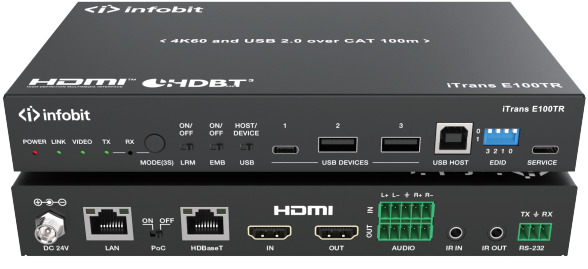
iTrans E100TR
4K60 HDBaseT 3.0 100m Extender (Transceiver) with USB 2.0



User Manual

VER 1.0

Thank you for purchasing this product

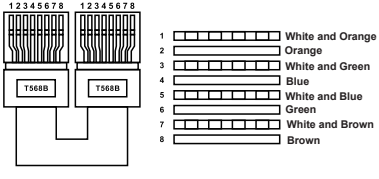
For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Caution

The product requires the use of UTP connectors. Please connect in direct interconnection method and do not cross connect.



Direct Interconnection Method

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1. Introduction

This HDBaseT 3.0 Extender is designed as a transceiver, which can extend uncompressed HD/UHD video and audio signals, RS-232, bi-directional IR, 1GbE Ethernet and USB 2.0 signals up to 328ft/100m via a single CAT6A/7 cable. It features one HDMI input and one HDMI output. It supports audio embedding or de-embedding, EDID management, 1G network pass-through, USB 2.0 (Host/Device is configurable), bi-directional IR and RS-232. Besides, it supports bi-directional PoC function, with PoC switch.
The Extender offers the most convenient solution for HDMI extension via a single CAT cable with long distance capability, and is the perfect solution for home/commercial application.

2. Features

☆ Integrated transceiver design, can be flexibly configured as TX or RX through front panel buttons or API commands
☆ HDCP 2.3 and HDBaseT 3.0 compliant
☆ Uncompressed 4K@60Hz 4:4:4 up to 18Gbps video bandwidth, as specified in HDMI 2.0b
☆ 4K60/4K30/1080P signal transmission distance up to 328ft/100m via a single CAT6A/7 cable (HDBT Standard Mode)
☆ 1080P60 4:4:4 8bit signal transmission distance up to 492ft/150m via a single CAT6A/7 cable (HDBT Long Reach Mode)
☆ HDR, HDR10, HDR10+, Dolby Vision and HLG pass-through
☆ Supports all HDMI audio formats pass-through
☆ Supports analog audio embedding and HDMI audio de-embedding
☆ Bi-directional IR, RS-232 and 1G Ethernet signal pass through
☆ Supports USB 2.0 transmission, Host/Device is configurable
☆ Supports EDID management and CEC signal pass-through
☆ Bi-directional 24V PoC function, with PoC switch

3. Package Contents

① 1 x HDBaseT 3.0 Extender (Transceiver)
② 1 x 5pin-3.5mm Phoenix Connector (male)
③ 1 x 3pin-3.5mm Phoenix Connector (male)
④ 1 x IR Blaster Cable (1.5 meters)
⑤ 1 x IR Wideband Receiver Cable (1.5 meters)
⑥ 2 x Mounting Ears
⑦ 4 x Machine Screws (KM3*4)
⑧ 1 x 24V/1A Locking Power Supply,
with UK, US and EU Power Conversion Pins
⑨ 1 x User Manual

4. Specifications

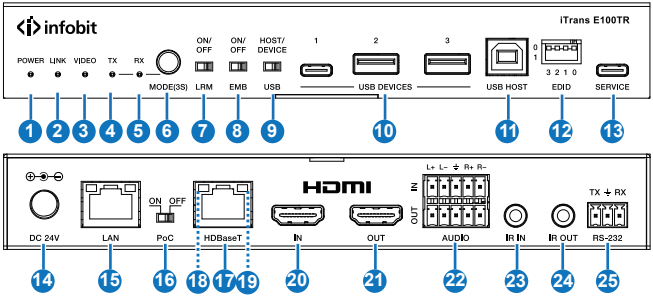
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.3
Video Bandwidth	18Gbps
USB Bandwidth	480Mbps
Network Bandwidth	1000Mbps (LAN)
Video Resolution	Up to 4K@60Hz 4:4:4
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8/10/12-bit
Audio Formats	**HDMI/HDBaseT passthrough:** LPCM 2.0/5.1/7.1CH, Dolby True HD, Dolby Atmos, DTS-HD Master Audio and DTS:X **Analog Audio de-embedding:** LPCM 2CH (sample rate 32~192kHz)
Audio Sample Rate	32~192kHz
IR Level	12Vp-p
IR Bandwidth	20K - 60KHz
Transmission Distance	HDBT Standard Mode (4K60/4K30/1080P): 328ft/100m (CAT6A/7) HDBT Long Reach Mode (1080P60 8bit): 492ft/150m (CAT6A/7)

ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Analog Audio	
Input Impedance	10KOhms
Output Impedance	330Ohms
Line Input Level (Maximum)	8.2dBu (2Vrms) @ balanced audio
Line Output Level (Maximum)	8.2dBu (2Vrms) @ balanced audio
Frequency Response	(+0.5dB, -1dB) 20Hz to 20kHz
Audio Output Delay	< 1ms
Dynamic Range	> 90dB@0dBu, 1kHzA-weighted
Audio S/N Ratio	> 90dB@0dBu, 1kHzA-weighted
Audio THD+N	< 0.01% @ +4dBV, 1kHz
Connection	
TX mode	Input: 1 x HDMI IN [Type A, 19-pin female] 1 x AUDIO IN [5pin-3.5mm phoenix connector] Output: 1 x HDMI OUT [Type A, 19-pin female] 1 x HDBaseT [RJ45, 8-pin female] 1 x AUDIO OUT [5pin-3.5mm Phoenix jack] Control: 1 x IR IN [3.5mm Stereo Mini-jack] 1 x IR OUT [3.5mm Stereo Mini-jack] 1 x RS-232 [3pin-3.5mm Phoenix jack] 1 x SERVICE [USB Type C, Update port] 1 x USB HOST [USB Type B, 4-pin female] 1 x USB-C DEVICE [USB Type C, 12-pin female] 2 x USB-A DEVICES [USB Type A, 4-pin female] 1 x LAN [RJ45 connector, 100M/1000M Ethernet]

RX mode	Input: 1 x HDMI IN [Type A, 19-pin female] 1 x HDBaseT [RJ45, 8-pin female] 1 x AUDIO IN [5pin-3.5mm phoenix connector, invalid] Output: 1 x HDMI OUT [Type A, 19-pin female] 1 x AUDIO OUT [5pin-3.5mm Phoenix jack] Control: 1 x IR IN [3.5mm Stereo Mini-jack] 1 x IR OUT [3.5mm Stereo Mini-jack] 1 x RS-232 [3pin-3.5mm Phoenix jack] 1 x SERVICE [USB Type C, Update port] 1 x USB HOST [USB Type B, 4-pin female] 1 x USB-C DEVICE [USB Type C, 12-pin female] 2 x USB-A DEVICES [USB Type A, 4-pin female] 1 x LAN [RJ45 connector, 100M/1000M Ethernet]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	190mm [W] x 110mm [D] x 28mm [H]
Weight	556g
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 24V/1A (US/EU standard, CE/FCC/UL certified)
Power Consumption	＜19W (individual box power consumption)
Operating Temperature	32 ~ 104°F / 0 ~ 40°C
Storage Temperature	-4 ~ 140°F / -20 ~ 60°C
Relative Humidity	20 ~ 90% RH (no condensation)

Resolution / Cable Length	**4K60 - Feet / Meters**	**4K30 - Feet / Meters**	**1080P60 - Feet / Meters**
HDMI IN / OUT	10ft / 3M	16ft / 5M	33ft / 10M
The use of “Premium High Speed HDMI” cable is highly recommended.			

