

## iTrans U3-PIC

USB-C 3.0 Power Injector Hub

*User Manual V1.0*





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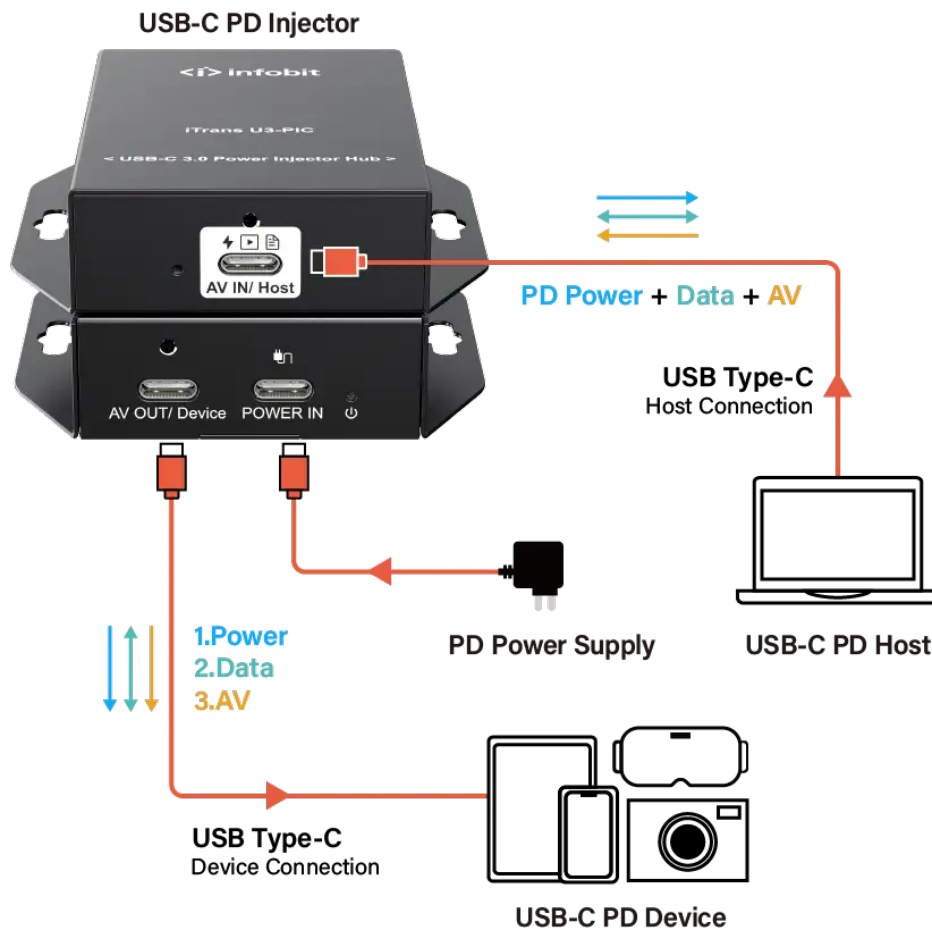
# 1. INTRODUCTION

## 1.1 WHAT IS USB-C POWER INJECTOR?

A USB-C Power Injector (often called a PD Injector) is a specialized hardware device that adds high-wattage power to a USB-C data line. It allows you to deliver **up to 100W** of power to a device while simultaneously maintaining high-speed data transfer.

## 1.2 HOW IT WORKS?

The **iTrans U3-PIC** power injector typically sits between a "host" (like a legacy PC or a laptop) and a "device" (like a high-end monitor, web camera, videobar or touchscreen).





- **Power Negotiation:** It uses the **USB Power Delivery (PD)** protocol to "talk" to the connected device and negotiate exactly how much voltage and current it needs.
- **Signal Passthrough:** It allows data signals—such as **USB 3.2 data, DisplayPort Alt Mode video**—to pass through untouched while "injecting" power from an external AC source.
- **Smart Management:** Built-in chips protect against overcharging, overheating, and electrical faults by adjusting output in real-time.

## 1.3 WHY YOU NEED THIS?

In professional and home office environments, USB-C power injectors are critical for enabling **Bring Your Own Device (BYOD)** and **Bring Your Own Meeting (BYOM)** setups. They simplify complex technical requirements into a single-cable experience for the user.

