Hall Technologies • 1234 Lakeshore Dr Suite #150 Coppell, TX 75019 • halltechav.com

HT-GEMINI

4K 6 Multiformat Input Extender Switch with USB Extension for Soft Codec

USER MANUAL

January 10, 2023

HT-GEMINI-RX

HT-GEMINI-TX

Important Safety Instructions

1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.

3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.

4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
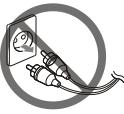
5. Do not place sources of open flames, such as lighted candles, on the unit.

6. Clean this apparatus only with dry cloth.

7. Unplug this apparatus during lightning storms or when unused for long periods of time.

8. Protect the power cord from being walked on or pinched particularly at plugs.

9. Only use attachments / accessories specified by the manufacturer.

10. Refer all servicing to qualified service personnel.

Table of Contents

Introduction

OVERVIEW

This product is a 4K 6 Multi-format Inputs Extender Switch with USB Extension for a soft codec, which provides AV switching, USB, HDMI, DP, VGA, and USB-C extension, plus system control for meeting spaces using PC-based conferencing codecs such as Microsoft Skype, Webex by Cisco and Citrix GoTo Meeting. The kit offers six video inputs shared between both devices for HDMI, Display Port, VGA plus analog audio in and USB-C video signals. To simplify conference room device management, the kit provides four USB Type-B connectors for host computers. Six built-in USB hubs, three on the transmitter and three on the receiver, allow for numerous Human Interface Devices (HID) as well as USB cameras and microphones.

The kit is compatible with Ultra High-Definition source up to 4K/UHD@60 Hz with 4:2:0 color subsampling. All audio, video, data, control, USB, and Ethernet transmission between the two devices is carried over a single, Ethernet-enabled HDBaseT link up to 100m/330ft.

It simplifies classroom and small office system integration, for installation beneath conference tables and in lecterns, to provide localized presentation switching support.

FEATURES

- HDMI 2.0 with 4k@60Hz (Chroma sub-sampling 4:2:0 8-bit only) and HDCP 2.2 compliance, VGA input up to 1920x1200@60Hz.
- Provides a variety of interfaces including USB-C to simplify meeting room devices management.
- Inputs connected to either the transmitter or the receiver can be displayed on the HDMI out on either the transmitter or the receiver or both simultaneously.
- Automatically detects active inputs when sources are connected.
- Supports USB hosts such as Desktop and Laptop, and peripheral USB devices such as keyboard, mouse, microphone, speaker, camera, and whiteboard for a conference system.
- Ethernet can be connected into either the receiver or the transmitter, providing LAN accessibility for users.
- Allows connected displays to be controlled via CEC commands or front panel buttons.
- Relay commands can be triggered to control relay devices such as projection screens.
- RS232 pass through; IR pass through from TX to RX.
- API Control via LAN interface and RS232-C.
- De-embedded audio can be routed out of the Receiver to an external amplifier.

Package Contents

TRANSMITTER

- 1 x Transmitter
- 1 x DC 12V Power Adapter with US Pins
- 1 x DC 12V Power Adapter with UK Pins
- 1 x DC 12V Power Adapter with EU Pins
- 1 x DC 12V Power Adapter with AU Pins
- 2 x Phoenix Male Connector
  (3.5 mm, 3 pins)
- 1 x IR Receiver Cable
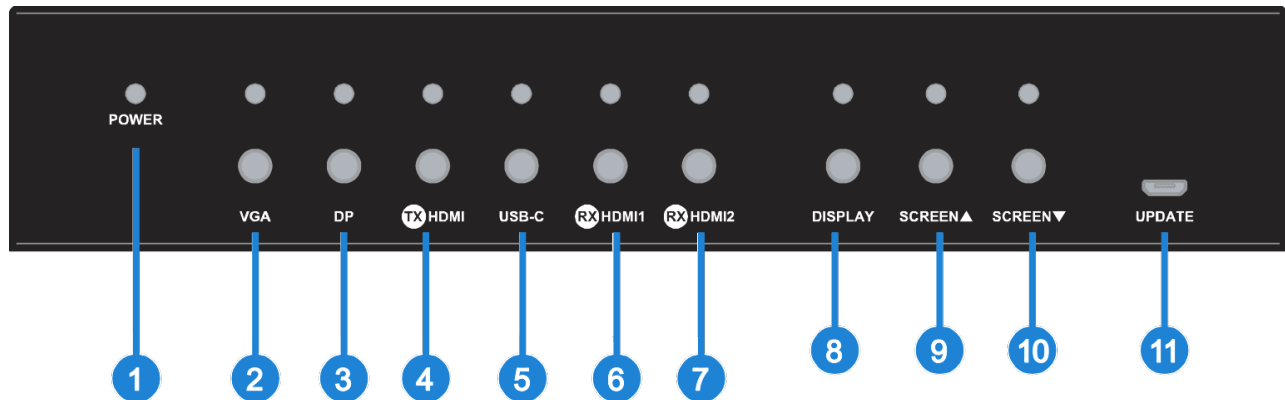- 2 x Mounting Brackets (with Screws)

RECEIVER

- 1 x Receiver
- 1 x DC 12V Power Adapter with US Pins
- 1 x DC 12V Power Adapter with UK Pins
- 1 x DC 12V Power Adapter with EU Pins
- 1 x DC 12V Power Adapter with AU Pins
- 5 x Phoenix Male Connector
  (3.5 mm, 3 pins)
- 1 x IR Emitter Cable
- 2 x Mounting Brackets (with Screws)
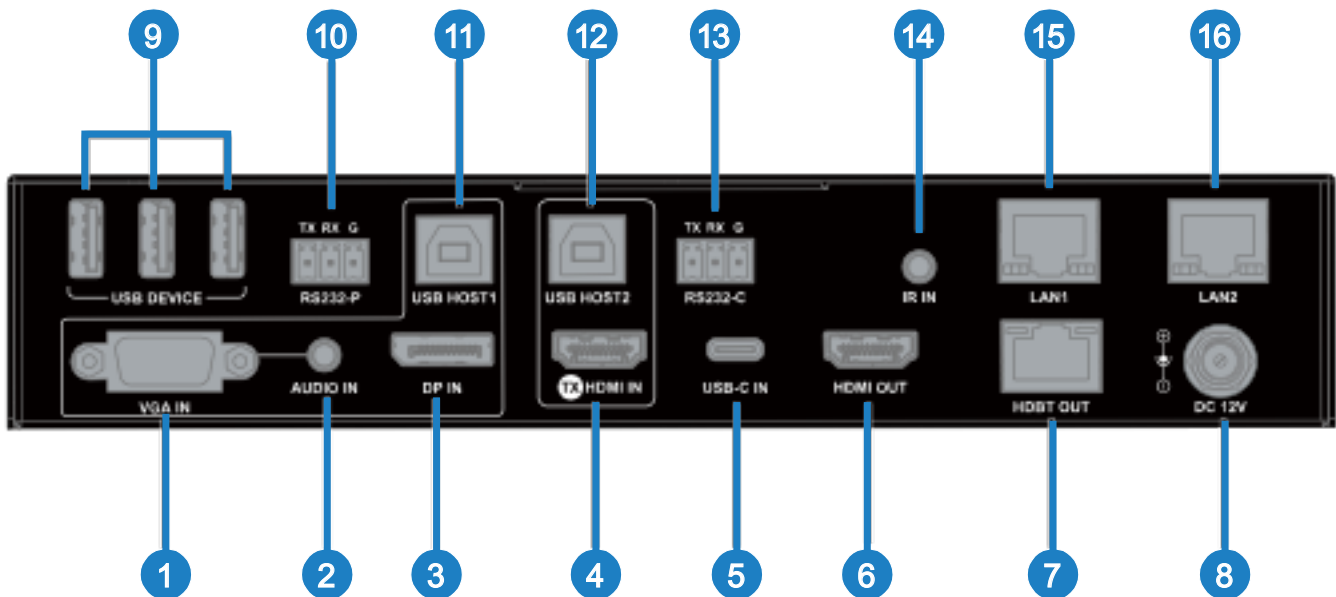
Panel Description

