Ashton Bentley


# Manual

## UX BYOM Smart Switch

Doc Ref: 770-00070 Rev1 31/10/23

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# Please read before proceeding.

Before proceeding with assembly, connection, and operation, please ensure that you read this document fully, and any additional documentation that may be included with the product.

Please keep this manual for future reference.

**Important. Please read Section 1 Important Safety information**

## Trademark Information

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## Patent Information

The accompanying product is protected by one or more UK, EU, US, and foreign patents and/or pending patent applications held by Ashton Bentley Technology Limited.


23 Schooner Court, Crossways Business Park, Dartford, DA2 6NW, United Kingdom.

# 1. Important Safety Information

# PLEASE READ AND SAVE THIS INFORMATION

The following information and precautions should always be followed to reduce the risk of damage or injury. Please contact Ashton Bentley or your vendor if you have any questions regarding installation, operation, or maintenance.

• Follow all warnings and instructions in this document and marked on the equipment.

• Allow plenty of space in the construction area.

• It is important to avoid operating the system in outdoor or humid conditions and to prevent any liquid from entering.

• Always use suitable cable management or install cables under a raised floor to avoid trip hazards.

• Do not block or cover any ventilation vents in the products.

## UX Specific Safety Information

The first version of UX has been superseded by a new model. The optional PSU for each version cannot be interchanged. Using the incorrect PSU may cause damage to the UX and will invalidate the warranty.

Model 1 – does not have Device Port LED Indicators and used an optional 5V PSU
Model 2 (this document) – has 3 Device Port LED Indicators and uses an optional 24V PSU

### Electrical

We recommend the use of a surge protector connected to the power input cable.
Pay close attention to the product when it is turned on. If any of the following are noticed do not use the product until everything has been and checked and completely safe:

• Power cables, plugs, power supplies/adapters, extension cords, and surge protectors that are cracked, broken, or damaged

• Signs of overheating, smoke, sparks, or fire.

• Signs of liquid ingress or an object has fallen onto the electronic elements of the product, the power cable, or the power supply/adapter.

If you notice these conditions with a product that is not supplied by Ashton Bentley, immediately disconnect from the Ashton Bentley product, and stop using that product until you can contact the manufacturer for further instructions, or until you get a suitable replacement.

Never wrap a power cable around other objects.

Always route power cables where they cannot be deemed a hazard. Do not use any power supply/adapter that shows signs of damage.

The power cable and supply/adapter provided with this product are intended to be used with this product only. Do not use them with any other products. The use of 3rd party power supplies/adaptors will invalidate the warranty.

It is unsafe to use, disconnect cables, or perform maintenance during an electrical storm.

# 2. Product Components

## 2.A Box Contents.

| UX BYOM Smart Switch Kit | | 900-00450 |
|---|---|---|
| Qty | Box Contents | Part Number |
| 1 | UX BYOM Smart Switch Unit | |
| 1 | 1.0m ABNET RJ45 Cat6 Cable | 115-00107 |
| 1 | 0.5m USB 2.0 Cable (USB-A to USB-B) | 115-00076 |
| 1 | 2.0m USB 2.0 Cable | 115-00080 |
| 2 | AB Knob (Female) | 432-00008 |

## 2.B Optional Accessories.

If the UX is being used standalone or if the connected devices require additional power, the following optional power supply can be used.

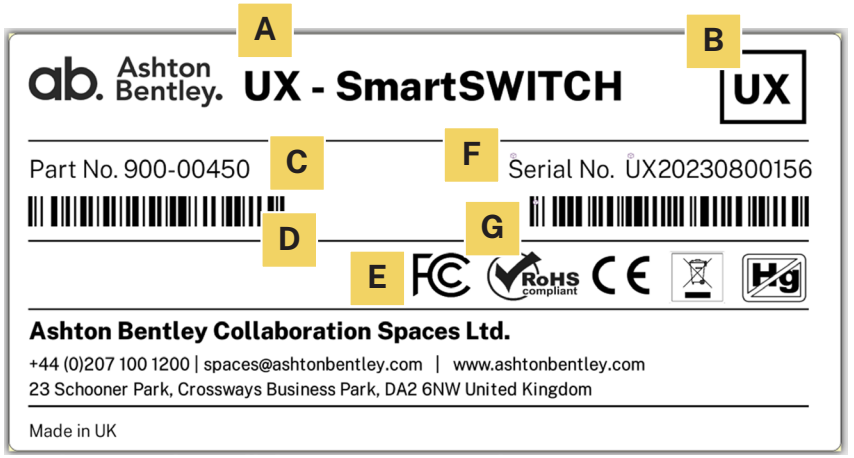
| | |
|---|---|
| TX2 USB-C Charging PSU (100W)<br>(This PSU is compatible with the UX for external power) | 900-00585 |

## 2.C Shipping Weights & Dimensions.

| | |
|---|---|
| Shipping Weight: | 0.55Kg |
| Dimensions (mm): | (L) 245 x (W) 160 x (H) 90 |

## 2.D Box Labels.

The product is supplied in one or more boxes. Please ensure you have all boxes as listed below. Please inform your vendor immediately if any boxes are damaged, or contents missing.




A: Product description.
B: Carton ID.
C: Part number.
D: Part number barcode.
E: Compliance & Conformity.
F: Unit serial number.
G: Unit serial number barcode

# 3. UX BYOM Smart Switch

## 3.A Overview.

The UX BYOM Smart Switch is an intelligent USB switch/hub which allows the switching of USB peripherals between a room PC/NUC and a laptop.

The UX has:

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

Designed to partner the Ashton Bentley Interconnect Kit (DX2 Room Hub + TX2 Table Hub).

Two modes of operation:

**Control.**
The DX2 switches USB devices away from Room PC/NUC to the laptop. In this mode the UX is powered from the DX2 via the ABNET connection.

**Standalone.**
When  a laptop USB connection is detected, the USB devices are automatically switched from Room PC/NUC to the laptop. When the laptop is disconnected, the devices switch back to the room PC. In this mode the UX requires a separate PSU.


## 3.B Dynamic USB 3.0 5V power switching.

Why is USB power switching/control important?

Some Videobars can only switch in and out of device mode if 5v is present in the USB connection.

Most 3rd party USB hubs permanently power the USB sockets when a power supply is attached, and so the Videobar ‘remains’ in device mode and many fail to detect when a new laptop is connected.

With our dynamic 5v switching, when the UX switches host, the 5v on the USB device ports are automatically turned off momentarily allowing the Videobar to revert to ‘normal’ mode.

This unique feature prevents devices locking up or going into ‘device mode’ when they should not.

# 3.C Connectivity – Plate 1.


| LED | Colour | Function |
|---|---|---|
| Device Ports 1, 2 & 3 | Blue | Lit = Device port<br>USB 5v active. |
| A SLCT | Green | Lit = Host selected.<br>Flashing = Host connected but not selected. |
| B SLCT | Green | Lit = Host selected.<br>Flashing = Host connected but not selected. |
| PWR | Red | Lit = Unit powered. |

| Connection | Type | Function |
|---|---|---|
| ABNET 1 | RJ45 | Control bus. Connection to DX2. |
| ABNET 2 | RJ45 | Control bus. Loop on to additional ABNET devices. |
| Local 24v* | DC power jack | Optional local power supply. |
| Device Ports 1, 2 & 3 | USB-A | USB connections for Video bar, camera, loudspeaker and mic. |
| USB Host A | USB-B | USB from Laptop / Room PC |
| USB Host B | USB-B | USB from Laptop / Room PC |

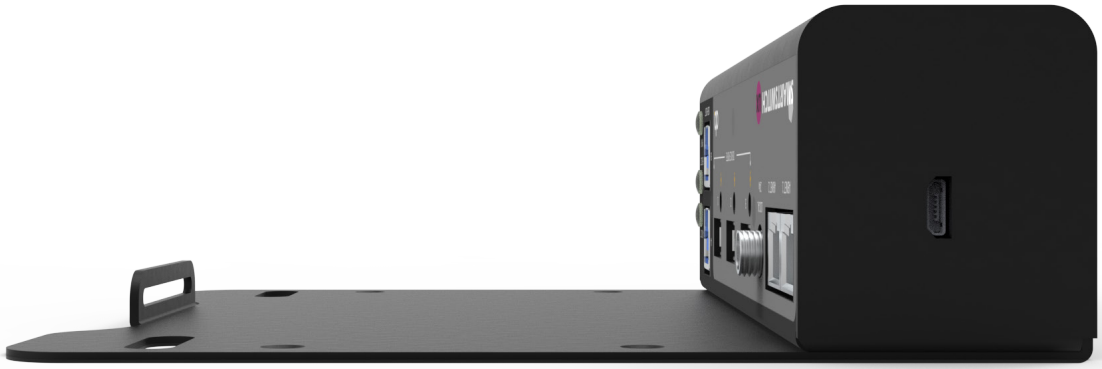
***Note: Previous version of the UX had an optional 5v PSU. This earlier version can be identified by the absence of the 3 Device Port LED indicators.**

**Do not connect the new 24v PSU to the previous version, or the older 5v PSU to the new version of UX.**

**Please read the legend for the local power connection and match to an appropriate power supply.**

**Using an incorrect Power Supply will invalidate the warranty.**

# 3.D Connectivity – Plate 2.



| Connection | Type | Function |
|---|---|---|
| Service | Micro USB | Service port for firmware upgrade. |

# 4. Setup & Initial Power Up

## 4.A Setup.

**Standalone Mode**
The UX is fully configured and ready to use out of the box. There are no additional drivers and/or configuration required prior to use.

Once the UX , and peripherals, are connected and powered up, the system is fully operational.

**Control Mode**
If the UX is being used in conjunction with a TX2 Table Hub & DX2 Room Hub, then the DX2 must be configured correctly. See section 6 for information.

