



# USB-SW-200 and USB-SW-400 USB 3.2 Data Matrix Switchers

Product Manual

Crestron Electronics, Inc.

The original language version of this document is U.S. English.  
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**Regulatory Model:** M202208001

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# Overview

USB 3.2 Data Matrix Switchers provide a plug-and-play, point-to-point solution for quickly connecting and sharing USB devices. An array of switching options offer maximum flexibility for any application.

- **Bring Your Own Meeting (BYOM):** Add BYOM capability to your meeting space with the USB 3.2 Data Matrix Switcher. Share USB peripherals such as cameras, microphones, and soundbars between the room's PC and your laptop.
- **Connect Multiple UC Platforms:** Connect multiple UC platforms to the USB 3.2 Data Matrix Switcher and share USB room peripherals between them.
- **Command and Control:** Control up to two (USB-SW-200) or four (USB-SW-400) computers with the same set of USB peripherals. Utilize built-in hotkey shortcuts, mouse pointer switching, and keep alive emulation for seamless transitions.



- Full matrix USB 3.2 data switcher
- Two (USB-SW-200) or four (USB-SW-400) USB-C® host ports and six device USB ports
- Supports 10 Gbps SuperSpeed+ USB 3.2 data
- Automatic and priority USB routing
- Mouse-based and keyboard shortcut host switching
- Dedicated HID ports with keep alive emulation
- Simple operation with front panel control or web interface
- Integration with Rest API, SIMPL, SIMPL#Pro
- Enterprise-grade security encryption protects privacy and ensures compliance with IT policies
- XiO Cloud® service support for remote provisioning and management
- Compact surface-mountable design

## Host and Device Ports

The USB 3.2 Data Matrix Switcher's USB-C host ports, and two USB-A and two USB-C device ports support USB 3.2 Gen 2 data transfer up to 10 GBps. Two dedicated HID USB-A ports support USB 2.0 data transfer of up to 480 MBps. These dedicated HID ports are routed together and enable hotkey and mouse cursor switching.

**NOTE:** The USB-C 3.2 Gen 2 data connectors do not support DisplayPort™ Video (DP Alt Mode) or Power Delivery (PD).

## Keep Alive Emulation

With Keep Alive emulation, the dedicated HID ports ensure seamless switching between host devices by constantly mimicking mouse and keyboard communications within the switcher. This emulation also ensures reliable communication between devices and the USB 3.2 Data Matrix Switcher.

## Matrix Switching

Easily route USB data from the six device USB ports to host devices. Device USB ports can also be locked to dedicated hosts or configured through programming. Selection push buttons on the front panel of the USB 3.2 Data Matrix Switcher allow the desired routes to be selected manually.

## Switching with Peripherals

Connecting a mouse and keyboard to the dedicated HID ports enables additional switching behavior. With a keyboard, customizable keystrokes can be used to switch some or all peripherals to the desired host device. With a mouse, automatically switch to the next host device by moving the cursor over to that host device's display.

## Automatic Switching with Priority Routing

Automatic switching among the USB ports can occur based on the last connected device or on the routing priority assigned to each port. Switching behavior is configurable using the web interface or the XiO Cloud® service and is programmable using a Crestron control system.

## Enterprise-Grade Security

The USB 3.2 Data Matrix Switcher is an enterprise-grade solution that can be deployed across hundreds of spaces and set up easily using just a web browser, the front panel, or the XiO Cloud service. Employing standard network security protocols such as 802.1x network access control, Active Directory® authentication, SSH, SSL, and secure CIP, the USB 3.2 Data Matrix Switcher protects privacy and ensures compliance with your organization's IT policies.

## XiO Cloud® Provisioning and Management Service

The USB 3.2 Data Matrix Switcher is compatible with the XiO Cloud service, which enables installers and IT managers to easily deploy and manage thousands of devices. The XiO Cloud service allows for system alerts and network management and provisioning.

For more information, visit [www.crestron.com/xiocloud](http://www.crestron.com/xiocloud).

# Products

The USB 3.2 Data Matrix Switcher is available in the following models:

- [USB-SW-200](#), 2-Input USB 3.2 Data Matrix Switcher
- [USB-SW-400](#), 4-Input USB-3.2 Data Matrix Switcher

# Specifications

Refer to the following sections for more information on the specifications for the USB 3.2 Data Matrix Switcher.

This section provides the following information:

- [USB-SW-200 Specifications on page 7](#)
- [USB-SW-400 Specifications on page 10](#)

# USB-SW-200 Specifications

Product specifications for the USB-SW-200 are provided below.

## Product Specifications

### Connectors

**NOTE:** This device uses two tiers of USB.

HOST 1-2	(2) USB-C 3.2 Gen 2 data connectors NOTE: DisplayPort™ Video (DP Alt Mode) and Power Delivery (PD) are not supported.
DEVICE 1-4	(2) USB-C 3.2 Gen 2 data connectors; Provides 15 W total power over USB between ports NOTE: DisplayPort Video (DP Alt Mode) and Power Delivery (PD) are not supported. (2) USB-A 3.2 data connectors; Provides 4.5 W total power over USB between ports

**NOTE:** The USB-C 3.2 Gen 2 data connectors do not support DisplayPort™ Video (DP Alt Mode) or Power Delivery (PD).

DEVICES HID	(2) USB-A 2.0 connectors; USB 2.0/1.1 port for keyboard and mouse; Provides 2.5 W total power over USB between ports
LAN	(1) 8-pin RJ-45 connector; 100Base-TX/1000Base-T Ethernet port
24V 4A	(1) DC power connector; 24VDC power input
INPUT	(1) 3-pin 3.5 mm detachable terminal block; Programmable digital I/O connector; By default, a button press trigger routes all unlocked USB devices to that host
SERVICE	(1) USB-A 2.0 connector; Enabled in the web configuration

### Controls and Indicators

PWR	(1) Multicolor LED, indicates operating power supplied
SETUP	(1) LED; (1) Push button for unit restore
AUTO	(1) LED; (1) Push button for selecting auto-switching mode
HOST 1-2	(2) LEDs; (2) Push buttons for manual routing

### Power

Power Pack	4A @ 24VDC; Model: PW-2440RU
------------	---------------------------------

Power Consumption 46 W

### Environmental

---

Temperature 32° to 104° F (0° to 40° C)

Humidity 10% to 95% RH (non-condensing)

### Construction

---

Mounting Freestanding or surface mount

Chassis Metal, black finish

### Dimensions

---

Height 1.12 in. (28 mm)

Width 8.36 in. (212 mm)

Depth 5.04 in. (128 mm)

### Weight

---

1.4 lb (.63 kg)

### Compliance

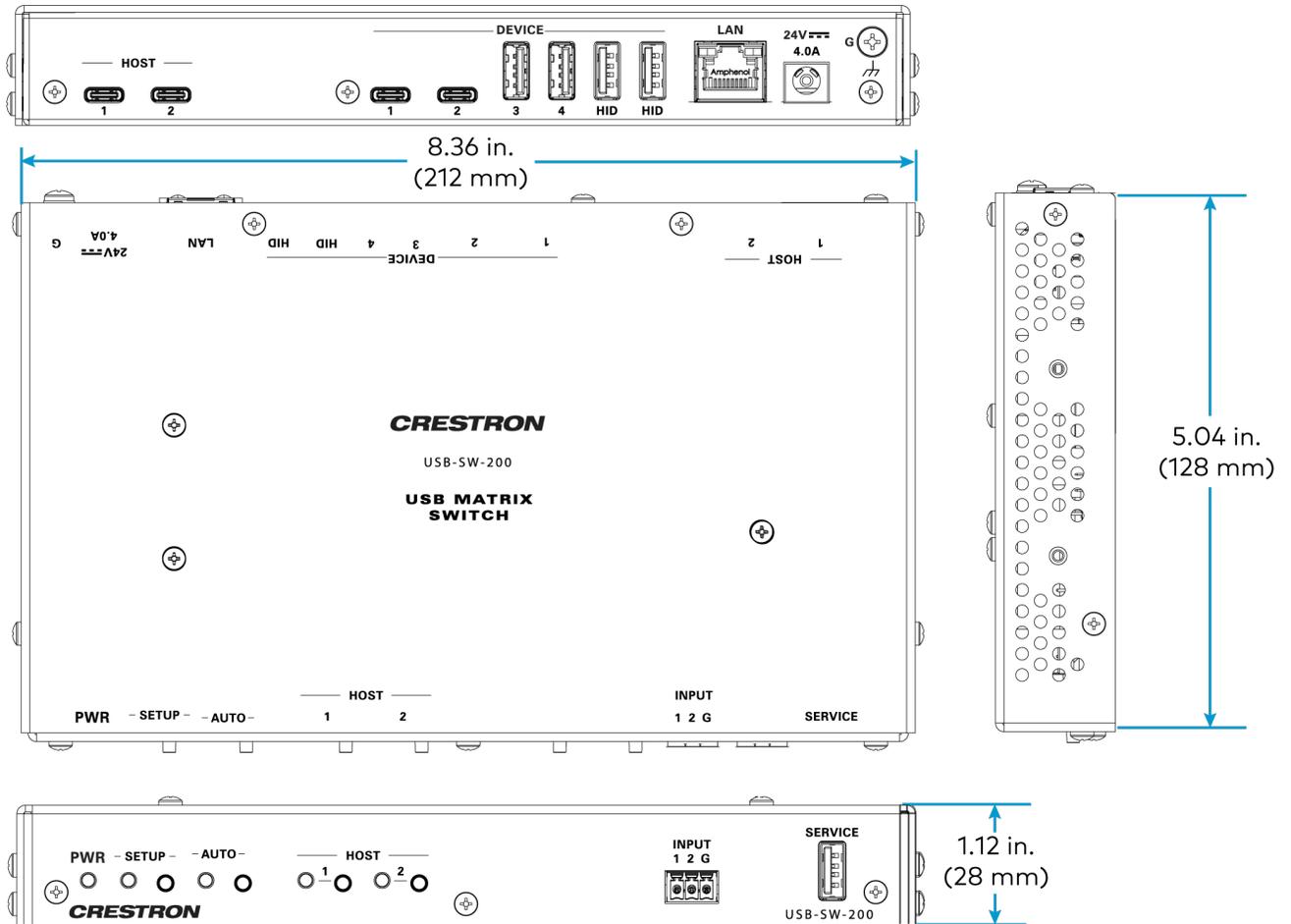
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**Regulatory Model: M202208001**

FCC Part 15 Class B, IC Class B, CE, Intertek® Listed for US and Canada

# Dimension Drawings

Dimension drawings for the USB-SW-200 are provided below.



# USB-SW-400 Specifications

Product specifications for the USB-SW-400 are provided below.

## Product Specifications

### Connectors

**NOTE:** This device uses two tiers of USB.

HOST 1-4	(4) USB-C 3.2 Gen 2 data connectors
DEVICE 1-4	(2) USB-C 3.2 Gen 2 data connectors; Provides 15 W total power over USB between ports (2) USB-A 3.2 data connectors; Provides 4.5 W total power over USB between ports

**NOTE:** The USB-C 3.2 Gen 2 data connectors do not support DisplayPort™ Video (DP Alt Mode) or Power Delivery (PD).

DEVICES HID	(2) USB-A 2.0 connectors; USB 2.0/1.1 port for keyboard and mouse; Provides 2.5 W total power over USB between ports
LAN	(1) 8-pin RJ-45 connector; 100Base-TX/1000Base-T Ethernet port
24V 4A	(1) DC power connector; 24VDC power input
INPUT	(2) 3-pin 3.5 mm detachable terminal blocks; Programmable digital I/O connectors; By default, a button press trigger routes all unlocked USB devices to that host
SERVICE	(1) USB-A 2.0 connector; Enabled in the web configuration

### Controls and Indicators

PWR	(1) Multicolor LED, indicates operating power supplied
SETUP	(1) LED; (1) Push button for unit restore
AUTO	(1) LED; (1) Push button for selecting auto-switching mode
HOST 1-4	(4) LEDs; (4) Push buttons for manual routing

### Power

Power Pack	4A @ 24VDC; Model: PW-2440RU
Power Consumption	47 W

## Environmental

---

Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 95% RH (non-condensing)

## Construction

---

Mounting	Freestanding or surface mount
Chassis	Metal, black finish

## Dimensions

---

Height	1.12 in. (28 mm)
Width	8.36 in. (212 mm)
Depth	5.04 in. (128 mm)

## Weight

---

1.4 lb (.63 kg)

