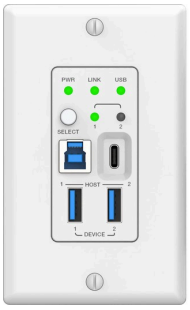
USB 3.2 Gen 1 Wall Plate Extender Kit, USB-C & USB-B Inputs, 100m — Wall Plate TX + Wall Plate RX

5Gbps USB from the Wall to the Room's Cameras and Devices over One CAT6a





Puts a room PC and a guest USB-C laptop on the same USB 3.2 Gen 1 camera, speakerphone and peripherals up to 100m (328ft) away, with a wall plate at both ends and no box in sight. The kit is a matched pair of US 1-gang Decora wall plates linked by a single CAT6a F/FTP cable. The transmitter carries USB-B and USB-C host inputs and two USB-A device ports. The receiver adds three USB-A ports and one USB-C device port. Bi-directional 24V Power over Cable runs both plates from one supply, which can go at whichever end has the outlet. It is the right choice for meeting rooms, lecterns and lab benches where full 5Gbps USB and a clean wall finish matter more than surface-mounted extender boxes, active cables and a separate USB switch.

The transmitter switches between its two hosts automatically when it detects USB 5V, or manually from the SELECT button or a control system. RS-232 pass-through and an ASCII API on both plates let the control system choose the host, query status, lock the front-panel button and set power on each device port to on, off or follow-host. Hardware acceleration for isochronous and bulk transfers suits USB cameras, audio devices and storage. The link is backwards compatible with USB 2.0 and 1.1, needs no drivers, and passes an FSYNC GPIO signal for industrial camera triggering. Firmware updates go through the USB-C service port on each plate. The main differentiator is the dual-host input inside a 1-gang plate: one room PC and one presenter laptop share the room's USB devices without an external switch or a second plate.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection systems is highly recommended.

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1. Features

- ✓ US 1-gang standard Decora wall plate transmitter and receiver
- ✓ Extends USB 3.2 Gen 1 up to 100m (328ft) over a single CAT6a F/FTP cable
- ✓ USB 3.2 Gen 1 connectivity with data transfer rates up to 5Gbps
- ✓ Backwards compatible with USB 2.0 and USB 1.1
- ✓ Hardware acceleration for isochronous and bulk transfer
- ✓ Transmitter has one USB-B and one USB-C host input
- ✓ Automatic switching on USB 5V detection, plus manual switching from the SELECT button or the API
- ✓ Transmitter has two USB-A device ports, each supplying 5V/1A
- ✓ Receiver has one USB-C and three USB-A device ports: device ports 1 and 2 supply 5V/1A each, device ports 3 and 4 supply 5V/1.5A each
- ✓ Power on each device port can be set to on, off or follow host power
- ✓ RS-232 pass-through and API control
- ✓ FSYNC GPIO pass-through for industrial cameras (0–5V by default)
- ✓ Firmware upgrade through the USB-C service port
- ✓ Front-panel button lockout over the API
- ✓ PWR, LINK, USB and HOST status LEDs
- ✓ Plug and play, with no drivers or software to download
- ✓ Bi-directional 24V PoC: power either the transmitter or the receiver and the other unit needs no supply of its own

2. Package Contents

- ✓ 1x USB 3.2 Gen 1 Wall Plate Transmitter
- ✓ 1x USB 3.2 Gen 1 Wall Plate Receiver
- ✓ 1x 24V / 3.75A Power Supply
- ✓ 2x 2-Pin 3.5mm Phoenix Connector (Male)
- ✓ 2x 4-Pin 3.5mm Phoenix Connector (Male)
- ✓ 4x Machine Screw (#6-32 × 5/16 in)
- ✓ 2x Top Panel

3. Specifications

TECHNICAL	
USB Protocol	USB 3.2 Gen 1
Data Rate	Up to 5Gbps
Backwards Compatibility	USB 2.0, USB 1.1
Transfer Acceleration	Hardware acceleration for isochronous and bulk transfer
Transmission Distance	100m (328ft) over CAT6a F/FTP cable; 1.5m (4.9ft) over USB cable
Host Switching	Automatic (USB 5V detection) or manual (SELECT button, RS-232/API)
ESD Protection	IEC 61000-4-2: ±8kV air-gap discharge, ±4kV contact discharge
TRANSMITTER CONNECTIONS	
Host Inputs	1× USB Type-B (9-pin female); 1× USB Type-C (24-pin female)
Device Outputs	2× USB Type-A (9-pin female), 5V/1A each
Link	1× RJ45 HDBT-USB3 (24V PoC)