### 1.3.1 ENABLING SINGLE-CABLE CONNECTIVITY

In a BYOD/BYOM scenario, a user walks into a meeting space or home office with their own laptop. A power injector allows them to connect to the entire room system—including the **display, camera, microphone, and speakers**—while simultaneously **charging their laptop** through one USB-C cable.

- **The Problem:** Many professional AV components (like conference cameras, videobar or large touchscreens) do not provide enough power over their USB ports to charge a modern laptop.
- **The Solution:** An injector like the **INFOBIT iTrans U3-PIC** sits "midspan," adding **up to 100W of power** to the line so the laptop stays charged during long presentations.

### 1.3.2 SUPPORTING BYOM (BRING YOUR OWN MEETING)

**BYOM** allows participants to run a meeting (on Teams, Zoom, etc.) from their own device while using the room's high-quality peripherals.

- **Peripheral Access:** The injector ensures that high-bandwidth data from 4K cameras and bi-directional audio flows uninterrupted between the laptop and the room's hardware.



- **Consistency:** It removes the need for users to carry their own bulky power bricks, as the desk or conference table provides the necessary "juice". Create more tidy meeting room space.

### 1.3.3 SOLVING DISTANCE AND CABLE ISSUES

Standard USB-C cables have a limited range (typically less than 2 meters) before signal and power quality drop.

- **Active Optical Cables (AOC):** In larger home offices or boardrooms, injectors are used to add power to Active Optical Cables that can carry data over long distances but cannot carry high-wattage power on their own.
- **Stable Infrastructure:** The iTrans U3-PIC Power injector features **locking USB-C connectors** and **mounting brackets**, ensuring the connection doesn't drop if the cable is nudged under a desk.

## 1.4 SUMMARY OF BENEFITS

Feature	Benefit for BYOD / BYOM
<b>Consolidated Cables</b>	Replaces separate HDMI, USB, and Power cables with one plug.
<b>High Power (90W-100W)</b>	Charges power-hungry laptops like MacBook Pros while in use.
<b>Signal Integrity</b>	Often includes repeaters to maintain 4K video and high-speed data.
<b>Plug &amp; Play</b>	No drivers or software installation required for the user.

## 2. ITRANS U3-PIC

The INFOBIT high-performance power injector- **iTrans U3-PIC** delivers up to 100W of charging power to laptops over USB-C, while passing USB 3.1 Gen 2 (some time



called USB 3.0) data and DisplayPort Alt Mode support for video output. It's a true single-cable solution, designed for BYOD/BYOM spaces that demand simple, reliable access to power, devices, and displays. Locking USB-C ports ensure secure connections, and included mounting ears make installation easy under tables.

### 3. FEATURES

- Single USB-C cable BYOD/ BYOM laptop connection.
- Adds Power Delivery PD3.0 to standard USB-C or Active Optical Cables (AOC) up to 100W
- 4Lan USB C fully featured
- PD+Data Out USB Type-C: Locking USB-C jack supporting USB Video, audio, power, and DisplayPort Alt-mode 4K60 4:4:4 video
- USB Pass-through Support: USB 3.1 Gen 2 (10Gbps)
- Power Input: USB-C, 20V@5A
- Firmware can be upgraded via USB-C
- Extend Full-featured USB C
- Removes the need for users to carry their own bulky power bricks
- Designed for home workspace, huddle space, medium to large meeting room.
- With under-table mounting ears.

### 4. SPEC

Model	iTrans U3-PIC
Name	USB-C 3.0 Power Injector Hub
Input	1x USB-C
Output	1x USB-C
Video	Input: Up to 4K@60Hz 4:4:4 Output: Up to 4K@60Hz 4:4:4 (4Lan USB C)

USB	Data Rate: 10 Gbps Device Power: 5V3A
PD Standard	PD 3.0
Power Consumption	1W (Exclude USB device load)
Dimension	54(W) x 20(H) x 80(D) mm
Net Weight	130g
Operation Temperature	-5 ~ +55 °C
Storage Temperature	-25 ~ +70 °C
Relative Humidity	10% ~ 90%