## 4.B Pre power up checks.

Before powering up the system please ensure that the system is completely assembled and that the wiring is correct.

For connection details please refer to Section 5 if using the UX in Standalone mode, or Section 6 if using the UX in Control mode with a TX2 / DX2.

Refer to Section 7 for trouble shooting tips.

# 5. Standalone Mode

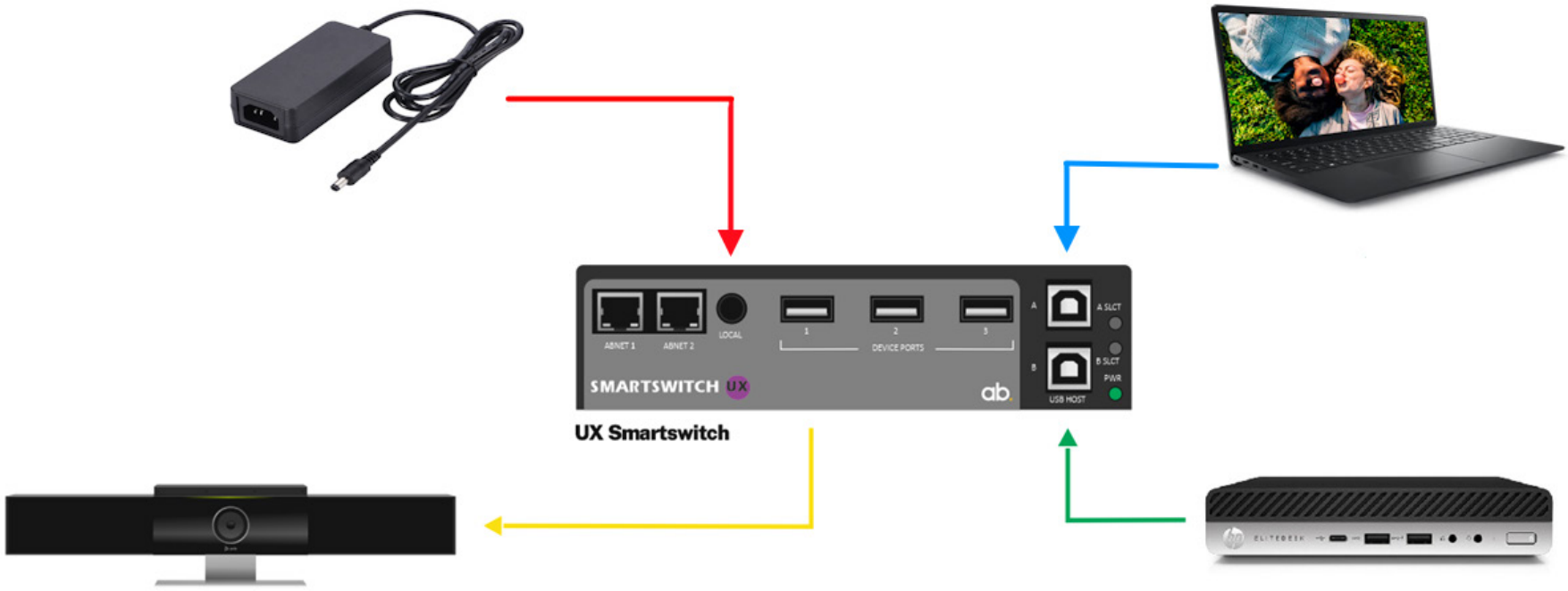
## 5.A Standalone Mode.

If used in Standalone mode (without a TX2 / DX2) you will require the optional power supply (part no. 900-00585) to power the UX.

There is no configuration required for this mode of operation.

When laptop USB connection is detected by the UX the USB devices are automatically switched from Room PC/NUC to the laptop. When the laptop is disconnected, the devices switch back to the room PC.

When the UX is switching between hosts, the USB power to the device ports will turn off momentarily, in order to ensure the connected devices initialize correctly with the new host.




UX Smartswitch

# 6. Control Mode with DX2 Room Hub

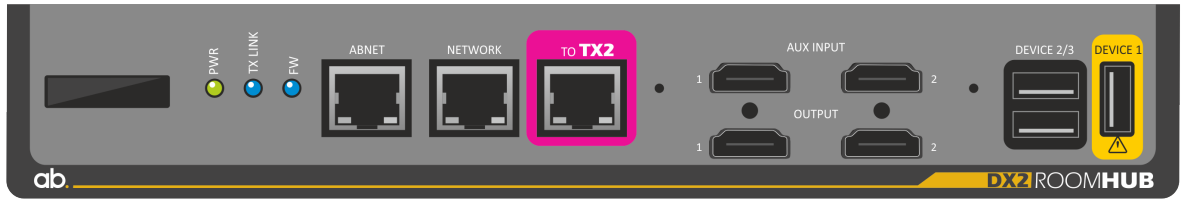
# 6.A ABNET & USB Connections.

1 **1.0m ABNET RJ45 Cat6 Cable**
DX2 ABNET port to UX ABNET port 1 or 2
The UX receives power over this connection from the DX2

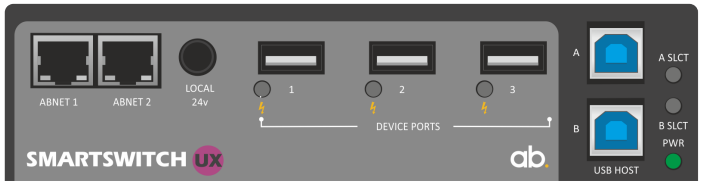
2 **0.5m USB 2.0 Cable (USB-A to USB-B)**
DX2 DEVICE port 1 to UX USB-HOST port A
DO NOT use DEVICE port 2 or 3 on the DX2.

3 **2.0m USB 2.0 Cable**
UX USB HOST port B to the Room PC

4 **Long USB 2.0 cable (supplied with the camera bar)**
UX any DEVICE PORT to the videobar

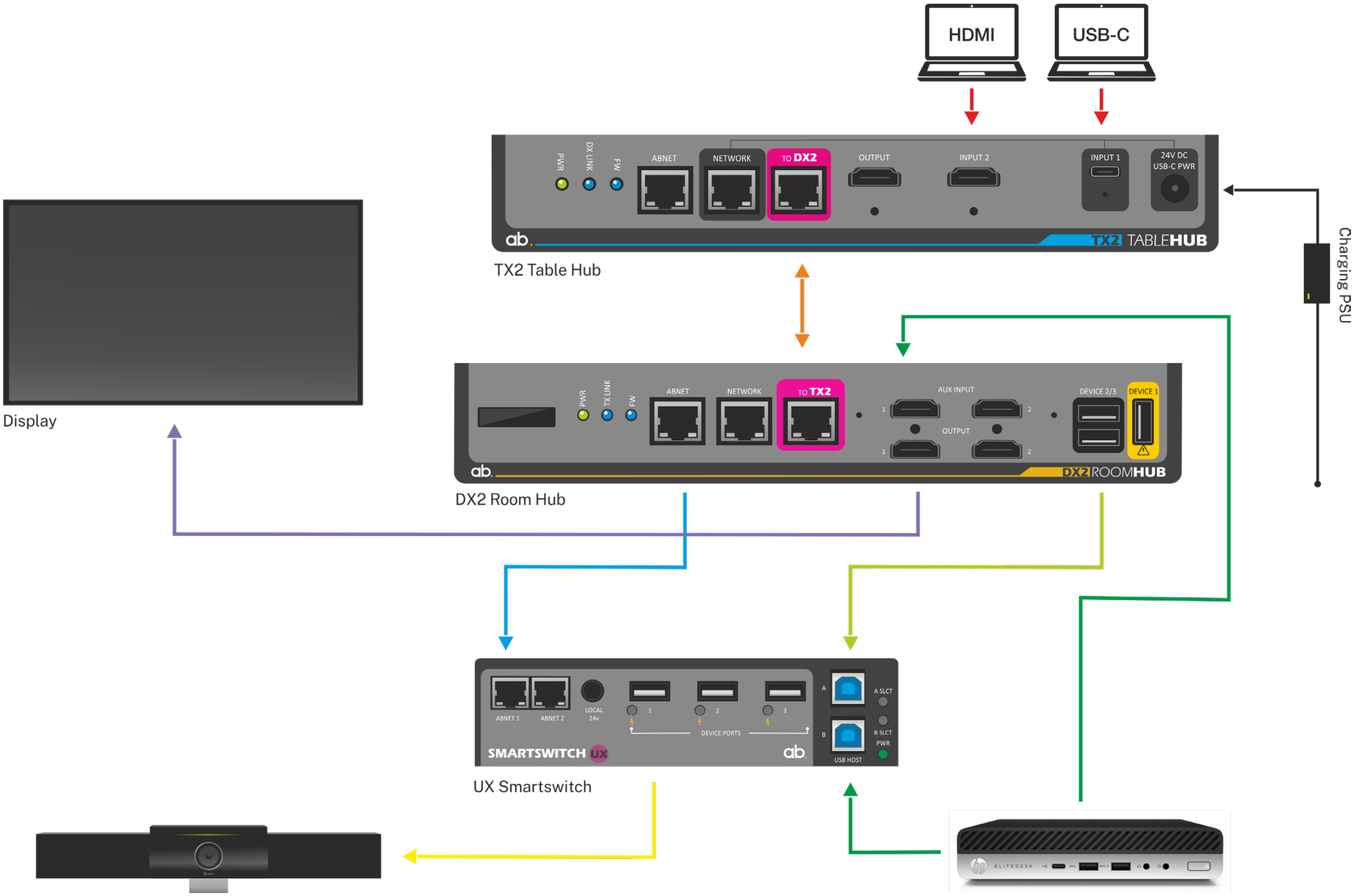



DX2 Room Hub




UX Smartswitch

# 6.B: System Schematic.



# 6.C System Setup.

**Introduction**
You must set up the DX2 & TX2 before installing in a system.

Access the System Configuration tool in the DX2:

Connect DX2 to TX2 using supplied 10m CAT7 cable
Connect the DX2 PSU, and power the system
Connect a laptop to NETWORK port on DX2

The default IP address of the DX2 is 169.254.186.26.