## Compliance

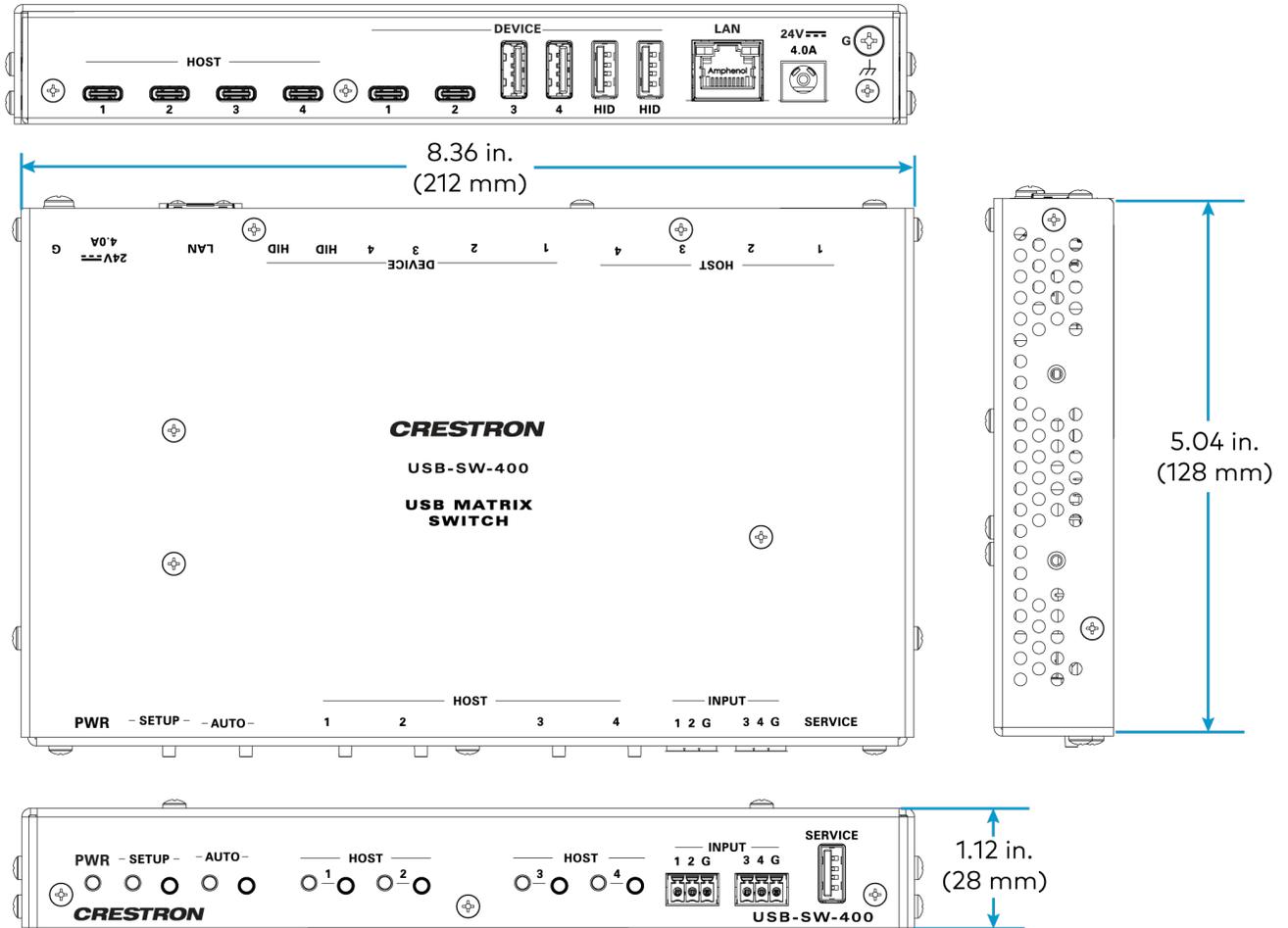
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### **Regulatory Model: M202208001**

FCC Part 15 Class B, IC Class B, CE, Intertek® Listed for US and Canada

# Dimension Drawings

Dimension drawings for the USB-SW-400 are provided below.



# Application Drawings

This section contains examples of projects utilizing the USB 3.2 Data Matrix Switcher.

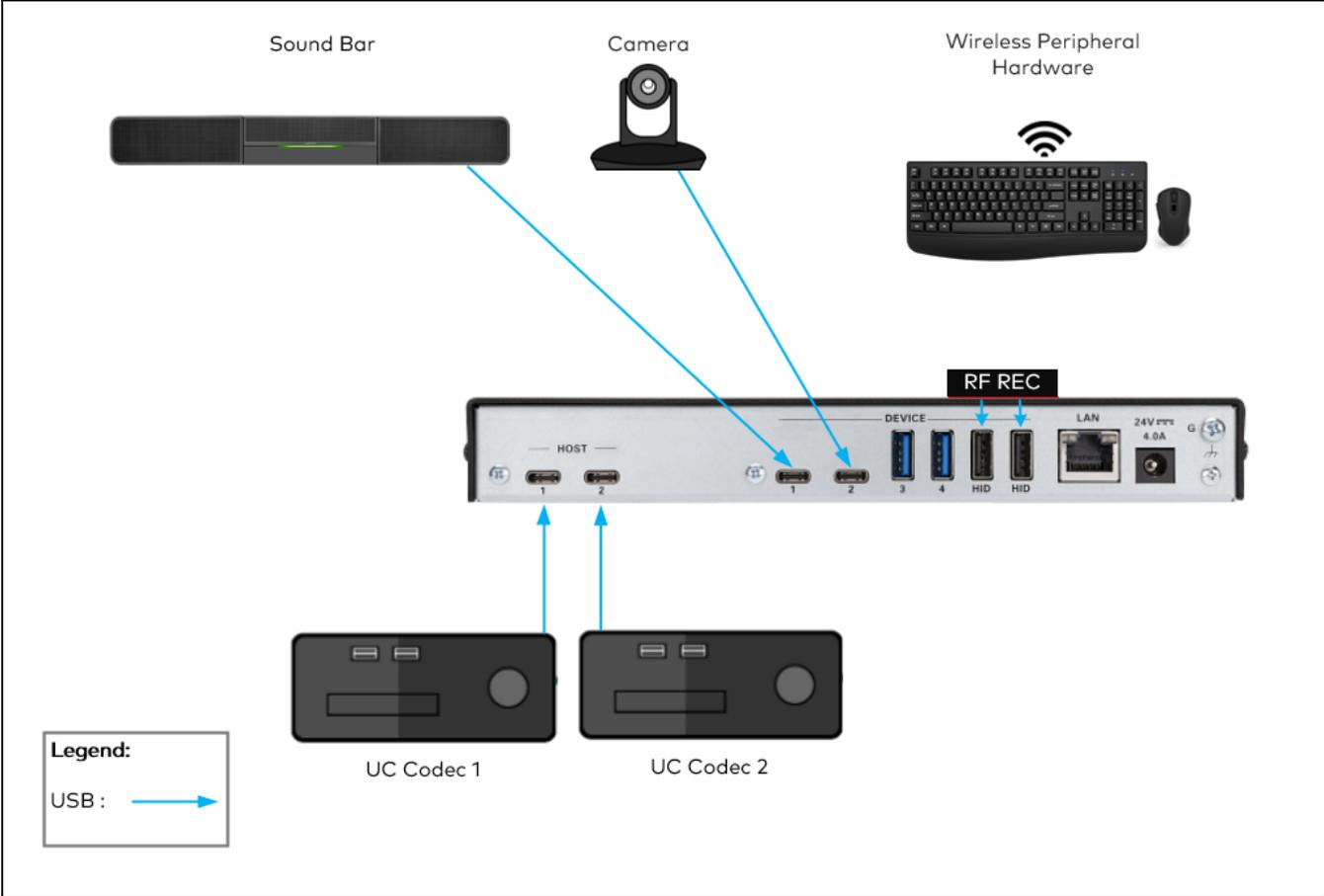
- [Meeting Peripherals and Multiple UC Codecs on page 14](#)
- [Meeting Peripherals, Multiple UC Codecs, and a Display on page 15](#)
- [Multiple PCs with One Set of Peripherals on page 16](#)
- [Bring Your Own Meeting Setup on page 17](#)

# Meeting Peripherals and Multiple UC Codecs

In this scenario, the USB-SW-200 is providing meeting and control peripheral access to multiple UC codecs.

- The sound bar and camera can be routed individually to either UC codec.
- The wireless keyboard and mouse can be routed together to either UC codec.

This setup is ideal for a small conference room.

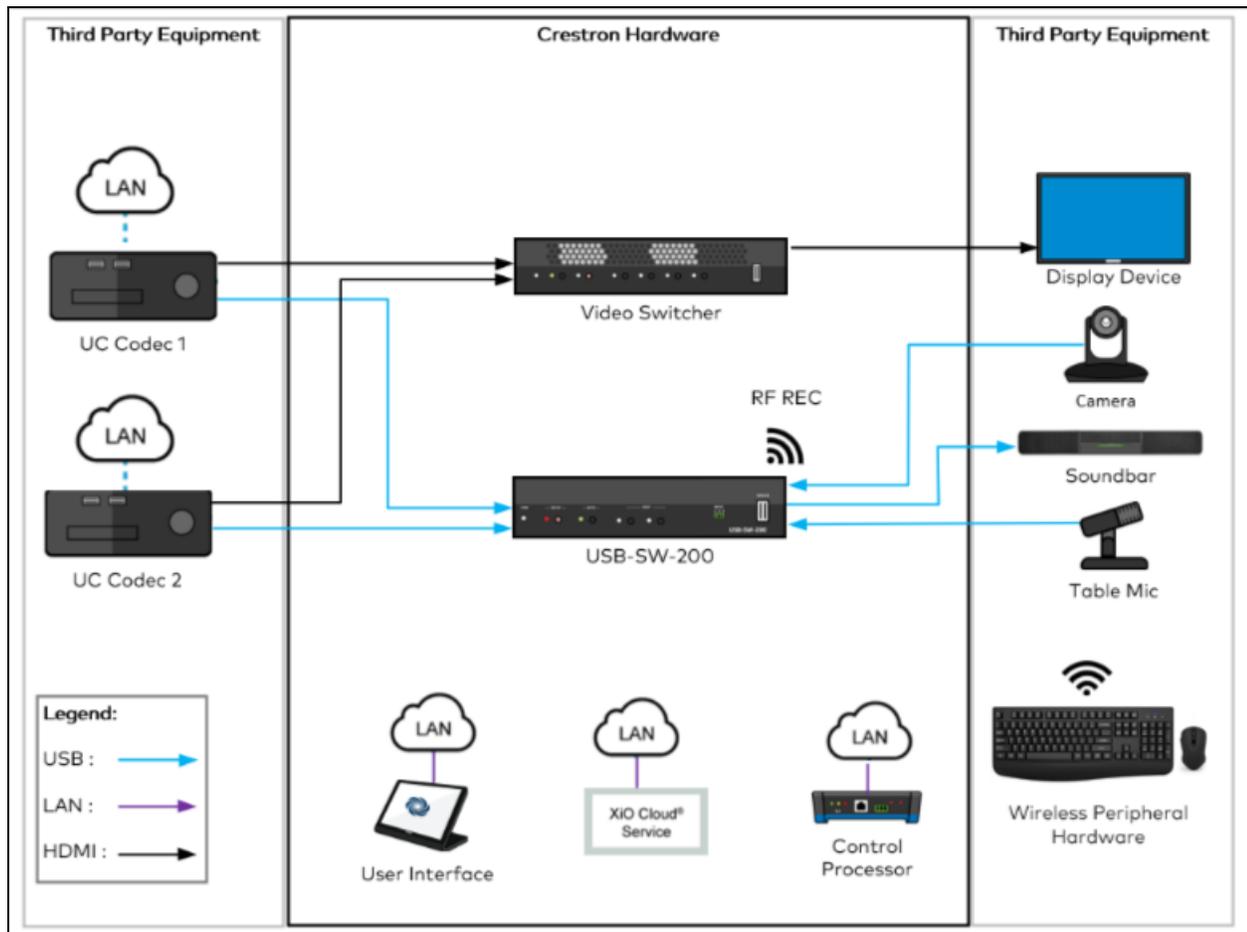


# Meeting Peripherals, Multiple UC Codecs, and a Display

In this scenario, the USB-SW-200 is providing meeting and control peripheral access to multiple UC Codecs.

- The sound bar, camera, and table mic can be routed individually to either UC Codec.
- The wireless keyboard and mouse can be routed together to either UC Codec.
- A video switcher handles AV from the UC Codecs.
- A touch panel offers users an additional interface to control the devices.
- A control processor has been added to control the video switcher, USB-SW-200, and the touch panel.
- With the XiO Cloud service, supported devices are managed remotely.

This setup is ideal for a medium to large conference room.

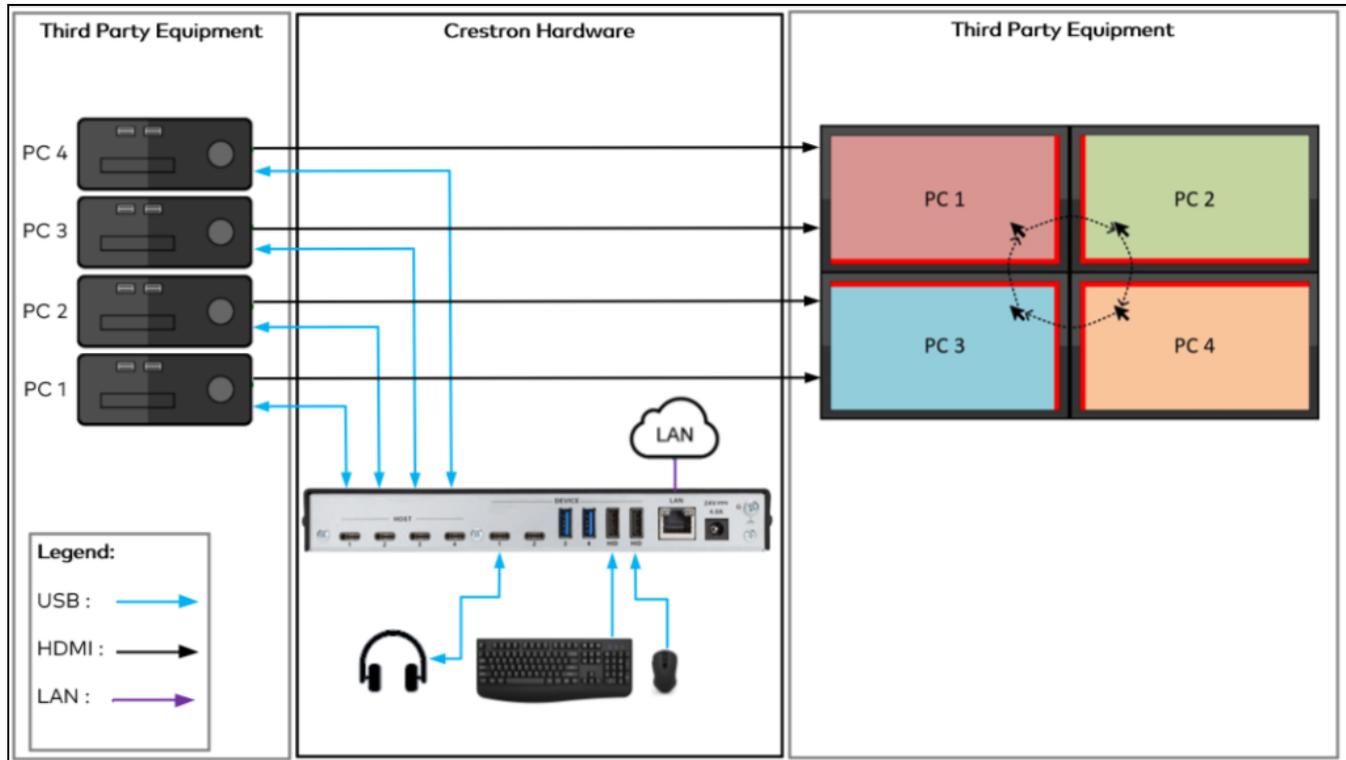


# Multiple PCs with One Set of Peripherals

In this scenario, the USB-SW-400 is providing peripheral access to multiple PCs.

