

TX2 TABLE HUB
DX2 ROOM HUB

Technical Overview

TX2 Table Hub & DX2 Room Hub Meeting Room AV Kit

Introduction.

A simple low cost two-box solution providing the complete audio-visual infrastructure for meeting rooms.

Designed to partner with the latest Video Conferencing solutions, the boxes replace the traditional rack of AV equipment.

Providing USB-C and HDMI connectivity, signal routing and control.

A complete meeting room solution in two boxes

Features in all products:



On-Product OLED Display
(Shows IP Info)



Built-in Webserver GUI
(Simple set-up & configuration)



4K 60 Hz video
4.4.4 uncompressed



Works with Mac or Windows
(No Drivers)



USB-C Fully Specified



USB-C 100W Charging



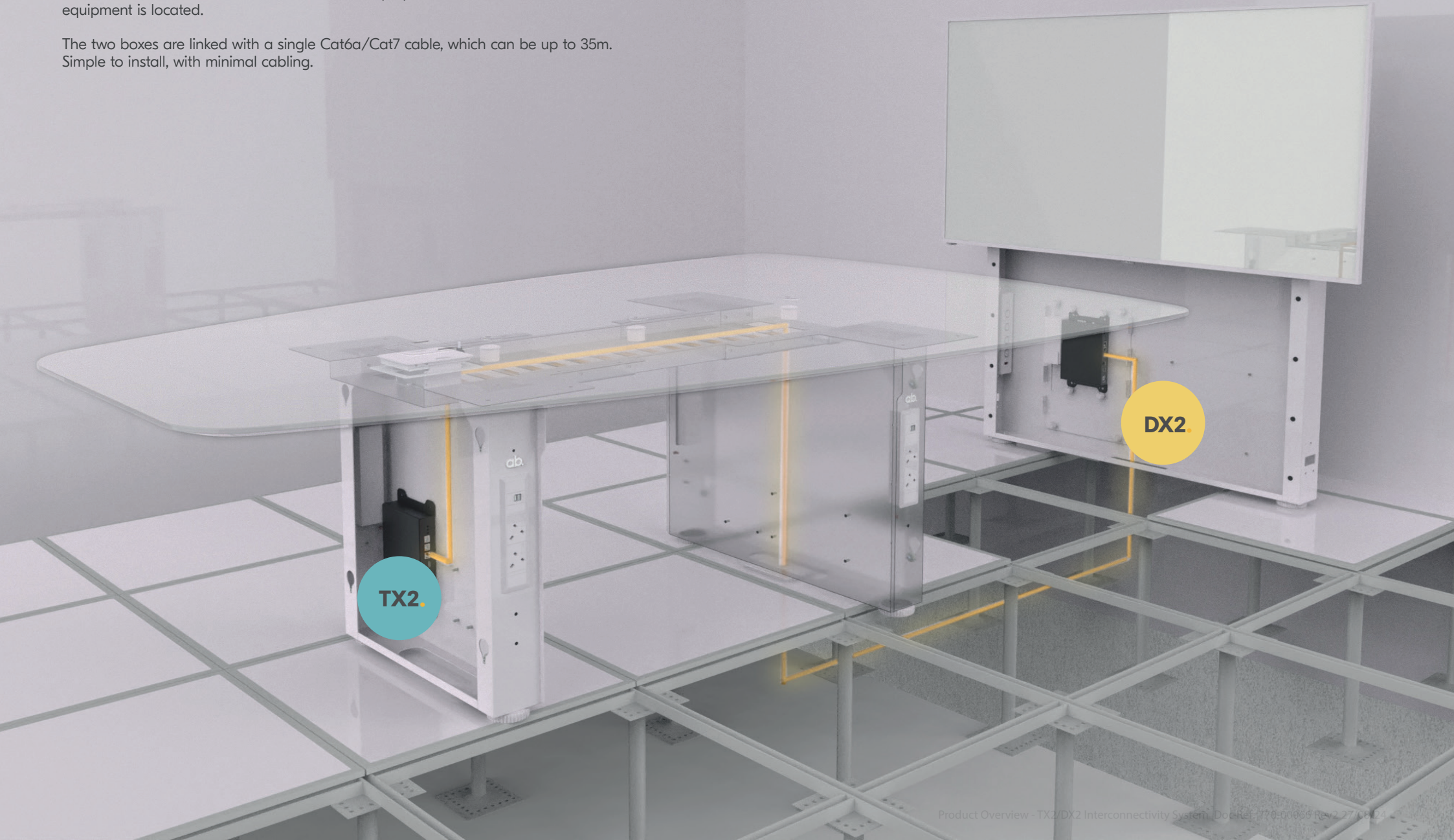
Locking USB-C & HDMI
(Prevent disconnection)

System Basics.