continued

Power Input	1× DC 24V
Control	1× RS-232 / FSYNC (4-pin 3.5mm phoenix connector: RS-232 TX, ground, RX + FSYNC IO); 1× SERVICE (USB Type-C, firmware update)
Indicators	PWR LED, LINK LED, USB LED, HOST 1/2 LEDs
Button	SELECT (host input selection)
RECEIVER CONNECTIONS	
Link	1× RJ45 HDBT-USB3 (24V PoC)
Device Outputs	3× USB Type-A (9-pin female); 1× USB Type-C (24-pin female); DEVICE 1–2: 5V/1A each; DEVICE 3–4: 5V/1.5A each
Power Input	1× DC 24V
Control	1× RS-232 / FSYNC (4-pin 3.5mm phoenix connector: RS-232 TX, ground, RX + FSYNC IO); 1× SERVICE (USB Type-C, firmware update)
Indicators	PWR LED, LINK LED, USB LED
CONTROL	
RS-232 Port	4800–115200 bps, configurable (default 115200); 8 data bits, 1 stop bit, no parity
Service Port	USB Type-C virtual COM port; 115200 bps fixed; 8 data bits, 1 stop bit, no parity
Command Format	ASCII, terminated with CR LF
API Functions	Host input select, auto-switch on/off, device port power, front-panel key lock, baud rate, status, firmware version, reboot, reset to KanexPro defaults
FSYNC	GPIO level pass-through, transmitter to receiver; 0–5V default range
PHYSICAL	
Form Factor	US 1-gang standard Decora wall plate
Housing	Plastic front panel, metal enclosure
Color	White and black
Dimensions (each, W × D × H)	1.77 × 1.65 × 4.07 in (45 × 42 × 103.5 mm)
Weight	Transmitter: 0.25 lbs (115 g); Receiver: 0.25 lbs (115 g)
POWER	
Power Supply	Input: 100–240V AC, 50/60Hz; Output: 24V DC / 3.75A
Power Consumption	62W (maximum)
Power over Cable	Bi-directional 24V PoC: power either unit and the other is powered over the CAT6a cable
ENVIRONMENTAL	
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Operating Humidity	20% to 80% RH, non-condensing
Storage Humidity	10% to 90% RH, non-condensing

4. Safety notices

Surge protection. This product contains sensitive electrical parts that electrical spikes, surges, electric shock and lightning strikes can damage. Use a surge protection system to protect the equipment and extend its life.

Cable wiring. Wire the CAT6a cable straight through, with the same pin order at both ends. Do not use a crossover cable. Terminate each end in this order:

PIN	WIRE COLOUR
1	White and orange
2	Orange
3	White and green
4	Blue
5	White and blue
6	Green
7	White and brown
8	Brown

5. Introduction

This set of US 1-gang Decora wall plates extends a USB 3.2 Gen 1 5Gbps signal up to 100m (328ft) over a single CAT6a cable.

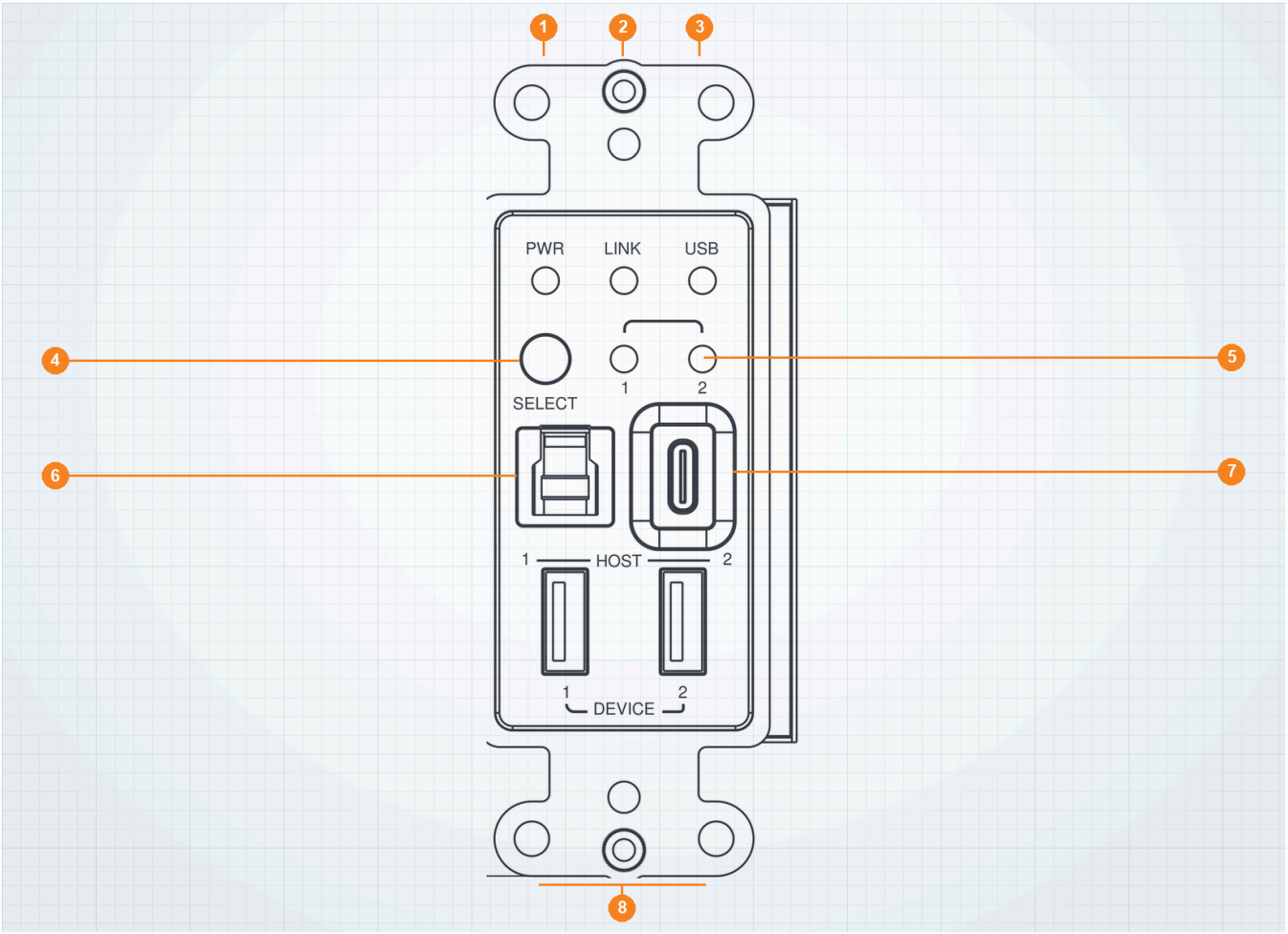
- **Transmitter:** two host inputs, one USB-C and one USB-B. You select between them. It also has two USB-A device ports.
- **Receiver:** one USB-C device port and three USB-A device ports.