5. Operation Controls and Functions



No.	Name	Function Description
1	POWER LED	Red LED indicates that the unit is powered on.
2	LINK LED	▪ Light on: Transmitter and Receiver are connected via the HDBaseT port. ▪ Light off: Transmitter and Receiver are not connected.
3	VIDEO LED	▪ TX mode: When there is signal input to the HDMI IN port, the LED is always on, and the LED is off when there is no signal input. ▪ RX mode: When there is signal input to the HDBaseT port, the LED is always on, and the LED is off when there is no signal input.
4	TX LED	Green LED indicates that the unit is working in TX mode.
5	RX LED	Green LED indicates that the unit is working in RX mode.
6	MODE(3S) button	Hold down this button for 3 seconds to switch the TX/RX mode (TX mode by default).
7	LRM ON/ OFF switch	Switch to left (ON), the HDBaseT Long Reach Mode is enabled; Switch to right (OFF), the HDBaseT Long Reach Mode is disabled.
8	EMB ON/ OFF switch	Switch to left (ON), the audio embedding mode is enabled; Switch to right (OFF), the audio embedding mode is disabled.
9	HOST/ DEVICE USB switch	Switch to left (HOST), the USB HOST mode is enabled; Switch to right (DEVICE), the USB DEVICE mode is enabled.
10	USB DEVICES	One USB-C device port and two USB-A device ports, connected to electronic whiteboard, USB camera, mouse or keyboard.

No.	Name	Function Description
11	USB HOST	USB extension host port, connected to PC.
12	EDID DIP switch	EDID DIP switch, please refer to “6. EDID Mode” for details.
13	SERVICE	USB-C port, used for API commands transmission or firmware update.
14	DC 24V	DC 24V/1A power supply input port. *Note that the extender supports PoC function, it means that either the transmitter or receiver is powered on by 24V/1A power adapter, the other one doesn't need power supply.*
15	LAN	1G Network port. When it switches to Gigabit Ethernet, the green indicator lights on; When it switches to 100M Ethernet, the yellow indicator lights on.
16	PoC switch	Switch to left (ON), the PoC function is enabled; Switch to right (OFF), the PoC function is disabled.
17	HDBaseT	HDBaseT signal port, connected to the HDBaseT port of receiver with a CAT 6A/7 cable when the unit is in TX mode, or connected to the HDBaseT port of transmitter with a CAT 6A/7 cable when the unit is in RX mode. It is used for various signals pass-through.
18	Data Signal Indicator (Yellow)	▪ Light on: HDMI signal with HDCP. ▪ Light flashing: HDMI signal without HDCP. ▪ Light off: No HDMI signal.
19	Link Signal Indicator (Green)	▪ Light on: Transmitter and Receiver are in good connection status. ▪ Light flashing: Transmitter and Receiver are in poor connection status. ▪ Light off: Transmitter and Receiver are not connected.
20	HDMI IN	HDMI signal input port, connected to HDMI signal source device, such as DVD, Blu-ray player or TV box with HDMI cable.
21	HDMI OUT	HDMI signal output port, connected to HDMI display device such as TV or monitor with HDMI cable.

No.	Name	Function Description
22	AUDIO IN/ OUT	**AUDIO IN:** Analog audio input port, supporting balanced audio input (with a maximum support of 2Vrms) and unbalanced audio input (with a maximum support of 1Vrms). Balanced connection method: L+, L -, GND, R+, R- Unbalanced connection method: L+, GND, R+ **AUDIO OUT:** Analog audio output port, supporting balanced audio output (with a maximum support of 2Vrms) and unbalanced audio output (with a maximum support of 1Vrms). Balanced connection method: L+, L -, GND, R+, R- Unbalanced connection method: L+, GND, R+
23	IR IN	IR signal input port, connected to IR Receiver cable.
24	IR OUT	IR signal output port, connected to IR Blaster cable.
25	RS-232	RS-232 serial port, used for RS-232 signal pass-through.

6. EDID Mode

Use the EDID DIP switch to set the EDID mode of the HDMI IN port.
The EDID modes in TX mode are as following:
DIP [3210] = 0000: Auto EDID (default)
Note: Auto EDID = RX HDMI OUT EDID + TX HDMI OUT EDID. It will use 1080p@60Hz audio 2ch PCM if both the HDMI OUT ports of TX and RX are not connected to the display device.
DIP [3210] = 0001: EDID copy from RX HDMI OUT
DIP [3210] = 0010: EDID copy from TX HDMI OUT
DIP [3210] = 0011: HDMI 1080p@60Hz, Audio 2ch PCM
DIP [3210] = 0100: HDMI 1080p@60Hz, Audio 5.1ch PCM/DTS/DOLBY
DIP [3210] = 0101: HDMI 1080p@60Hz, Audio 7.1ch PCM/DTS/DOLBY/HD
DIP [3210] = 0110: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 2ch PCM
DIP [3210] = 0111: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY
DIP [3210] = 1000: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD
DIP [3210] = 1001: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 2ch PCM
DIP [3210] = 1010: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 5.1ch PCM/DTS/ DOLBY

