geratech®

EGE-UHD-HDB-2538

UHD 2×1 HDMI/VGA over HDBaseT Wallplate Scaler

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

• Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.

• To prevent fire or shock hazard, do not expose the unit to rain, moisture or nstall this product near water.

• Never spill liquid of any kind on or into this product.

• Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.

• Do not attach the power supply cabling to building surfaces.

• Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.

• Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.

• To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
RDV1	2019/12/30	Preliminary Release

CONTENTS

1. INTRODUCTION

This product is an HDMI/VGA switch with audio embedding and scaled HDBaseT output. The wall plate is designed for use with EU or UK two-gang sized enclosures and comes with an EU 2-gang style faceplate. This transmitter can send high definition uncompressed audio/ video along with Ethernet over a single cable up to a distance of 100 meters at1080p@60Hz. The HDMI input supports resolutions up to 4K@60Hz (4:4:4, 8-bit). The VGA input supports resolutions up to WUXGA (RB) and with the use of the associated 3.5mm audio input, stereo audio may be embedded as well. To provide maximum compatibility with a wide range of display types, all sources are scaled to a user-selected resolution and timing (up to 4K@30Hz) for transmission over HDBaseT. This unit also supports automatic input selection between the HDMI and VGA inputs, with hot plug detection, enabling hands-free operation. Additionally, the unit may be powered locally or via PoH (Power over HDBaseT) from a compatible HDBaseT receiver, which allows for greater flexibility in installations. The unit is controllable via front panel controls with an OSD or RS-232 (via the RS-232 port on a compatible receiver).

2. APPLICATIONS

• Household entertainment sharing and control
• Lecture halls, auditoriums and classroom
• Houses of worship
• Conference rooms and boardrooms
• Hotel event spaces

3. PACKAGE CONTENTS

• 1× UHD 2×1 HDMI/VGA over HDBaseT Wallplate Scaler (EU 2-gang)
• 1× Operation Manual

4. SYSTEM REQUIREMENTS

• HDMI source equipment such as a media player, video game console or set-top box.
• VGA source equipment such as a PC, laptop or set-top box.
• Compatible HDBaseT receiver with PoH(PSE) support is recommended.
• The use of Premium High Speed HDMI cables, and industry standard Cat.6, Cat.6A or Cat.7, is highly recommended.

5. FEATURES

• HDMI 2.0 and DVI 1.0 compatible

• HDCP 2.2 and HDCP 1.x compliant

• 1 HDMI input

• 1 VGA input with 3.5mm mini-jack audio input

• Supports HDMI input resolutions up to 4K@60Hz (4:4:4, 8-bit)

• Supports VGA input resolutions up to WUXGA (RB)

• HDBaseT output extends video, audio, and data over a single Cat.5e/6/7 cable and can reach distances up to 100m/328ft at 4K when using Cat.6A/7

• Scaled HDBaseT output supports resolutions up to 4K@30Hz (4:4:4, 8-bit)

• Automatic input selection with hot plug detection enabling hands- free operation

• Unit may be powered locally or via PoH (PD) from a compatible HDBaseT receiver (PSE)

• Wallplate's back box is designed for EU or UK two-gang sized enclosures with an EU 2-gang style faceplate.

• Front panel LEDs indicate input selection, power and link status

• Controllable via front panel controls with an OSD or RS-232 (via the RS- 232 port on a compatible receiver)

Note: The PoH function is designed to receive power from compatible receiver units only. PoH from other receiver brands may not be compatible

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel
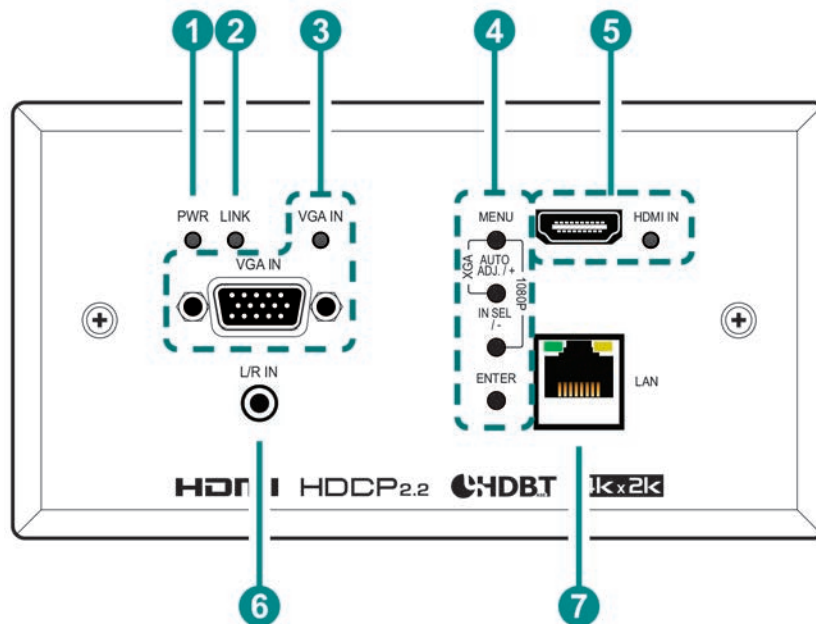
1 **PWR LED:** This LED will illuminate to indicate the unit is on and receiving power.