Both units carry 24V over the cable in either direction (bi-directional PoC, Power over Cable). You only need to plug power into one of them, either the transmitter or the receiver.

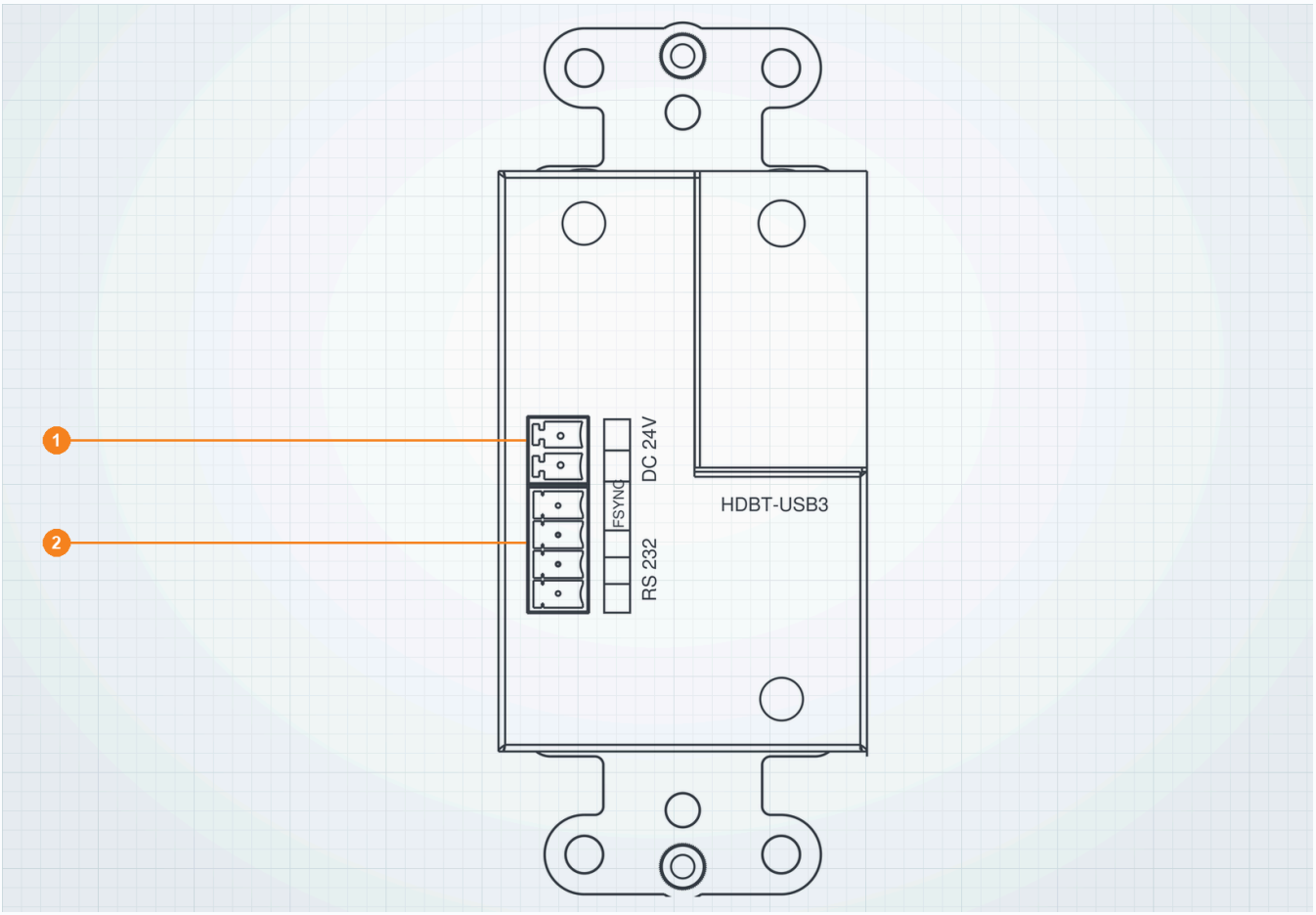
Use the extender to carry USB over long distances between a computer and USB devices such as:

- webcams and PTZ cameras
- keyboards and mice
- USB microphones
- flash drives
- printers and scanners
- touch-panel displays