DIP [3210] = 1011: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 7.1ch PCM/DTS/DOLBY/HD
DIP [3210] = 1100: DVI 1280x1024@60Hz, Audio None
DIP [3210] = 1101: DVI 1920x1080@60Hz, Audio None
DIP [3210] = 1110: DVI 1920x1200@60Hz, Audio None
DIP [3210] = 1111: Software EDID (via SERVICE port)

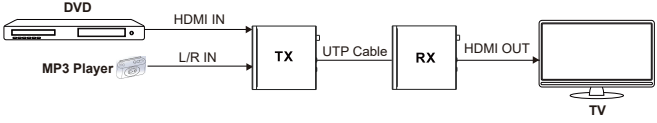
The EDID modes in RX mode are as following:
DIP [3210] = 0000: Auto EDID (default)
Note: Auto EDID = RX HDMI OUT EDID or use 1080p@60Hz audio 2ch PCM if the HDMI OUT port of RX is not connected to the display device.
DIP [3210] = 0001: Reserved
DIP [3210] = 0010: Reserved
DIP [3210] = 0011: HDMI 1080p@60Hz, Audio 2ch PCM
DIP [3210] = 0100: HDMI 1080p@60Hz, Audio 5.1ch PCM/DTS/DOLBY
DIP [3210] = 0101: HDMI 1080p@60Hz, Audio 7.1ch PCM/DTS/DOLBY/HD
DIP [3210] = 0110: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 2ch PCM
DIP [3210] = 0111: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 5.1ch PCM/DTS/DOLBY
DIP [3210] = 1000: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 7.1ch PCM/DTS/DOLBY/HD
DIP [3210] = 1001: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 2ch PCM
DIP [3210] = 1010: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 5.1ch PCM/DTS/DOLBY
DIP [3210] = 1011: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 7.1ch PCM/DTS/DOLBY/HD
DIP [3210] = 1100: DVI 1280x1024@60Hz, Audio None
DIP [3210] = 1101: DVI 1920x1080@60Hz, Audio None
DIP [3210] = 1110: DVI 1920x1200@60Hz, Audio None
DIP [3210] = 1111: Software EDID (via SERVICE port)

7. Audio Embedding and De-embedding

The Extender supports audio embedding and de-embedding in TX mode. The AUDIO IN port can be used for audio embedding, and the AUDIO OUT port can be used for audio de-embedding.

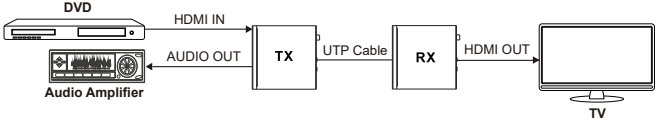
- **TX Audio Embedding**

  When the EMB ON/OFF switch is switched to left, the audio from external audio device will be embedded to the AUDIO IN port.



- **TX Audio De-embedding**

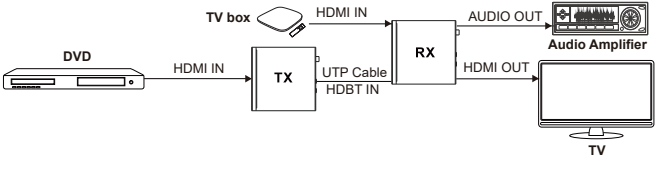
  When the EMB ON/OFF switch is switched to right, The AUDIO OUT port will output the audio de-embedded from the HDMI IN port.



The Extender supports audio de-embedding in RX mode.
The AUDIO OUT port can be used for audio de-embedding.

- **RX Audio De-embedding**

  When the unit is in RX mode, the AUDIO OUT port will output the audio de-embedded from the HDMI IN/HDBaseT port. (Note: The audio output of the AUDIO OUT port follows the video output of the HDMI OUT port.)

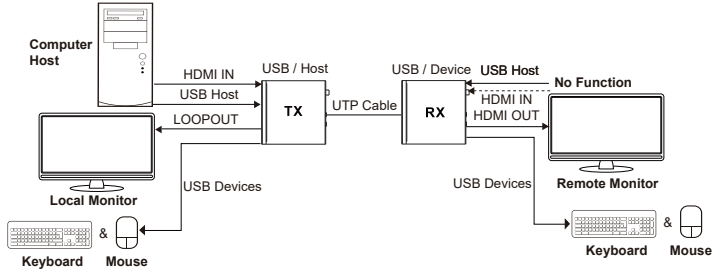


8. USB Mode Applications

The Extender supports USB 2.0 transmission, and Host/Device is configurable.