## 5. PACKAGE LIST

1x iTrans U3-PIC

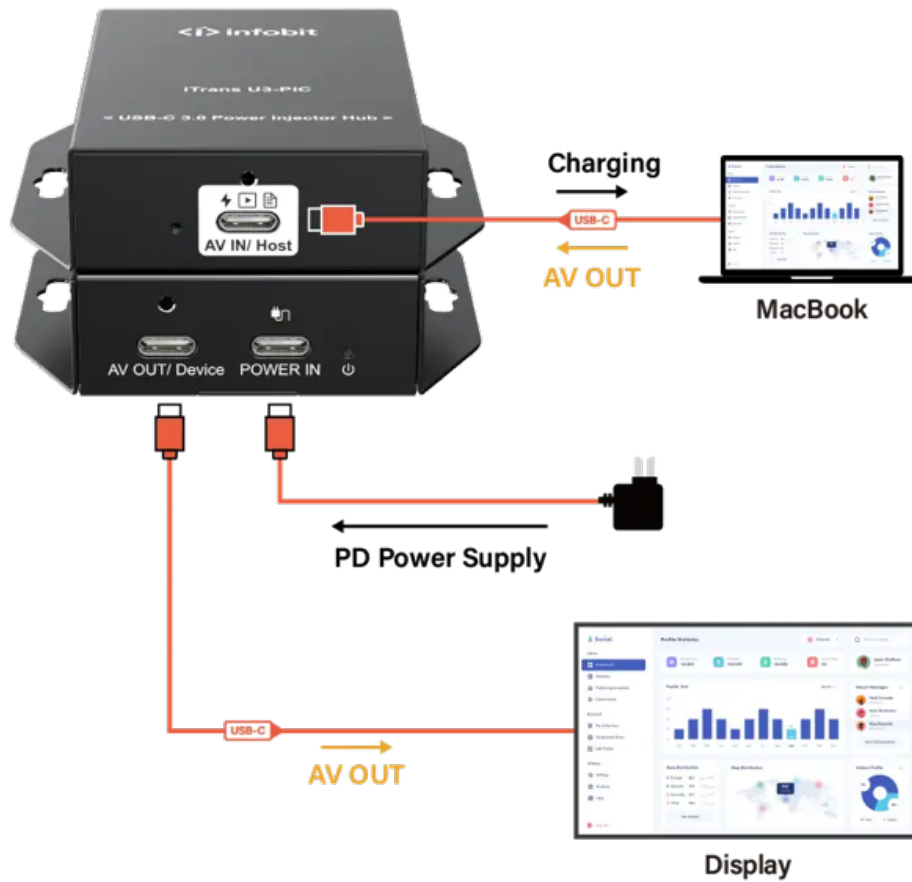
1x User Manual

**Note:** Power Supply Plug is not included.

## 6. DIAGRAM

### 6.1 HOME WORKSPACE

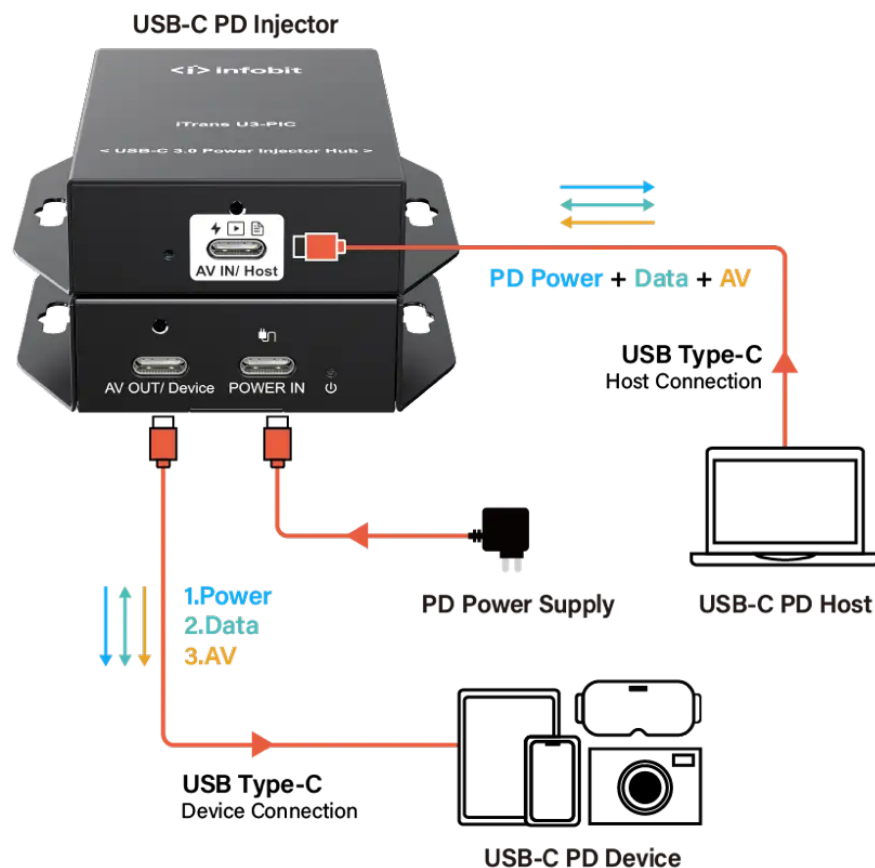
< Ultimate Single-Cable Home Workspace >