Most laptops configured for DHCP should connect to this address without changes to the network config. If not, then set your laptop into the same IP address range.

DX2 IP address is also shown on the small OLED display.

If you can ping the DX2 but not connect to it, check the firewall settings.

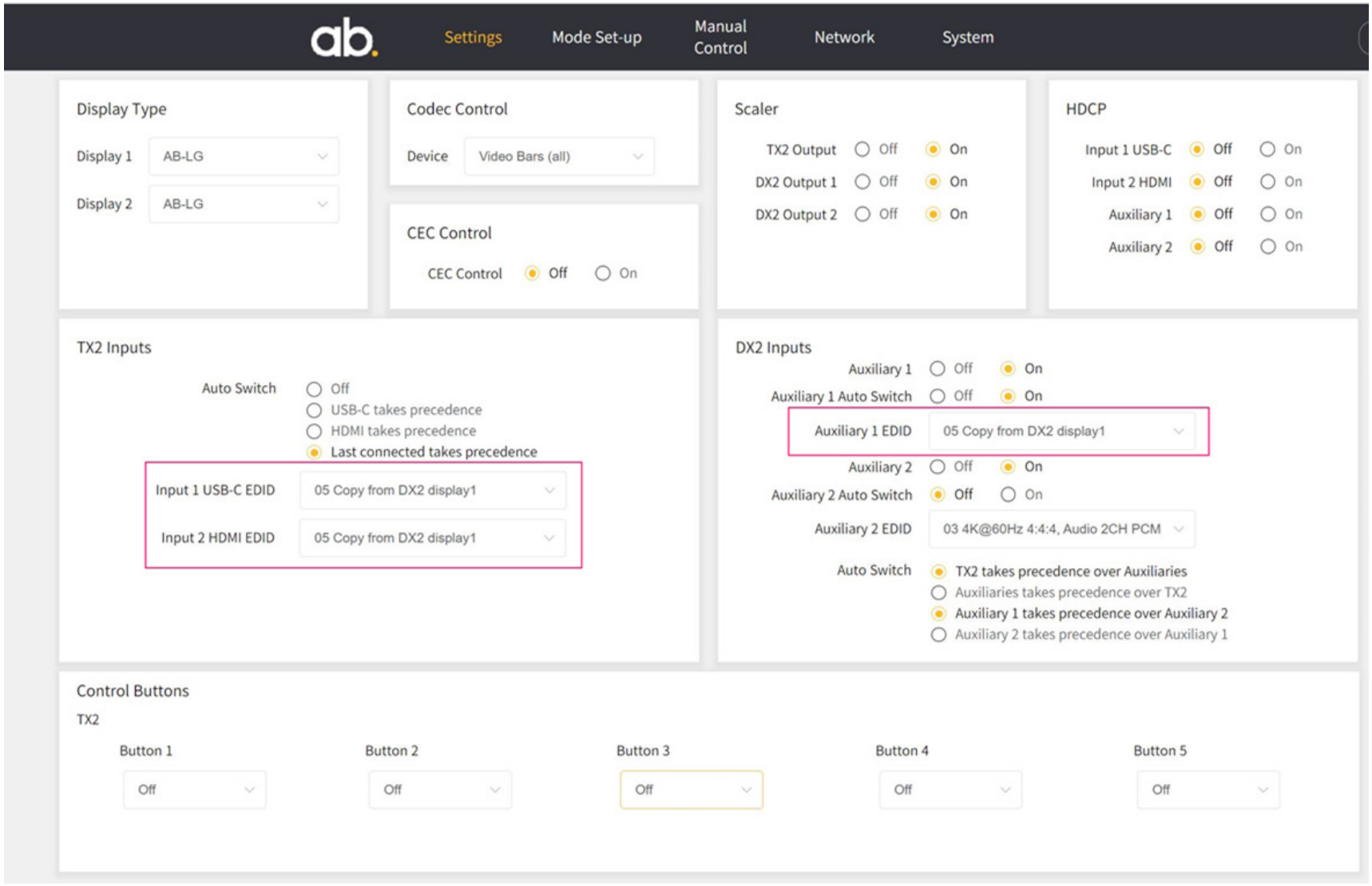
NOTE: The network port on the TX2 only connects to the USB-C cable and cannot be used to configure the system.



Default Username: admin
Default Password: admin

# 6.D. TX2 / DX2 Settings.
## 6.D.1 TX2/DX2 Inputs - EDID.

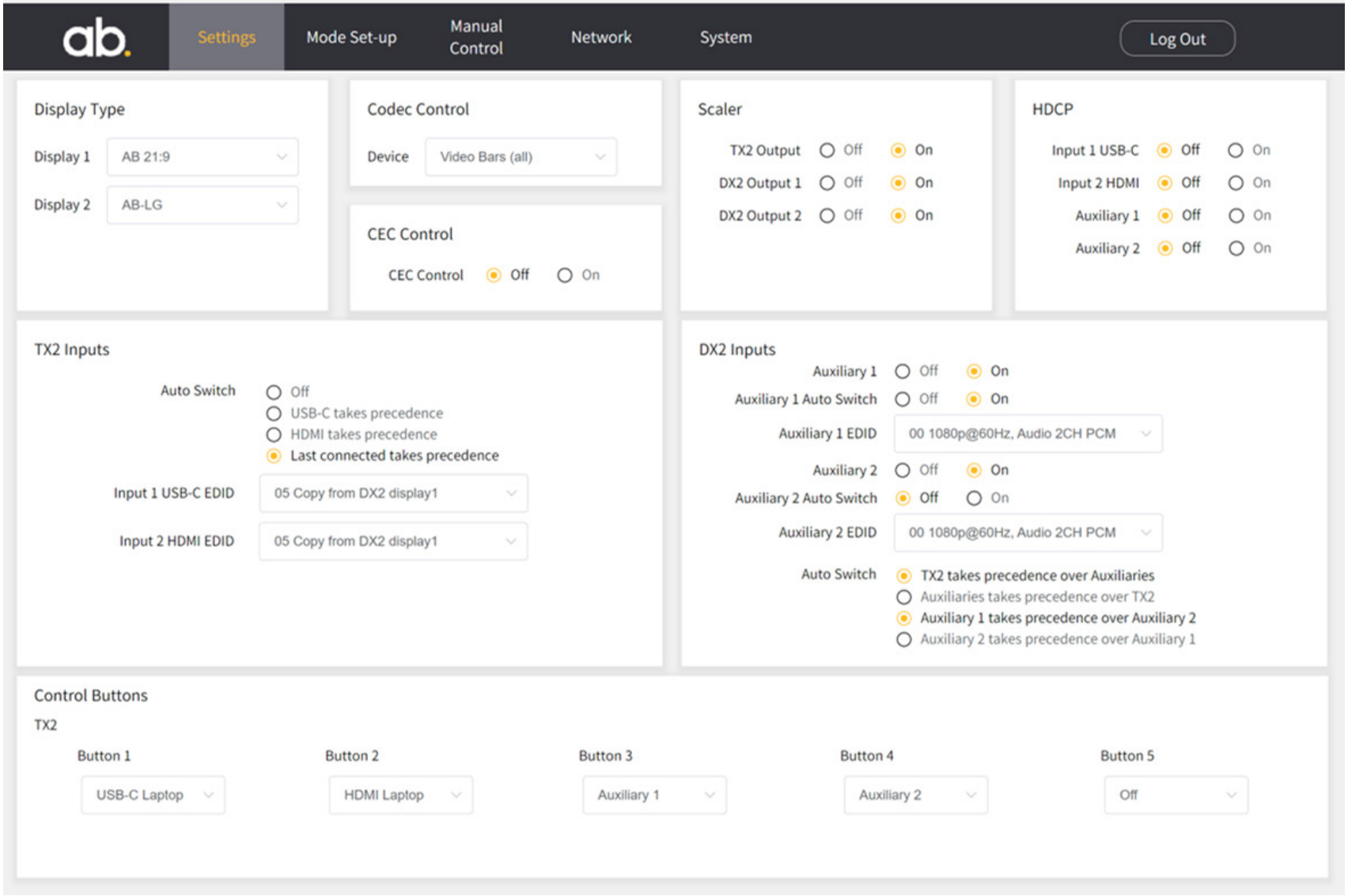
Getting the correct EDID sometimes requires a little experimentation, however we recommend using the “05 Copy from DX2 Display 1” setting. This will copy the EDID from the display to each of the inputs. When the EDID settings are changed, the word “Success” should appear at the top of the screen.