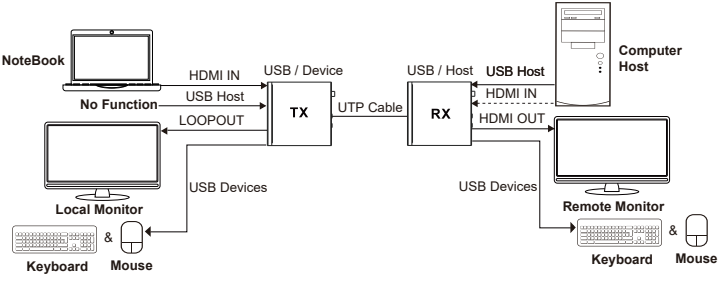
Mode 1: USB forward from TX to RX

Switch the HOST/DEVICE USB switch of TX to left, then the TX will be set to USB Host mode. Meanwhile, switch the HOST/DEVICE USB switch of RX to right, then the RX will be set to USB Device mode.



Mode 2: USB reverse from RX to TX

Switch the HOST/DEVICE USB switch of TX to right, then the TX will be set to USB Device mode. Meanwhile, switch the HOST/DEVICE USB switch of RX to left, then the RX will be set to USB Host mode.

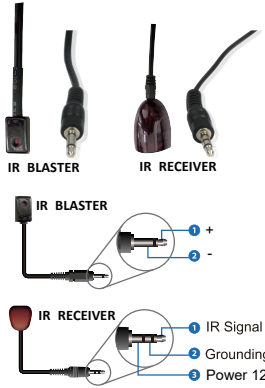


9. HDMI OUT Video Function

When the unit is in TX mode, the HDMI OUT port supports signal bypass; When the unit is in RX mode, the HDMI OUT port supports TMDS OFF/ BYPASS/AV MUTE/PATTERN, and supports setting the auto scaler mode through API commands. Please refer to “11. API Commands” for details.

10. IR Pin Definition

IR Receiver and Blaster pin’s definition as below:



Note: When the angle between the IR receiver and the remote control is ± 45 °, the transmission distance is 0-5 meters; when the angle between the IR receiver and the remote control is ± 90 °, the transmission distance is 0-8 meters.

11. API Commands

The product also supports API commands control. Connect the SERVICE port of the product to a PC with a USB-C cable. Then, open a serial command tool on PC to send ASCII commands to control the product.
The ASCII commands list about the product is shown as below.

ASCII Commands

SERVICE (USB-C port with virtual RS-232) communication protocol (Connect to laptop)
Baud rate: 115200 (fixed); Data bit: 8; Stop bit: 1; Parity bit: none.
The end mark of command is "<CR><LF>".

Command Code	Function Description	Example	Feedback	Default	API for TX or RX or TX/RX
?	Get the list of all commands	?	list all commands		TX/RX
help	Get the list of all commands	help	list all commands		TX/RX
get fw version	Get firmware version	get fw version	FW v1.0.0		TX/RX
set reboot	Reboot the device	set reboot	Reboot… System Initializing... Initialization Finished! FW v1.0.0		TX/RX
set reset	Reset to factory defaults	set reset	Sure to RESET to default settings? Type "Yes" after next prompt to confirm…		TX/RX
get status	Get system status	get status	Please refer to the note at the end of the list.		TX/RX
set key on/off	Set front panel key on/ off	set key on set key off	set key on set key off	on	TX/RX
get key	Get front panel key on/ off status	get key	On		TX/RX
set mode tx/rx	Set current unit to TX or RX mode	set mode tx set mode rx	Set mode to TX. Set mode to RX.	tx	TX/RX
get mode	Get current unit mode	get mode	TX		TX/RX
set tx source x	Set TX HDBT output from (x=0~3) x=0: Off (disable TMDS output) x=1: HDMI input x=2: AVMUTE x=3: Internal pattern	set tx source 1 set tx source 0	Set TX source to HDMI input. Set TX source to OFF.	1	TX
get tx source	Get TX HDBT output source	get tx source	HDMI		TX