This compact USB-C power injector hub expands your laptop setup. It simultaneously charges your MacBook, outputs high-definition video to an external display, and provides stable, dedicated power delivery.

## 6.2 HUDDLE ROOM

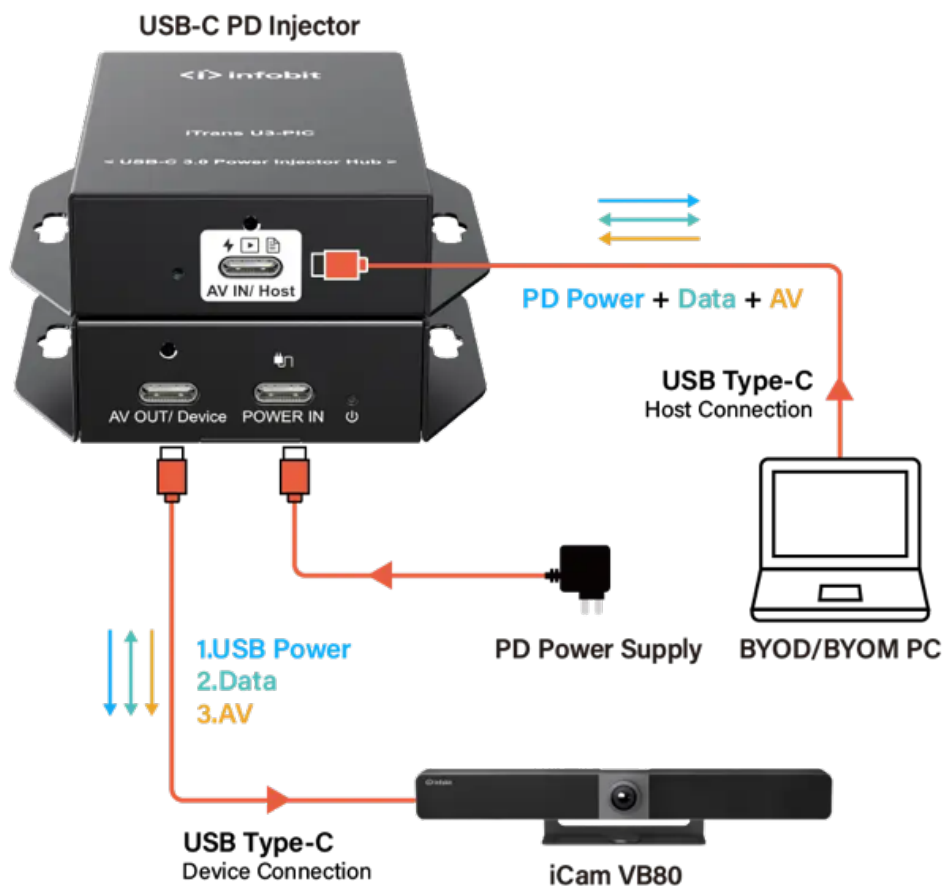
< Seamless Huddle Room Integration >



This USB-C PD injector optimizes compact meeting spaces. It extends data and AV signals to connected conference devices while delivering reliable Power Delivery back to the presenter's host PC.