## 6.D.2 DX2 Inputs – Auto switching.

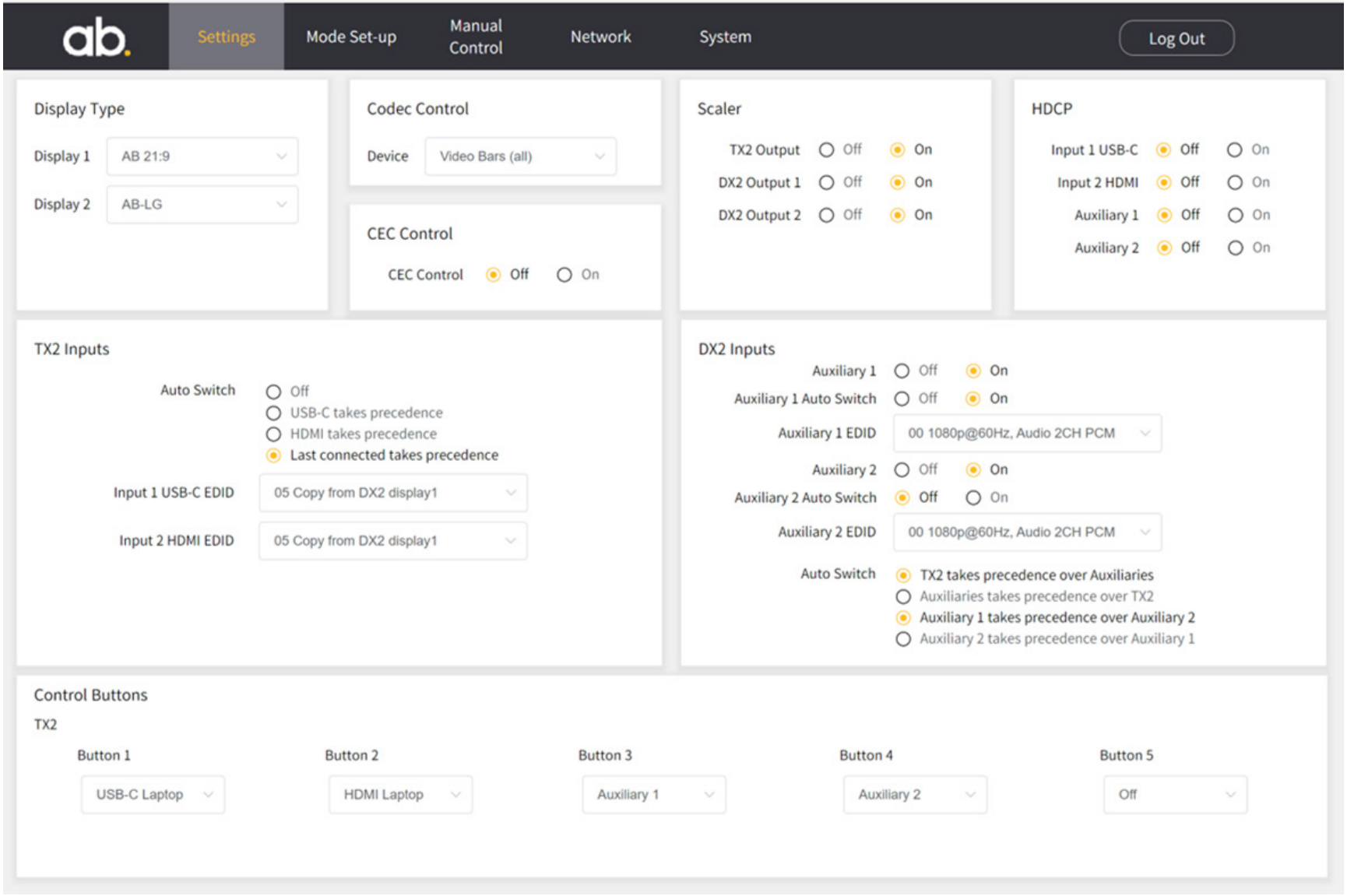
To ensure that the system automatically switches to the correct input at the correct time, make sure that:

- DX2 Inputs – Auxiliary 1 set to 'On' and Auxiliary 1 Auto Switch is set to 'On'
- Auto Switch – select 'TX2 takes precedence over Auxiliaries"



## 6.D.3 CEC.

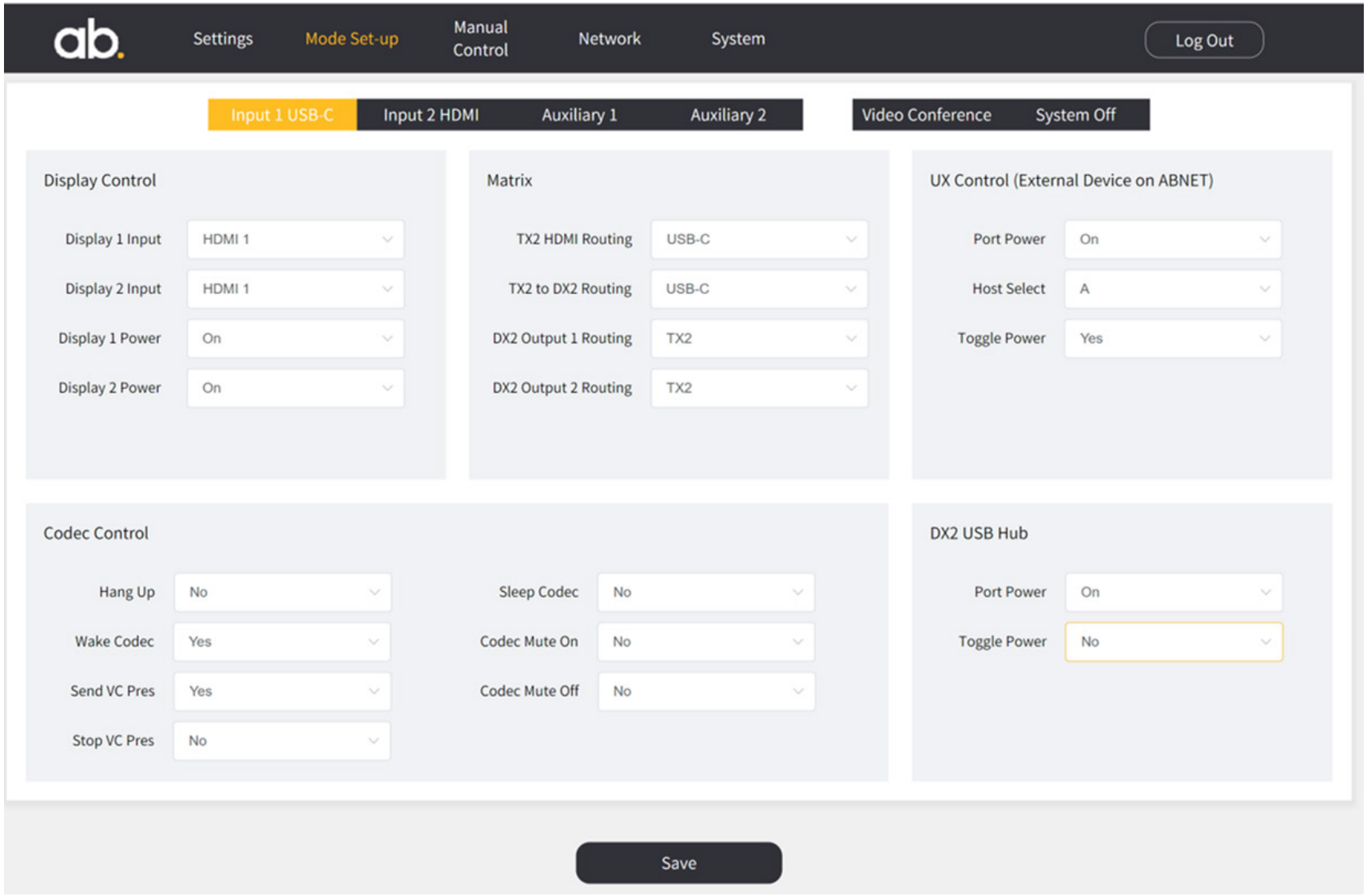
The DX2 can control a connected display using CEC (Consumer Electronics Control). The reliability of this varies between different displays of different ages and manufacturers. If not required, turn CEC off.



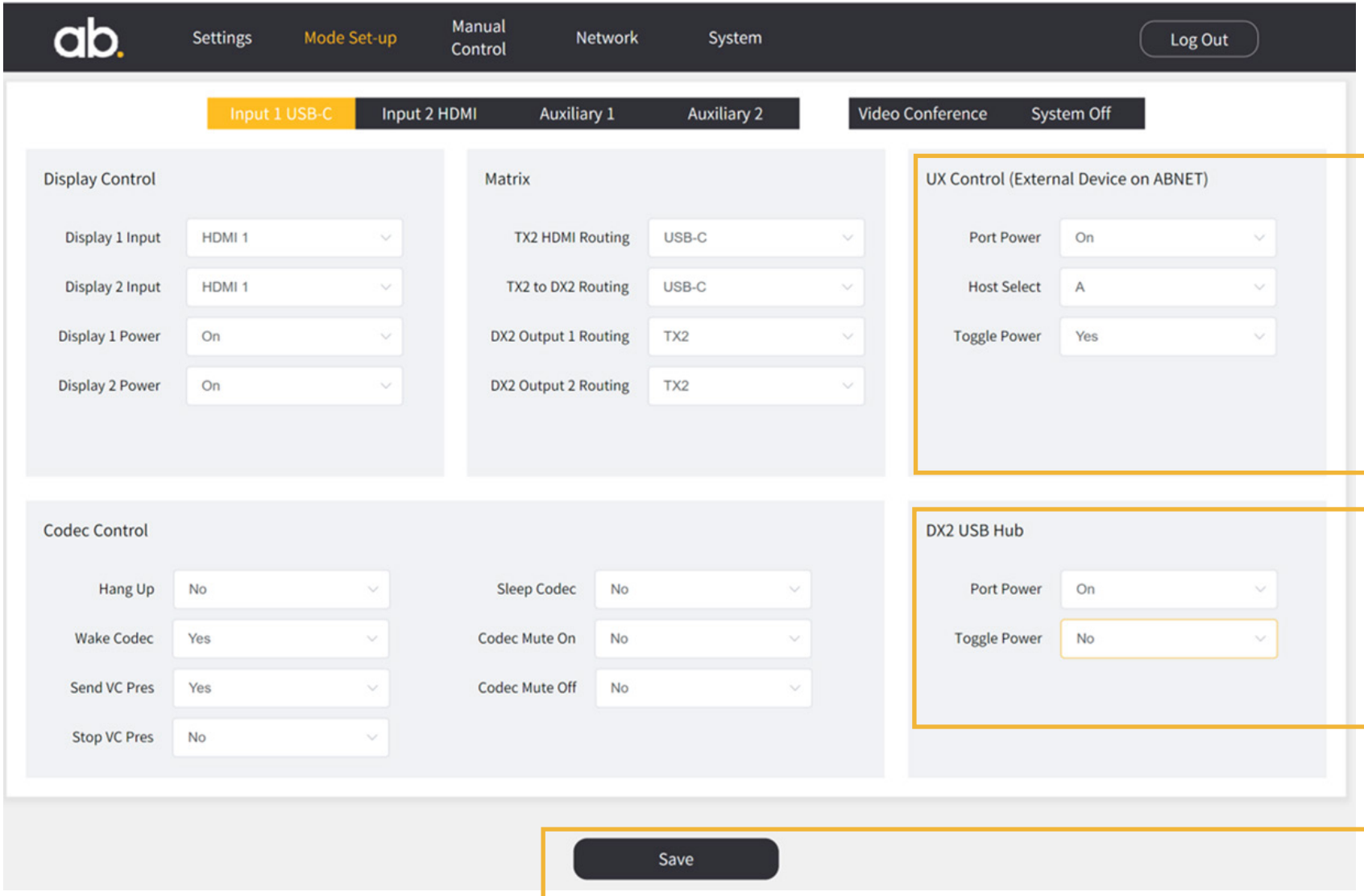
## 6.D.4 Mode Set-Up.