- The headphones can be routed to any PC.
- The keyboard and mouse can be routed together to either UC Codec.
- The active PC can be switched by simply moving the mouse cursor to the corresponding display.

This setup is ideal for a workspace requiring multiple PCs or an Emergency Operations Center (EOC).

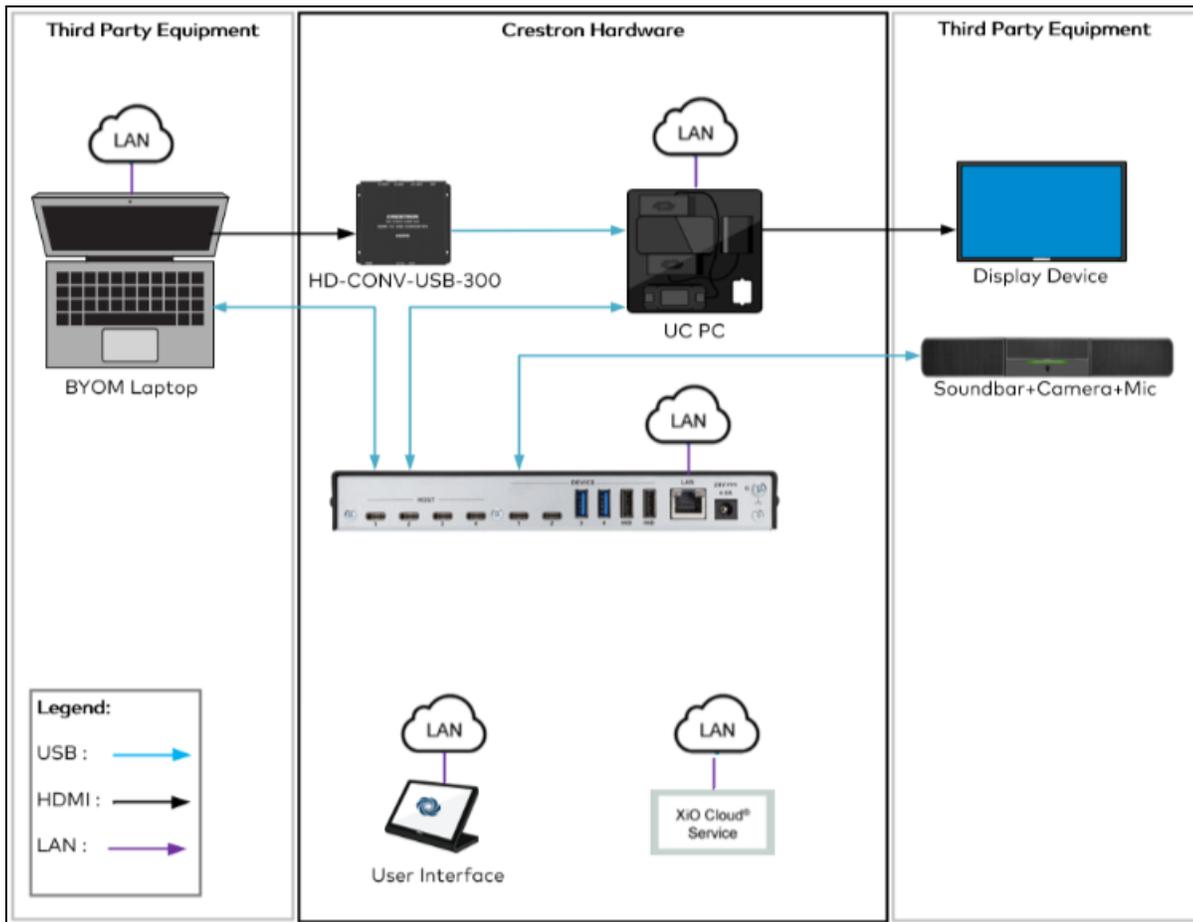


# Bring Your Own Meeting Setup

In this scenario, the USB-SW-400 is providing peripheral access to a UC PC and a Bring Your Own Meeting laptop.

- The meeting peripherals can be routed to either the UC PC or the BYOM laptop.
- The HD-CONV-USB-300 converts the laptop's HDMI to USB.
- A touch panel offers users an additional interface to control the devices.
- With the XiO Cloud service, supported devices can be managed remotely.

This setup is ideal for conference room in which participants bring their own laptops.



# Installation

Refer to the sections below to install the USB 3.2 Data Matrix Switcher.

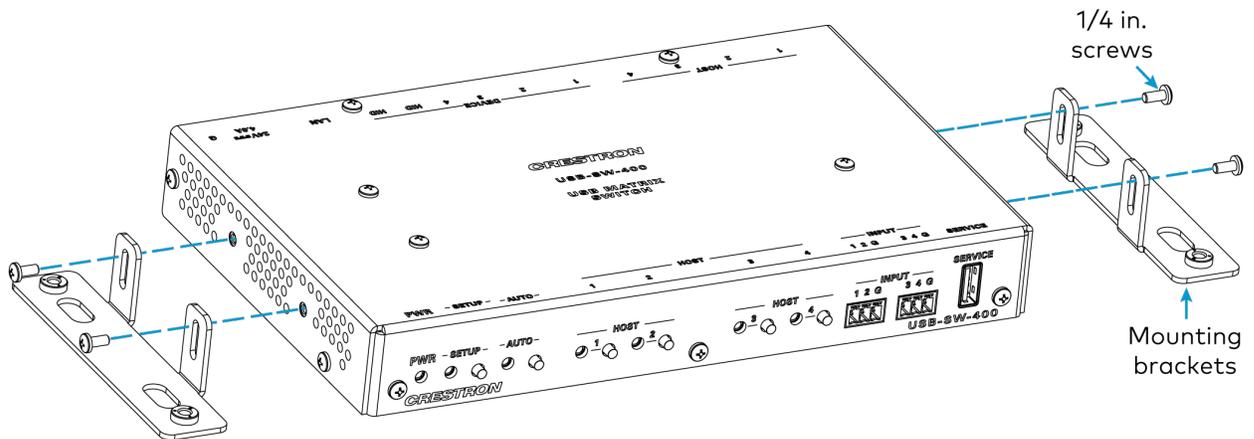
## In the Box

Qty.	Description
1	USB 3.2 Data Matrix Switcher
<b>Additional Items</b>	
4	Screw, 4-40 x 1/4 in., Phillips, Black (2007158)
4	Screw, 6-32 x 3/4 in., Truss, Combo, Zinc (2009211)
2	Metal mounting bracket, Black (2057072)
4	Plastic anchor (2043585)
1	3-pin connector (2003575)
4	Washer, Zinc (2007664)
1	24VDC power pack, PW-2440RU (2057005)
1	Power cord (2042043)

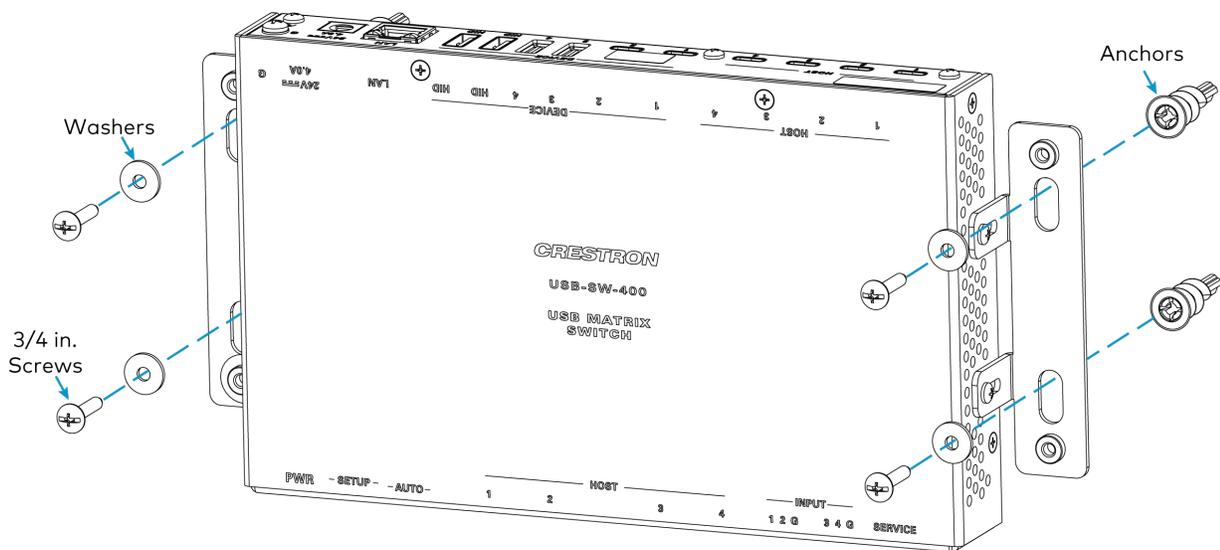
# Mount the Device

The USB 3.2 Data Matrix Switcher can be mounted to a flat surface. Follow the instructions below.

1. Using the included 1/4 in. screws, attach the included mounting brackets to the device.



2. Using the included washers, anchors, and 3/4 in. screws, mount the device to a flat surface.

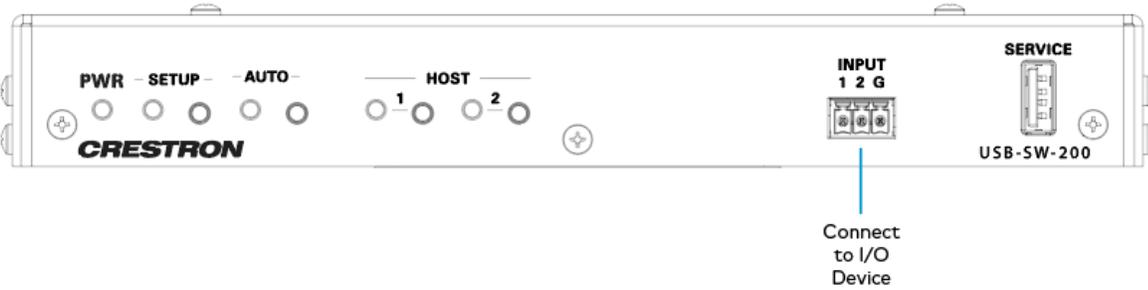


# Connect the Device

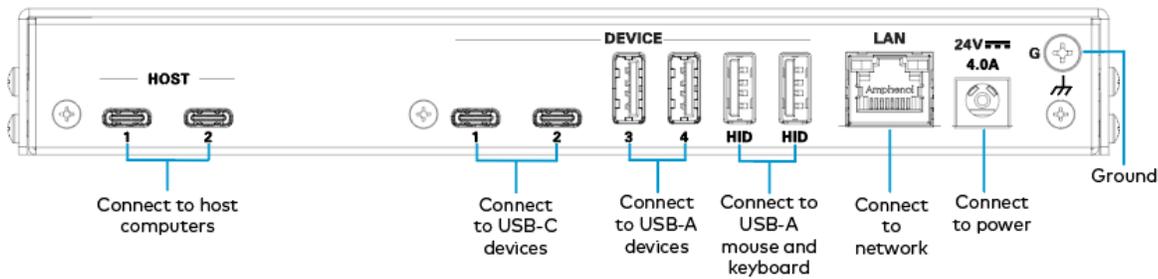
Make connections to the USB 3.2 Data Matrix Switcher as shown below.