2 **LINK LED:** This LED will illuminate solidly when a live connection with a compatible receiver is active.

3 **VGA IN Port & LED:** Connect to VGA source equipment such as a PC or laptop. The LED will illuminate when VGA is the selected source.

4 **MENU Button:** Press to enter the OSD menu, or to back out from menu items.

Note: Pressing "MENU" and "+" together will reset the output resolution to XGA (1024×768@60Hz). Pressing "MENU" and "-" together will reset the output resolution to 1080p@60Hz.

AUTO ADJ/+ (PLUS) Button: Press to move up or adjust selections within OSD menus. When not in a menu, press this button to activate the Auto Adjust function for VGA sources.

Note: The Auto Adjust function requires a VGA source with a bright, edge-to-edge, image to accurately judge the dimensions of the signal.

/N SEL/- (MINUS) Button: Press to move down or adjust selections within OSD menus. When not in a menu, press this button to switch between the available inputs.

ENTER Button: Press to confirm a selection within the OSD or to go deeper into a menu item.

5 **HDMI IN Port & LED:** Connect to HDMI source equipment such as a media player, game console, or set-top box. The LED will illuminate when HDMI is the selected source.

Note: DVI sources are supported with the use of an HDMI to DVI adapter.

6 **L/R IN Port:** Connect to the stereo analog output of a device such as a CD player or PC for embedding into the HDBaseT output.

Note: By default, this input is paired with the VGA input.

7 **LAN Port:** Connect to an Ethernet supporting device or to your local network, as appropriate, to extend the network to both ends of the HDBaseT connection.

6.2 Rear Panel
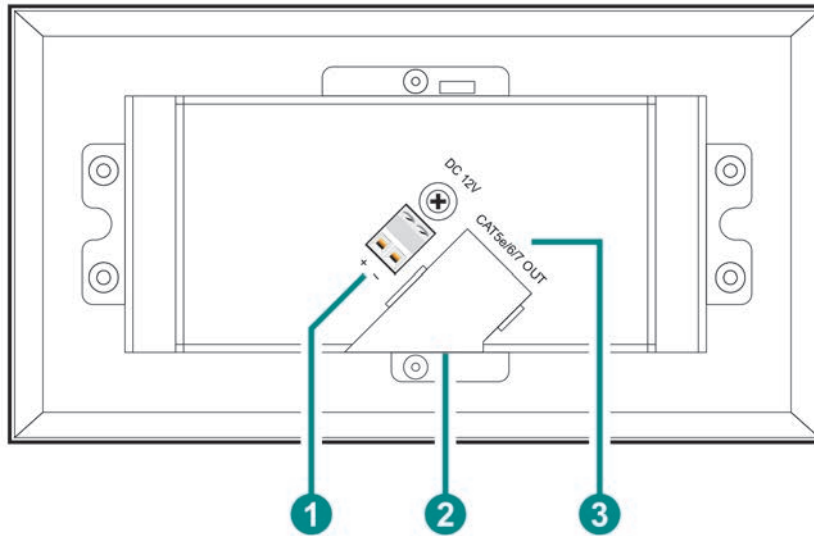
1 **DC 12V 2-pin Terminal Block:** Connect a 12V DC power adapter to the twin terminal block and connect it to an AC wall outlet for power.

Note: Optional, not required when powered by PoH from the receiver.

2 **USB 2.0 Port (Hidden):** This port is reserved for firmware update use only.

Note: This port is located on the bottom side of the unit and will be unavailable when installed in a wall.

3 **CAT5e/6/7 OUT Port:** Connect to a compatible HDBaseT receiver with a single Cat.5e/6/7 cable for transmission of all data signals. Power via PoH will also be supplied to this unit when connected to a compatible PSE receiver.

6.3 RS-232 Defaults

Serial Port Default Settings	
Baud Rate	19200
Data Bits	8
Parity Bits	None
Stop Bits	1
Flow Control	None

Note: Serial control is only available when connected to a compatible receiver with an RS-232 bypass port.

6.4 OSD Menu

All functions of this unit can be controlled by using the OSD (On Screen Display) which is activated by pressing the MENU button on the front of the unit. Use the + (PLUS), – (MINUS), and ENTER buttons to navigate the OSD menu. Press the MENU button to back out from any menu item and then press it again to close the menu.

MAIN MENU
Video
Picture
Audio
OSD
EDID
RS-232 Control
Reset
Information

The individual functions of the OSD will be introduced in the following section. Items marked in **BOLD** are the factory default settings.