The TX2 Table Hub can be installed under a table, in a lectern or wherever connection to laptops is required.

The DX2 Room Hub can be located near the display or where the Video Bar or VC equipment is located.

The two boxes are linked with a single Cat6a/Cat7 cable, which can be up to 35m. Simple to install, with minimal cabling.



Overview.



TX2 Table Hub.

USB-C & HDMI Laptop input connectivity at the table.

USB-C laptop 100W charging.

Extend inputs from table to display/VC

- Fully featured USB-C and HDMI connectivity with input signal sensing
- 4K 60Hz 4:4:4 uncompressed video routing & transmission
- Independent EDID control of each input
- HDCP support or blocking
- Independently scalable HDMI output port for local monitor or content ingest
- Network port through to USB-C device
- USB 2.0 with up to 350 Mbit/s data rate
- ABNET bus connection for AB Tablebox Touch Panel
- Powered from DX2 via Cat6A/Cat7 link cable
- Optional USB-C laptop charging (100W)



DX2 Room Hub.

Room AV system: signal routing & management, VC integration, display control and monitoring.

Supports either Bring Your Own Device (BYOD) mode, VC engine, or both.

On-board processor monitors all functionality and connectivity with data available for 3rd party management platforms to simplify maintenance and support.

- 4K 60Hz 4:4:4 uncompressed video routing & transmission
- Cat6a/Cat7 link to TX2 (Video/Audio/USB/Control)
- Configuration/control via built-in Webserver GUI
- 2 Auxiliary HDMI Inputs with signal sensing
- 2 independently scalable HDMI output ports
- Independent EDID control of each input
- HDCP selectable for each input
- 3 USB device ports, 2 with configurable power control
- ABNET for connection of AB peripheral devices
- Programmable CEC & RS232 display control
- Programmable Cisco codec control port
- Programmable RS232 3rd party control system port
- OLED status display

TX2 Table Hub Connectivity.



Connection	Type	Function
ABNET	RJ45	Serial / Power connection to AB Peripherals
NETWORK	RJ45	1 Gbps or 10/100/1000Mbps (To USB-C connected device)
To DX2	RJ45	Cat6a/Cat7 Interconnection to DX2
OUTPUT	HDMI	To local display or ingest on device
INPUT 2	HDMI	Connection to Input Laptop/Device
INPUT1	USB-C	Connection to Input Laptop/Device
24V DC USB-C PWR	DC Power Jack	24v Power Input (USB-C Charge)

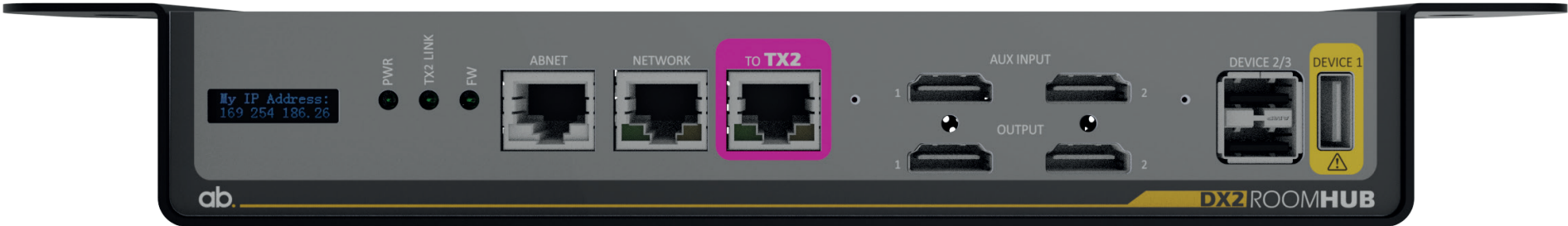
Status LED's

The TX2 has status LED indicators to show active connections, and help diagnose potential problems:

- PWR – Power live
- DX2 Link - link to DX2 active
- FW - Firmware health (engineering)

DX2 Room Hub Connectivity.