TRANSMITTER:

FRONT PANEL

No.	Name	Description
1	POWER LED	Lights on when the device is powered on.
2	VGA IN Selection Button and LED	**VGA IN selection button:** press the button to select the VGA source as the input. **LED:** The LED is located directly above the button. • **LED On:** VGA source is selected as the input. • **LED Off:** VGA source is not selected.
3	DP IN Selection Button and LED	**DP IN selection button:** press the button to select the DisplayPort source as the input. **LED:** The LED is located directly above the button. • **LED On:** DP source is selected as the input. • **LED Off:** DP source is not selected.
4	TX HDMI IN Selection Button and LED	**TX HDMI IN selection button:** press the button to select the HDMI source on the transmitter side as the input. **LED:** The LED is located directly above the button. • **LED On:** HDMI source on the TX is selected as the input. • **LED Off:** HDMI source on the TX is not selected.
5	USB-C IN Selection Button and LED	**USB-C IN selection button:** press the button to select the USB-C source as the input. **LED:** The LED is located directly above the button. • **LED On:** USB-C source is selected as the input. • **LED Off:** USB-C source is not selected.
6	RX HDMI IN 1 Selection Button and LED	**RX HDMI 1 selection button:** press the button to select the HDMI source on the receiver side as the input. **LED:** The LED is located directly above the button. • **LED On:** HDMI 1 source on the RX is selected as the input.

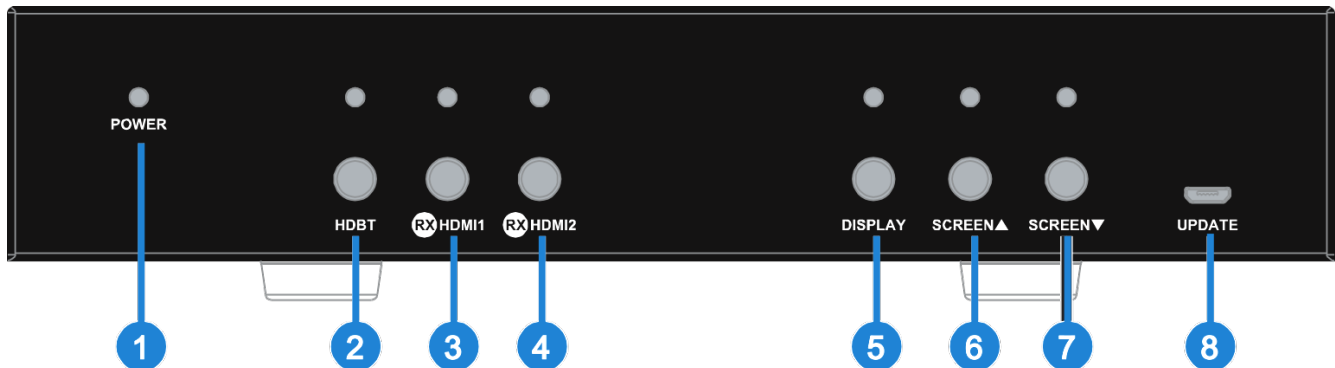| No.	Name	Description
		• **LED Off:** HDMI 1 source on the RX is not selected.
7	RX HDMI IN 2 Selection Button and LED	**RX HDMI 2 selection button:** press the button to select the HDMI source on the receiver side as the input. **LED:** The LED is located directly above the button. • **LED On:** HDMI 2 source on the RX is selected as the input. • **LED Off:** HDMI 2 source on the RX is not selected.
8	Display Control Button and LED	**Display control button:** • Single press button—turn all displays on; • Hold button for 3s—turn all displays off. **LED**: The LED is located directly above the button and lights up when the button is pressed.
9	Screen ▲ Button and LED	**Screen ▲ Button:** press to raise a projection screen or open window shades. **LED:** The LED is located directly above the button and lights up when the button is pressed.
10	Screen ▼ Button and LED	**Screen ▼ Button:** press to lower a projection screen or close window shades. **LED:** The LED is located directly above the button and lights up when the button is pressed.
11	Update	Connection for updating firmware with the update software tool. (Reserved)

REAR PANEL

No.	Name	Description
1	VGA IN	Connect to a VGA source.
2	AUDIO IN	Connect to an audio source. Audio follows the VGA input source.
3	DP IN	Connect to a DisplayPort source.