## USB-SW-200 Connections

### Front Panel

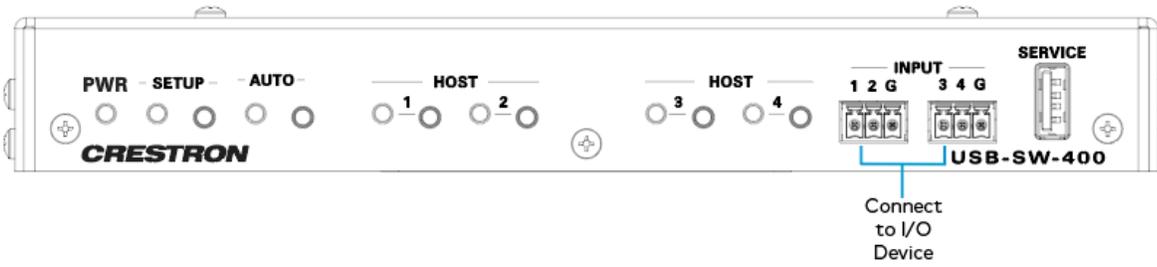


### Rear Panel

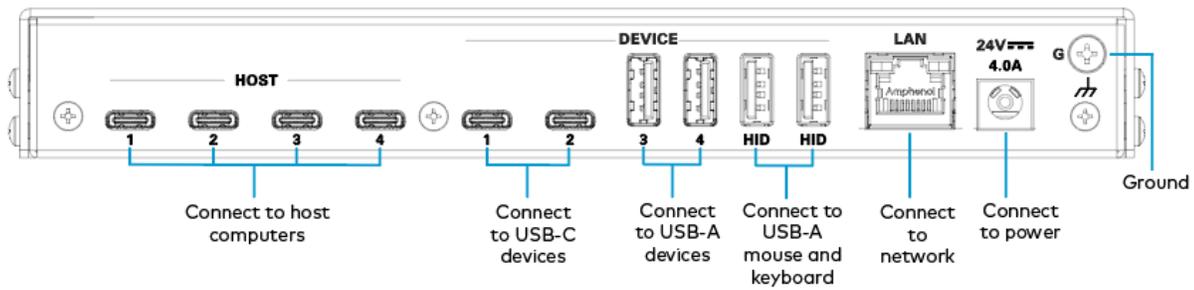


# USB-SW-400 Connections

## Front Panel



## Rear Panel



# Observe the LED Indicators

Refer to the following table for information about the LED indicators.

LED Indicator	Color	Meaning
<b>PWR</b>	Amber	Power is being applied to the device. The device is booting.
	Green	Power is being applied to the device. The device is operational.
<b>SETUP</b>	Red	The setup button is pressed.
<b>AUTO</b>	Green	Auto route mode is enabled.
<b>HOST</b>	Amber	A host is detected but not routed.
	Green	A host is selected or routed to one or more devices.

# Configuration

This section describes how to configure the USB 3.2 Data Matrix Switcher.

## Web Interface Configuration

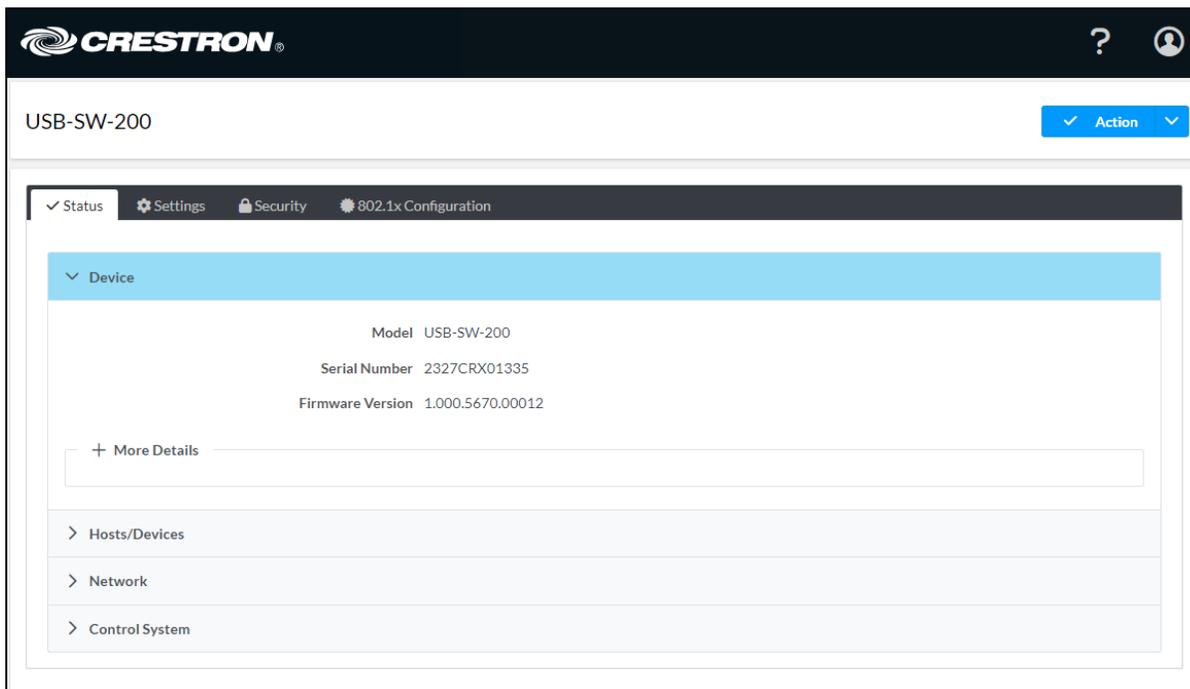
The USB 3.2 Data Matrix Switcher web interface allows you to view status information and configure network and device settings.

### Access the Web Interface

To access the web configuration interface:

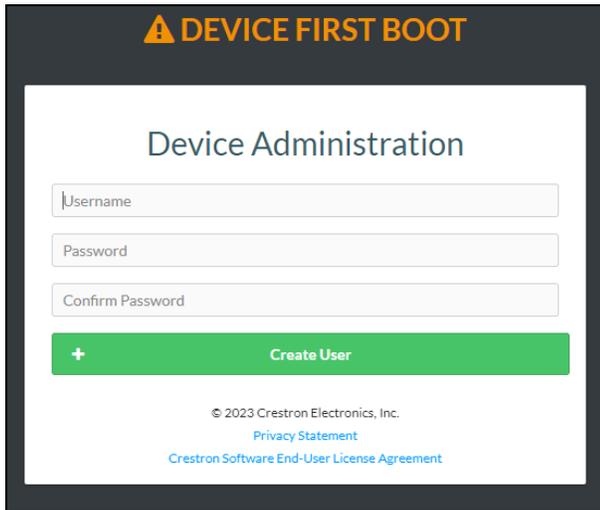
1. Use the Device Discovery tool in Crestron Toolbox™ software to discover the USB 3.2 Data Matrix Switcher and its IP address on the network.
2. Open a web browser.
3. Enter the USB 3.2 Data Matrix Switcher IP address into the browser URL field. The configuration interface is displayed.
4. If connecting to the USB 3.2 Data Matrix Switcher for the first time, create an admin account as described in [Create an Admin Account on page 24](#).
5. Enter the admin account login credentials when prompted, then select **Sign In**.

The USB 3.2 Data Matrix Switcher web configuration is displayed with the **Status** tab shown, and with the **Device** accordion open by default. For more information on using the web configuration interface, refer to [Web Configuration on page 25](#).



# Create an Admin Account

The first time the web configuration interface is accessed, a page is displayed asking the user to create an admin account.



To create an admin account:

1. Enter a username and password for the admin account in the appropriate text fields.

**CAUTION:** Do not lose the username and password for the admin account, as the USB 3.2 Data Matrix Switcher must be reset to factory settings to regain access.

2. Select **Create User** to create the admin account. The web configuration interface refreshes to show the standard login page.



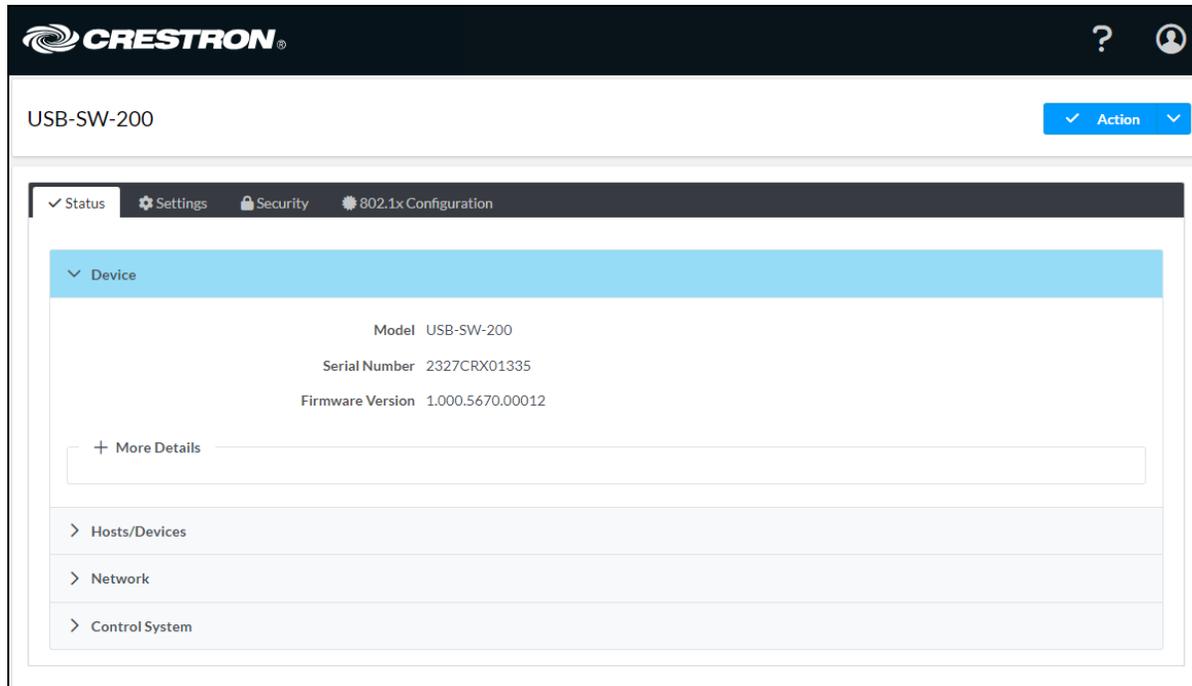
3. Reenter the credentials created in step 1 and select **Sign In** to access the web configuration interface.

# Web Configuration

The USB 3.2 Data Matrix Switcher may be monitored and configured using its web configuration interface. The interface can be accessed via the USB 3.2 Data Matrix Switcher IP address as described in [Configuration on page 23](#).

**NOTE:** The USB-SW-200 is used as the example device in this section. Other than the number of ports, the web configuration for the USB-SW-400 is identical.

The **Status** tab is shown with the **Device** accordion open by default.



The web configuration interface provides the following tabs for navigating the interface:

- **Status:** Select this tab to monitor the status of the USB 3.2 Data Matrix Switcher. For more information, refer to [Status on page 32](#).
- **Settings:** Select this tab to configure settings for the USB 3.2 Data Matrix Switcher. For more information, refer to [Settings on page 35](#).
- **Security:** Select this tab to create USB 3.2 Data Matrix Switcher users and groups. For more information, refer to [Security on page 44](#).
- **802.1x Configuration:** Select this tab to configure IEEE 802.1X network authentication for USB 3.2 Data Matrix Switcher security. For more information, refer to [802.1x Configuration on page 49](#).

The following controls are also provided on the top right of the web configuration interface:

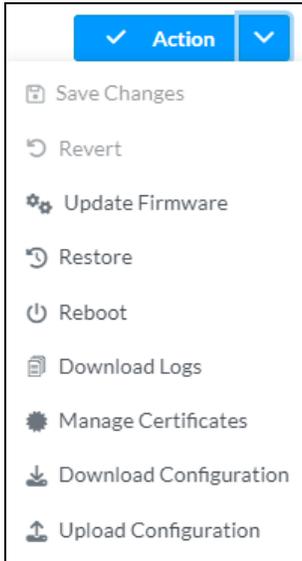
- Use the **Action** drop-down menu to perform various configuration actions. For more information, refer to [Action Menu on page 27](#).

- Select the profile button  to see the active USB 3.2 Data Matrix Switcher user and to sign out of the web configuration interface.

Each section of the web configuration interface is described in the sections that follow.

# Action Menu

The web configuration interface provides an **Action** drop-down menu on the top right of the page. The Action menu may be accessed at any time.



After making changes to a configuration setting, the **Action** button changes to a **Save Changes** button. Select **Save Changes** to save the setting. Saving certain changes will require the USB 3.2 Data Matrix Switcher to be restarted.

The **Action** menu provides the following selections.

## Save Changes

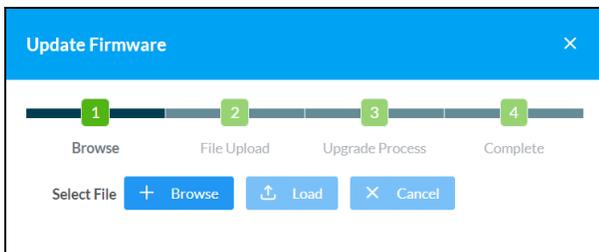
Select **Save Changes** to save any changes made to the configuration settings.

## Revert

Select **Revert** to revert back to the last saved configuration settings.

## Update Firmware

Select **Update Firmware** to update the USB 3.2 Data Matrix Switcher firmware manually with a downloaded PUF (package update file). The **Update Firmware** dialog box is displayed.



To update the firmware, follow the instructions below.

1. Select **+ Browse**.
2. Locate and select the desired firmware file, and then select **Open**. The firmware file name is displayed in the **Update Firmware** dialogue box.
3. Select **Load**.
4. When the firmware update is complete, select **OK**.

## Restore

Select **Restore** to restore the USB 3.2 Data Matrix Switcher settings to their default values.

After **Restore** is selected, a dialog box is displayed asking whether the USB 3.2 Data Matrix Switcher should be restored. Select **Yes** to restore the USB 3.2 Data Matrix Switcher or **No** to cancel the restore.

## Reboot

Select **Reboot** to restart the USB 3.2 Data Matrix Switcher.