On the ‘Mode Set-up’ page there is a sub-page for each system ‘mode’ which are: 4 physical inputs + Virtual video conferencing mode + System Off

Video routing together with USB port power (Hot plug detect control), UX Control and Display Control can be set here for each Mode and hence each input. The default set-up should work, however check settings as shown on the following pages.



## 6.D.5 Input 1 USB-C.




UX control (External Device on ABNET)

Port Power: **On**
Host Select: **A**
Toggle Power: **Yes**

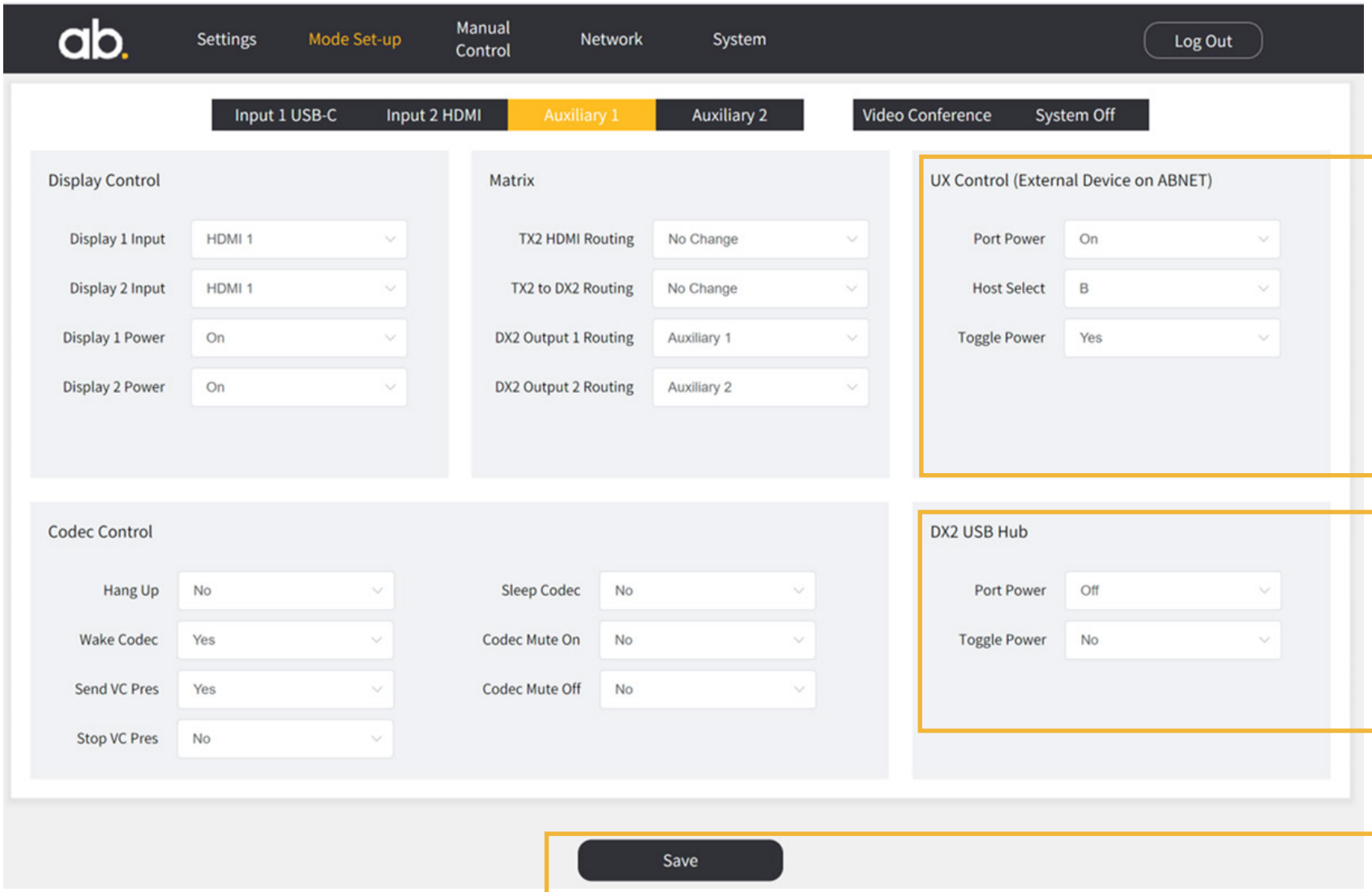
DX2 USB Hub

Port Power: **On**
Toggle Power: **No**

If any changes are made, don't forget to push the 'Save' button

## 6.D.6 Input 2 HDMI.

For Input 2 HDMI mode the UX control settings are set the same as Auxiliary 1. This means that when a laptop is connected to the HDMI input on the TX2 the Poly Studio will remain connected to the PC. In this instance 'Toggle Power' should be set to 'No'




UX control
(External Device on ABNET)

Port Power: **On**
Host Select: **B**
Toggle Power: **No**

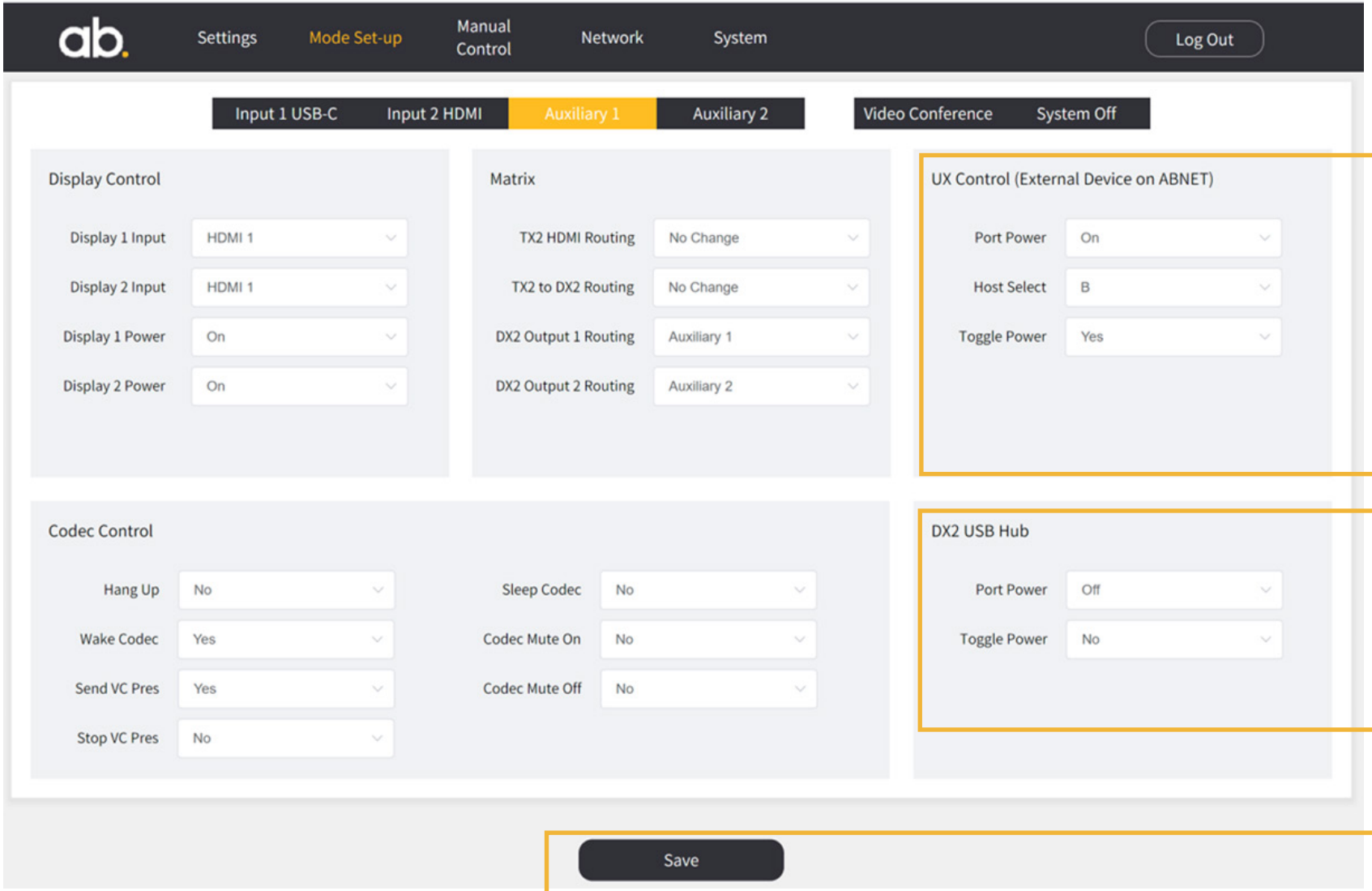
DX2 USB Hub

Port Power: **Off**
Toggle Power: **No**

If any changes are made, don't forget to push the 'Save' button

## 6.D.7 Auxiliary 1.

The Auxiliary settings are a little different to the USB-C settings as detailed below:




UX control
(External Device on ABNET)

Port Power: **On**
Host Select: **B**
Toggle Power: **Yes**

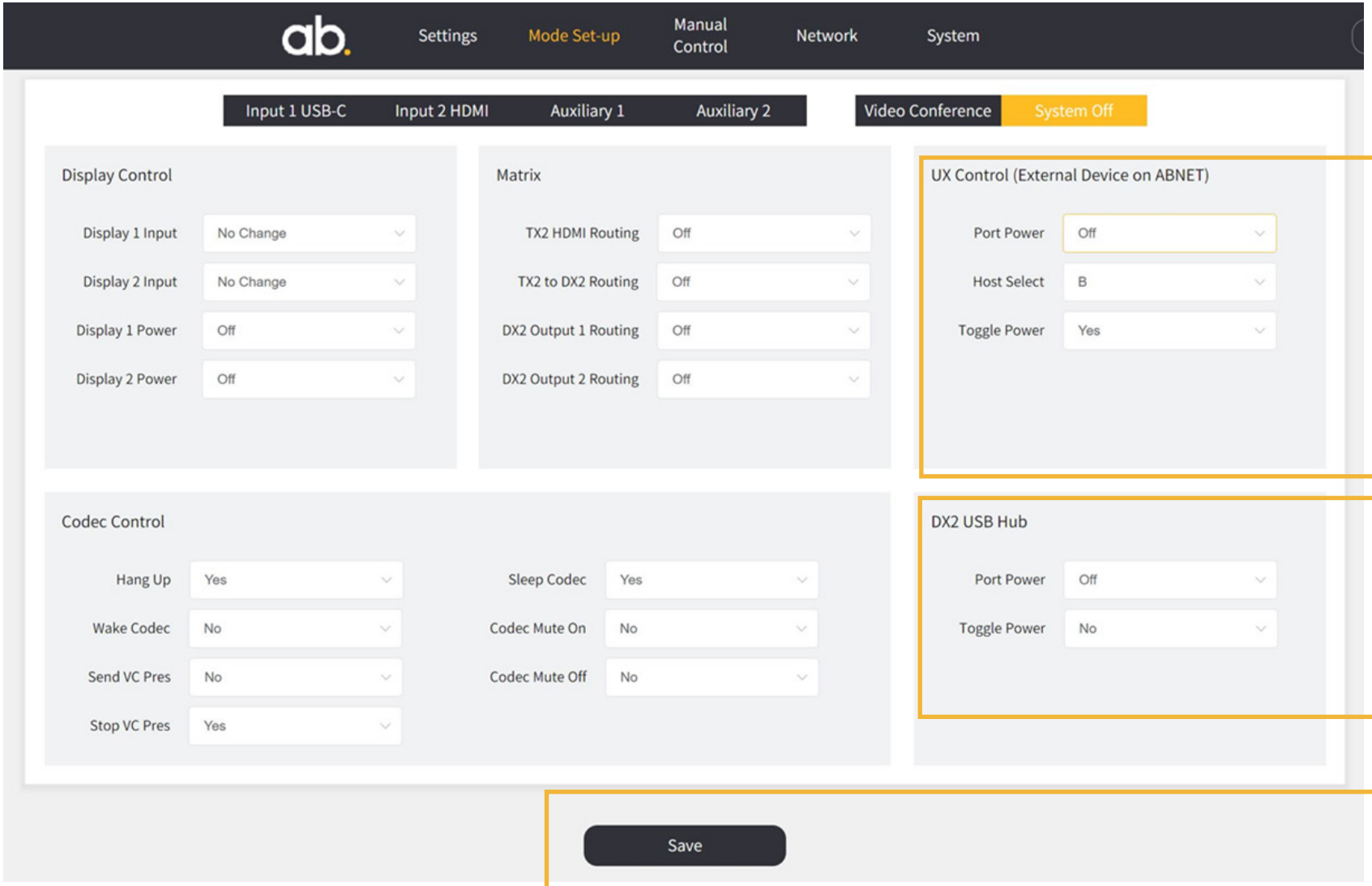
DX2 USB Hub

Port Power: **Off**
Toggle Power: **No**

If any changes are made, don't forget to push the 'Save' button

## 6.D.8 System Off.

In the Off mode we've set the UX port power to off, this will disconnect the Poly Studio bar from the system when the PC goes to sleep. This should ensure that the Poly correctly enumerates when the system switches back on again.




UX control
(External Device on ABNET)

Port Power: **On**
Host Select: **B**
Toggle Power: **Yes**

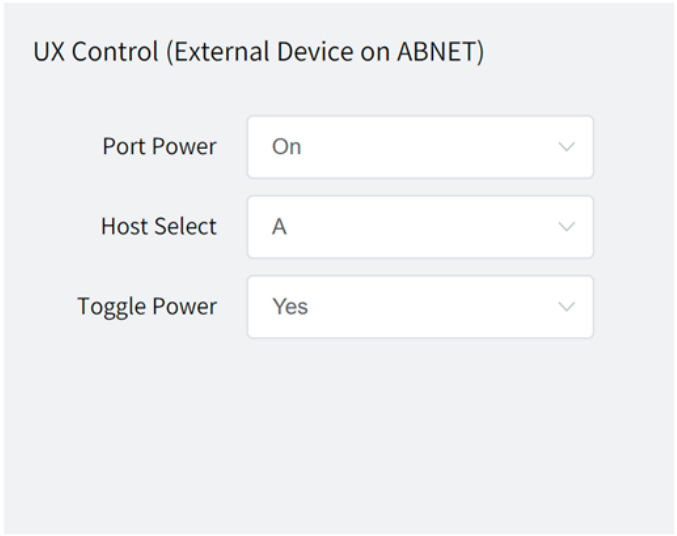
DX2 USB Hub

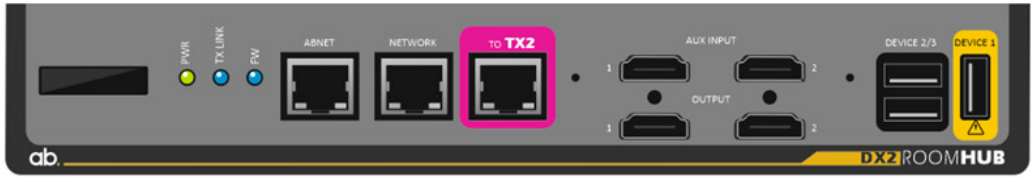
Port Power: **Off**
Toggle Power: **No**

If any changes are made, don't forget to push the 'Save' button

## 6.D.9 In Summary: PC is awake.

When the PC is awake, and there is no laptop connected to the TX2, the Poly studio is routed to the PC via host port ‘B’ on the UX Smart Switch. UX port power is on. Video is routed from the PC to Aux 1 in the DX2 and then to output 1.