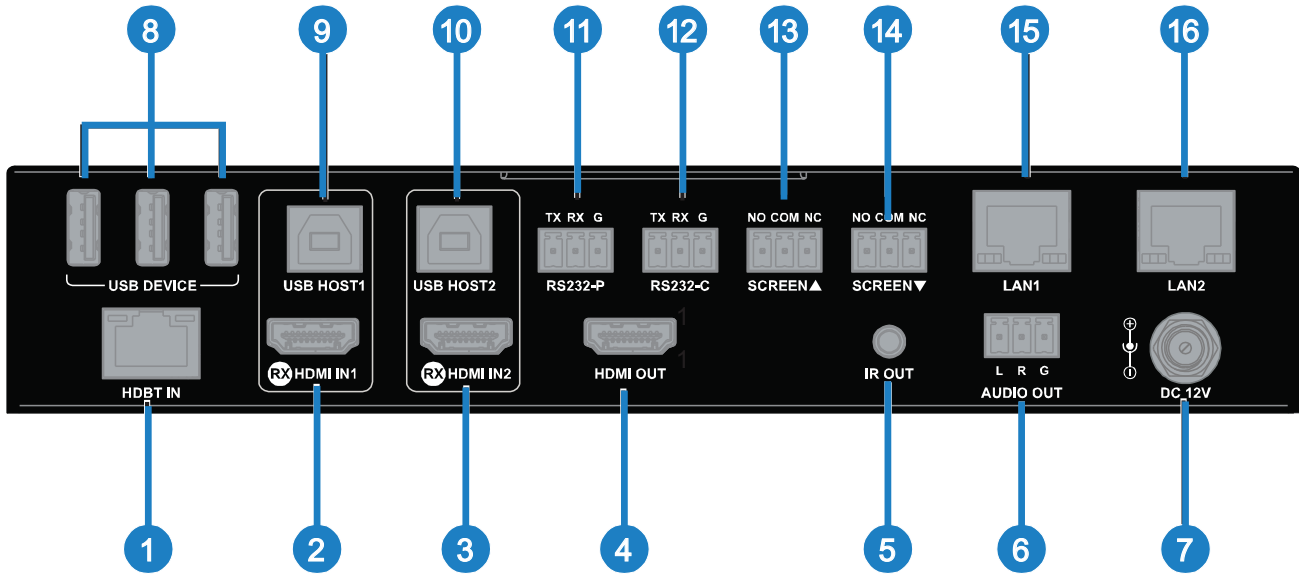| No.	Name	Description
4	TX HDMI IN	Connect to an HDMI source.,
5	USB-C IN	USB Type-C port (USB 3.1 Gen1, 5Gbps, support DisplayPort Alternate Mode) The following cables are recommended: • USB Type-C to Type-C cable (USB 3.1 Gen 1 or above). Connect to a USB-C source.
6	HDMI OUT	Connect to an HDMI display.
7	HDBT OUT	Connect to the HDBT IN port of the receiver.
8	DC 12V IN	Connect to the DC 12V power adapter.
9	USB DEVICE	Connect to USB peripheral devices.
10	RS232-P	Connect to an RS232 controller or RS232 controllable device for RS232 pass through.
11	USB HOST 1	Connect to the PC. This USB follows VGA IN and DP IN ports when either of thosesources are selected, and the USB devices (on TX and RX) can be connected to the host PC.
12	USB HOST 2	Connect to a PC. This USB follows HDMI IN port when the source is selected, and the USB devices (on TX and RX) can be connected to the host PC.
13	RS232-C	Connect to an RS232 enabled device for API controlling. **Note:** This is disabled on TX to control a projector..
14	IR IN	Connect to the IR Receiver cable for passing through the remote signal to RX.
15	LAN 1	Connect to an Ethernet device.
16	LAN 2	Connect to an Ethernet device.

RECEIVER:

FRONT PANEL

No.	Name	Description
1	POWER LED	Lights on if the device is powered on.
2	HDBT Button and LED	HDBT signal selection button: press the button to select the HDBT signal as the input. LED: The LED is located directly above the button. • LED On: HDBT source is selected as the input. • LED Off: HDBT source is not selected.
3	RX HDMI IN 1 Selection Button and LED	RX HDMI IN 1 selection button: press the button to select the HDMI source on the receiver side as the input. LED: The LED is located directly above the button. • LED On: Select HDMI 1 source on the RX is selected as the input. • LED Off: HDMI 1 source on RX is not selected.
4	RX HDMI IN 2 Selection Button and LED	RX HDMI IN 2 selection button: press the button to select the HDMI source on the receiver side as the input. LED: The LED is located directly above the button. • LED On: HDMI 2 source on the RX is selected as the input. • LED Off: HDMI 2 source on RX is not selected.
5	Display Control Button and LED	Display control button: • Single press button—turn all displays on; • Hold button for 3s—turn all displays off. LED: The LED is located directly above the button and lights up when the button is pressed.
6	Screen ▲ Button and LED(Blue)	Screen ▲ Button: press to raise a projection screen or open window shades. LED: The LED is located directly above the button and lights up when the button is pressed.
7	Screen ▼ Button and LED(Blue)	Screen ▼ Button: press to lower a projection screen or close window shades. LED: The LED is located directly above the button and lights up when the button is pressed.
8	Update Port	Connection for updating firmware with the update software tool. (Reserved)

REAR PANEL

| No.	Name	Description
1	HDBT IN	Connect to the HDBT OUT port of the transmitter.
2	RX HDMI IN 1	Connect to an HDMI source.
3	RX HDMI IN 2	Connect to an HDMI source.
4	HDMI OUT	Connect to an HDMI display.
5	IR OUT	Connect to the provided IR emitter cable for emitting remote signal from TX.
6	AUDIO OUT	Connect to an audio system with the phoenix connector.
7	DC 12V	Connect to the DC 12V power adapter.
8	USB DEVICE	Connect to USB peripheral devices.
9	USB HOST 1	Connect to the PC. This USB follows VGA IN and DP IN ports when either of thosesources are selected, and the USB devices (on TX and RX) can be connected to the host PC.
10	USB HOST 2	Connect to a PC. This USB follows HDMI IN port when the source is selected, and the USB devices (on TX and RX) can be connected to the host PC.
11	RS232-C	Connect to a projector for API controlling.
12	RS232-P	Connect to an RS232 controller or RS232 controllable device for RS232 pass through.
13	Screen△	Screen ▲ Button: press to raise a projection screen or open window shades. LED: The LED is located directly above the button and lights up when the button is pressed.
14	Screen▽	Screen ▼ Button: press to lower a projection screen or close window shades. LED: The LED is located directly above the button and lights up when the button is pressed.
15	LAN 1	Connect to an Ethernet device.
16	LAN 2	Connect to an Ethernet device.