Command Code	Function Description	Example	Feedback	Default	API for TX or RX or TX/RX
set tx pattern x y	Set TX internal pattern generator resolution (x=1~8) pattern(y=1~12) x=01: 1080P60Hz x=02: 4K60Hz x=03: 4K30Hz x=04: 4K50Hz x=05: 4K25Hz x=06: 4K24Hz x=07: 720P60Hz x=08: 480P60Hz y=01: Black y=02: Checkboard y=03: Strip y=04: Red y=05: Green y=06: Blue y=07: White y=08: Ramp y=09: Red ramp y=10: Green ramp y=11: Blue ramp y=12: PRBS	set tx pattern 1 2	Set TX pattern 1080P60Hz checkboard		TX
get tx pattern	Get TX internal pattern generator output resolution and pattern	get tx pattern	TX pattern 1080P60Hz checkboard		TX
set software edid x	Set HDMI input software EDID to (x=0~22) when EDID dipswitch to 1111 x=00: HDMI 1080p@60 Hz, Audio 2ch PCM x=01: HDMI 1080p@60 Hz, Audio 5.1ch PCM/ DTS/DOLBY x=02: HDMI 1080p@ 60Hz, Audio 7.1ch PCM/ DTS/DOLBY/HD x=03: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 2ch PCM x=04: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 5.1ch PCM/DTS/ DOLBY x=05: HDMI 4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 7.1ch PCM/DTS/ DOLBY/HD	set software edid 0	Set software edid to 00: HDMI 1080p@60Hz, Audio 2ch PCM.	0	TX/RX

Command Code	Function Description	Example	Feedback	Default	API for TX or RX or TX/RX
set software edid x	x=06: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 2ch PCM x=07: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 5.1ch PCM/DTS/DOLBY x=08: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 7.1ch PCM/DTS/DOLBY/HD x=09: DVI 1280x1024@ 60Hz, Audio None x=10: DVI 1920x1080@ 60Hz, Audio None x=11: DVI 1920x1200@ 60Hz, Audio None x=12: HDMI 4K@60Hz 4:2:0, HDR 10-bit, Audio 2CH PCM x=13: HDMI 4K@60Hz 4:2:0, HDR 10-bit, Audio 5.1CH DTS/DOLBY x=14: HDMI 4K@60Hz 4:2:0, HDR 10-bit, Audio 7.1CH DTS/DOLBY/HD x=15: HDMI 4K@60Hz 4:2:2, HDR 12-bit, Audio 2CH PCM x=16: HDMI 4K@60Hz 4:2:2, HDR 12-bit, Audio 5.1CH DTS/DOLBY x=17: HDMI 4K@60Hz 4:2:2, HDR 12-bit, Audio 7.1CH DTS/DOLBY/HD x=18: HDMI 4K@60Hz 4:2:2, HDR+DV 12-bit, Audio 2CH PCM x=19: HDMI 4K@60Hz 4:2:2, HDR+DV 12-bit, Audio 5.1CH DTS/DOLBY x=20: HDMI 4K@60Hz 4:2:2, HDR+DV 12-bit, Audio 7.1CH DTS/DOLBY/HD x=21: User Defined 1 x=22: User Defined 2	set software edid 0	Set software edid to 00: HDMI 1080p@60Hz, Audio 2ch PCM.	0	TX/RX
get edid	Get HDMI input port EDID	get edid	DIP_0000: auto EDID DIP_1111: 01: HDMI 4K @30Hz 4:4:4, Audio 2ch PCM		TX/RX

Command Code	Function Description	Example	Feedback	Default	API for TX or RX or TX/RX
get edid data	Get HDMI input port EDID data	get edid data	<00 FF FF FF….>		TX/RX
set user edid x <y>	Set user defined EDID (x=0~2) to y x=0: User Defined 1 and User Defined 2 x=1: User Defined 1 x=2: User Defined 2 y=00 FF FF FF ….. (y is 256 bytes EDID data)	set user edid 1 <00 FF FF FF….>	User Defined 1 EDID is loaded.		TX/RX
get user edid x	Get user defined EDID (x=0~2) data x=0: User Defined 1 and User Defined 2 x=1: User Defined 1 x=2: User Defined 2	get user edid 1	<00 FF FF FF….>		TX/RX
set output hdcp x	Set HDMI output HDCP mode to (x=0~4) x=0: Reserved x=1: Follow sink (default) x=2: Follow source x=3: Force HDCP 1.4 x=4: Force HDCP 2.2	set output hdcp 1	Set HDMI output HDCP follow sink.	1	TX/RX
get output hdcp	Get HDMI output HDCP mode	get output hdcp	Follow sink		TX/RX
set rx source x	Set RX HDMI output from (x=0~4) x=0: Off (disable TMDS output) x=1: HDBT input x=2: Local HDMI input x=3: AVMUTE x=4: Internal pattern	set rx source 1	Set RX output from HDBT input.	1	RX
get rx source	Get RX HDMI output source	get rx source	HDBT input		RX
set rx down scale auto/ on/off	Set RX downscale mode auto: Automatically according to display's capability on: Force 4K to 1080p off: Bypass	set rx down scale auto	Set RX downscale mode to auto.	auto	RX
get rx down scale	Get RX downscale mode	get rx downscale	Auto		RX

