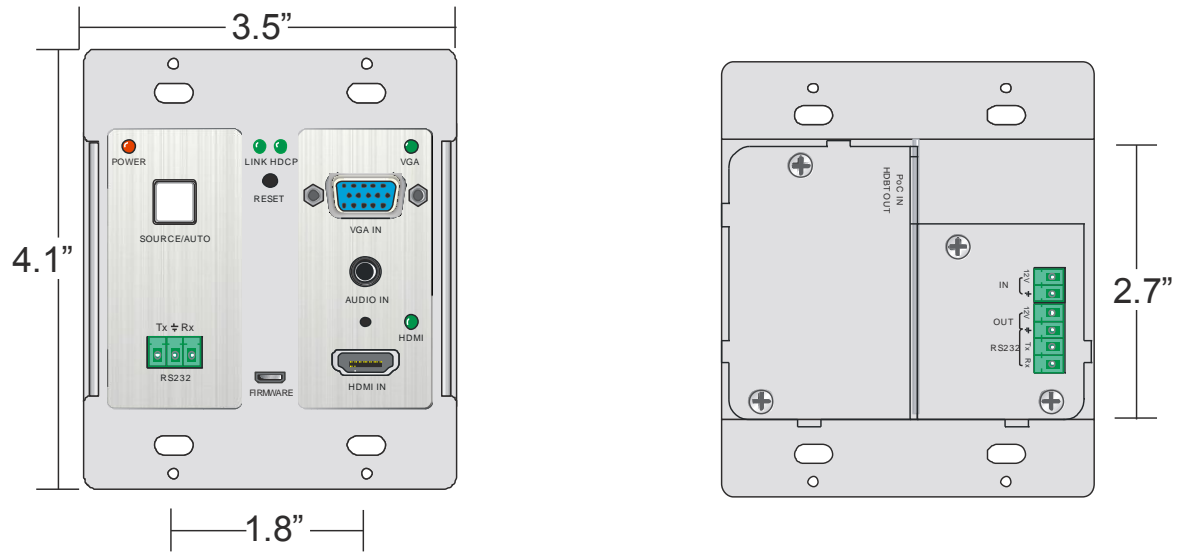


Device Specifications

Model	TPHD2-WP1 (79066)
Input	1 HDMI (HDMI female) ,1 VGA (VGA female) ,1 AUDIO (3.5mm mini jack) ,1 RS232 (3P captive screw connector front), RS232 and power In/ Out captive screw connector rear
Output	HDBaseT Lite (RJ45)
Transmission Mode	HDBaseT Lite with PoC
Transmission Distance	1080P ≤ 196' 4Kx2K ≤ 130'
VGA Resolution	800 x600, 1024 x 768, 1280 x 800,1280 x 1024, 1440 x 900,1600 x 1200, 1920 x 1080, 1920 x 1200
HDMI Resolution	4Kx2K, 1080p 3D, 1080P(HD)/1080i/720P/576P/576i/480P/480i
HDMI Standard	HDMI1.4 and HDCP
Bandwidth	10.2Gbps
Baud Rate	9600 bps (9600 Default)
Power Supply	DC 12V 2A; 9.6W
Temperature	-10 ~ +40°C
Humidity	10% ~ 90%
Style	Decora type for 2 Gang wall or floor boxes
Size	WHD 4.1 x 3.5 x 1.7 inches
Weight	0.64 lbs.

*Specifications are subject to change without notice.

Dimensions



Troubleshooting & Maintenance

Problems	Causes	Solutions
Loss of video or noise on the screen.	CAT cable or RJ45 connector issues.	Check connections and cable. Best to use CAT 6 shielded. Distance may be too long.
POWER indicator doesn't work or no respond to any operation.	Loose or failed power cord connection	Ensure the power cord connection is good.
Cannot control the device via RS232 port.	Wrong RS232 communication parameters	Make sure the RS232 communication parameters are correct.
No RS232 control of display.	Improper setting of RS232 mode	Check to see that unit is set for Pass-through control mode.
Unit is powered on and cannot control unit via front panel or RS232.	Unit may not be working.	Check with dealer.

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