VIDEO		
2ND LEVEL	3RD LEVEL	4TH LEVEL
Video	**HDMI**	
	PC	
Output	**NATIVE**	
	640×480@60	
	800×600@60	
	1024×768@60	
	1280×720@60	
	1280×768@60	
	1280×800@60	
	1280×1024@60	
	1360×768@60	
	1440×900@60	
	1400×1050@60	
	1600×1200@60	
	1680×1050@60	
	1920×1080@60	
	1920×1200@60RB	
	2048×1080@50	
	2048×1080@60	
	2560×1440@60RB	

	2560×1600@60RB 720×480p@60 720×576p@60 1280×720p@50 1280×720p@60 1920×1080p@24 1920×1080p@25 1920×1080p@30 1920×1080p@50 1920×1080p@60 2560×1080p@50 2560×1080p@60 3840×2160p@24 3840×2169p@25 3840×2160p@30 4096×2160p@24 4096×2160p@25 4096×2160p@30	
Aspect	**FULL**	
	Best Fit	
	Pan Scan	
	Letterbox	
	Under 2	
	Under 1	
	Follow In	
	Overscan	
HDMI HDCP	HDCP Support Off	
	Refer to Source	
	REFER TO DISPLAY	
No Signal Color	**BLACK**	
	White	
	Blue	
	Red	
	Green	
Blank	**OFF**	
	On	
Freeze	**OFF**	
	On	
Auto Setup	Auto Sync Off	**OFF**
		30 Seconds

		60 Seconds
		3 Minutes
		5 Minutes
		10 Minutes
	Auto Switch	Off
		ON
PC Setup	PC Auto Setup	[Current Status]
	PC H Position	0~250
	PC V Position	0~250
	PC Phase	0~255
	PC Clock	0~250 **(125)**
	PC Reset	

1) Video: Selects the input source to display.

2) Output: Selects the output resolution to use. Selecting "Native" will make the unit automatically select an output resolution based on the detected EDID of the connected display.

3) Aspect: Selects the aspect ratio to use when outputting the source. "Full" stretches the source to fill the output resolution, regardless of the original aspect ratio, while "Best Fit" will always attempt to retain the original source's correct aspect ratio by adding black bars if necessary. "Follow In" centers the source on the screen, without any scaling (1:1 pixel reproduction).

4) HDMI HDCP: Selects the HDCP logic to use with the HDMI input. Setting this to "Support Off" will completely disable HDCP support.

5) No Signal Color: Selects the free run color to use when no live input source is detected.

6) Blank: Allows for the output video and audio to be blanked and muted.

7) Freeze: Allows for the output video to be frozen. While the output is frozen, audio output will also be muted.

8) Auto Setup

▶ **Auto Sync Off:** Sets the amount of time to continue outputting sync with the free run color if there is no live source and no operations have been executed on the unit. Setting this to "OFF" forces the unit to always output sync.

▶ **Auto Switch:** Enable or disable automatically switching to any newly detected source.

9) PC Setup: These settings control the input specifications to use with the VGA input.

Note: Only available when the VGA input is selected and active.

▶ **PC H/V Position:** Manually set the horizontal and vertical position of the VGA source.

▶ **PC Phase/Clock:** Manually set the phase and clock of the VGA source.

▶ **PC Auto Setup:** Activating this function forces the unit to attempt to detect the correct image parameters of the connected VGA source.

Note: The "PC Auto Setup" function requires a VGA source with a bright, edge-to-edge, image to accurately judge the dimensions of the signal.

▶ **PC Reset:** Reset all PC Setup settings to the factory defaults.

PICTURE	
2ND LEVEL	**3RD LEVEL**
Color Gain	R 0 ~ 1023 **(512)**
Color Gain G	0 ~ 1023 **(512)**
Color Gain B	0 ~ 1023 **(512)**
Color Offset	R 0 ~ 1023 **(512)**
Color Offset	G 0 ~ 1023 **(512)**
Color Offset	B 0 ~ 1023 **(512)**
Brightness	0 ~ 60 **(30)**
Contrast	0 ~ 60 **(30)**
Hue	0 ~ 60 **(30)**
Saturation	0 ~ 60 **(30)**
Sharpness	0 ~ 63 **(0)**
NR	**OFF**
	Low
	Middle
	High
	Auto
Reset Picture	

1) Color Gain (R/G/B): These controls provide control over the red, green, and blue color gain level of the output.

2) Color Offset (R/G/B): These controls provide control over the red, green, and blue color offset level of the output.

3) Brightness: Provides control over the overall brightness of the output image.

4) Contrast: Provides control over the overall contrast of the output image.

5) Hue: Provides control over the hue shift of the output image.

6) Saturation: Provides control over the color saturation level of the output image.

7) Sharpness: Provides control over the amount of sharpness processing to apply to the output image.

8) NR: Provides control over the aggressiveness of the digital noise reduction processing when applied to the scaled output image. Selecting "Off" disables all noise reduction processing.

9) Reset Picture: Reset all picture settings back to their factory defaults.

AUDIO	
2ND LEVEL	**3RD LEVEL**
Audio	**FOLLOW VIDEO**
	Line In
Volume	0~100 **(80)**
Audio Mute	OFF
	On
Reset Audio	

1) Audio: Provides control over the analog audio routing in the unit. Selecting "Follow Video" pairs the HDMI source with its embedded digital audio and the VGA source with the analog audio input. Selecting "Line In" will force the analog audio to be output regardless of the selected video source.

2) Volume: Provides control over the HDBaseT output's volume level.

3) Audio Mute: Mutes or unmutes the HDBaseT output's audio.

4) Reset Audio: Reset all audio settings back to their factory defaults.