After **Reboot** is selected, a dialog box is displayed asking whether the USB 3.2 Data Matrix Switcher should be restarted. Select **Yes** to restart the USB 3.2 Data Matrix Switcher or **No** to cancel the restart.

## Download Logs

Select **Download Logs** to download the USB 3.2 Data Matrix Switcher message logs for diagnostic purposes. The message files download as a compressed .tgz file. Once the compressed file is downloaded, extract the message log files to view them.

## Manage Certificates

Select **Manage Certificates** to manage any certificates that are installed on the device. The **Manage Certificates** dialog box is displayed.

**Manage Certificates** [X]

Root Intermediate Machine Web Server

Search...

Name	Expiry Date	Actions
AAA Certificate Services	Dec 31 23:59:59 2028	[Trash]
AC RAIZ FNMT-RCM	Jan 1 00:00:00 2030	[Trash]
AC RAIZ FNMT-RCM SERVIDORES SEGUROS	Dec 20 09:37:33 2043	[Trash]
ACCVRAIZ1	Dec 31 09:37:37 2030	[Trash]
Actalis Authentication Root CA	Sep 22 11:22:02 2030	[Trash]
AffirmTrust Commercial	Dec 31 14:06:06 2030	[Trash]
AffirmTrust Networking	Dec 31 14:08:24 2030	[Trash]

<< < 1 2 3 4 5 > >>

Add Root Certificate

Select the tabs near the top of the page to switch between the different types of Certificate Authorities (CAs): **Root**, **Intermediate**, **Machine**, or **Web Server**. The same settings are provided for each type of CA.

The following information is provided for each type of CA:

- **Name:** The CA name
- **Expiry Date:** The date and time that the CA is set to expire

Type a search term into the **Search** text field to search for and display CAs that match the search term. If the CAs span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page.

An **Action** column is also provided for each CA that allows various actions to be performed. The following selections may be selected from the **Action** column.

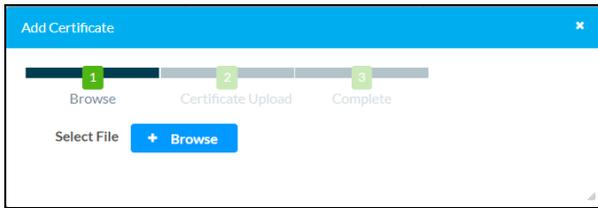
### Delete Certificate

Select the trashcan icon  in the **Action** column to delete the certificate.

A dialog box is displayed asking whether the certificate should be deleted. Select **Yes** to delete the group or **No** to cancel deleting the group.

## Add Certificate

Select **Add [Type] Certificate** at the bottom of the **Manage Certificates** dialog box to add a CA of one of the four available types (**Root**, **Intermediate**, **Machine**, or **Web Server**). The **Add Certificate** dialog box is displayed.



To add a new certificate:

1. Select **+ Browse**.
2. Navigate to the CA file on the local computer.
3. Select the CA file, and then select **Open**.
4. Select **Load** to load the CA file to the device. The upload progress is shown in the dialog box.
5. Once the USB 3.2 Data Matrix Switcher has completed the upload, select **OK**.

Select the **x** button to close the **Add Certificate** dialog box at any time during the upload. Selecting the **x** button before the CA file is uploaded to the device cancels the upload.

Select the **x** button to close the **Manage Certificates** dialog box.

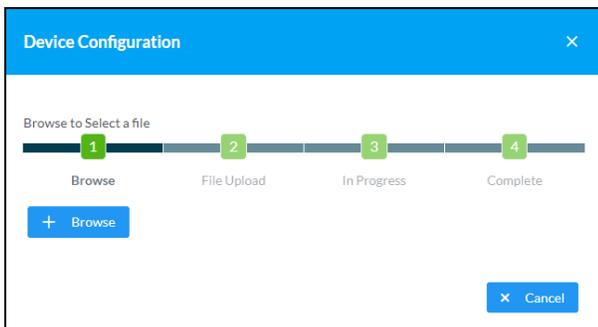
For more information on using certificates for 802.1X IEEE authentication, refer to [802.1x Configuration on page 49](#).

## Download Configuration

Select **Download Configuration** to download the USB 3.2 Data Matrix Switcher configuration. The configuration files download as a compressed .tgz file.

## Upload Configuration

Select **Upload Configuration** to load a saved configuration file to the USB 3.2 Data Matrix Switcher. The **Device Configuration** dialog box appears.



To upload a saved configuration:

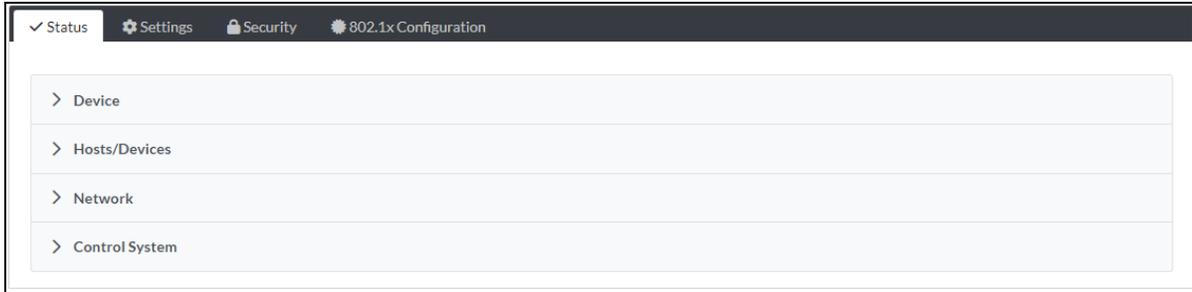
1. Select **+ Browse**.
2. Navigate to the configuration file on the local computer.

3. Select the configuration file, and then select **Open**.
4. Select **Load** to load the configuration file to the device. The upload progress is shown in the dialog box.
5. Once the USB 3.2 Data Matrix Switcher has completed the upload, select **OK**.

# Status

Select the **Status** tab on the top left of the interface to display accordions for viewing the status of the USB 3.2 Data Matrix Switcher.

Select an accordion name to expand that accordion. If the accordion is expanded, select the accordion name again to collapse the accordion.



## Device

Select the **Device** accordion to view general device information.



The following **Device** information is displayed:

**Model:** The device model name

**Serial Number:** The device serial number

**Firmware Version:** The firmware version loaded onto the device

Select **+ More Details** at the bottom of the **Device** tab to display an expanded section that shows additional USB 3.2 Data Matrix Switcher information. If **+ More Details** is selected, select **- More Details** to collapse the section.

## Hosts/Devices

Select **Hosts/Devices** to view the connection status and routes of connected devices.

Hosts/Devices

Hosts

Host Port Name	Status
UsbHost1	Connected
UsbHost2	Connected

Device Settings

Device Name	Routed To	Status
UsbDevice1	UsbHost1	NotConnected
UsbDevice2	UsbHost1	NotConnected
UsbDevice3	UsbHost1	Connected
UsbDevice4	UsbHost1	Connected
HID Mouse	UsbHost1	NotConnected
HID Keyboard	UsbHost1	NotConnected

## Network

Select the **Network** accordion to view the status of network settings for the USB 3.2 Data Matrix Switcher.

Network

Hostname USB-SW-200

Domain Name home

Primary Static DNS 192.168.254.254(DHCP)

Secondary Static DNS

Adapter 1

DHCP Enabled Yes

IP Address 192.168.254.34

Subnet Mask 255.255.255.0

Default Gateway 192.168.254.254

Link Active Yes

MAC Address c4.42.68.3f.58.c1

The following **Network** information is displayed:

- **Hostname:** The USB 3.2 Data Matrix Switcher host name
- **Domain Name:** The USB 3.2 Data Matrix Switcher domain name

- **Primary Static DNS:** The primary DNS (domain name server) address used to resolve the USB 3.2 Data Matrix Switcher domain to an IP address
- **Secondary Static DNS:** The secondary DNS (domain name server) address used to resolve the USB 3.2 Data Matrix Switcher domain to an IP address

Select the + icon next to **Adapter 1** to display the following Ethernet settings:

- **DHCP Enabled:** Reports whether DHCP is turned on or off for Ethernet IP addressing
- **IP Address:** The USB 3.2 Data Matrix Switcher IP address
- **Subnet Mask:** The USB 3.2 Data Matrix Switcher subnet mask address
- **Default Gateway:** The gateway router address
- **Link Active:** Reports the presence of the Ethernet connection
- **MAC Address:** The unique MAC (media access control) address for the Ethernet adapter

## Control System

Select the **Control System** accordion to view the status of connected control systems.

The screenshot shows a web interface for the Control System. At the top, there is a blue header with a dropdown arrow and the text "Control System". Below the header, the text "Encrypt Connection OFF" is displayed. Underneath, there is a section titled "- IP Table" which contains a table with the following columns: IP ID, Room ID, IP Address/Hostname, Type, Server Port, Connection, and Status. The table is currently empty, and the text "No records found" is centered below the table.

IP ID	Room ID	IP Address/Hostname	Type	Server Port	Connection	Status
No records found						

The following **Control System** information is displayed:

**Encrypt Connection:** Displays **ON** if the connection is encrypted or **OFF** if not.

**IP ID:** Displays the IP ID of the USB 3.2 Data Matrix Switcher.

**Room ID:** Displays the room ID of the control system.

**IP Address/Hostname:** Displays the IP address and hostname of the control system.

**Type:** Always set to **Peer**.

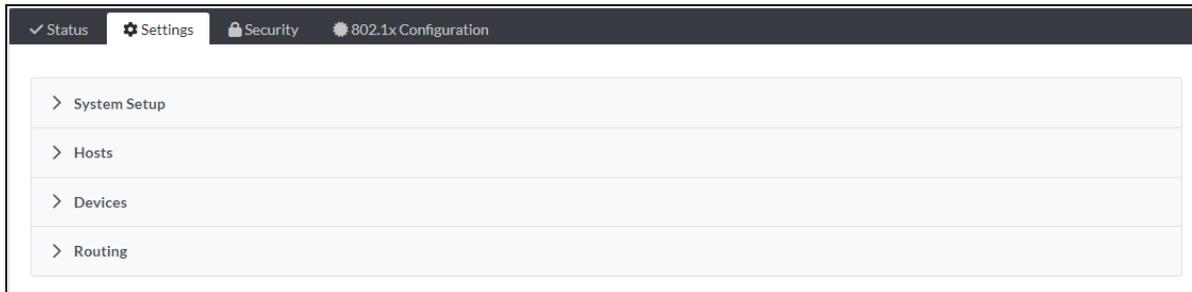
**Server Port:** Displays the server port. The default is set to **41794**.

**Connection:** Always displays **Gway**.

**Status:** The status will be either **OFFLINE** or **ONLINE**.

# Settings

Select the **Settings** tab on the top left of the interface to display accordions for configuring the settings of the USB 3.2 Data Matrix Switcher.

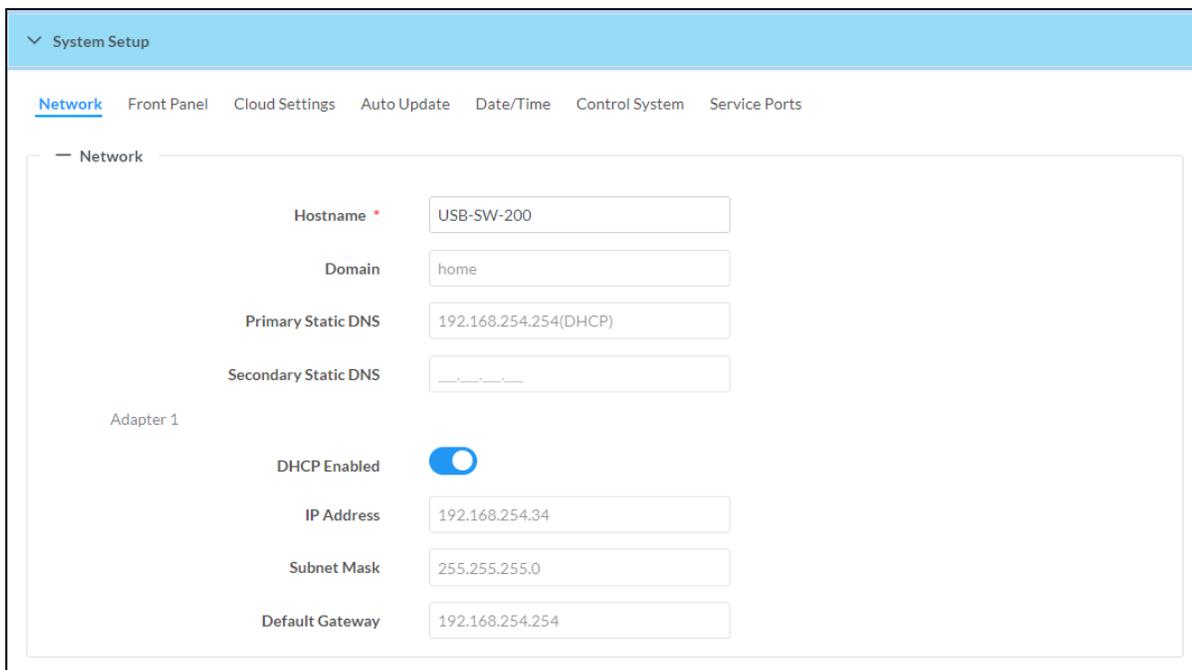


## System Setup

Select the **System Setup** accordion to configure the USB 3.2 Data Matrix Switcher.

### Network

Select the **Network** tab to configure the network settings for the USB 3.2 Data Matrix Switcher.