## 6.3 SMALL MEETING ROOM WITH VIDEOBAR

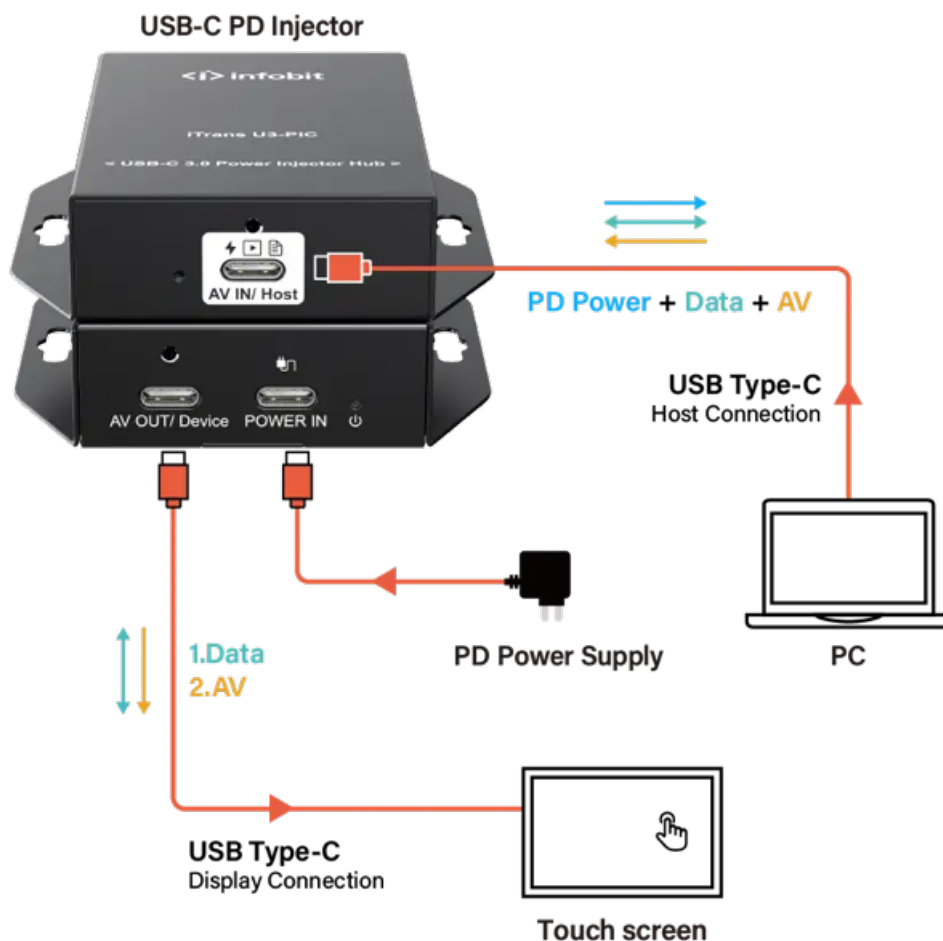
< Pro BYOM Videobar Connectivity >



This USB-C PD injector elevates small meeting rooms. It bridges BYOD/BYOM PCs directly to smart videobars, seamlessly routing high-speed camera data, AV streams, and laptop Power Delivery through a single hub

## 6.4 SMALL MEETING ROOM WITH TOUCH SCREEN

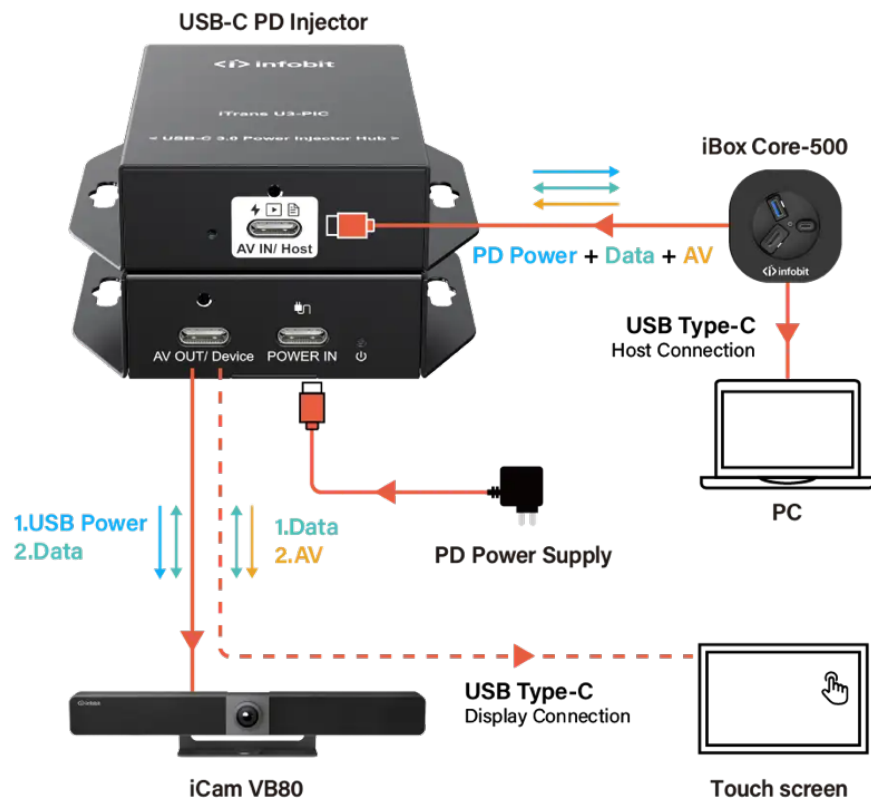
< Interactive Touch Screen Collaboration >