Connectivity Plate 1



Connection	Type	Function
ABNET	RJ45	Serial / Power connection to AB Peripherals
NETWORK	RJ45	1 Gbps or 10/100/1000Mbps (For system management)
To TX2	RJ45	Cat6a/Cat7 Interconnection to TX2
OUTPUT1	HDMI	Connection to Video Bar or Display
OUTPUT 2	HDMI	Connection to Video Bar or Display
AUX INPUT 1	HDMI	Auxiliary Input 1
AUX INPUT 2	HDMI	Auxiliary Input 2
DEVICE 2/3	USB-A	USB-A with 5v Power (switched under DX2 control)
DEVICE 1	USB-A	USB-A with 5v (non-switched)

OLED Display

- Displays:
- IP Address
 - Gateway
 - Subnet Mask
 - Firmware Version

DX2 Room Hub Connectivity.

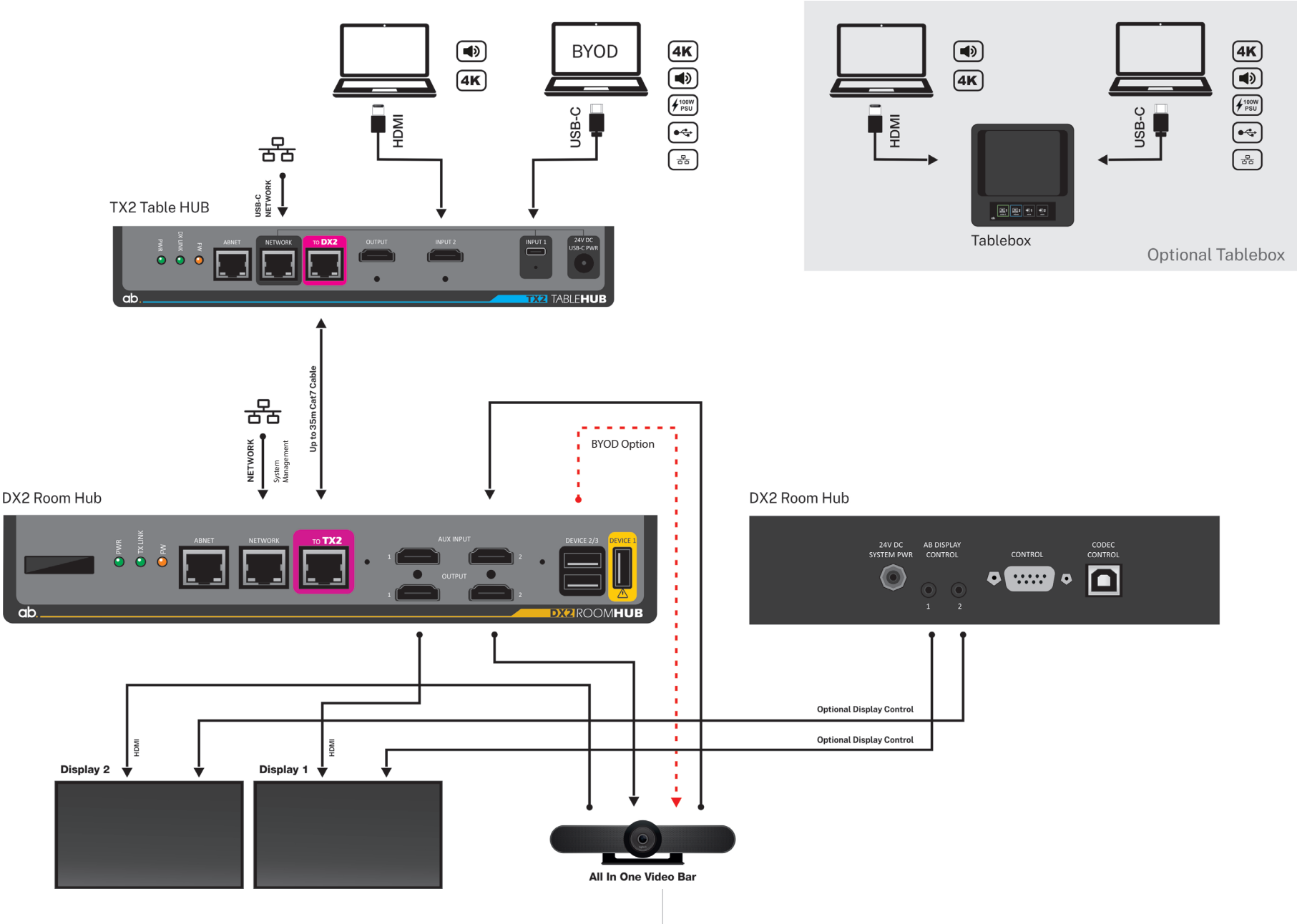
Connectivity Plate 2



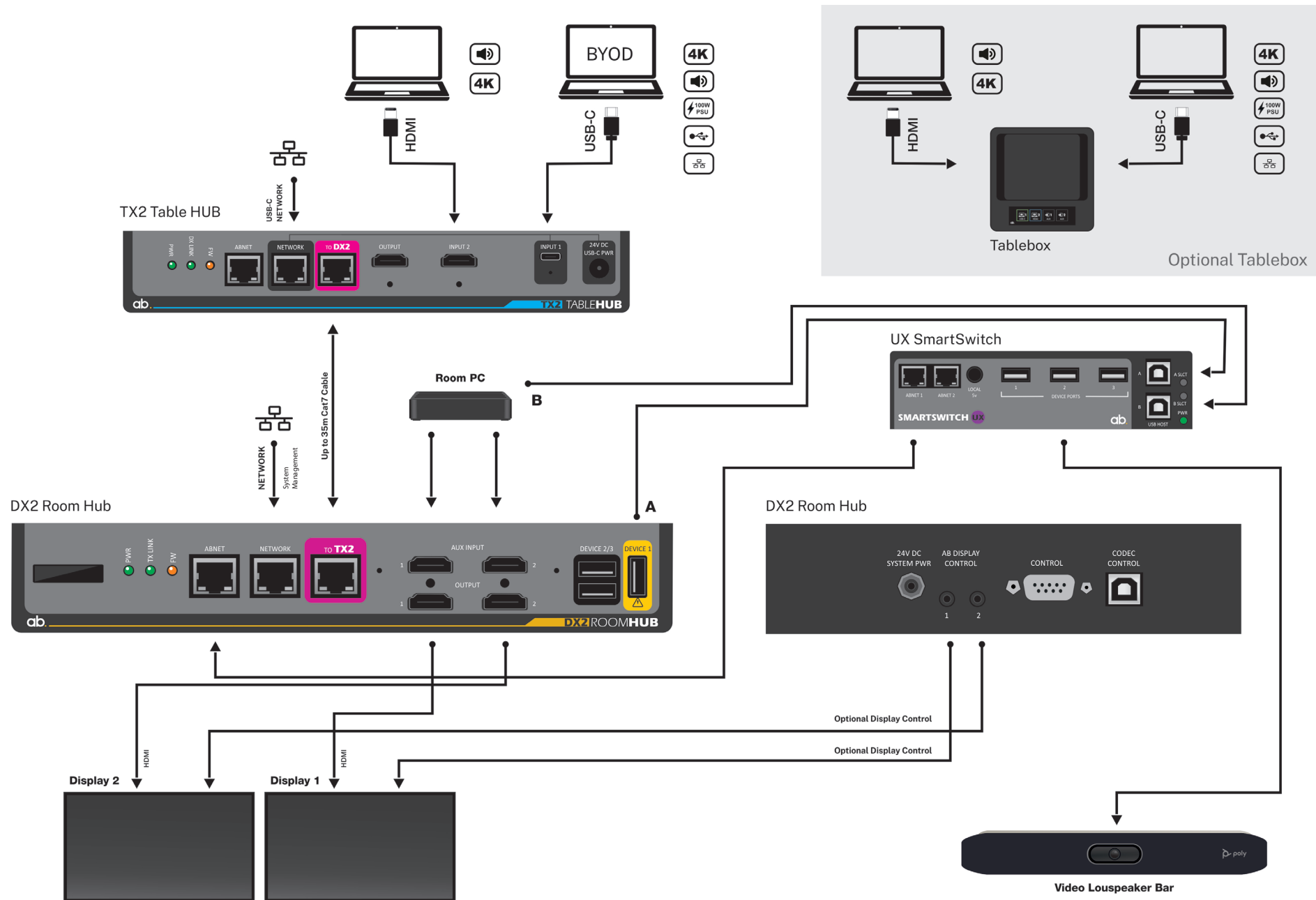
Connection	Type	Function
24v DC System Power	DC Power Jack	24v System Power Inlet
AB DISPLAY CONTROL 1	3.5mm 4 pole jack	RS232 Display Control
AB DISPLAY CONTROL 2	3.5mm 4 pole jack	RS232 Display Control
CONTROL	D Sub 9 Pin Female	Control codecs with Serial Port
CODEC CONTROL	USB-B	Control codecs with USB-B Port