Installation and Wiring

INSTALLATION

Note: Before installation, please ensure the devices are disconnected from the power source.
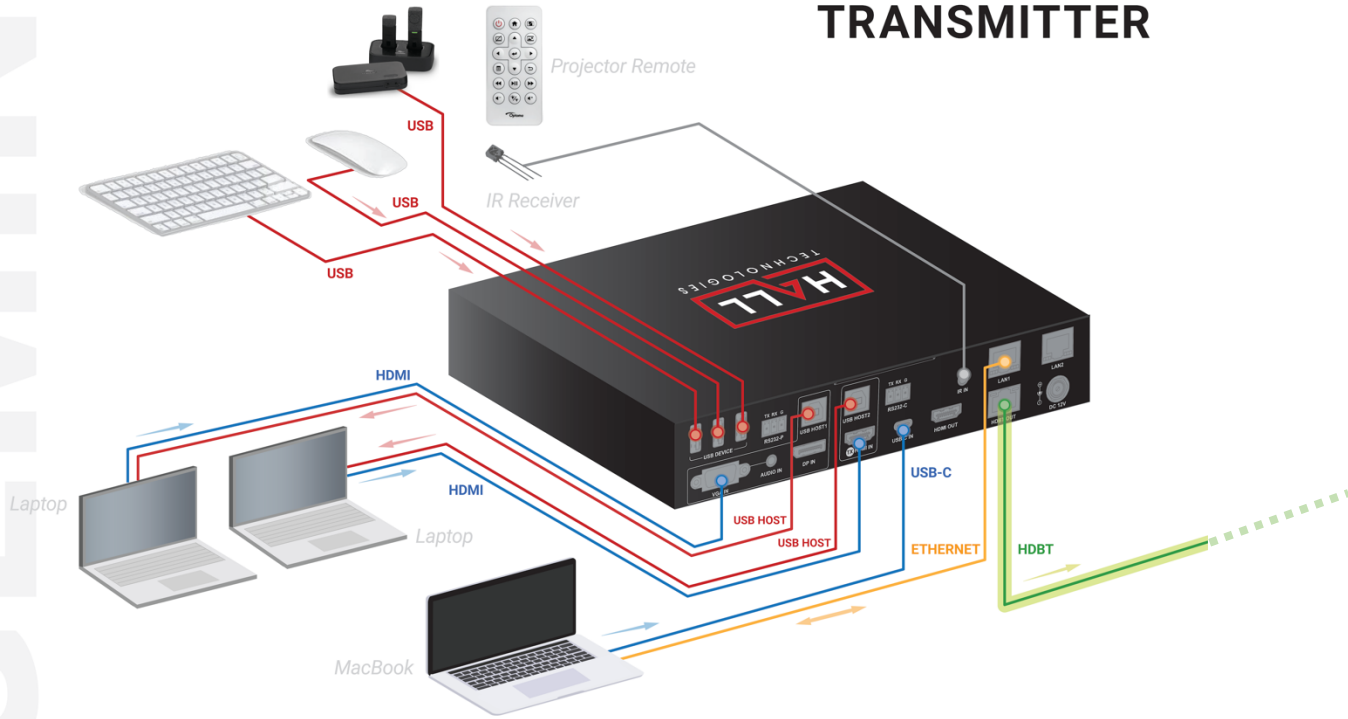
Steps to installing the device:
1. Attach the included installation bracket to the enclosure using the screws provided. The bracket height can be adjusted up or down, or the bracket can face up or down depending on the location.
2. Repeat the step for the other side of the device.
3. Attach the brackets to the desired install surface (installation hardware not included).
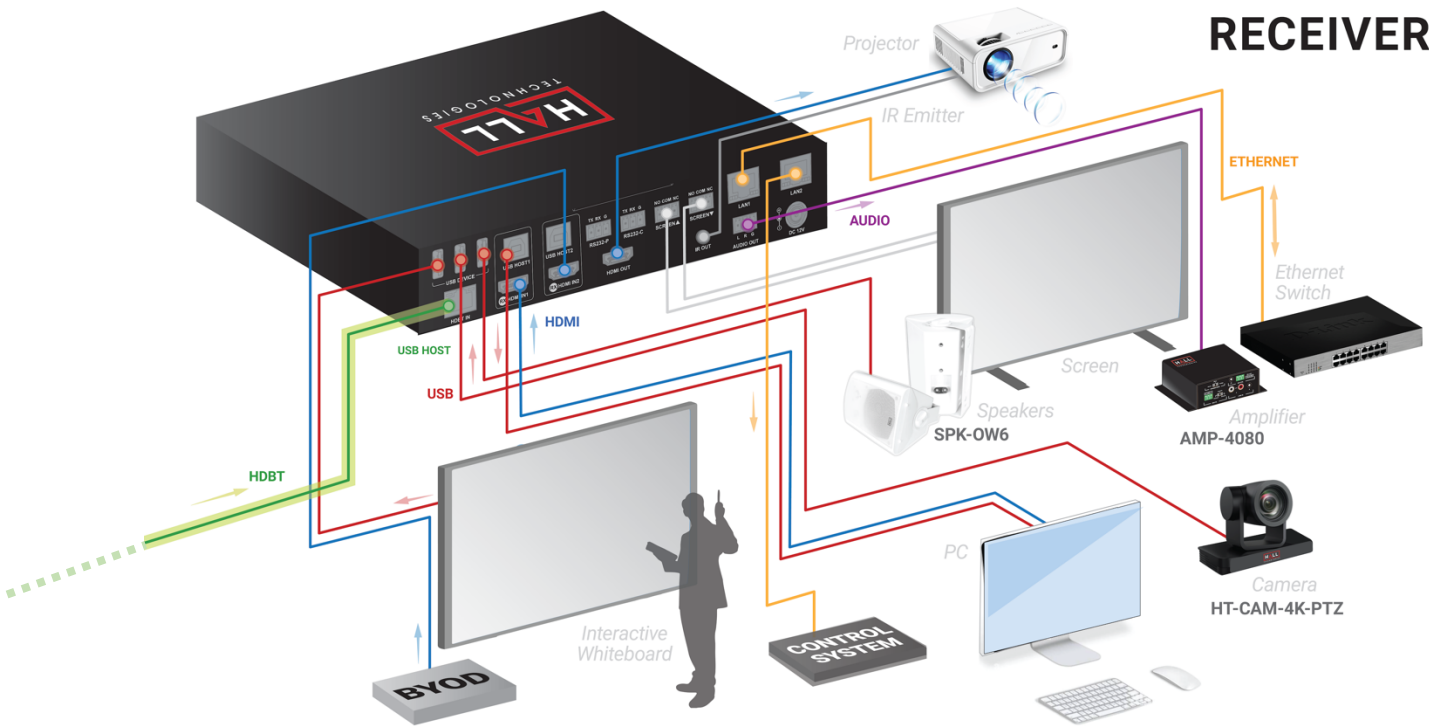4. Repeat steps 1~3 to install the receiver.
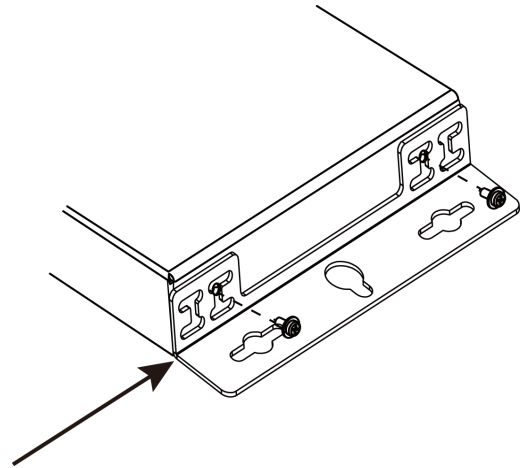
WIRING