Command Code	Function Description	Example	Feedback	Default	API for TX or RX or TX/RX
set rx pattern x y	Set RX internal pattern generator resolution (x=1~8) pattern(y=1~12) x=01: 1080P60Hz x=02: 4K60Hz x=03: 4K30Hz x=04: 4K50Hz x=05: 4K25Hz x=06: 4K24Hz x=07: 720P60Hz x=08: 480P60Hz y=01: Black y=02: Checkboard y=03: Strip y=04: Red y=05: Green y=06: Blue y=07: White y=08: Ramp y=09: Red ramp y=10: Green ramp y=11: Blue ramp y=12: PRBS	set rx pattern 1 2	Set RX pattern 1080P60Hz checkboard		RX
get rx pattern	Get RX internal pattern generator output resolution and pattern	get rx pattern	RX pattern 1080P60Hz checkboard		RX
set audio mute on/off	Set analog audio output mute on/off	set audio mute on set audio mute off	Set analog audio mute on. Set analog audio mute off.	off	TX/RX
get audio mute	Get analog audio output mute on/off status	get audio mute	Mute on.		TX/RX
set usb x power y	Set USB device output (x=0~3) power to y x=[0…3]: 0:All, 1:USB-C 1, 2:USB-A 2, 3:USB-A 3 y=0: Disable 5V output y=1: Follow host y=2: Force 5V always output	set usb 0 power 1	Set all USB devices output power follow host.	1	TX/RX
get usb x power	Get USB device output (x=0~3) power status	get usb 0 power	USB-C 1 power: follow host USB-A 2 power: follow host USB-A 3 power: follow host		TX/RX
set hdbt update	Set SERVICE to HDBT UART for FW update	set hdbt update	HDBT update…		TX/RX

Note: The feedback of the command of “get status” is as following. (The middle line ends with <LF><CR> and the last line ends with <CR><LF>.)

```
==============================================================================================
Status Info HDBaseT 3.0 Extender
FW v1.0.0

Mode   Link   Video   Key   LRM    EMB    EDID
TX     On     On      On    Off    Off    DIP_0000: Auto EDID

USB_Mode   USBC1_Power    USBA2_Power     USBA3_Power
Host       Follow_Host     Follow_Host     Follow_Host

I/O          Cable       From      HDCP        Resolution        ColorSpace   ColorDepth
HDMI_IN      Connected   --        HDCP 2.2    3840x2160p60Hz    YUV 4:4:4    8bit
HDMI_OUT     Connected   HDMI_IN   HDCP 2.2    3840x2160p60Hz    YUV 4:4:4    8bit
HDBT_OUT     Connected   HDMI_IN   HDCP 2.2    3840x2160p60Hz    YUV 4:4:4    8bit
==============================================================================================
```

```
==============================================================================================
Status Info HDBaseT 3.0 Extender
FW v1.0.0

Mode   Link   Video   Key   LRM    EMB    EDID
RX     On     On      On    Off    Off    DIP_0000: Auto EDID

USB_Mode   USBC1_Power    USBA2_Power     USBA3_Power
Device     Follow_Host     Follow_Host     Follow_Host

I/O          Cable       From      HDCP        Resolution        ColorSpace   ColorDepth
HDBT_IN      Connected   --        HDCP 2.2    3840x2160p60Hz    YUV 4:4:4    8bit
HDMI_IN      Connected   --        HDCP 2.2    3840x2160p60Hz    YUV 4:4:4    8bit
HDMI_OUT     Connected   HDBT_IN   HDCP 2.2    3840x2160p60Hz    YUV 4:4:4    8bit
==============================================================================================
```

12. Application Example