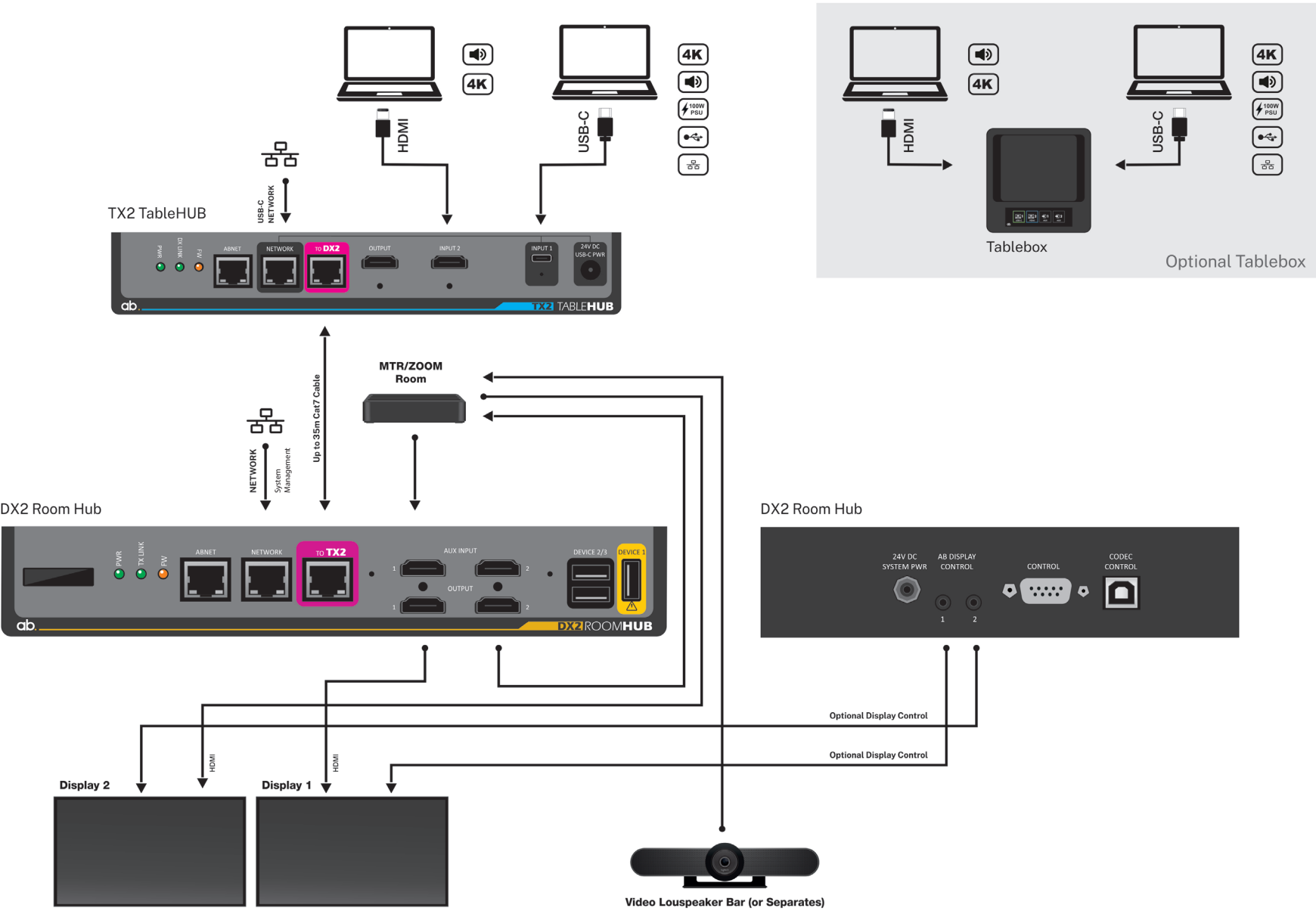
Application Example - Dual Display All-in-One Video Bar + BYOD.