1. Connect the HDMI/VGA/DP/USB-C sources to the HDMI IN/VGA IN/DP IN/USB-C IN ports of TX or RX.
   Note: The soft codec provides users the ability to connect a BYOD wireless system to the HDMI IN as a source.
2. Properly connect displays or projectors to the HDMI OUT ports of the TX and RX, ensuring both source and displays are compatible.
3. Connect a well-terminated Cat 5e/6/6a/7 cable with an RJ45 connector wired to 568B standard at both ends from the HDBT OUT ports of the TX to the HDBT IN ports of the RX.
   Note: For more information about the cable, please refer to the "Specifications" section.
4. Connect a PC to USB HOST ports with USB cables.
5. Connect USB peripheral devices to the USB DEVICE ports of the TX and the RX.
   Combining above 4 and 5 steps: the PC and all USB peripheral devices connected to the TX and the RX can be connected to the host PC
   Note: For more information, please refer to "USB Control" section.
6. Connect an audio system such as an amplifier to the AUDIO OUT phoenix connector on the RX.
7. Plug the IR emitter into the IR OUT port of the RX and plug the IR broadband receiver into the IR IN port of the TX. With this, users can control the projector with its remote.
8. Connect one of the LAN ports to an Ethernet device such as an Ethernet switch.
   Note: Only one LAN port is needed on the Ethernet switch, on either the TX or the RX.
9. Connect the power adapters to the TX and the RX.
10. Power on all attached devices.

GEMINI

TRANSMITTER

Projector Remote

USB

USB

IR Receiver

USB

HDMI

Laptop

HDMI

Laptop

USB HOST

USB HOST

USB-C

ETHERNET

HDBT

MacBook

RECEIVER

Projector

IR Emitter

ETHERNET

AUDIO

HDMI

USB HOST

Ethernet Switch

USB

Screen

Speakers
SPK-OW6

Amplifier
AMP-4080

HDBT

Interactive Whiteboard

BYOD

CONTROL SYSTEM

PC

Camera
HT-CAM-4K-PTZ

Key Functions

AUTO SWITCH

Auto Switch can be enabled or disabled using either the Web UI or by sending the API command to the device. (For more information, please refer to "Web UI Control" section and the separate document "API Command Set for HT-GEMINI")

WHEN THE AUTO SWITCH IS ON (DEFAULT):
- When the HT-GEMINI powers up, if the source selected before HT-GEMINI being powered off is still active, the HT-GEMINI will automatically switch to this source. If the previously selected source is not active and there is more than one input source connected, the HT-GEMINI will output signal following the auto switch priority order: VGA > DP > TX HDMI IN > USB-C > RX HDMI1> RX HDMI2.
- When a new input source is connected, the HT-GEMINI will automatically switch over to this source.
- When the currently selected source is disconnected, the HT-GEMINI will switch to the next active input source with highest priority, and if there is no other active input source the HT-GEMINI will keep the currently selected source.

WHEN THE AUTO SWITCH IS OFF:
- When a new source is connected, the HT-GEMINI will not automatically switch to that source. Users will need to switch to the desired source manually by pressing the appropriate input button on either the TX or the RX.

USB CONTROL

Prior to operation make sure the PC and all other peripheral USB devices are connected.

- Connect a PC to the USB HOST ports with USB cables.
- Connect peripheral USB devices to the USB DEVICE ports of the TX and the RX.

The white outline on the back panel of the transmitter and receiver represents one group. When the input source in the same group is selected, the peripheral USB devices (on both the TX and the RX) can be connected to the host PC. Please refer to the following diagrams.

Note: The USB-C input already has a built-in recognizable function, which means that when you select the USB-C input, the PC can be connected to another peripheral USB device directly.