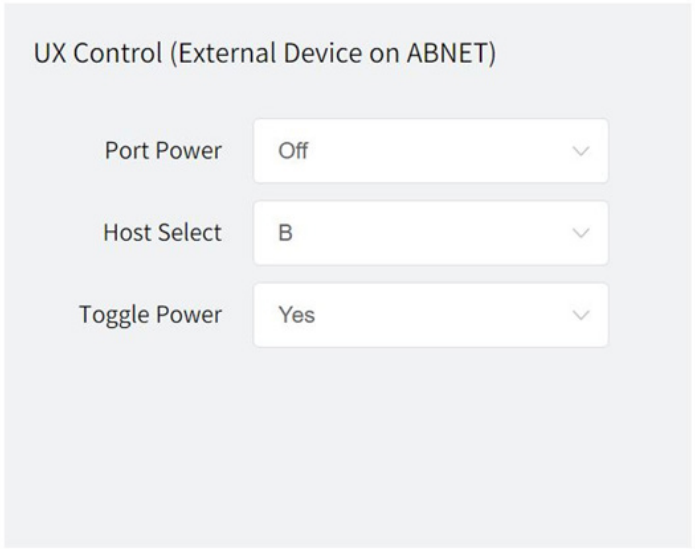



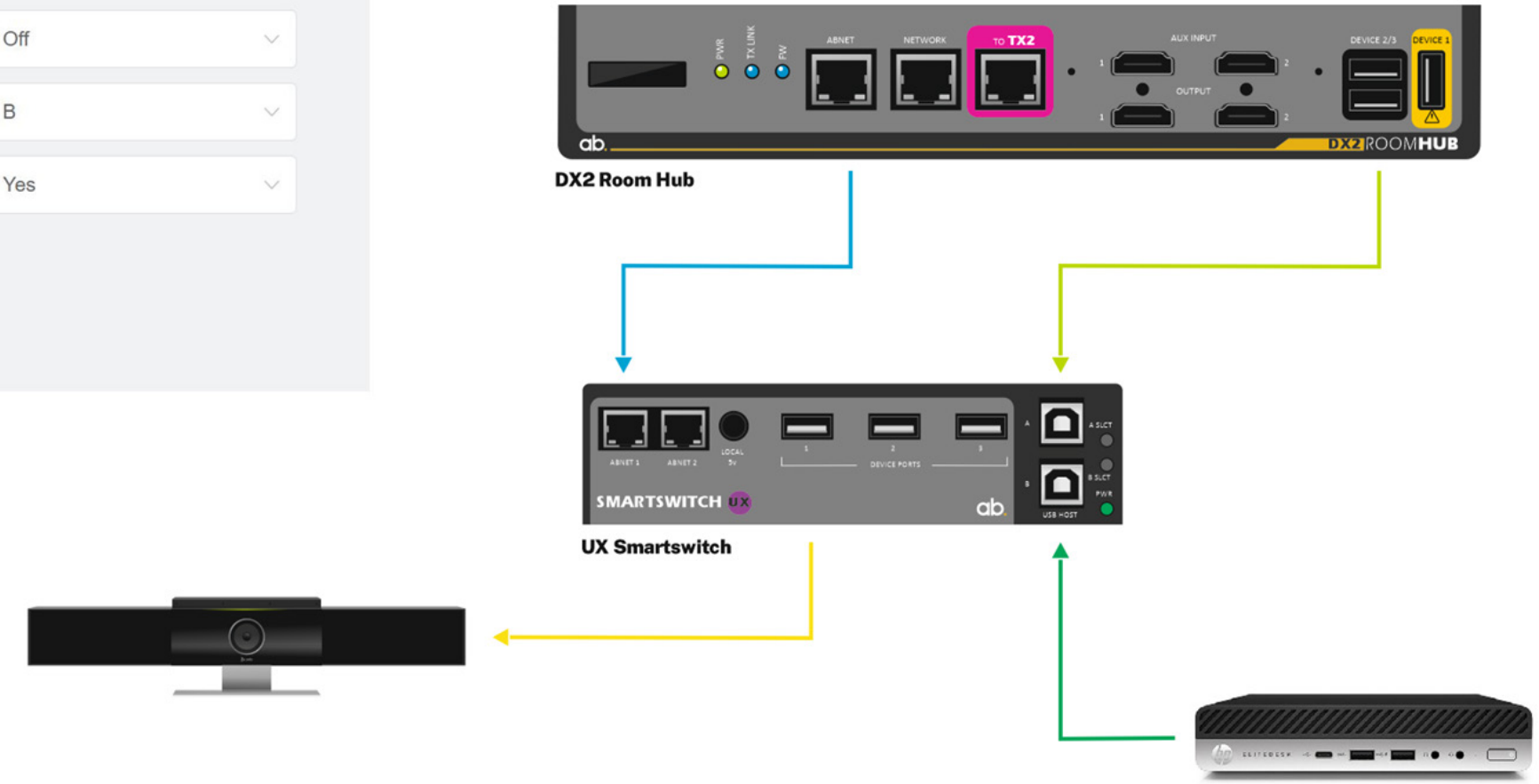

DX2 Room Hub


UX Smartswitch

## 6.D.9 In Summary: laptop is disconnected.

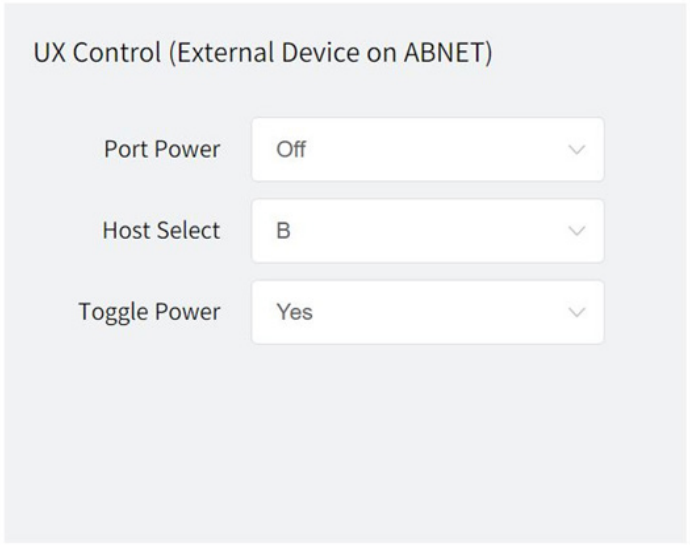
When the laptop is disconnected, the UX will automatically flip the Poly Studio back to the PC if it is awake.

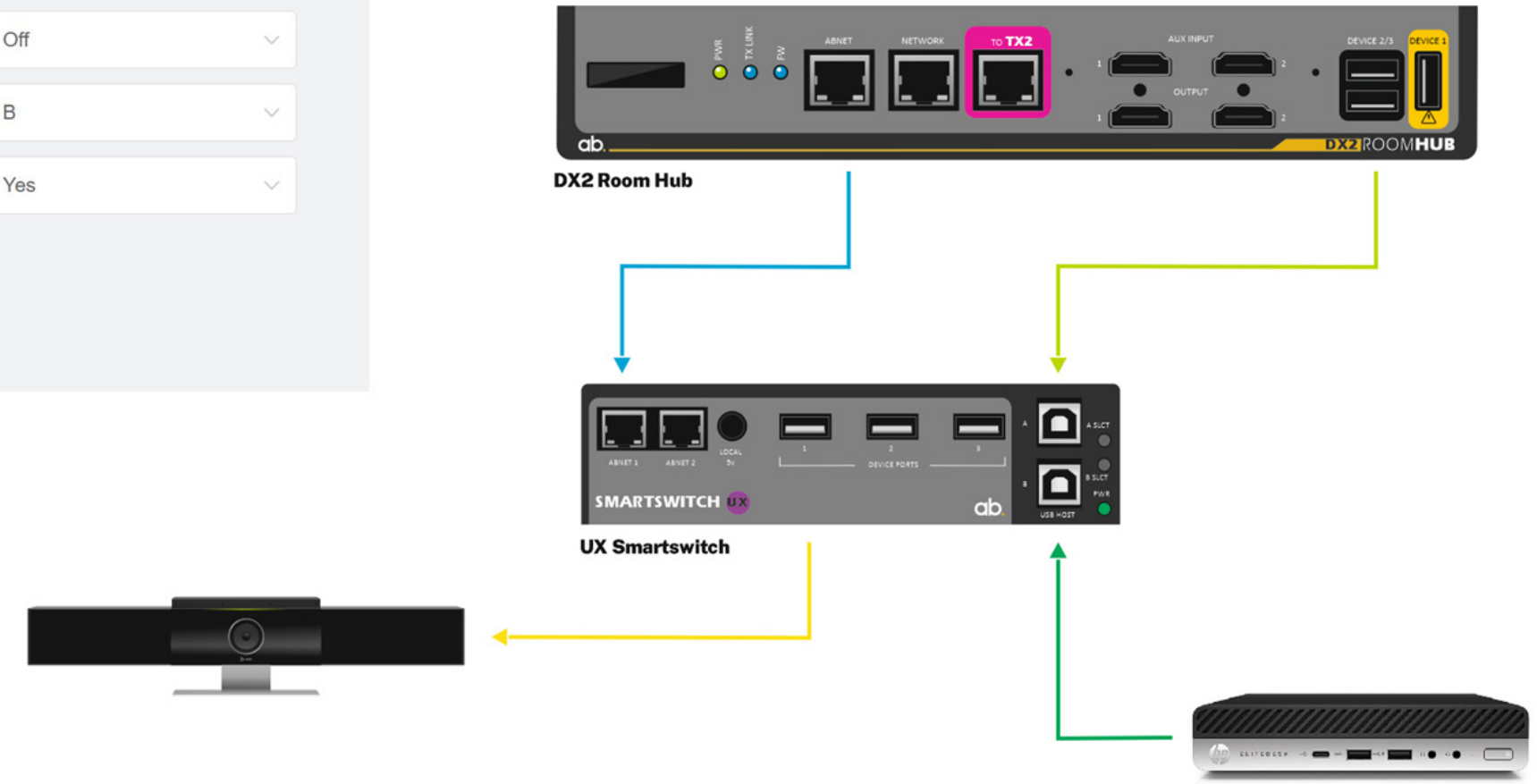


## 6.D.9 In Summary: PC goes to sleep.

When the PC goes to sleep, the system will turn off. The UX port power will then turn off and this disconnects the Poly Studio from the PC.