This USB-C PD injector empowers small interactive meeting spaces. It enables seamless touch-back control from a touch screen display to the host PC while simultaneously transmitting data, AV, and power.

## 6.5 MEDIUM MEETING ROOM

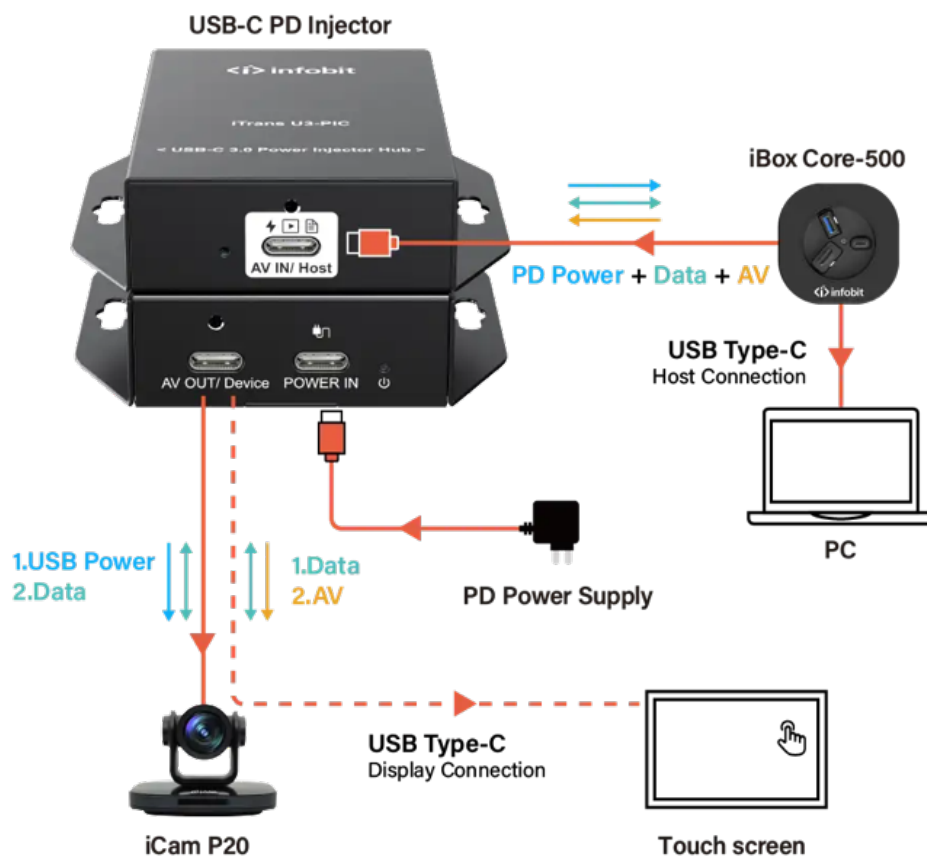
< Advanced Medium Room BYOM Extension >



This USB-C PD injector optimizes medium meeting rooms. Paired with the iBox Core-500 table box, it extends USB signal reach to seamlessly connect videobars, touch screens, and host PCs.

## 6.6 LARGE MEETING ROOM WITH PTZ CAMERA

< Enterprise Large Room PTZ Integration >



This USB-C PD injector scales up large meeting spaces. Combined with the **iBox Core-500** table box, it extends long-distance USB connectivity to seamlessly integrate professional PTZ cameras or interactive touch screens.