1. VGA / DP source input on the TX is selected:
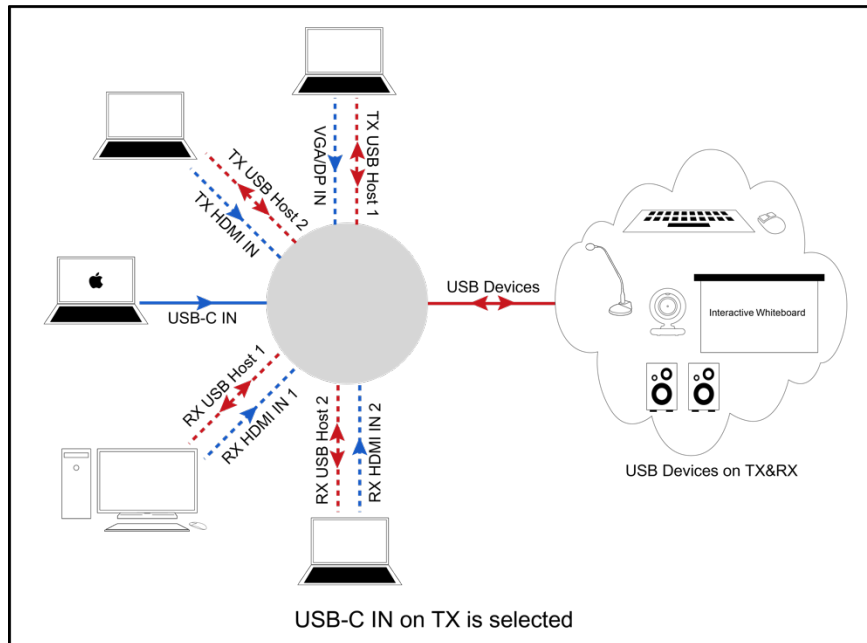

VGA / DP input on TX is selected
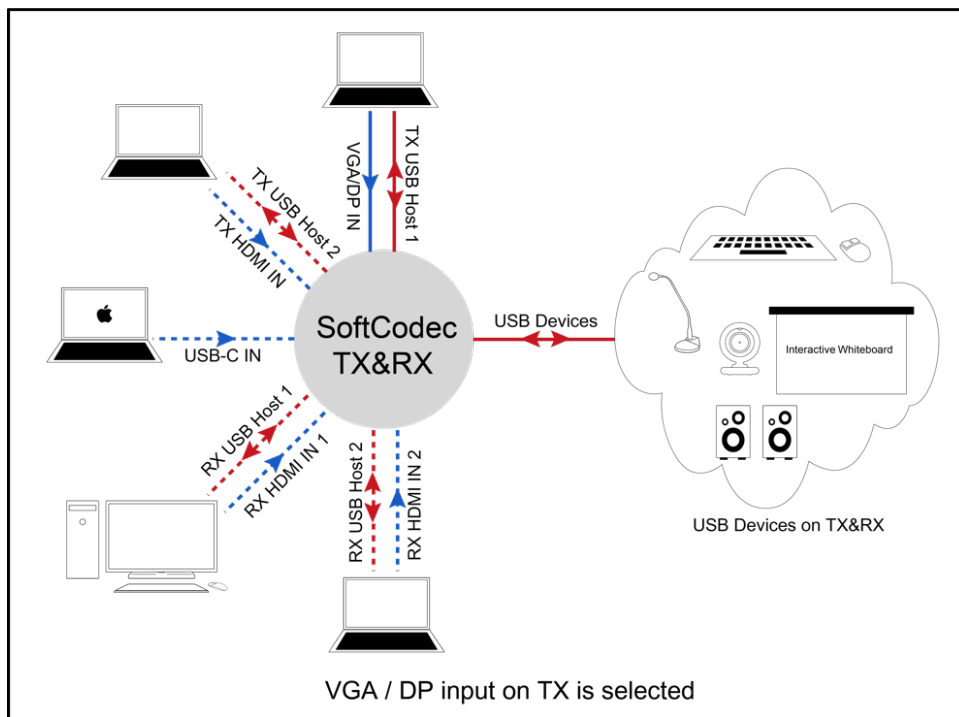
In this connection method, the VGA IN, AUDIO IN and TX USB HOST 1 are in a group. When the VGA input is selected, the peripheral USB devices (on both the TX and the RX) can be connected to the PC which is connected to the USB HOST 1.

2. TX HDMI IN source on TX is selected:

TX HDMI IN is selected
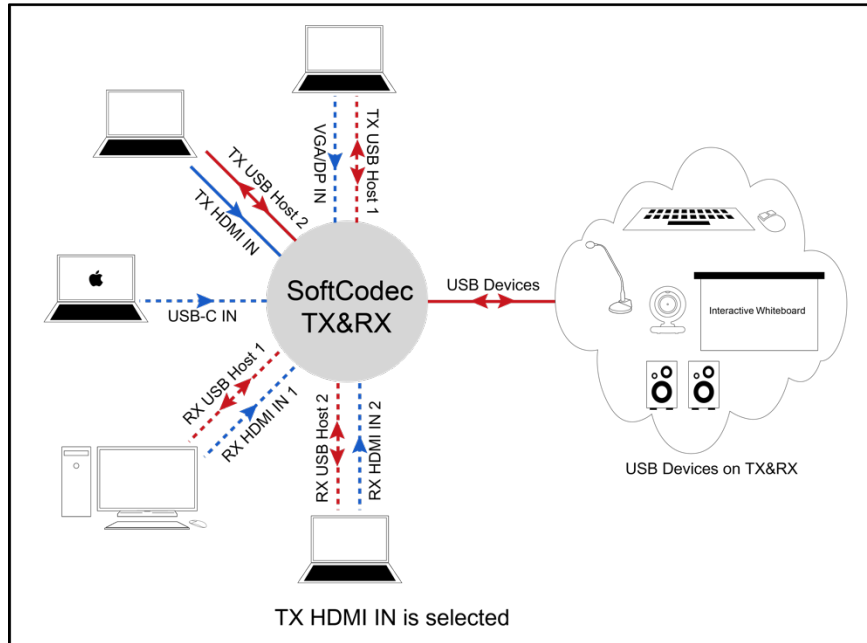
In this connection method, the TX HDMI IN and TX USB HOST 2 are in a group. When the TX HDMI IN is selected, the peripheral USB devices (on both the TX and the RX) can be connected to the PC which is connected to USB HOST 2.

3. USB-C source on TX is selected:

USB-C IN on TX is selected

In this connection method, when the USB-C input is selected, the peripheral USB devices (on both the TX and the RX) can be connected to the PC, which connected to USB-C port directly.