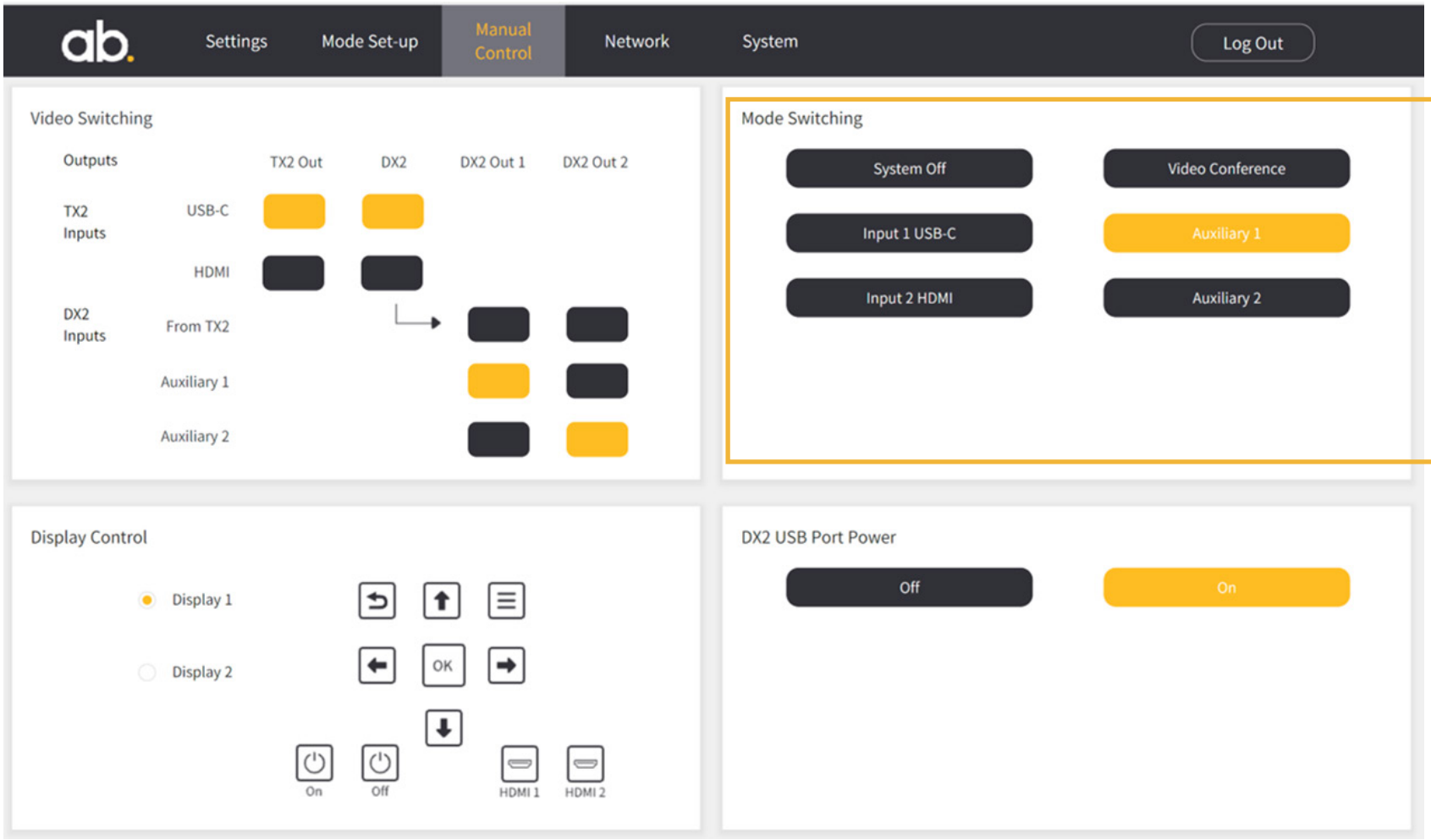


## 6.D.10 Manual Control / Testing.

The Manual Control Tab on the DX2 web interface allows testing and diagnostics.

Pushing the mode switching buttons will force the system into the various modes even if there is nothing connected to the inputs. If you observe the LED indicators on the top of the UX when you switch modes, you should see the LEDs change on the UX according to the settings.




With a USB-C laptop connected, you can manually change modes here

# 7. Troubleshooting

# 7.A: Troubleshooting.

**Device not connecting:**
Check that a host PC/laptop is connected to the correct Host port on the UX. The currently active Host port will have a green LED indicator. There is a power LED indicator next to the Device ports, this should also be green. If using the TX2/DX2 check that the cable between the UX and the DX2 is connected to Device port 1 on the DX2, and Host port A on the UX. If the power indicator is not green check the UX settings in the DX2 System Configuration tool..

**UX does not switch:**
Check that the UX is connected correctly. Then using the DX2 System Configuration tool:
• Check settings for each of the Modes
• Using 'Manul Control' switch between Modes

If this is all correct and the UX is not responding, the UX may require a firmware upgrade.

**UX reboots during a switch:**
All the LEDs going out during the switch which causes inconsistent behavior. This is due to too much current draw on the UX Device ports, easily remedied by connecting the optional external PSU to the UX.

It is important that the correct PSU is used with each model of UX. The earlier hardware versions (without the power LED indicators on the Device ports) used a 5V power supply. The latest UX uses a 24V power supply.

The voltage is clearly marked on the UX next to the connector. Ensure that the correct power supply, either 5V or 24V is used, no other voltage should be used. We recommend a minimum of 1A. If in doubt, contact Ashton Bentley support. Note that connecting an incorrect power supply will cause significant damage to both the UX and any connected devices, and invalidates the warranty.

**USB Limitations (Tiers):**
There is a limit to the number of devices that can be daisy chained (tiered) together to build a system. This limit is 7 including the Host and devices themselves. Some USB devices have hubs built in which count as an additional tier. The TX2/DX2 consumes one tier, and the UX is another. Some USB extension devices add multiple tiers. If the number of tiers goes above 7, the system will not work. The only way to resolve this is to reduce the number of tiers.

**How to troubleshoot issues with the UX:**
1) Connect a laptop directly to the active Host port on the UX and a USB device to the UX device port. The device should be seen by the laptop. If not, check the device is powered correctly then connect directly to the laptop and see if this works.

2) If using the TX2/DX2 try connecting the device directly to Device port 2 or 3 on the TX2. If this does not work, check the device is powered correctly and the laptop is connected correctly to the TX2 via an Ashton Bentley USB-C cable.

3) The UX is controlled by the DX2 so it's vital that the DX2 is set up correctly. Check the DX2 Mode settings and with a laptop connected to the TX2, and a host directly connected to the UX, test the set-up by selecting the Modes on the DX2 'Manual Control' page in the System Configuration tool.

4) A very useful software tool for testing USB set-ups is Uwe Sieber 'USB Device Tree Viewer' which is available from: https://www.uwe-sieber.de/usbtreeview_e.html

**Any other issues:**
Please email support@ashtonbentley.com

# 8. Technical Data

# 8.A UX Specification.

| | |
|---|---|
| ESD Protection | Human body model<br>— ±8kV (Air-gap discharge) &<br>±4kV (Contact discharge) |
| Inputs | 2 x USB-B Hosts<br>1 x 24v DC Jack<br>2 x ABNET control ports |
| Outputs | 3 x USB-A Ports [With 5v power switching]<br>— Max 5v @ 0.9A per port<br>— Max 1.2A in total unless using option external DC power supply. |
| Housing: | Metal Enclosure |
| Color: | Black |
| Shipping Weight | 0.5Kg, |
| Dimensions | See Mechanical Dimensions (Pg22) |
| Power Supply | Over ABNET from DX2, or via optional PSU |
| Power Consumption | 3W (excluding connected USB devices) |
| Operating Temperature | 32-104°F / 0-40°C |
| Storage Temperature | -4-140°F / -20-60°C |
| Relative Humidity | 20-90% RH (no condensation) |

# 8.B UX Dimensions


The BX unit is housed on a standard Ashton Bentley back plate for mounting under furniture or inside cabinets.

# 9. Environmental Policy

# Environmental Policy.

Through careful design and selection of materials, Ashton Bentley is committed to designing and manufacturing products that minimise the effect on the environment.

**Materials and Manufacture**
All Ashton Bentley products are manufactured primarily from natural base metals with a minimum number of treatments and finishes applied. This product design, with a view to managing the future recycling process, allows most product components to easily be disassembled, recycled and re-used without the use of specialist equipment.

Ashton Bentley products are on average made from >98% recyclable materials. Ashton Bentley continue to develop design and manufacturing processes that minimise raw materials used whilst endeavoring to increase the percentage of materials that can be easily recycled and re-used.

**Packaging**
Ashton Bentley packaging has been designed to use the minimum amount of material required to provide protection of the product during transport and shipping.

Where possible we have used recycled materials and all parts of our product packaging can be easily recycled or retained for future use.

**Recycling Ashton Bentley**
All Ashton Bentley products have been designed to provide many years of trouble-free service, however, when the time comes to dispose of your system, Ashton Bentley offer a fully inclusive program under the European WEEE directive 2012/19/EU and its subsequent amendments.

# 10. Warranty

# Warranty Overview.

All Ashton Bentley products are designed and manufactured to the highest possible standards providing customers with many years of trouble-free service.

Our aim is to provide high-quality, low-cost solutions that can be used and managed day-to-day with the minimum effort.

Because things do occasionally go wrong Ashton Bentley warrants that its products shall conform to the applicable published and/or agreed upon operational specifications and shall be free from defects in material, workmanship, and functionality for a period of 3 years after the date of purchase.

This warranty cover provides:

• 3 Years - Return to Base. Repair or Replace

The warranty services will be managed and provided by an Ashton Bentley approved service partner who is fully supported by Ashton Bentley.

**Return to Base. Return And Repair**

Our warranty provides “Return to Base cover for a period of three years from the date of purchase. Any system, or part of a system, identified as faulty will be repaired or replaced at our UK facility or by our local service partner from whom the system was purchased.

No charge will be made for this repair or replacement providing that the faulty system/ component be correctly packaged and returned.

Our warranty is intended to provide customers with a transparent repair or replacement service if things go wrong, however, please note that our warranty does not include the following:

• Cosmetic damage where it does not affect the operation or safety of the product.

• Charges for repairs undertaken by any other party.

• The cost of repairing or replacing a product which fails because anyone neglects, abuses, or misuses the product.

• In operability of a product caused by the failure of services provided by a third party

• Theft or any loss suffered if you cannot use the product or any loss other than repair or replacement.

Where items have been returned to us and are found to have been subject to any of the above, we reserve the right to charge for the repair or replacement and all costs incurred to return the item.

Note: Any repaired or replaced product shall not extend the originally established warranty period. This express warranty relates to the original end-user purchasing the product and is not assignable or transferable to any other party or subsequent purchasers, unless otherwise agreed in writing by Ashton Bentley. The terms of Ashton Bentley “Total Cover Warranty” do not affect your statutory rights, the right to charge for the carriage, appropriate repair and testing or a replacement unit.

Process:

1. When a unit is purchased the customer, or the service partner on behalf of the customer, will complete the Ashton Bentley warranty registration documentation and forward this by e-mail to Ashton Bentley in the UK.

2. Should a fault occur you simply report the fault to Ashton Bentley or your local service partner from whom the unit was purchased giving them your product registration details. The service partner will then contact you to gain as much information about the nature of the fault as they can and facilitate a resolution remotely if possible.

3. Should that not be possible the faulty system or component will be identified, and you are requested to suitably pack and return the faulty system or component back to Ashton Bentley facility in the UK or your local service partner at your cost.

4. On receipt, the unit will be inspected, and we will either carry out a repair or supply a replacement and return to the service partner or to the site.

5. Return carriage costs will be covered by Ashton Bentley however any local import duties/ taxes will be your responsibility.

Ashton Bentley

## Want to know more?

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