The following **Network** settings are provided:

**NOTE:** The **Domain**, **IP Address**, **Subnet Mask**, and **Default Gateway** fields are required only if DHCP is turned off.

- **Network**

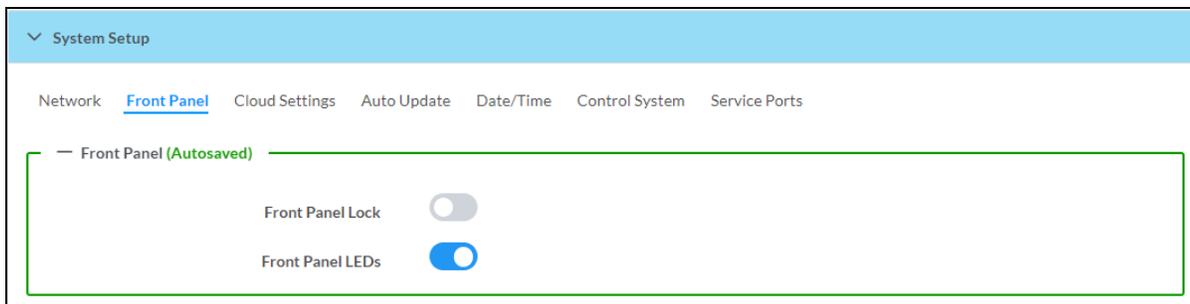
- **Hostname:** Enter the USB 3.2 Data Matrix Switcher host name.
- **Domain:** Enter the fully qualified domain name for the Ethernet connection.
- **Primary Static DNS:** Enter the primary DNS address used to resolve the USB 3.2 Data Matrix Switcher to an IP address.
- **Secondary Static DNS:** Enter the secondary DNS address used to resolve the USB 3.2 Data Matrix Switcher to an IP address.

- **Adapter 1**

- **DHCP Enabled:** Turn on the toggle to use DHCP for the Ethernet connection.
- **IP Address:** Enter a static USB 3.2 Data Matrix Switcher IP address for the Ethernet connection.
- **Subnet Mask:** Enter a USB 3.2 Data Matrix Switcher subnet mask address for the Ethernet connection.
- **Default Gateway:** Enter the gateway router address on the network.

## Front Panel

Select the **Front Panel** tab to configure the settings for the front panel of the USB 3.2 Data Matrix Switcher.

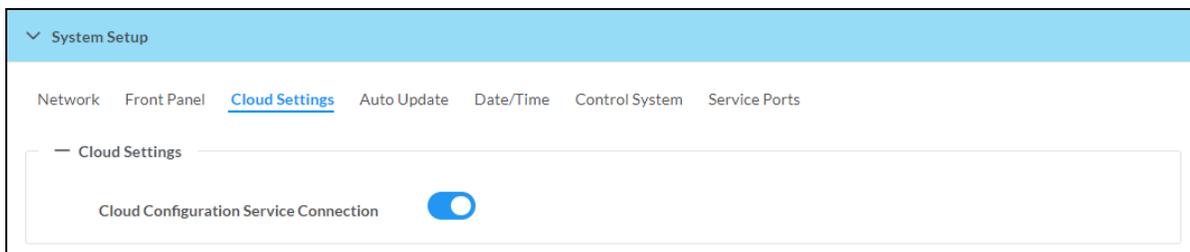


The following **Front Panel** settings are provided:

- **Front Panel Lock:** Turn on the toggle to disable use of the USB 3.2 Data Matrix Switcher front panel buttons.
- **Front Panel LEDs:** Turn on the toggle to enable the front panel LEDs.

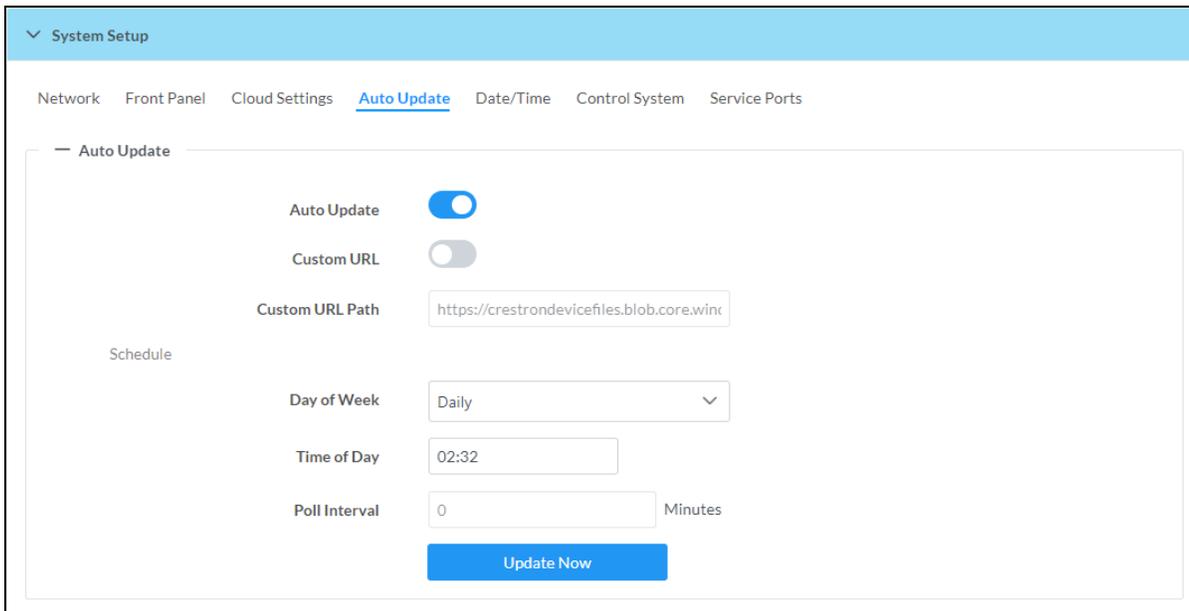
## Cloud Settings

Select the **Cloud Settings** tab to configure the cloud settings of the USB 3.2 Data Matrix Switcher. Turn on the toggle to enable the **Cloud Configuration Service Connection**.



## Auto Update

Select the **Auto Update** tab to configure the **Auto Update** settings of the USB 3.2 Data Matrix Switcher.



The screenshot shows the 'System Setup' interface with the 'Auto Update' tab selected. The page contains the following settings:

- Auto Update:** A toggle switch that is turned on (blue).
- Custom URL:** A toggle switch that is turned off (grey).
- Custom URL Path:** A text input field containing the URL `https://crestrondevicefiles.blob.core.win`.
- Schedule:**
  - Day of Week:** A dropdown menu set to 'Daily'.
  - Time of Day:** A text input field containing '02:32'.
  - Poll Interval:** A text input field containing '0' with the unit 'Minutes' to its right.
- Update Now:** A blue button located at the bottom of the settings area.

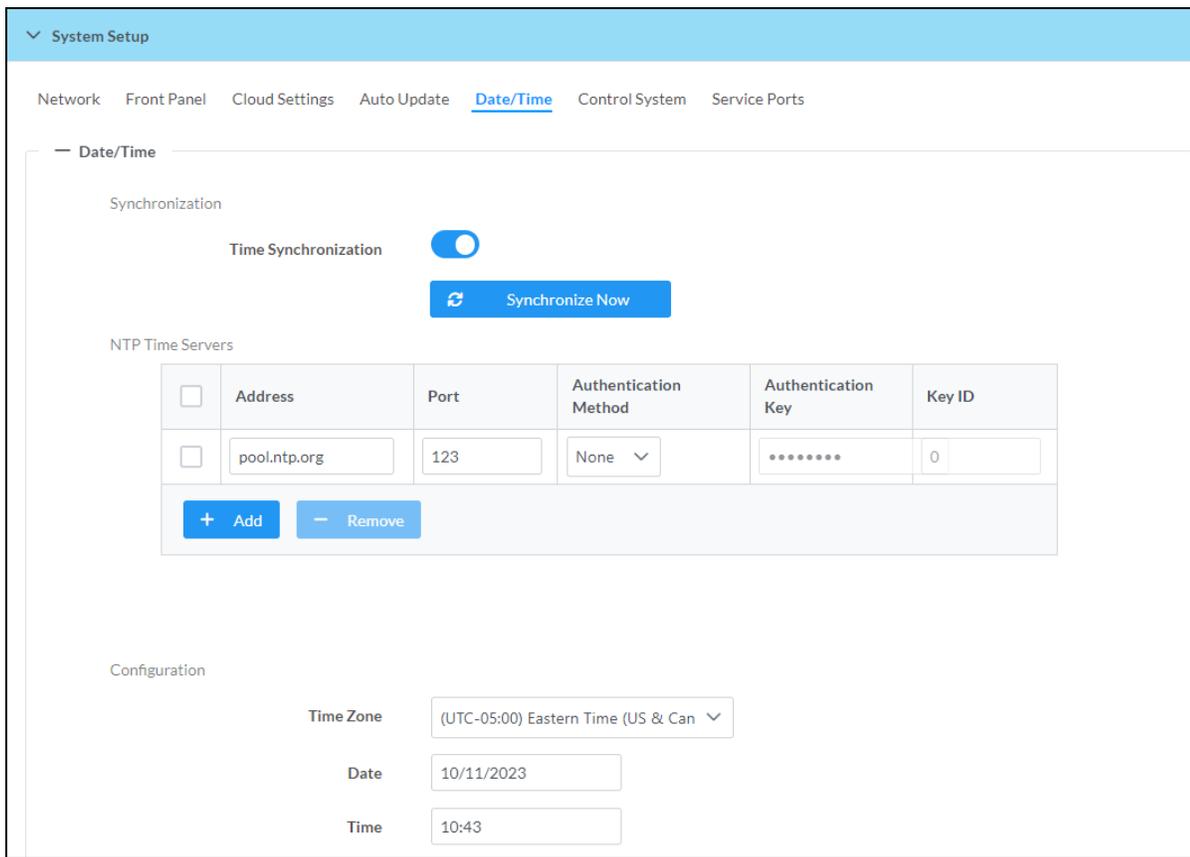
The following **Auto Update** settings are provided:

- **Auto Update**
  - **Auto Update:** Turn the toggle on to enable automatic updates.
  - **Custom URL:** Turn the toggle on to enable a customer URL for the update file.
  - **Custom URL Path:** If using **Custom URL**, enter the location of the update file.
- **Schedule**
  - **Day of Week:** Set the day of the week for automatic updates.
  - **Time of Day:** Set the time of day for automatic updates.
  - **Poll Interval:** Enter the polling interval (in minutes) for when the USB 3.2 Data Matrix Switcher will poll the server for updates.

Select **Update Now** to check for updates now.

## Date/Time

Select the **Date/Time** tab to configure the date and time settings of the USB 3.2 Data Matrix Switcher.



The following **Date/Time** settings are provided:

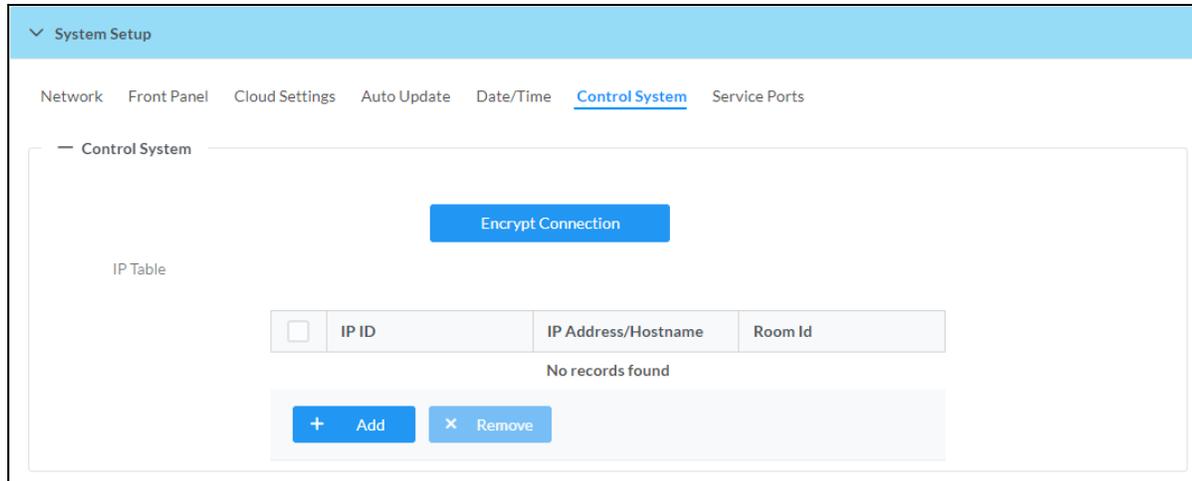
- **Synchronization**
  - **Time Synchronization:** Turn on the toggle to use time synchronization via NTP (Network Time Protocol).
  - **Synchronize Now:** With **Time Synchronization** turned on, select **Synchronize Now** to synchronize the USB 3.2 Data Matrix Switcher with the NTP server(s) entered in the **NTP Time Servers** table. Time synchronization could take up to two minutes to complete.
- **NTP Time Servers:** With **Time Synchronization** turned on, use the provided table to enter information regarding the NTP server(s) used to synchronize the date and time for the USB 3.2 Data Matrix Switcher.
  - Select **Add** to add a new NTP server entry into the table.
    - Enter the NTP server address into the **Address** text field.
    - Enter the NTP server port into the **Port** text field.
    - Use the **Authentication Method** drop-down menu to select the authentication method used to access the NTP server (if one exists).
    - If an authentication method is selected, enter the key used to authenticate against the NTP server into the **Authentication Key** text field.
    - If an authentication method is selected, enter the ID for the key used to authenticate against the NTP server into the **Key ID** text field.
  - To remove an entry, fill the checkbox to the left of the table entry, and then select **Remove**.