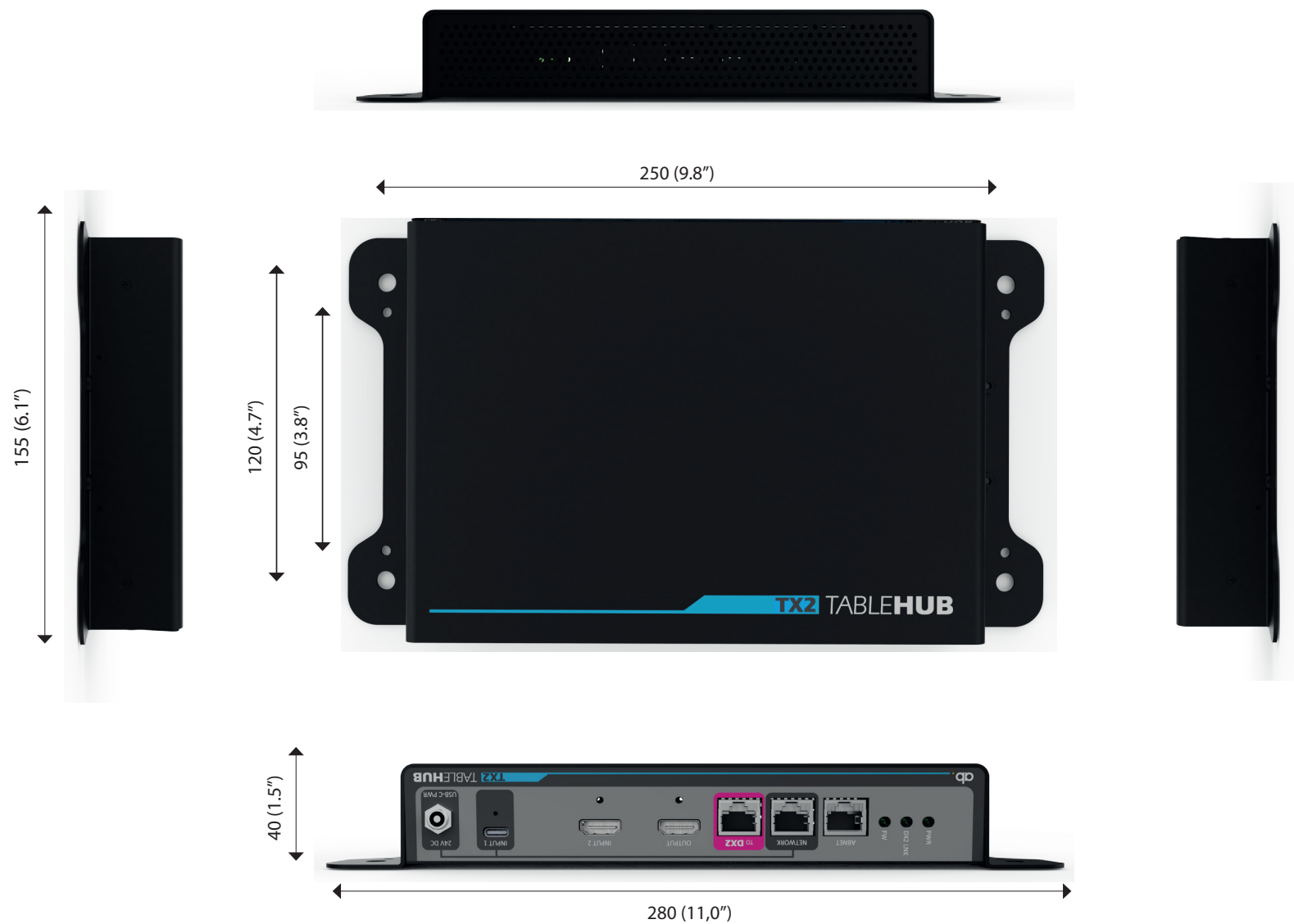
Application Example - Dual Display Room PC + BYOD.



Application Example - VC Dual Display System – MTR/Separates.



TX2 Table Hub Mechanical Dimensions.



TX2 Table Hub – Technical.

Video Matrix

- Maximum Pixel Clock Frequency Range: 600 MHz
- Video Resolution: up to 4K2K@60 4:4:4 8 bit
- Compliant to HDMI 1.4 and HDMI 2.0 specifications
- Supports HDCP 1.4/2.2 (can be disabled if needed)
- Output to DX2 via single Cat6a/Cat7 cable

Video Inputs

- 1 x HDMI
- 1 x USB-C
- Inputs have integrated equaliser for improved signal integrity
- Signal auto sensing on all inputs
- HDCP can be disabled, to remove HDCP issues with VC codecs
- EDID can be selected from presets or copied from connected display via the built-in System Configurator setting page.