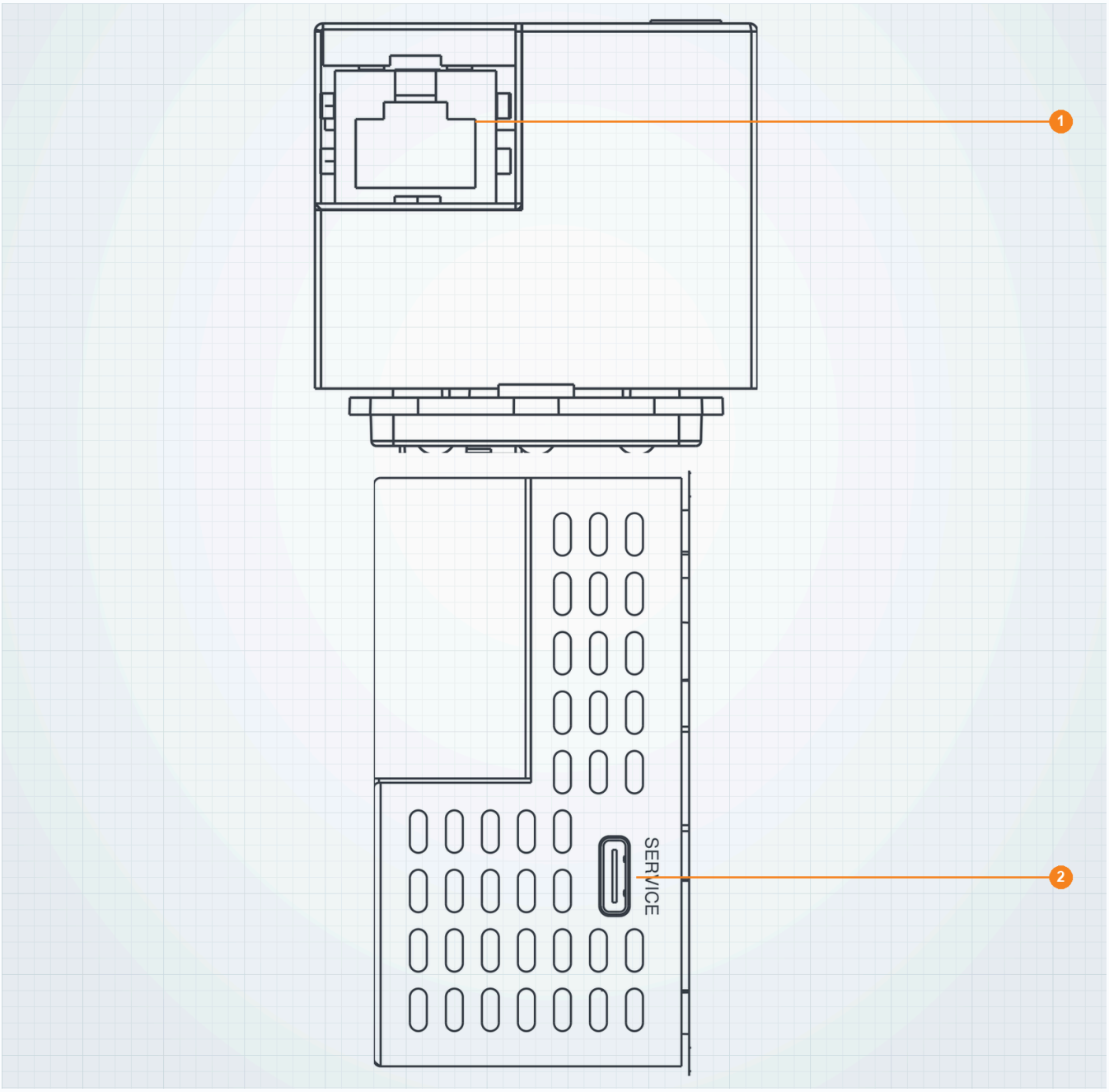
6. Panel descriptions



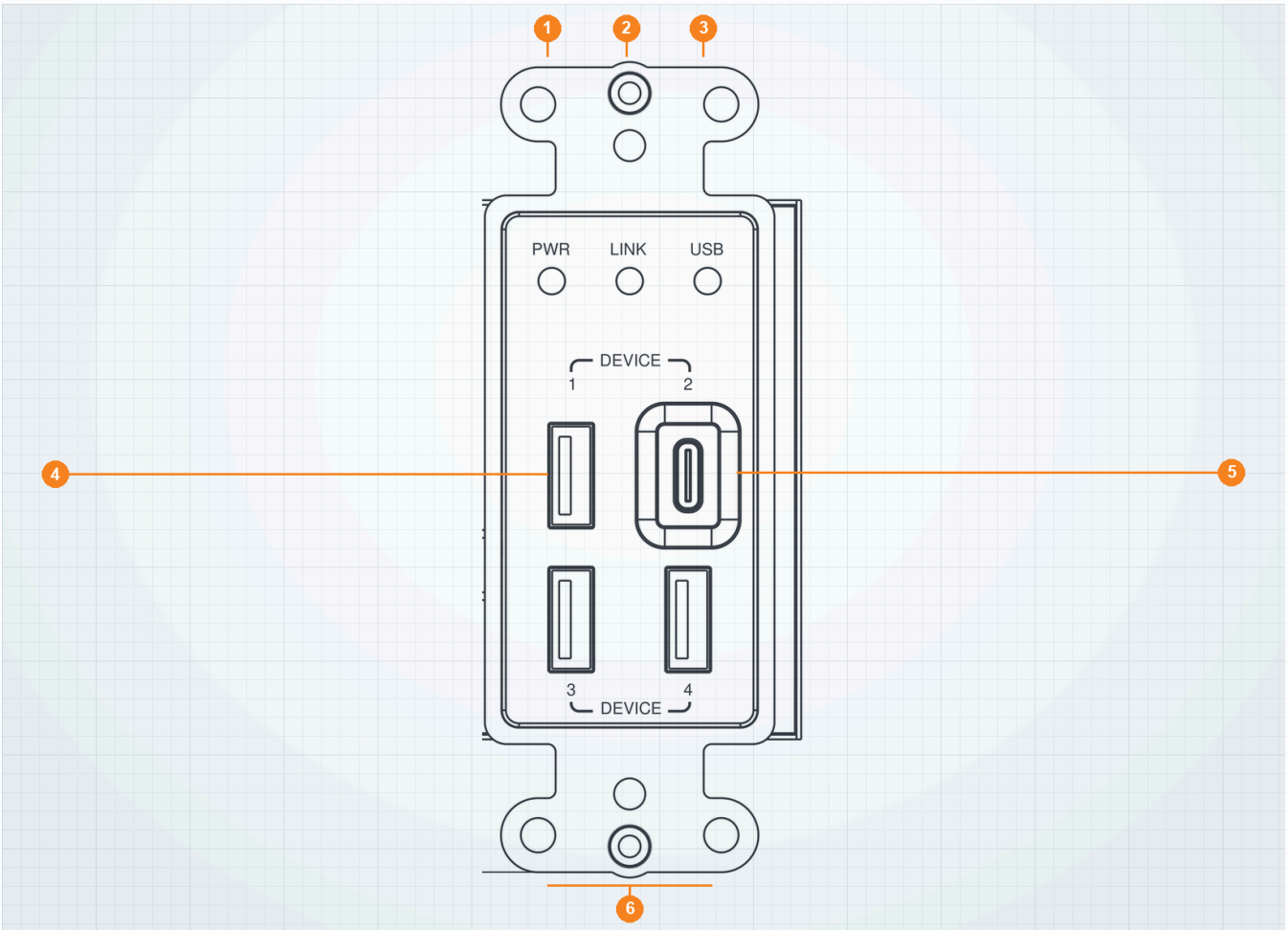
Transmitter Front



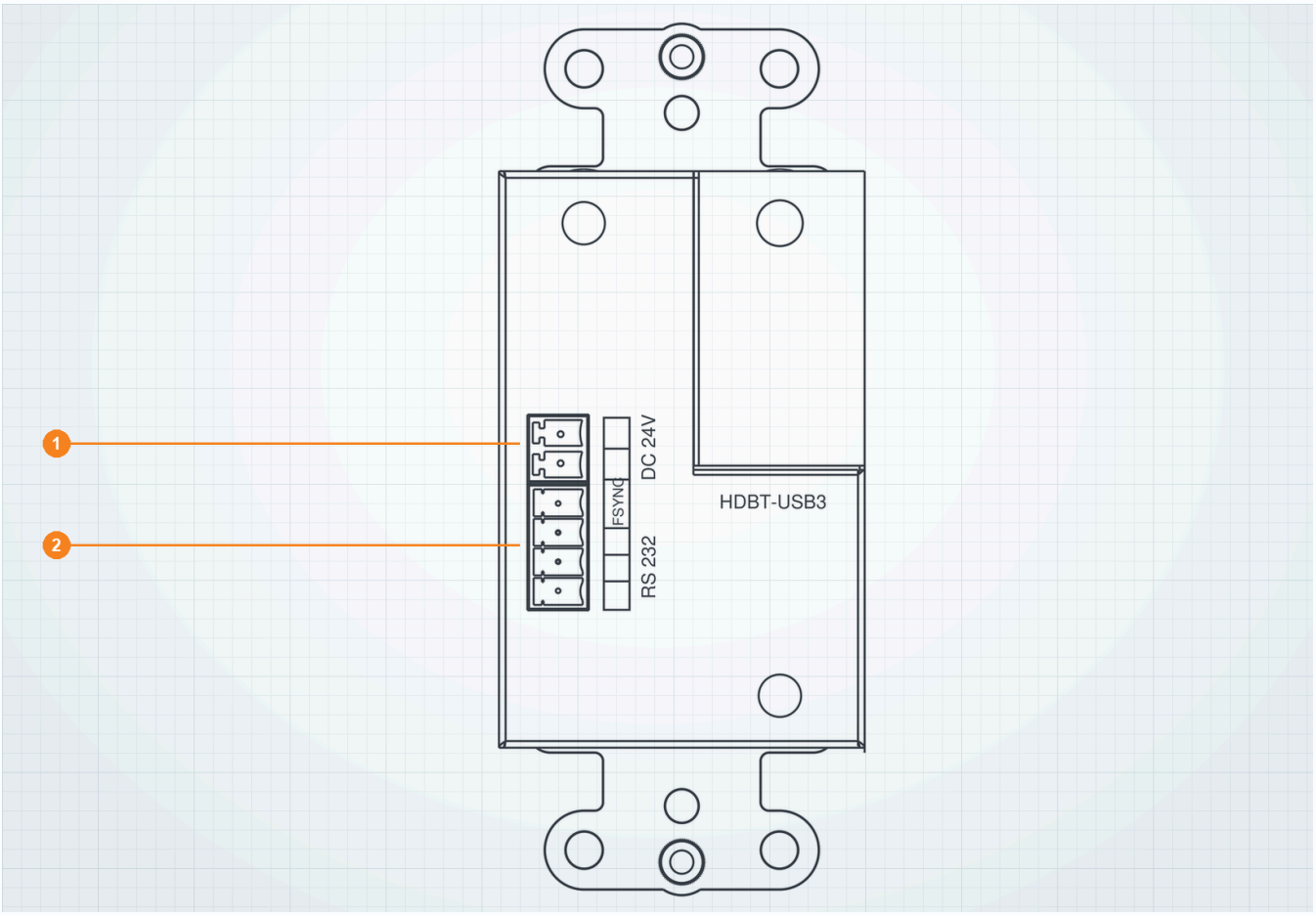
Transmitter Rear



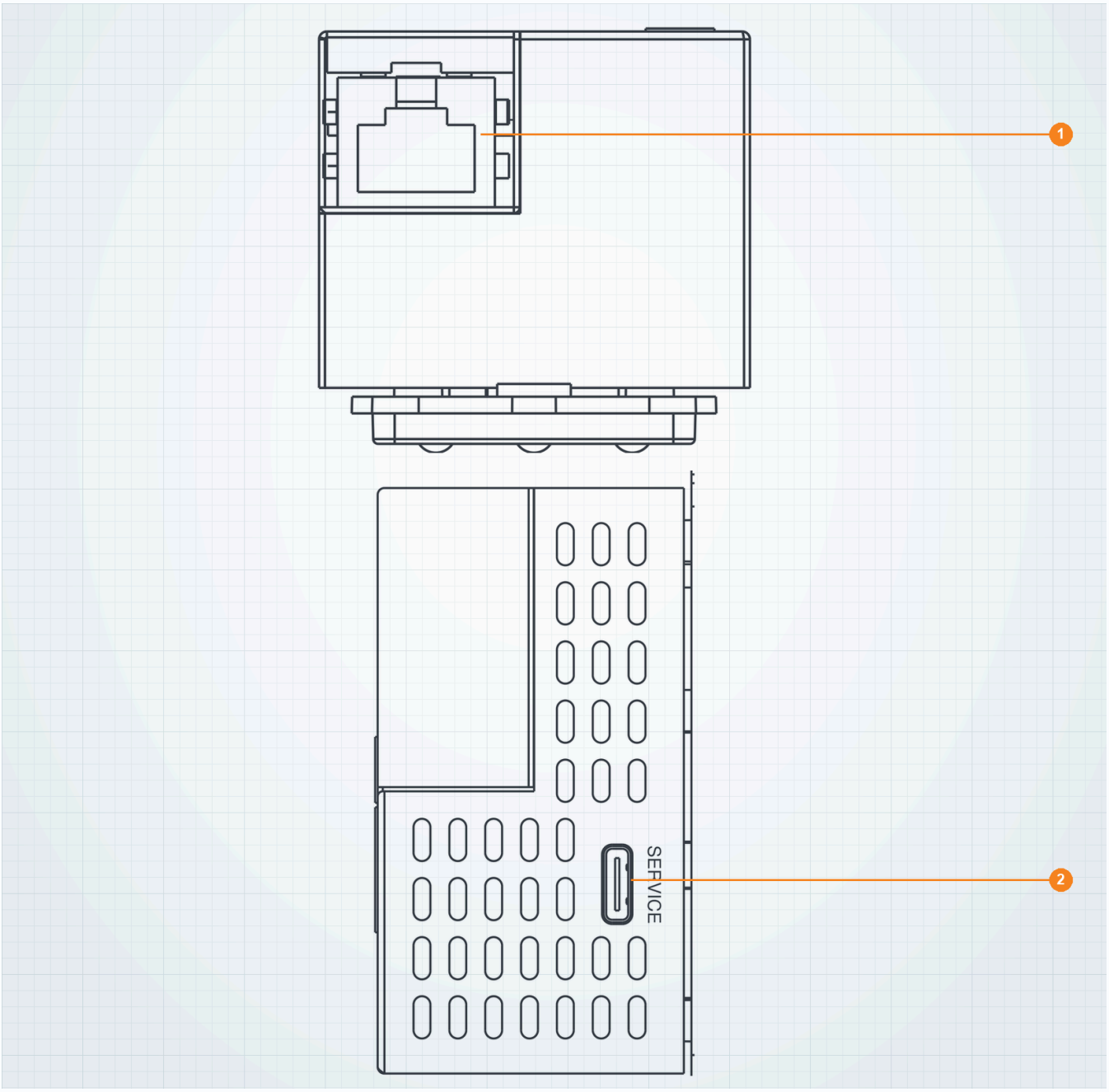
Transmitter Top & Side



Receiver Front



Receiver Rear



Receiver Top & Side

TRANSMITTER PANEL

No.	Name	Description
1	**PWR LED**	Lights green when the unit is powered on.
2	**LINK LED**	Lights green when the transmitter and receiver are connected.
3	**SELECT button**	Press to switch between USB HOST 1 and HOST 2 in turn.
4	**HOST 1**	USB-B host port. Connect it to a PC or another USB host.

continued

No.	Name	Description
5	DEVICE 1/2	USB-A device ports. Connect USB devices such as flash drives or hard drives. Each port supplies up to 5V/1A.
6	USB LED	Shows the USB signal. It stays on when a USB 3.0 signal is detected, blinks when a USB 2.0 signal is detected, and is off when no USB signal is detected.