- **Configuration**

- **Time Zone:** Select a time zone for the USB 3.2 Data Matrix Switcher using the drop-down menu.
- **Date:** If **Time Synchronization** is turned off, select the date for the USB 3.2 Data Matrix Switcher using the pop-up calendar that is displayed.
- **Time:** If **Time Synchronization** is turned off, select the time for the USB 3.2 Data Matrix Switcher (in 24-hour format) using the pop-up menu that is displayed.

## Control System

Select the **Control System** tab to configure connections to control systems.

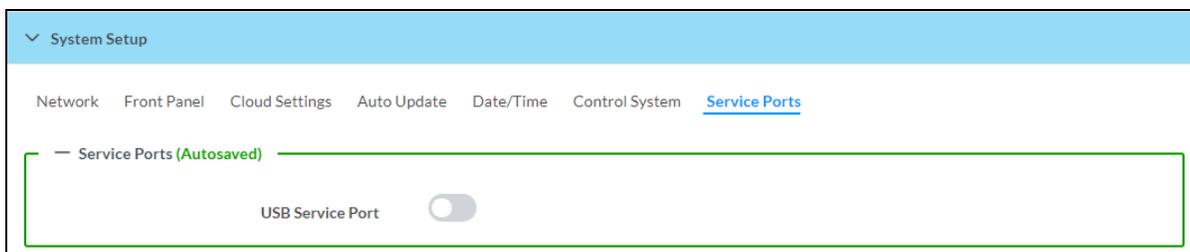


The following **Control System** options are available:

- **Encrypt Connection:** Select this to navigate to the Security tab. For more information, refer to [Security on page 44](#).
- **IP Table:** Select **Add** to add a new control system entry into the table.
  - Enter the control system IP ID into the **IP ID** text field.
  - Enter the control system IP Address/Hostname into the IP Address/Hostname field.
  - Enter the control system Room ID into the **Room Id** field.
- To remove an entry, fill the checkbox to the left of the table entry, and then select **Remove**.

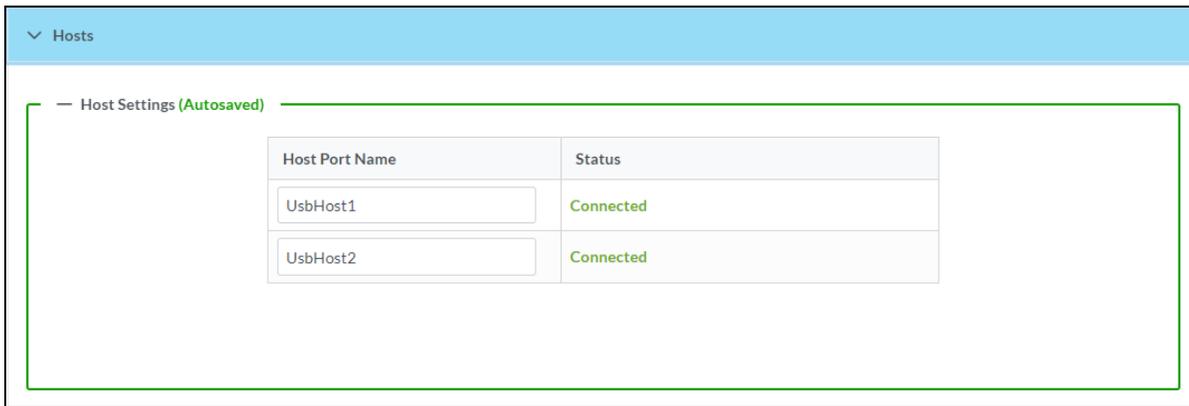
## Service Ports

Select the **Service Ports** tab to configure the USB service port. Turn the toggle on to enable the USB service port.



## Hosts

Select the **Hosts** accordion to configure the host ports.



The screenshot shows the 'Hosts' configuration page. At the top, there is a blue header with a dropdown arrow and the text 'Hosts'. Below this is a section titled 'Host Settings (Autosaved)'. Inside this section is a table with two columns: 'Host Port Name' and 'Status'. The table contains two rows of data.

Host Port Name	Status
UsbHost1	Connected
UsbHost2	Connected

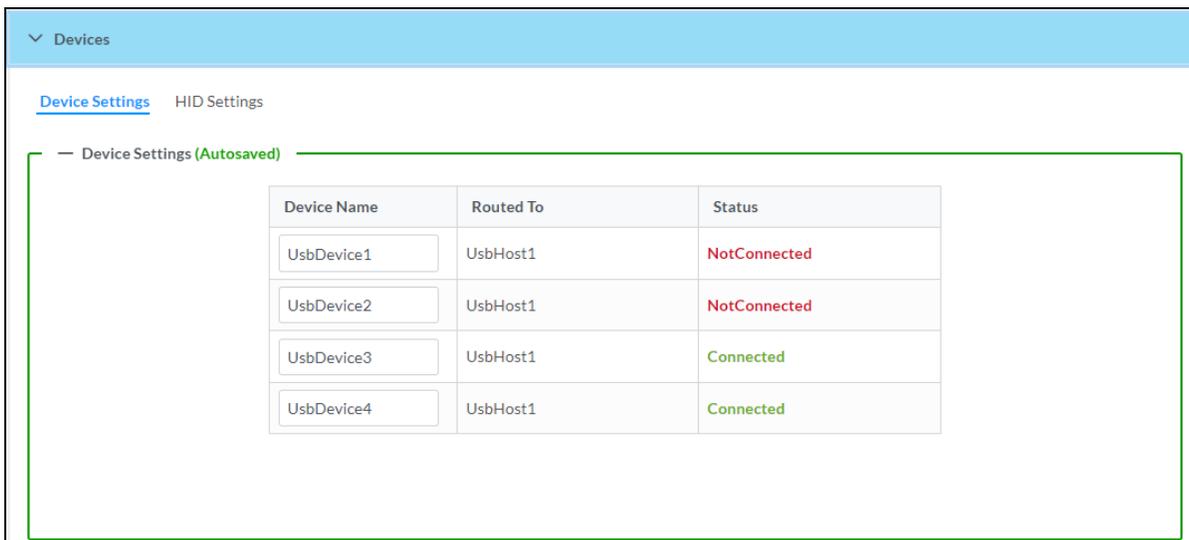
- **Host Port Name:** Enter a desired name for the port.
- **Status:** Indicates if a device is connected to the port.

## Devices

Select the **Devices** accordion to configure settings and switching behavior for the device ports.

### Device Settings

Select the **Device Settings** tab to configure the device ports.



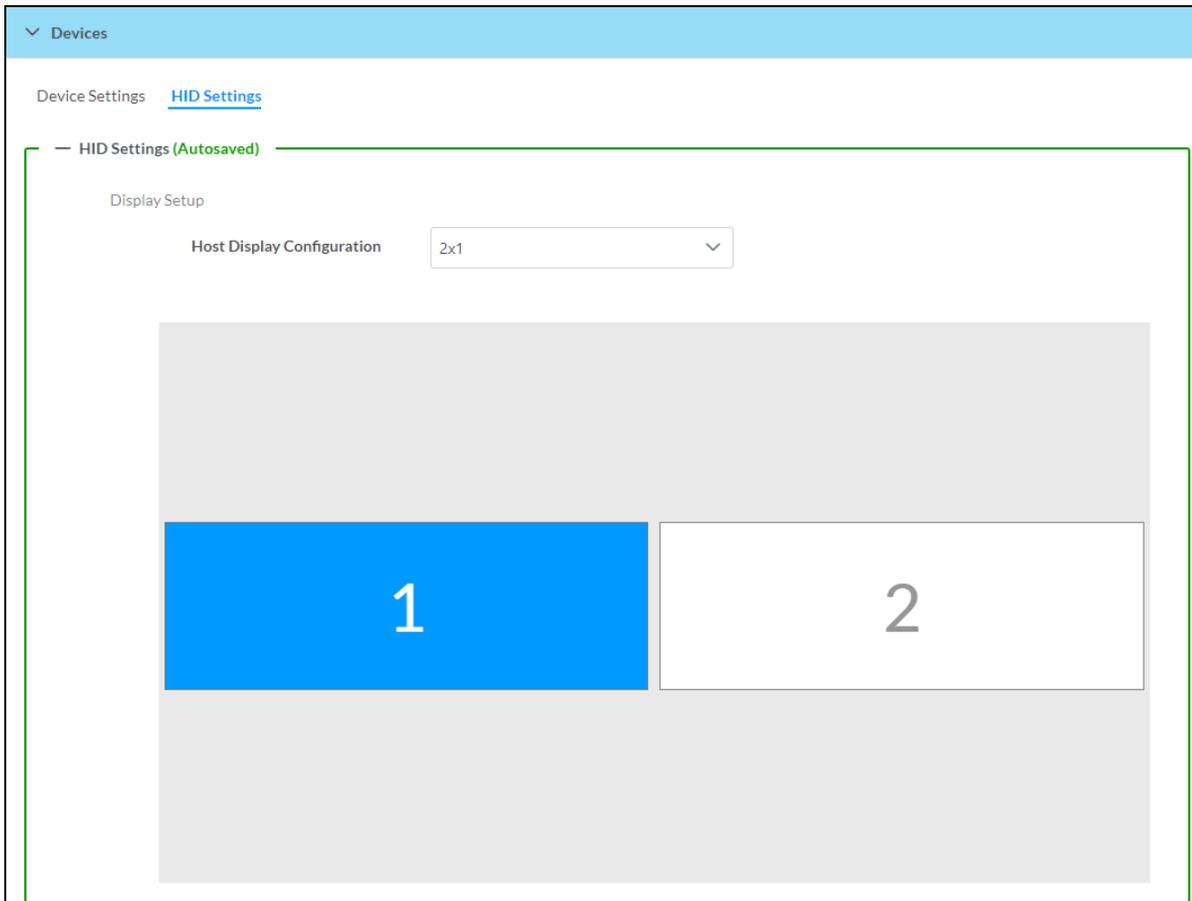
The screenshot shows the 'Devices' configuration page. At the top, there is a blue header with a dropdown arrow and the text 'Devices'. Below this is a section titled 'Device Settings (Autosaved)'. Inside this section, there are two tabs: 'Device Settings' (which is selected) and 'HID Settings'. Below the tabs is a table with three columns: 'Device Name', 'Routed To', and 'Status'. The table contains four rows of data.

Device Name	Routed To	Status
UsbDevice1	UsbHost1	NotConnected
UsbDevice2	UsbHost1	NotConnected
UsbDevice3	UsbHost1	Connected
UsbDevice4	UsbHost1	Connected

- **Device Name:** Enter a desired name for the port.
- **Routed To:** Indicates which host the port is routed to.
- **Status:** Indicates if a device is connected to the port.

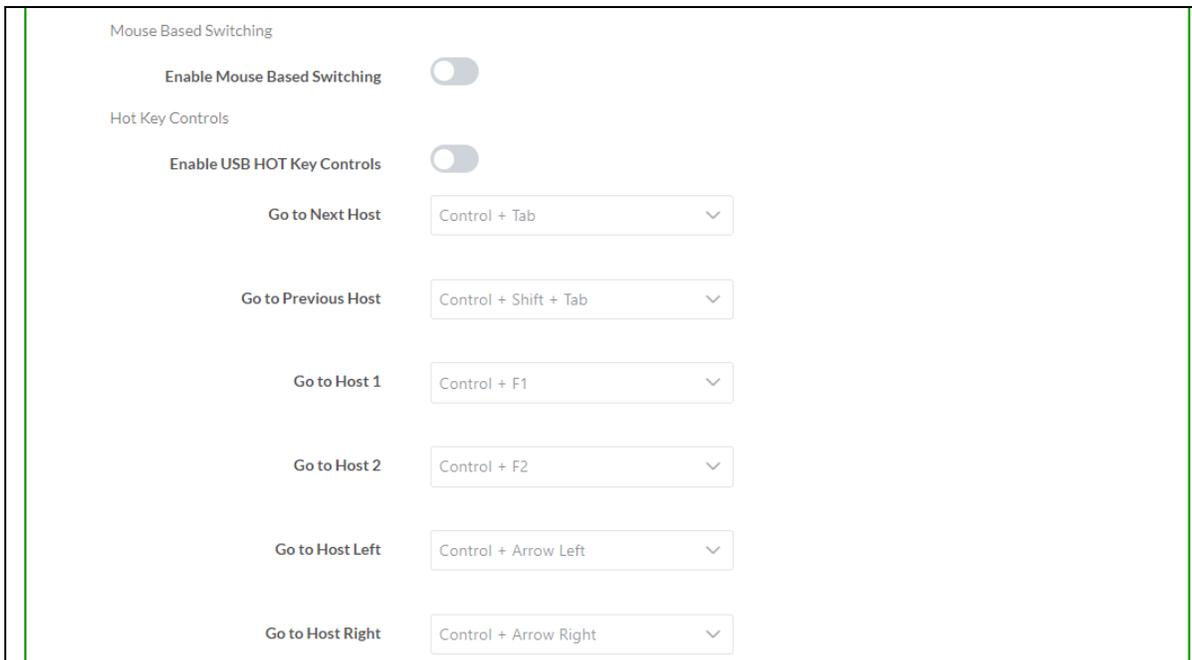
### HID Settings

Select the **HID Settings** tab to configure switching behavior.



- **Display Setup**

- **Host Display Configuration:** Use the drop-down list to select the configuration of your displays.