4. RX HDMI IN 1 on RX is selected:
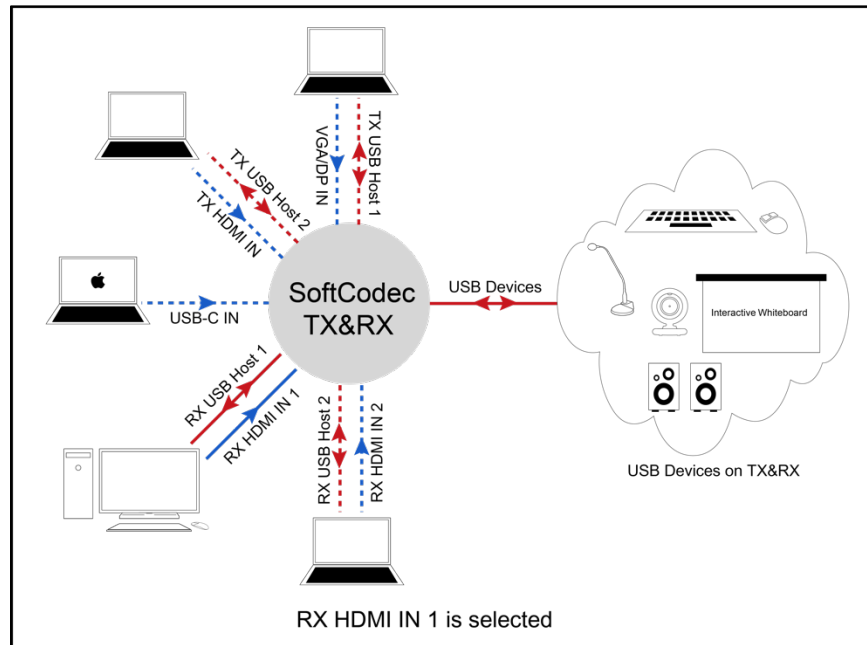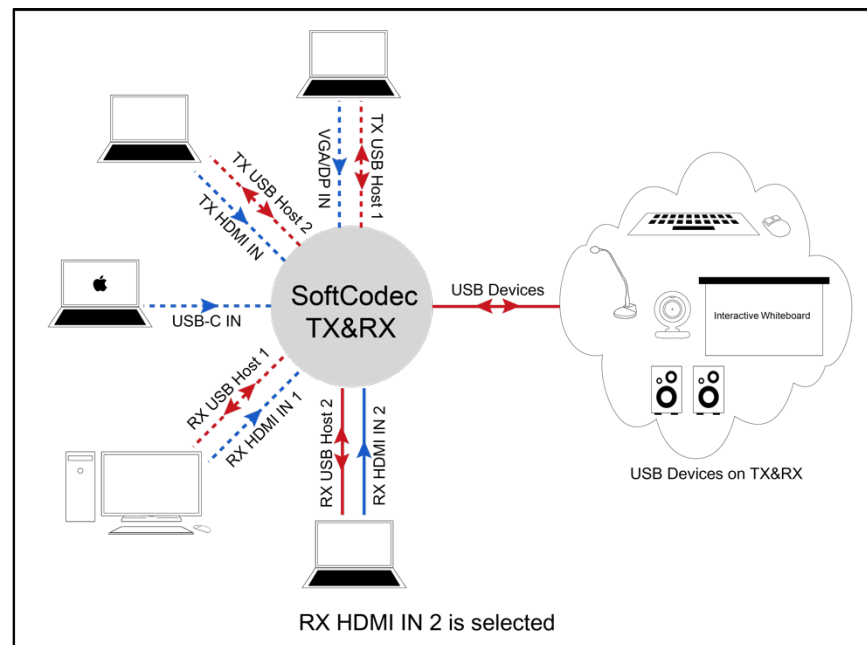

RX HDMI IN 1 is selected

In this connection method, the RX HDMI IN 1 and RX USB HOST 1 are in a group. When the RX HDMI IN1 is selected, the peripheral USB devices (on both the TX and the RX) can be connected to the PC connected to RX USB HOST 1.

5. RX HDMI IN 2 on RX is selected:

RX HDMI IN 2 is selected

In this connection method, the RX HDMI IN 2 and RX USB HOST 2 are a group. When the RX HDMI IN 2 is selected, the peripheral USB devices can be connected to the PC which is connected to RX USB HOST 2.

RS232 CONTROL

Advanced users may choose to control the HT-GEMINI through the RS232 control port. A UART cable is needed to connect a PC or control system. The API command for RS232 control is available in the separate document "API Command Set HT-GEMINI". To properly execute API commands connected with RS232, please ensure the RS232 interface and the control PC are configured correctly.

Parameters	Value
Baud Rate	115200 bps
Data Bits	8 bit
Parity	None
Stop Bits	1 bit
Flow Control	None

Web GUI

The Web UI designed for this switcher allows for basic controls and device settings. This Web UI can be accessed through a modern browser, e.g. Chrome, Safari, Firefox, IE10+, etc.

To get access the Web UI:

1. Connect the LAN port of the switcher to a local area network. The HT-GEMINI by default is set to DHCP. Ensure there's a DHCP server in the network so that the device can obtain a valid IP address. (If there is no DHCP server the switcher will revert to a 169.254.x.x address. An "arp -a" command in the command window can help locate the device.)

2. Connect the PC to the same network as the switcher.

3. Input the switcher's IP address in the browser and press Enter, the following window pops up. (See OSD section to easily view the IP address)

Gemini: Switcher and Extender for use with Soft Codecs

🔒 Password

☑ Remember Password

Login

4. Input the password (default password: **admin**) and click **Login** to enter the main page.

The Web UI main page includes Status, Config, and Settings Tabs.

- **Status** – offers manual input selections as well as turning the display on/off and raising/lowering the projection screen.
- **Config** – offers settings of Auto Switch, HDCP, EDID, Display controls, and Relay Control.
- **Setting** – offers settings for Key Lock, Automatic Logout, Network settings, Password changes, Firmware Upgrade, and Factory reset.

Config Page

AUTO SWITCH

UI Element	Description
Auto Switch	Auto Switch enabled "ON" or disabled "OFF". (See Auto Switch section above for more information.)

INPUT HDCP

UI Element	Description
Input HDCP	HDCP can be enabled/disabled on each of the inputs. • ON: The input port supports HDCP • OFF: The input port does not support HDCP

EDID

UI Element	Description
EDID	EDID settings can be applied to each of the inputs. Click "**Apply**" to save the selected EDID setting.

DISPLAY

UI Element	Description
Auto Display Control	Used to enable "ON" or disable "OFF" display control when HT-GEMINI detects no input sources.
Delay Time (min)	Set the desired delay time between 1 and 30 minutes before the HT-GEMINI turns off a display when there is no signal input.
UART Baud Rate	Select the display's baud rate setting from the drop down. Available baud rates are 9600, 19200, 38400, 57600, and 115200.
Hex or Text	Select whether the power on/off commands are in hexadecimal format or character format.
End Flag	Select the end flag of the power on/off command. Options are NONE, \r, \n, or \r\n.
Power On Code	Enter the display's power on and power off commands. Click to save the command to the
Power Off Code	HT-GEMINI.

RELAY CONTROLLER

UI Element	Description
Relay Mode	Select between Latch and Momentary for the relay mode. • **Latch:** Level triggered. • **Momentary:** Pulse triggered. Note, when momentary is selected, users can set the delay time between triggers between 1 and 10 seconds.

Setting Page

GENERIC SETTING

Generic Setting

Key Lock: OFF

UI Element	Description
Key Lock	Key lock can be enabled "ON" or disabled "OFF". • **ON:** The buttons on the front of the HT-GEMINI are locked and pushing the buttons will not do anything. • **OFF:** The buttons are not locked.

AUTOMATIC LOGOUT

Automatic Logout

Enable: OFF

Overtime (min):   5

UI Element	Description
Automatic Logout	Automatic WEB UI logout can be enabled "ON" or disabled "OFF". • **ON:** When there is no activity on the Web UI for the designated time (**Overtime**) the HT-GEMINI will automatically log the user out. • **OFF:** The Web UI will not log the user out.

NETWORK

Network

IP Mode: DHCP

IP Address:

Subnet Mask: ✔ Apply

Note: LAN Module will automatically reboot after changing Network setting.

UI Element	Description
Network	Used to modify network settings.
IP Mode	Select the desired IP mode between DHCP and Static. (Default is DHCP)
IP Address	Set the IP address manually if Static mode is selected.
Subnet Netmask	Set Subnet Mask manually if Static mode is selected.
Apply	Click to apply setting changes. **Note:** After the IP settings are changed, please refresh the Web UI page to re-login.

PASSWORD

Password

Old Password: ⬚

New Password: ⬚

Confirm New Password : ⬚   ✔ Apply

Note: Password must be 4 to 16 characters in length (alphanumeric only).

UI Element	Description
Old Password	Enter the current password.
New Password	Set a new login password.
Confirm New Password	**Note:** The new password must be 4 to 16 characters in length, alphanumeric only.
Apply	Click to apply setting changes.

FIRMWARE UPGRADE

Firmware Upgrade

ARM File : ⬚ Choose file   📂 Browse
☁ Upgrade

Note: Please upload the required file.

UI Element	Description
ARM File	Browse the computer to find the latest ARM file to be uploaded to the HT-GEMINI.
Upgrade	When selected, click upgrade to perform the firmware update.