OSD	
2ND LEVEL	**3RD LEVEL**
H Position	0~60 **(30)**
V Position	0~60 **(30)**
Timer	0~100 (80)
	OFF
	5 Sec
	10 Sec
	15 Sec
	20 Sec
	25 Sec
	30 Sec
	35 Sec
	40 Sec
Transparent	0 ~ 50 **(50)**
Display	Off
	On
	5s
	10S
Reset OSD	

1) H/V Position: Set the horizontal and vertical position of the OSD menu.

2) Timer: Set the length of time to wait before automatically turning off the OSD menu if there is no user interaction. The timer may also be disabled.

3) Transparent: Set the transparency level of the OSD menu's background. A setting of 50 is completely opaque.

4) Display: Enable or disable the information display or enable it and set a length of time for the information display to be visible after a source or resolution change.

5) Reset OSD: Reset all OSD settings back to their factory defaults.

EDID	
2ND LEVEL	**3RD LEVEL**
HDMI EDID	Int 1080p (2Ch)
	Int 4K (3G-2Ch)
	Int 4K (6G-2Ch)
	OUTPUT
EDID Status	[Current Status]

1) HDMI EDID: Select the EDID to use with the HDMI input.
2) EDID Status: Displays the current EDID used by the HDMI.

RS-232 CONTROL	
2ND LEVEL	**3RD LEVEL**
Control Baudrate	4800
	9600
	19200
	38400
	57600
	115200
Control Stop Bits	**1 BIT**
	2 Bit
Control Data Bits	5 Bit
	6 Bit
	7 Bit
	8 BIT
Control Parity	**NONE**
	Odd
	Even

1) Control Baudrate: Set the baud rate to accept from a connected receiver's RS-232 port.
2) Control Stop Bits: Set the number of stop bits for the RS-232 connection.
3) Control Data Bits: Set the number of data bits for the RS-232 connection.
4) Control Parity: Set the parity to use for the RS-232 connection.

RESET	
2ND LEVEL	**3RD LEVEL**
Reset All	

1) Reset All: Reset all of the unit's settings back to their factory defaults.

INFORMATION	
2ND LEVEL	**3RD LEVEL**
Video Input Output Source HDCP	[System Information Display]
Sink HDCP	
Version	

1) Information Display: This screen displays information about the unit's current state, input and output status, as well as the current firmware version.

6.5 Serial Commands

COMMAND
Description and Parameters
help↵   Show the full command list.
?↵   Show the full command list.
GET FW VER↵   Show the unit's firmware version.
GET MODEL NAME↵   Show the unit's model name.

SET OUT A ROUTE N1↵
    Route the specified input to the HDBaseT output.
    Available values for **N1:**
    1   [HDMI]
    2   [VGA]

GET OUT A ROUTE↵   Show the current input routed to the HDBaseT output.

SET OUT AUTO MODE N1↵ 　Set the auto switching behavior of the unit. 　Available values for **N1:** 　1　　　[Off] 　2　　　[Auto Switch]
GET OUT AUTO MODE↵ 　Show the current auto switching mode of the unit.
GET OUT AUTO MODE LIST↵ 　List all available auto mode options..
GET IN N1 TIMING↵ 　Show the current resolution detected on the specified input. 　Available values for **N1:** 　1　　　[HDMI] 　2　　　[VGA] 　*Note: Timing information can only be displayed for the currently selected input.*
GET IN TYPE LIST↵ 　List the port type of all inputs on the unit.
SET OUT A MASK N1↵ 　Enable or disable the a/v mask setting on the specified output. 　Available values for **N1:** 　ON　　　[Blank video] 　OFF　　　[Enable video]
GET OUT A MASK↵ 　Display the current a/v mask setting for the specified output.

SET OUT A TIMING N1↵

Set the output resolution to use for the HDBaseT output.

Available values for **N1:**

0	[Native]
1	[640×480@60]
2	[800×600@60]
3	[1024×768@60]
4	[1280×720@60]
5	[1280×768@60]
6	[1280×800@60]
7	[1280×1024@60]
8	[1360×768@60]
9	[1440×900@60]
10	[1400×1050@60]
11	[1600×1200@60]
12	[1680×1050@60]
13	[1920×1080@60]
14	[1920×1200@60RB]
15	[2048×1080@50]
16	[2048×1080@60]
17	[2560×1440@60RB]
18	[2560×1600@60RB]
19	[720×480p@60]
20	[720×576p@60]
21	[1280×720p@50]
22	[1280×720p@60]
23	[1920×1080p@24]
24	[1920×1080p@25]
25	[1920×1080p@30]
26	[1920×1080p@50]
27	[1920×1080p@60]
28	[2560×1080p@50]
29	[2560×1080p@60]
30	[3840×2160p@24]
31	[3840×2160p@25]
32	[3840×2160p@30]
33	[4096×2160p@24]
34	[4096×2160p@25]
35	[4096×2160p@30]

GET OUT A TIMING↵

Show the current resolution used by the HDBaseT output.

GET OUT A SYNC STATUS↵

Show the current sync state of the HDBaseT output.

GET OUT TIMING LIST↵

List all available output resolutions with their local index numbers.