Video Output

- 1 x HDMI
- Output routing is configurable in System Configurator to be either HDMI or USB-C video.
- Output switching can be automatic (on connecting a source) or manual via the Tablebox touch panel

HDMI:

- Up to 4K @ 60 Hz 4:4:4 8 bit uncompressed HDMI 2.0 video/audio
- Supports HDCP 2.2 (Can be disabled if needed)
- 16 Gb/s video data output to DX2

USB-C:

- Up to 4K @ 60 Hz 4:4:4 8 bit uncompressed HDMI 2.0 video/audio
- USB Power delivery 2.0 (Device charging up to 20v @5 A (100 W)) – Requires optional USB-C Charging Power Supply (Part No. 900-00585)
- USB 2.0 with up to 350 Mbit/s data rate
- Integral USB-C to 10/100/1000BaseT Ethernet port

Audio

- HDMI embedded audio

Control

- ABNET™ expansion bus for Tablebox Touch Panel

Power

- Powered by POC from DX2 unit
- USB-C power provided by local 24v 5A PSU) Requires optional USB-C Charging Power Supply (Part No. 900-00585)

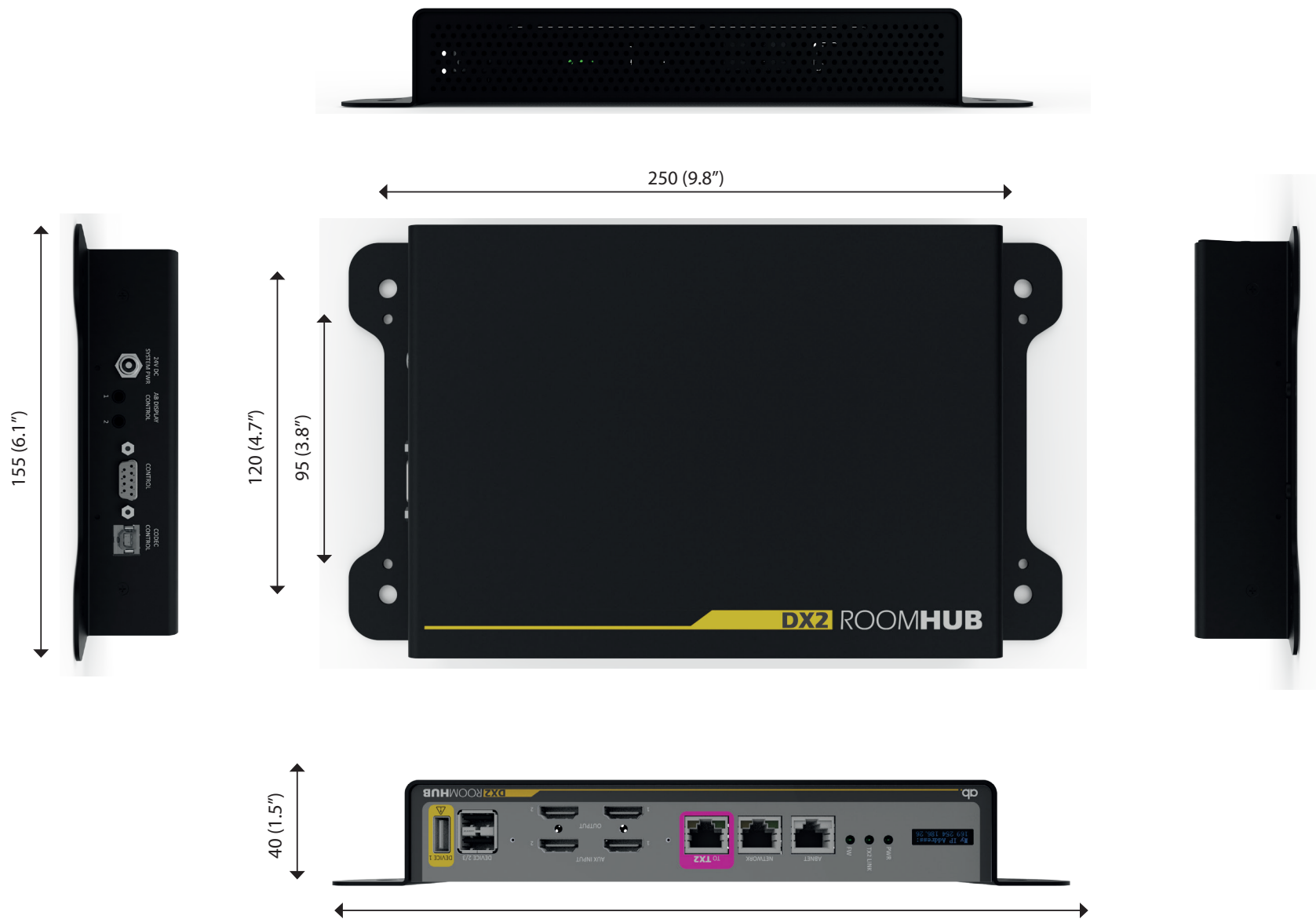
Environmental

- Operating Temperature Range 0 – 45 degrees C
- Operating Humidity 10% to 90% non condensing

General

- Warranty 3 Year

DX2 Room Hub Mechanical Dimensions.