7	HOST LED 1/2	The LED for the selected input, HOST 1 or HOST 2, lights.
8	HOST 2	USB-C host port. Connect it to a PC or another USB host.
9	HDBT-USB3	Connect this to the HDBT-USB3 port on the receiver with a CAT6a cable.
10	DC 24V	Power input for the DC 24V / 3.75A supply.
11	FSYNC	The IO pin of the 4-pin RS-232 / FSYNC block. Passes a signal level from the transmitter to the receiver to synchronize external devices. The default level range is 0–5V.
12	RS-232 / FSYNC	One 4-pin 3.5mm Phoenix block shared by RS-232 (TX, ground, RX) and FSYNC (IO). Connect a PC or control system to TX, ground and RX for RS-232 command pass-through.
13	SERVICE	USB-C port for firmware updates.

RECEIVER PANEL

No.	Name	Description
1	PWR LED	Lights green when the unit is powered on.
2	LINK LED	Lights green when the transmitter and receiver are connected.
3	DEVICE 1	USB-A device port. Connect a USB device such as a flash drive or hard drive. Supplies up to 5V/1A.
4	DEVICE 3/4	USB-A device ports. Connect USB devices such as flash drives or hard drives. Each port supplies up to 5V/1.5A.
5	USB LED	Shows the USB signal. It stays on when a USB 3.0 signal is detected, blinks when a USB 2.0 signal is detected, and is off when no USB signal is detected.
6	DEVICE 2	USB-C device port. Connect a USB device such as a flash drive or hard drive. Supplies up to 5V/1A.
7	HDBT-USB3	Connect this to the HDBT-USB3 port on the transmitter with a CAT6a cable.
8	DC 24V	Power input for the DC 24V / 3.75A supply.

continued

No.	Name	Description
9	FSYNC	The IO pin of the 4-pin RS-232 / FSYNC block. Passes a signal level from the transmitter to the receiver to synchronize external devices. The default level range is 0–5V.
10	RS-232 / FSYNC	One 4-pin 3.5mm Phoenix block shared by RS-232 (TX, ground, RX) and FSYNC (IO). Connect a PC or control system to TX, ground and RX for RS-232 command pass-through.
11	SERVICE	USB-C port for firmware updates.