SET OUT A CONTRAST N1↵
    Set the contrast level of the HDBaseT output.
    N1 = 0~60   [Contrast]

GET OUT A CONTRAST↵   Show the current contrast level.

SET OUT A BRIGHTNESS N1↵
    Set the brightness level of the HDBaseT output.
    N1 = 0~60   [Brightness]

GET OUT A BRIGHTNESS↵   Show the current brightness level.

SET OUT A SATURATION N1↵
    Set the saturation level of the HDBaseT output.
    N1 = 0~60   [Saturation]

GET OUT A SATURATION↵   Show the current saturation level.

SET OUT A HUE N1↵
    Set the hue value of the HDBaseT output.
    N1 = 0~60   [Hue]

GET OUT A HUE↵   Show the current hue value.

SET OUT A SHARPNESS N1↵
    Set the sharpness level of the HDBaseT output.
    N1 = 0~63   [Sharpness]

GET OUT A SHARPNESS↵   Show the current sharpness level.

SET OUT A NR N1↵
    Set the amount of noise reduction to apply to the HDBaseT output's source.
    Available values for **N1:**
    0   [Off]
    1   [Low]
    2   [Middle]
    3   [High]
    4   [Auto]

GET OUT A NR↵   Show the current amount of noise reduction applied to the HDBaseT output's source.

SET OUT A ASPECT RATIO N1↵

Set the aspect ratio of the video shown on the HDBaseT output.

Available values for **N1:**

0   [Overscan]
1   [Full]
2   [Best Fit]
3   [Pan Scan]
4   [Letterbox]
5   [Under 2]
6   [Under 1]
7   [Follow In]

GET OUT A ASPECT RATIO↵

Show the currently set aspect ratio.

GET OUT ASPECT RATIO LIST↵

List all available aspect ratio options.

SET OUT A AUTO SYNC OFF N1↵

Enable or disable the Auto Sync Off function on the HDBaseT output and set the timeout length.

Available values for **N1:**

0   [Disabled]
1   [30 Seconds]
2   [60 Seconds]
3   [3 Minutes]
4   [5 Minutes]
5   [10 Minutes]

GET OUT A AUTO SYNC OFF↵

Show the current Auto Sync Off settings for the HDBaseT output.

SET OUT A R GAIN N1↵

Set the HDBaseT output's red gain level.

N1 = 0~1023   [Red Gain]

GET OUT A R GAIN↵

Show the current red gain level.

SET OUT A G GAIN N1↵

Set the HDBaseT output's green gain level.

N1 = 0~1023   [Green Gain]

GET OUT A G GAIN↵

Show the current green gain level.

SET OUT A B GAIN N1↵

Set the HDBaseT output's blue gain level.

N1 = 0~1023   [Blue Gain]

GET OUT A B GAIN↵

Show the current blue gain level.

SET OUT A R OFFSET N1↵ 　Set the HDBaseT output's red gain level. 　**N1** = 0~1023　　[Red Offset]
GET OUT A R OFFSET↵ 　Show the current red gain level.
SET OUT A G OFFSET N1↵ 　Set the HDBaseT output's green gain level. 　**N1** = 0~1023　　[Green Offset]
GET OUT A G OFFSET↵ 　Show the current green gain level.
SET OUT A B OFFSET N1↵ 　Set the HDBaseT output's blue gain level. 　**N1** = 0~1023　　[Blue Offset]
GET OUT A B OFFSET↵ 　Show the current blue gain level.
SET IN 2 PHASE N1↵ 　Set the PC phase value for the VGA input. 　**N1** = 0~255　　[PC Phase]
GET IN 2 PHASE↵ 　Show the current PC phase value for the VGA input.
SET IN 2 CLOCK N1↵ 　Set the PC clock value for the VGA input. 　**N1** = 0~250　　[PC Clock]
GET IN 2 CLOCK↵ 　Show the current PC clock value for the VGA input.
SET IN 2 HPOSITION N1↵ 　Set the PC horizontal position for the VGA input. 　**N1** = 0~250　　[PC H Position]
GET IN 2 HPOSITION↵ 　Show the current PC horizontal position for the VGA input.
SET IN 2 VPOSITION N1↵ 　Set the PC vertical position for the VGA input. 　**N1** = 0~250　　[PC V Position]
GET IN 2 VPOSITION↵ 　Show the current PC vertical position for the VGA input.
SET AUDIO OUT A ROUTE N1↵ 　Set the audio routing behavior for the HDBaseT output. 　Available values for **N1:** 　1　　[Follow Video] 　2　　[Analog Audio]
GET AUDIO OUT A ROUTE↵ 　Show the currently selected audio routing behavior.