DX2 Room Hub - Technical Overview.

Video Matrix

- Maximum Pixel Clock Frequency Range: 600 MHz
- Video Resolution: up to 4K2K@60 4:4:4 8 bit
- Compliant to HDMI 1.4 and HDMI 2.0 specifications
- Supports HDCP 1.4/2.2 (can be disabled if needed)
- Input from TX2 via single Cat6a/Cat7 cable

Video Inputs

- 2 x AUX HDMI
- Inputs have integrated equaliser for improved signal integrity
- Signal auto sensing on all inputs
- HDCP can be disabled, to remove HDCP issues with VC codecs
- EDID can be selected from presets or copied from connected display via the built-in System Configurator setting page.

Video Output

- 2 x HDMI
- Output routing is configurable in System Configurator to be either TX2 signals or local signals
- Output switching can be automatic (on connecting a source) or manual via the Tablebox touch panel

HDMI:

- Up to 4K @ 60 Hz 4:4:4 8 bit uncompressed HDMI 2.0 video/audio
- Supports HDCP 2.2 (Can be disabled if needed)
- 16 Gb/s video data input from TX2

USB:

- USB 2.0 passthrough from USB-C host on TX2™
- 2 USB device ports with power switching
- 1 USB device port without power switching

Ethernet

- Integral 100BaseT Ethernet switch with interfaces for:
- System Configurator
- Remote management
- Telnet
- Codec control

Audio

- HDMI embedded audio

Control

- ABNET port for AB peripherals'

Power

- Powered by an external locking 24v (64.8W) power supply (supplied)
- Supplies POC to power TX2 unit (An optional USB-C Charging Power Supply (Part No. 900-00585 is needed for USB power delivery on the TX2)

Environmental

- Operating Temperature Range0 – 45 degrees C
- Operating Humidity10% to 90% non condensing

General

- Warranty3 Year

Optional Accessories.



Tablebox

Part No. 900-00491

The Tablebox can house 2 Cables or 2 Retractors: 1 x USB-C and 1 x HDMI.

When installed in an Ashton Bentley table all mechanics and cables are hidden in the table leg.



Tablebox Touch Panel

Part No. 900-00509

OLED capacitive Touch Panel that is simple to install. Provides manual selection of inputs at the table, AUX inputs at the VXR/DX2 and select BYOD in some systems.

Intuitive operation with colour coded buttons that give feedback to the user.

Programmed via the DX2 in-built web server GUI.



Under-table Enclosure

Part No. 900-00528

Used when installing the Tablebox in a 3rd party table. Hides all the mechanics, cables and TX2 if installed.



Retractors

USB-C Part No. 900-00490

HDMI Part No. 900-00489

All metal mechanism for reliability. Tested to over 5,000 pulls.

Fully specified USB-C passive cable simultaneously supporting:
4K60 4:4:4 video
100W charging power
USB-2 & 3



Cables

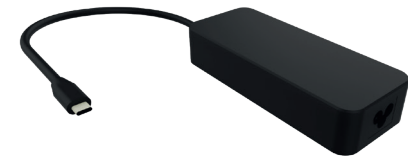
USB-C Part No. 115-00065

HDMI Part No. 115-00066

With locking connector to prevent inadvertent disconnection from any AB device.

Fully specified 2.6m USB-C passive cable simultaneously supporting:
4K60 4:4:4 video
100W charging power
USB-2 & 3
Gigabit network

2.8m HDMI cable.



TX2 USB-C Charging PSU 100W

Part No. 900-00585-xx

When connected by cable or Retractor to the TX2, the USB-C connected device receives 100W charging power

Optional Accessories.

UX BYOD Smart Switch

Part No. 900-00450

Designed to partner the Ashton Bentley Interconnect DX2 Room Hub & TX2 Table Hub.

Intelligent USB switch/hub which allows the switching of USB peripherals between a room PC/NUC and a laptop.

- 2x host ports to connect to laptop/room PC
- 3x device ports for connecting speaker bars, cameras etc.



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USB-C Enabled AV Connectivity Solutions

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