7. API Commands

You can control the extender with API commands. Connect the unit's SERVICE port or RS-232 port to a PC, open a serial command tool on the PC, and send the commands listed below. End every command with a carriage return and line feed (<CR><LF>).

SERVICE port (USB-C, appears as a virtual RS-232 port; intended for internal debugging):

SETTING	VALUE
Baud rate	115200, fixed
Data bits	8
Stop bits	1
Parity	None

Phoenix RS-232 port (use this one for a control system):

SETTING	VALUE
Baud rate	4800 to 115200, configurable (default 115200)
Data bits	8
Stop bits	1
Parity	None

ASCII COMMANDS

COMMAND	FUNCTION	EXAMPLE	FEEDBACK	DEFAULT
?	Get the list of all commands	?		
help	Get the list of all commands	help		
get fw version	Get the firmware version	get fw version	1.0.0	
set reboot	Reboot the device	set reboot	Reboot… System Initializing... Initialization Finished! FW: 1.0.0	
set reset	Reset to KanexPro defaults	set reset	Sure to RESET to default settings? Type "Yes" after next prompt to confirm…	

continued

COMMAND	FUNCTION	EXAMPLE	FEEDBACK	DEFAULT
get status	Get the system status	get status	See the example reply below the table	
set key on/off	Turn the front-panel button on or off	set key on set key off	Set key on Set key off	on
get key	Get the front-panel button on/off status	get key	Key on	
set baud x	Set the RS-232 baud rate to x bps: x=1: 4800 x=2: 9600 x=3: 19200 x=4: 38400 x=5: 57600 x=6: 115200	set baud 6	Set baud rate 115200	115200
get baud	Get the RS-232 baud rate	get baud	Baud rate 115200	
set input x	Set the USB host input (x=1–2): x=1: USB host 1 (USB-B) x=2: USB host 2 (USB-C)	set input 1	Set input USB host 1	1
get input	Get the USB host input	get input	Input USB host 1	
get usb5v x	Get the 5V status of the USB host inputs (x=0–2): x=0: all USB host inputs x=1: USB host 1 (USB-B) x=2: USB host 2 (USB-C)	get usb5v 0	USB host 1: 5V USB host 2: none	
set autoswitch x	Turn automatic switching on or off (switches on USB 5V detection). x = On or Off	set autoswitch on	Set autoswitch on	on
get autoswitch	Get the automatic switching status	get autoswitch	Autoswitch on	
set tx usbd x power y	Set the power of the transmitter's USB device ports (x=0–2) to y (y=0–2): x=0: all transmitter USB device ports x=1: transmitter USB device 1 (USB-A) x=2: transmitter USB device 2 (USB-A) y=0: force power off y=1: follow USB host power y=2: force power on	set tx usbd 0 power 1	Set TX all USB device ports power follow USB host power	1