| |
|---|
| **GET AUDIO IN TYPE LIST**↵
List all available audio input sources. |
| **SET AUDIO OUT A MUTE N1**↵
Enable or disable muting the audio output.
Available values for **N1:**
ON   [Mute Enabled]
OFF   [Mute Disabled] |
| **GET AUDIO OUT A MUTE**↵
Show the current mute state of the HDBaseT output. |
| **SET AUDIO OUT A VOLUME N1**↵
Set the volume level of the HDBaseT output's audio.
N1 = 0~100   [Volume] |
| **GET AUDIO OUT A VOLUME**↵
Show the current volume level of the HDBaseT output's audio. |
| **SET OUT A OSD TIMEOUT N1**↵
Set the OSD's timeout value.
Available values for N1:
0   [Off]
1   [5 Seconds]
2   [10 Seconds]
3   [15 Seconds]
4   [20 Seconds]
5   [25 Seconds]
6   [30 Seconds]
7   [35 Seconds]
8   [40 Seconds] |
| **GET OUT A OSD TIMEOUT**↵
Show the current OSD timeout value. |
| **SET OUT A OSD INFO DISPLAY N1**↵
Enable, set the timeout value, or disable the info OSD.
Available values for **N1:**
0   [Always Off]
1   [Always On]
2   [5 Seconds]
3   [10 Seconds] |
| **GET OUT A OSD INFO DISPLAY**↵
Show the current info OSD state for the specified output. |
| **SET OUT A OSD VPOSITION N1**↵
Set the vertical position of the OSD.
N1 = 0~60 [V Position] |
| **GET OUT A OSD VPOSITION**↵
Show the current vertical position of the OSD. |

SET OUT A OSD HPOSITION N1↵

Set the horizontal position of the OSD.

N1 = 0~60 [H Position]

GET OUT A OSD HPOSITION↵

Show the current horizontal position of the OSD.

SET OUT A OSD TRANSPARENCY N1↵

Set the transparency level of the OSD.

N1 = 0~50 [Transparency]

GET OUT A OSD TRANSPARENCY↵

Show the current transparency level of the OSD.

SET IN 1 HDCP MODE N1↵

Set the HDCP behavior of the HDMI input.

Available values for **N1:**

0   [Disable HDCP]

1   [Follow Source]

2   [Follow Display]

GET IN 1 HDCP MODE↵

Show the current HDCP behavior used by the HDMI input.

GET OUT A HDCP STATUS↵

Show the current HDCP status of the HDBaseT output.

SET UART 1 BAUDRATE N1↵

Set the baud rate to accept from a connected receiver's RS-232 port.

Available values for **N1:**

0   [4800]

1   [9600]

2   [19200]

3   [38400]

4   [57600]

5   [115200]

GET UART 1 BAUDRATE↵

Show the current RS-232 baud rate setting.

SET UART 1 STOP BITS N1↵

Set the number of RS-232 stop bits.

Available values for **N1:**

0   [1 Bit]

1   [2 Bits]

GET UART 1 STOP BITS↵

Show the current number of RS-232 stop bits.

SET UART 1 DATA BITS N1↵
Set the RS-232 data bits.
Available values for **N1:**
0   [5 Bits]
1   [6 Bits]
2   [7 Bits]
3   [8 Bits]

GET UART 1 DATA BITS↵
Show the current number of RS-232 data bits.

SET UART 1 PARITY N1↵
Set the RS-232 parity.
Available values for **N1:**
0   [None]
1   [Odd]
2   [Even]

GET UART 1 PARITY↵
Show the current RS-232 parity setting.

SET IN 1 EDID N1↵
Set the EDID to use on the HDMI input.
Available values for **N1:**
1   [1080P, 2CH]
2   [4K (3G), 2CH]
3   [4K (6G), 2CH]
4   [Output's EDID]

GET IN 1 EDID↵
Show the EDID currently being used on the HDMI input.

GET IN EDID LIST↵
List all available EDID selections.

GET TRIGGER EVENT LIST↵
List all available Automation Events.

SET AUTOMATION EVENT N1 UART A COMMAND N2↵
Set the RS-232 command string to send when the specified Automation
Event is activated.
N1 = 1~3   [Automation Event Number]
N2 = {String}   [64 Chars Max]

GET AUTOMATION EVENT N1 UART A COMMAND↵
Show the RS-232 command string to be sent when the specified Automation
Event is activated.
N1 = 1~3   [Automation Event Number]

SET AUTOMATION EVENT N1 UART A N2↵
Enable or disable the specified Automation Event's RS-232 response. **N1** = 1~3   [Automation Event Number] Available values for **N2:** ON   [Enable] OFF   [Disable]
GET AUTOMATION EVENT N1 UART A↵
Show the current state of the specified Automation Event's RS-232 response. **N1** = 1~3   [Automation Event Number]
SET AUTOMATION EVENT N1 UART A DELAY N2 SCE↵
Set the delay time that the specified Automation Event must continue to be true before sending the defined RS-232 command. **N1** = 1~3   [Automation Event Number] **N2** = 0~240 [Delay Seconds]
GET AUTOMATION EVENT N1 UART A DELAY↵
Show the delay time for the specified Automation Event's RS-232 response. **N1** = 1~3   [Automation Event Number]
SET AUTOMATION EVENT N1 UART A WAIT N2 SCE↵
Set the length of time to wait after an Automation Event's RS-232 response has been activated before ANY other Automation Event can be detected. **N1** = 1~3   [Automation Event Number] **N2** = 0~240 [Delay Seconds]
GET AUTOMATION EVENT N1 UART A WAIT↵
Show the wait time for the specified Automation Event's RS-232 response. **N1** = 1~3   [Automation Event Number]

Note: Commands will not be executed unless followed by a carriage return. Commands are not case-sensitive.