SYSTEM & FIRMWARE

System

Factory Default   Reboot

Firmware Version

ARM	V1.45
MCU (TX)	V2.4
MCU (RX)	V2.3

UI Element	Description
Factory Default	Restore HT-GEMINI to the factory default. **Note**: when pressed, a pop-up will confirm the desire to restore the HT-GEMINI to the factory default.
Reboot	Reboot HT-GEMINI. **Note**: when pressed, a pop-up will confirm the desire to reboot the HT-GEMINI.
Firmware Version	Displays the loaded firmware version.

Troubleshooting

Problem Type	Problem	Options
Video	No Video on Display	Confirm the HDMI input on the display is correctly selected
		Confirm the connected source is sending video to the HT-MERCURY (verify the connected laptop is in duplicate or extend mode)
USB	USB-C not connecting	Verify connected cable supports USB-C
		The response time to output video of USB 3.0 and Type-C is typically 6-8 seconds, although the response time between PC's can differ
		Confirm the PC can transmit video over USB-C by installing the DisplayLink device driver: https://www.displaylink.com/downloads
	PC charge reminder pop-up	This pop-up is normal since the HT-MERCURY charging power might be different than what the laptop requires
		To ensure the laptop doesn't lose power, connect a dedicated power supply
Audio	No audio at far end on soft codec call (i.e. Meet, Teams, Zoom, etc.)	Verify the HT-GEMINI microphone is not muted (red LED means muted)
		Verify the microphone selected in the soft codec is the HT-GEMINI
		Verify the soft codec microphone is not muted
	No audio heard on HT-GEMINI	Verify the HT-GEMINI is selected as the desired speaker output in the laptop by clicking on the speaker icon to open the audio output
		Verify the HT-GEMINI is not muted
		Verify the levels are turned up on both the laptop and the HT-GEMINI

Specifications

TRANSMITTER:

Technical	
Input / Output Ports	1 x VGA IN, 1 x Audio IN (followed with VGA IN),1 x HDMI IN, 1 x DP IN, 1 x USB-C IN, 1 x HDBT OUT, 1 x HDMI OUT, 2 x LAN, 1 x RS232-P, 1 x RS232-C, 2 x USB HOST, 3 x USB DEVICE, 1 x IR IN, 1 x DC 12V IN
Input Signal Type	HDMI 2.0 with 4k@60Hz (Chroma sub-sampling 4:2:0 8-bit only) DP/USB-C: DP 1.2
Output Signal Type	HDMI2.0 with 4k@60Hz (Chroma sub-sampling 4:2:0 8-bit only); HDBT2.0
Resolution Supported	HDMI: 800x600@60Hz, 1024x768@60Hz, 1280x768@60Hz, 1280x800@60Hz,1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1440x900@60Hz, 1400 x 1050@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1200@60Hz, 480p@60Hz, 576p@50Hz, 720p@50/60Hz, 1080p@24/25/30/50/60Hz, 1080i@50/60Hz, 4096 x 2160@24/25/30/50/60Hz, 3840 x 2160@24/25/30/50/60Hz DP/USB-C: 800x600@60 Hz, 1024x768@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1440 x900@60Hz, 1600 x900@60Hz, 1600 x1200@60Hz, 1680 x1050@60Hz, 1920 x1080@60Hz, 1920 x1200@60Hz, 1280x720P@50Hz, 1280x720P@60Hz, 1920x1080P@50Hz, 1920x1080P@60Hz, 3840x2160@50Hz, 3840x2160@60Hz, 4096x2160@50Hz, 4096x2160@60Hz VGA: 640 x 480@60Hz, 800 x 600@60Hz, 1024 x 768@60Hz, 1280 x 720@60Hz, 1280 x 768@60Hz,1280 x 800@60Hz, 1280 x 1024@60Hz,1360 x 768@60Hz, 1366 x 768@60Hz, 1400 x 1050@60Hz, 1440 x 900@60Hz, 1600 x 1200@60Hz, 1680 x 1050@60Hz, 1920 x 1080@60Hz, 1920 x 1200@60Hz NOTE: 4096x2160/3840x2160@50Hz/60Hz is based on chroma sub-sampling 4:2:0 8-bit only
Maximum Pixel Clock	297MHz
Audio Format Supported	HDMI: Fully supports audio formats in HDMI 2.0 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X AUDIO IN: PCM 2.0

General	
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	10% to 90%, non-condensing
Surge Protection	Voltage: ±1 kV
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) ±4kV (Contact discharge)
Power Supply	DC12V 2A
Power Consumption (Max)	14.5W
Device Dimension (W x H x D)	220mm x 42mm x 150mm / 8.66" x 1.65" x 5.91"
Product Weight	0.97kg / 2.14lb

RECEIVER:

Technical	
Input/Output Ports	1 x HDBT IN, 2 x HDMI IN, 1 x HDMI OUT, 1 x IR OUT, 1 x RS232-P, 1 x RS232-C, 2 x LAN, 3 x USB DEVICE, 2 x USB HOST, 1 x SCREEN UP, 1 x SCREEN DOWN, 1 x DC 12V IN
Input Signal Type	HDMI2.0 with 4k@60Hz (Chroma sub-sampling 4:2:0 8-bit only); HDBT2.0
Output Signal Type	HDMI2.0
Resolution Support	800x600@60Hz, 1024x768@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1440x900@60Hz, 1400 x 1050@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1200@60Hz, 480p@60Hz, 576p@50Hz, 720p@50/60Hz, 1080p@24/25/30/50/60Hz, 1080i@50/60Hz, 4096 x 2160@24/25/30/50/60Hz, 3840 x 2160@24/25/30/50/60Hz NOTE: 4096x2160/3840x2160@50Hz/60Hz is based on chroma sub-sampling 4:2:0 8-bit only
Maximum Pixel Clock	297MHz
Audio Format Supported	Fully supports audio formats in HDMI 2.0 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X

General	
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)
Humidity	10% to 90%, non-condensing
Surge Protection	Voltage: ±1 kV
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) ±4kV (Contact discharge)
Power Supply	DC12V 2A
Power Consumption (Maximum)	16.5W

General	
Device Dimension (W x H x D)	220mm x 42mm x 150mm / 8.66" x 1.65" x 5.91"
Product Weight	0.95kg/2.09lb

Transmission Distance

Note: T568B straight-through Category cable is recommended.

Cable Type	Range	Supported Video
Cat 5e	100m/330ft	Up to 1080p 60Hz 36bpp
	90m/300ft	1080p 60Hz 48bpp 1080p 60Hz 3D 4K2K/30Hz/4:4:4 24bpp 4K2K/60Hz/4:2:0 24bpp
Cat 6/6a/7	100m/330ft	

1234 Lakeshore Drive, Suite #150, Coppell, TX 75019
halltechav.com / support@halltechav.com
(714)641-6607