continued

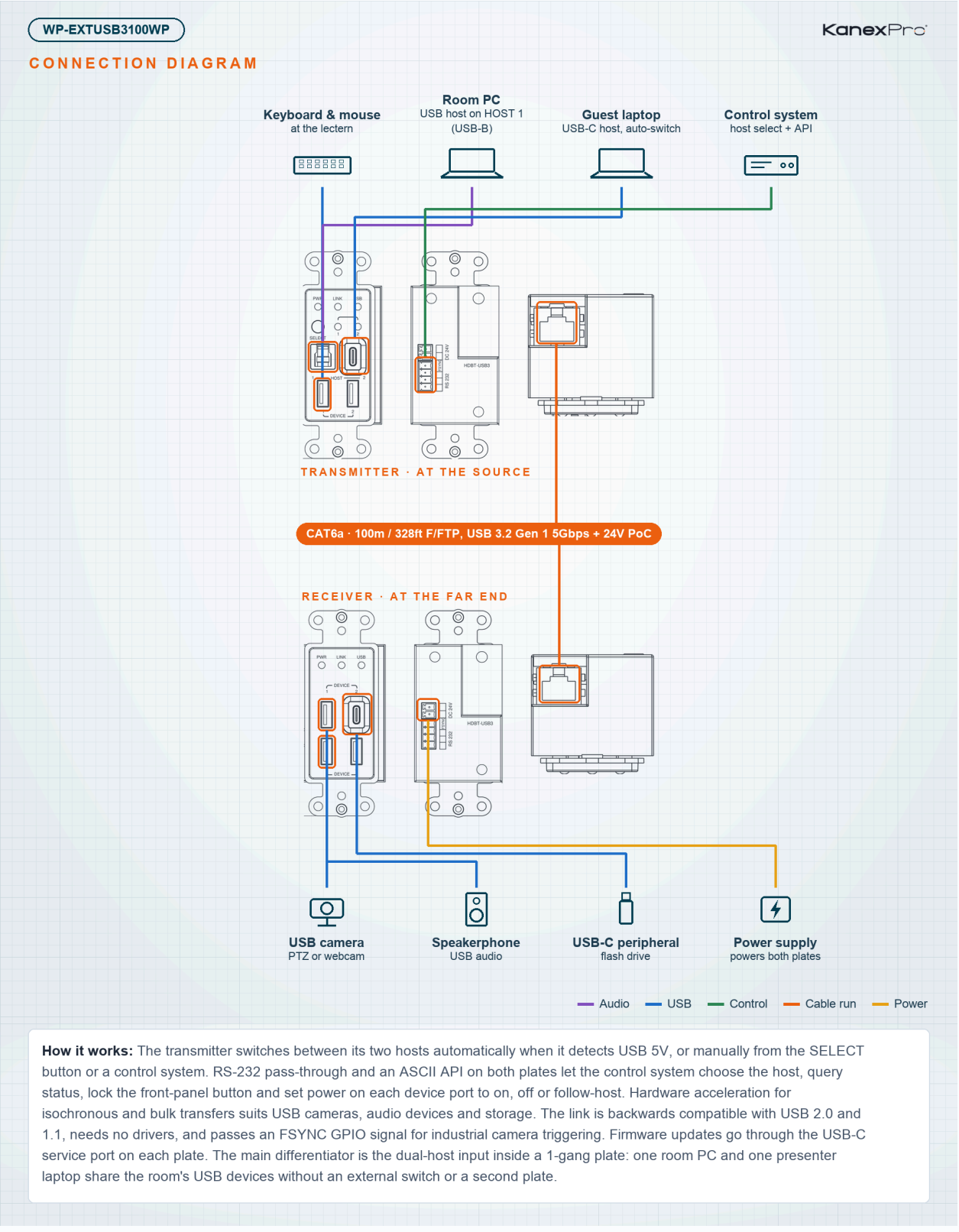
COMMAND	FUNCTION	EXAMPLE	FEEDBACK	DEFAULT
get tx usbd x power	Get the power status of the transmitter's USB device ports (x=0–2): x=0: all transmitter USB device ports x=1: transmitter USB device 1 (USB-A) x=2: transmitter USB device 2 (USB-A)	`get tx usbd 0 power`	`TX all USB device ports power follow USB host power`	
set rx usbd x power y	Set the power of the receiver's USB device ports (x=0–4) to y (y=0–2): x=0: all receiver USB device ports x=1: receiver USB device 1 x=2: receiver USB device 2 x=3: receiver USB device 3 x=4: receiver USB device 4 y=0: force power off y=1: follow USB host power y=2: force power on	`set rx usbd 0 power 1`	`Set RX all USB device ports power follow USB host power`	1
get rx usbd x power	Get the power status of the receiver's USB device ports (x=0–4): x=0: all receiver USB device ports x=1: receiver USB device 1 x=2: receiver USB device 2 x=3: receiver USB device 3 x=4: receiver USB device 4	`get rx usbd 0 power`	`RX all USB device ports power follow USB host power`	
set hdbt update	Route the service port to the HDBT UART for a firmware update	`set hdbt update`	`HDBT update`	

When you send `set reset`, the unit asks you to confirm. Type `Yes` at the next prompt to restore the KanexPro defaults.

The unit replies to `get status` like this:

```
`` ================================================================= Status Info 2-Port USB 3.2 Gen 1 Extender TX_FW 1.0.0 RX_FW 1.0.0 Source Key Baud Autoswitch 01 On 115200 On Input USB_Power 01 5V 02 None Output USB_Power TX_01 Follow_Input TX_02 Follow_Input RX_01 Follow_Input RX_02 Follow_Input RX_03 Force_Off RX_04 Force_On
================================================================= ``
```

8. Connection Diagram



How it works: The transmitter switches between its two hosts automatically when it detects USB 5V, or manually from the SELECT button or a control system. RS-232 pass-through and an ASCII API on both plates let the control system choose the host, query status, lock the front-panel button and set power on each device port to on, off or follow-host. Hardware acceleration for isochronous and bulk transfers suits USB cameras, audio devices and storage. The link is backwards compatible with USB 2.0 and 1.1, needs no drivers, and passes an FSYNC GPIO signal for industrial camera triggering. Firmware updates go through the USB-C service port on each plate. The main differentiator is the dual-host input inside a 1-gang plate: one room PC and one presenter laptop share the room's USB devices without an external switch or a second plate.

9. Troubleshooting

Q: Neither wall plate lights up. What should I check?
A: The PWR LED should light green on both units. Make sure the 24V supply is plugged into the DC 24V input on one unit and connected to AC power. Then check the CAT6a cable, because it carries power to the other unit.

Q: The LINK LED stays off. What should I check?
A: Confirm the CAT6a cable runs from the HDBT-USB3 port on one plate to the HDBT-USB3 port on the other and is no longer than 100m. Then confirm it is wired straight through, with the same pin order at both ends and not as a crossover.

Q: The computer does not see the USB devices. What should I check?
A: Check that the HOST LED is lit for the computer you are using. If it is not, press SELECT or send set input 1 or set input 2. If SELECT does nothing, send get key, because the button may be locked. Send get usb5v 0 to confirm the transmitter detects 5V from that computer.

Q: Devices are connected but run slowly. How do I tell if the link is at USB 3 speed?
A: Look at the USB LED. It stays on steadily when a USB 3.0 signal is detected and blinks when it detects USB 2.0. If it blinks, connect the host to a USB 3 port and keep the USB cable at each end within 1.5m.

Q: One USB device gets no power. What should I check?
A: Send get tx usbd 0 power or get rx usbd 0 power to see whether that port is forced off or set to follow host power. Ports that follow host power need a computer supplying 5V on the active host input. Send set rx usbd x power 1 (or 2 to force it on) to restore power.

Need help? — For additional support, visit kanexpro.com/support, or scan the QR code below for the product page.