7. CONNECTION DIAGRAM
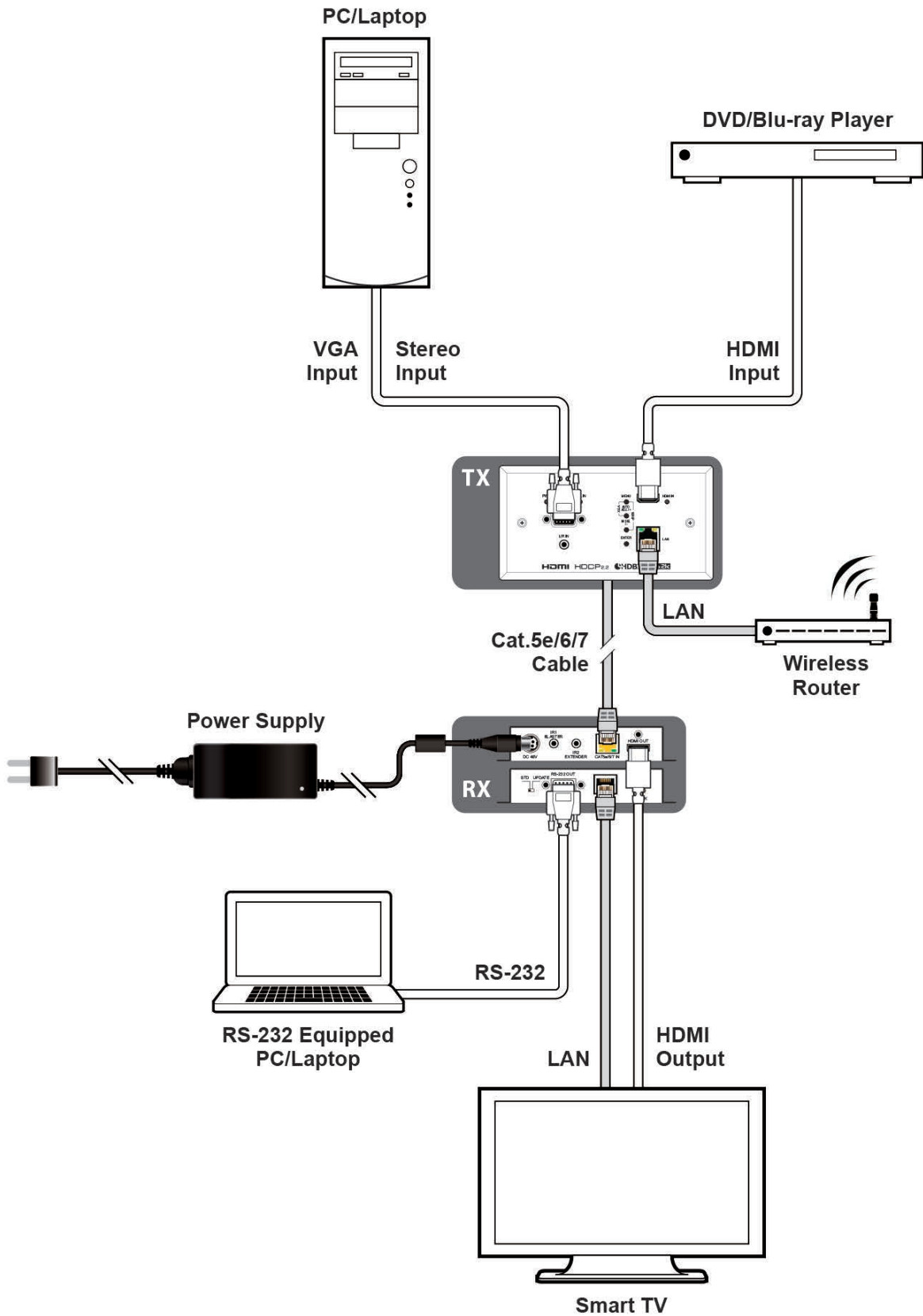
8. SPECIFICATIONS

8.1 Technical Specifications

HDMI Bandwidth	18Gbps
VGA Bandwidth	165MHz
HDBaseT Bandwidth	10.2Gbps
Input Ports	1×HDMI (Type-A) 1×VGA (HD-15) 1×Stereo Audio (3.5mm)
Output Ports	1×HDBaseT (RJ-45)
Pass-through Ports	1×LAN (RJ-45)
Service Port	1×USB 2.0 (Type A)
Baud Rate	Up to 115200 (19200 Control Default)
Power Supply	12V/3A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection (HBM)	±8kV (Air Discharge) ±4kV (Contact Discharge)
Dimensions (W×H×D)	152mm×81mm×42mm [Case Only] 152mm×81mm×53mm [All Inclusive]
Weight	263g
Chassis Material	Metal (Aluminum)
Chassis Color	White
Operating Temperature	0˚C – 40˚C/32˚F – 104˚F
Storage Temperature	-20˚C – 60˚C/-4˚F – 140˚F
Relative Humidity	20 – 90% RH (Non-condensing)
Power Consumption	22W

8.2 Video Specifications

Supported Resolutions (Hz)	Input		Output
	HDMI	VGA	HDBaseT
720×400p@70/85	✓	✓	×
640×480p@60/72/75/85	✓	✓	60
720×480i@60	✓	×	×
720×480p@60	✓	✓	✓
720×576i@50	✓	×	×
720×576p@50	✓	✓	✓
800×600p@56/60/72/75/85	✓	✓	60
848×480p@60	✓	✓	×
1024×768p@60/70/75/85	✓	✓	60
1152×864p@75	✓	✓	×
1280×720p@50/60	✓	✓	✓
1280×768p@60/75/85	✓	✓	60
1280×800p@60/75/85	✓	✓	60
1280×960p@60/85	✓	✓	×
1280×1024p@60/75/85	✓	✓	60
1360×768p@60	✓	✓	✓
1366×768p@60	✓	✓	×
1400×1050p@60	✓	✓	✓
1440×900p@60/75	✓	✓	60
1600×900p@60RB	✓	✓	×
1600×1200p@60	✓	✓	✓
1680×1050p@60	✓	✓	✓
1920×1080i@50/60	✓	×	×
1920×1080p@24/25/30	✓	✓	✓
1920×1080p@50/60	✓	✓	✓
2560×1080p@50/60	✓	×	✓
1920×1200p@60RB	✓	✓	✓
2560×1440p@60RB	✓	×	✓
2560×1600p@60RB	✓	×	✓
2048×1080p@24/25/30	✓	×	×
2048×1080p@50/60	✓	×	✓

3840×2160p@24/25/30	✓	✗	✓
3840×2160p@50/60 (4:2:0)	✓	✗	✗
3840×2160p@24, HDR10	✗	✗	✗
3840×2160p@50/60 (4:2:0), HDR10	✓	✗	✗
3840×2160p@50/60	✗	✗	✗
4096×2160p@24/25/30	✓	✗	✓
4096×2160p@50/60 (4:2:0)	✓	✗	✗
4096×2160p@24, HDR10	✗	✗	✗
4096×2160p@50/60 (4:2:0), HDR10	✗	✗	✗
4096×2160p@50/60	✗	✗	✗

8.3 Audio Specifications

8.3.1 Digital Audio

HDMI Input	
LPCM	
Max Channels	2 Channels
Sampling Rate (kHz)	32, 44.1, 48, 88.2, 96, 176.4, 192
Bitstream	
Supported Formats	None

HDBaseT Output	
LPCM	
Max Channels	2 Channels
Sampling Rate (kHz)	48
Bitstream	
Supported Formats	None

8.3.2 Analog Audio

Analog Input	
Max Audio	Level 2Vrms
Impedance	10kΩ
Type	Unbalanced

8.4 Cable Specifications

Cable Length	1080p		4K30	4K60
	8-bit	12-bit	(4:4:4) 8-bit	(4:4:4) 8-bit
High Speed HDMI Cable				
HDMI Input	15m	10m	5m	3m
VGA Cable				
VGA Input	2m		×	
Ethernet Cable				
Cat.5e/6	100m		70m	×
Cat.6A/7	100m		100m	×

Bandwidth Category Examples:
• **1080p (FHD Video)**
- Up to 1080p@60Hz, 12-bit color
- Data rates lower than 5.3Gbps or below 225MHz TMDS clock
• **4K30 (4K UHD Video)**
- 4K@24/25/30Hz & 4K@50/60Hz (4:2:0), 8-bit color
- Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps
• **4K60 (4K UHD+ Video)**
- 4K@50/60Hz (4:4:4, 8-bit)
- 4K@50/60Hz (4:2:0, 10-bit HDR)
- Data rates higher than 10.2Gbps

8.5 HDBaseT Features

HDBaseT Feature Set	Receiver
Video & Audio Extension	Supported
LAN Extension	Supported
Send power to Receiver	Unsupported
Accept power from Receiver	Supported (PoH)
IR Extension	Unsupported
RS-232 Extension	Unsupported
USB 2.0 Extension	Unsupported

9. ACRONYMS

ACRONYM	COMPLETE TERM
ADC	Analog-to-Digital Converter
ASCII	American Standard Code for Information Interchange
Cat.5e	Enhanced Category 5 cable
Cat.6	Category 6 cable
Cat.6A	Augmented Category 6 cable
Cat.7	Category 7 cable
CLI	Command-Line Interface
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
GbE	Gigabit Ethernet
Gbps	Gigabits per second
GUI	Graphical User Interface
HD	High-Definition
HDBT	HDBaseT
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDR	High Dynamic Range
kHz	Kilohertz
LAN	Local Area Network
LED	Light-Emitting Diode
LPCM	Linear Pulse-Code Modulation
MHz	Megahertz
OSD	On-Screen Display
PD	Powered Device
PoH	Power over HDBaseT
PSE	Power Sourcing Equipment
4K UHD	4K Ultra-High-Definition (10.2Gbps max)
4K UHD+	4K Ultra-High-Definition (18Gbps max)
UHDTV	Ultra-High-Definition Television
USB	Universal Serial Bus
VGA	Video Graphics Array
XGA	Extended Graphics Array
Ω	Ohm