- **Mouse Based Switching**

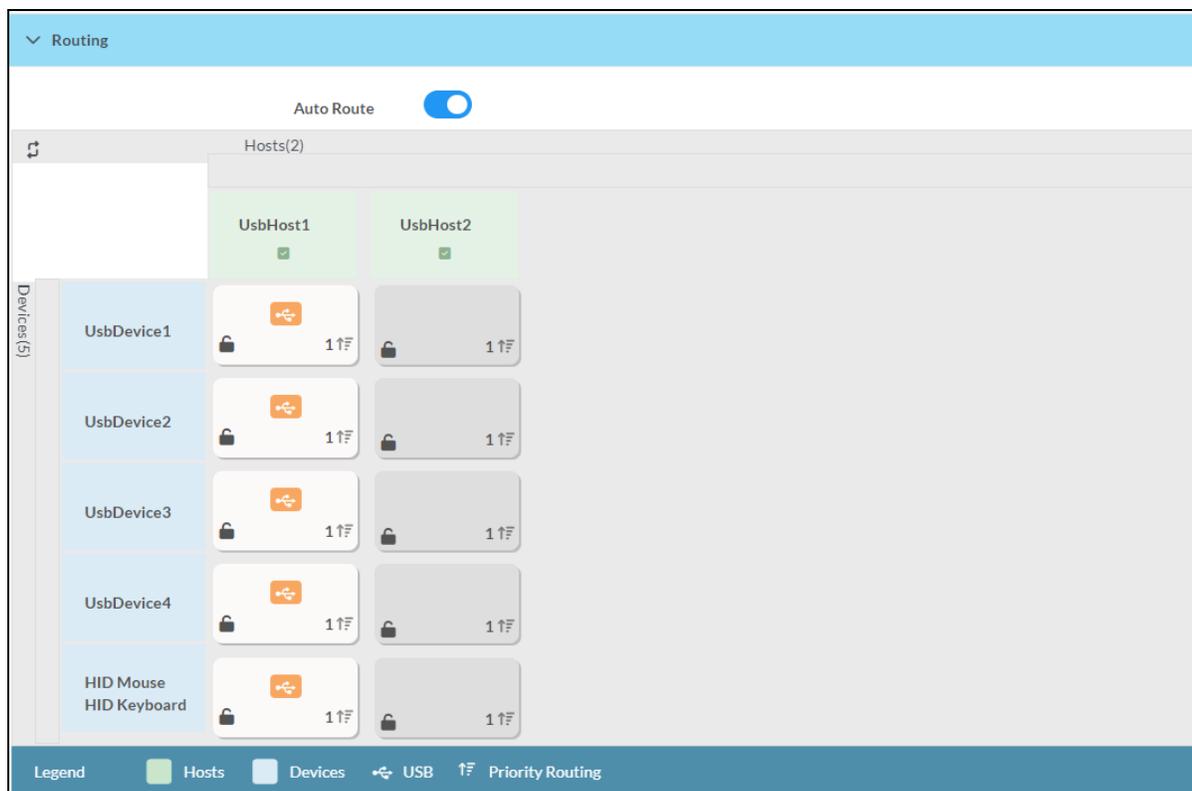
- **Enable Mouse Based Switching:** Turn the toggle on to enable switching hosts with the mouse. With the toggle on, move the mouse cursor from one display to another to automatically switch to the connected host device.

- **Hot Key Controls**

- Enable **USB HOT Key Controls:** Turn the toggle on to enable keyboard shortcuts for switching hosts.
  - **Go to Next Host:** Select a keyboard shortcut from the drop-down menu to switch to the next host.
  - **Go to Previous Host:** Select a keyboard shortcut from the drop-down menu to switch to the previous host.
  - **Go to Host 1:** Select a keyboard shortcut from the drop-down menu to switch to host 1.
  - **Go to Host 2:** Select a keyboard shortcut from the drop-down menu to switch to host 2.
  - **Go to Host Left:** Select a keyboard shortcut from the drop-down menu to switch to the next host to the left.
  - **Go to Host Right:** Select a keyboard shortcut from the drop-down menu to switch to the next host to the right.

## Routing

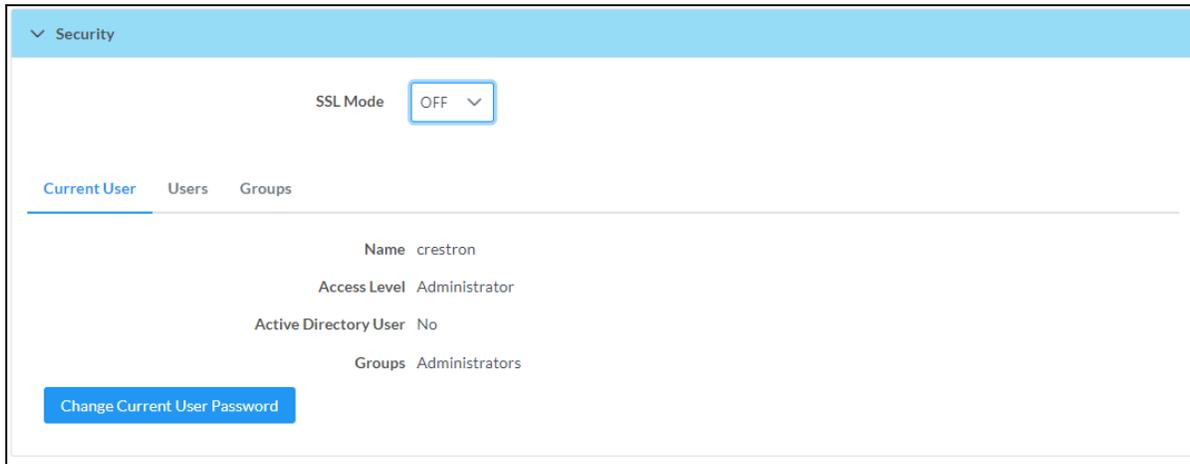
Select the **Routing** accordion to configure routing settings and use the routing matrix.



- **Auto Route:** Turn the toggle on to automatically route when a device is connected.
- Routing Matrix: Select a cell to route a device to that host.
  - Routed: The USB icon  indicates that a USB connection is active in that cell.
  - Priority: Select the priority icon  to set the priority for that cell.
  - Lock: Select the lock icon  to prevent that cell from changing. A closed lock indicates that the device is locked.

# Security

Select the **Security** tab on the top left of the interface to display selections for configuring user and group authentication settings for the USB 3.2 Data Matrix Switcher.



Use the **SSL Mode** drop-down list to select an SSL option: **OFF**, **Encrypt**, **Encrypt and Validation**.

Use the following **Security** settings to add, delete, and edit USB 3.2 Data Matrix Switcher users and groups.

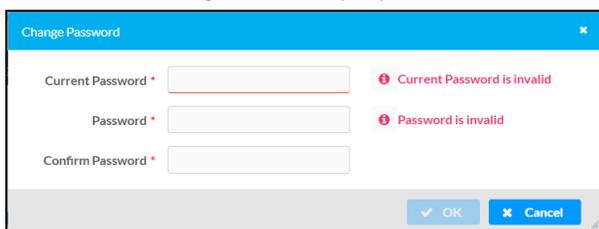
## Current User

Select the **Current User** tab to view and edit information for the current USB 3.2 Data Matrix Switcher user.

The following settings are displayed for the current user:

- **Name:** The chosen username
- **Access Level:** The access level granted to the user (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**)
- **Active Directory User:** **Yes** or **No**
- **Groups:** Lists any groups that contain the user

Select **Change Current User Password** to change the password for the current user. The **Change Password** dialog box is displayed.

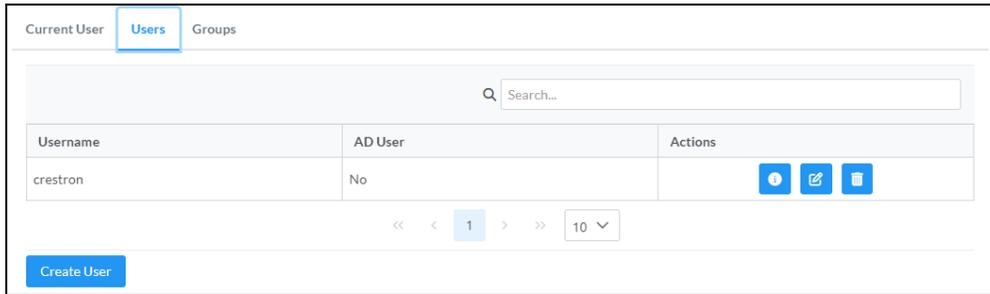


Enter the existing password in the **Current Password** field. Then, enter a new password in the **Password** field, and reenter the password in the **Confirm Password** field.

Select **OK** to save the new password, or select **Cancel** to cancel the change.

## Users

Select the Users tab to view and edit information for the USB 3.2 Data Matrix Switcher users.



Enter text into the **Search** field to find and display users that match the search term(s).

Users are listed in table format. The following information is displayed for each USB 3.2 Data Matrix Switcher user:

**Username:** The chosen username

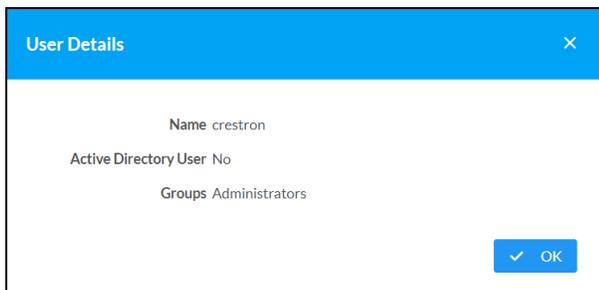
**AD User:** **Yes** or **No**

If the USB 3.2 Data Matrix Switcher users span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of users displayed on each page may be set to 5, 10, or 20 users.

An **Action** column is also provided for each user that allows various actions to be performed. The following selections may be selected from the Action column.

### User Details

Select the information button  in the **Action** column to view information for the selected user. The **User Details** dialog box is displayed.



The following settings are displayed for the current user:

**Name:** The chosen username

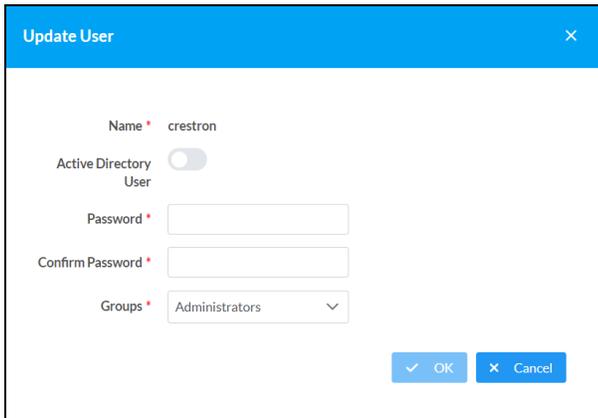
**Active Directory User:**

**Groups:** Lists any groups that contain the user

Select **OK** to close the dialog box.

## Update User

Select the pencil button  in the **Action** column to edit settings for the selected user. The **Update User** dialog box is displayed.



The **Update User** dialog box is shown with the following fields and controls:

- Name \***: A text input field containing the value "crestron".
- Active Directory User**: A toggle switch that is currently turned off.
- Password \***: An empty text input field.
- Confirm Password \***: An empty text input field.
- Groups \***: A dropdown menu with "Administrators" selected.
- At the bottom right, there are two buttons: "OK" (with a checkmark icon) and "Cancel" (with an 'x' icon).

The following **Update User** settings may be viewed or configured:

- **Name**: The chosen username.
- **Active Directory User**: If this is an **Active Directory** user, turn on the toggle.
- **Password**: Enter a new password for the selected user.
- **Confirm Password**: Reenter the password provided in the **Password** field.
- **Groups**: Add the user to one or more groups. For more information, refer to **Groups**.

Select **OK** to save any changes and close the dialog box. Select **Cancel** to cancel any changes.

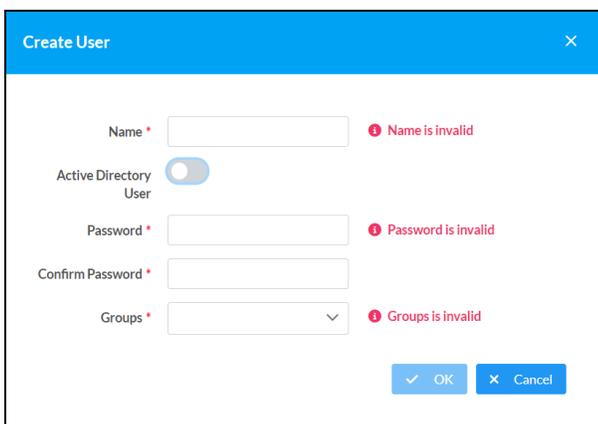
## Delete User

Select the trashcan icon  in the **Action** column to delete the user.

A dialog box is displayed asking whether the user should be deleted. Select **Yes** to delete the user or **No** to cancel deleting the user.

## Create User

Select **Create User** at the bottom of the page to create a new USB 3.2 Data Matrix Switcher user. The **Create User** dialog box is displayed.



The **Create User** dialog box is shown with the following fields and controls, including validation errors:

- Name \***: An empty text input field with a red error message "Name is invalid" to its right.
- Active Directory User**: A toggle switch that is currently turned off.
- Password \***: An empty text input field with a red error message "Password is invalid" to its right.
- Confirm Password \***: An empty text input field.
- Groups \***: A dropdown menu with a red error message "Groups is invalid" to its right.
- At the bottom right, there are two buttons: "OK" (with a checkmark icon) and "Cancel" (with an 'x' icon).

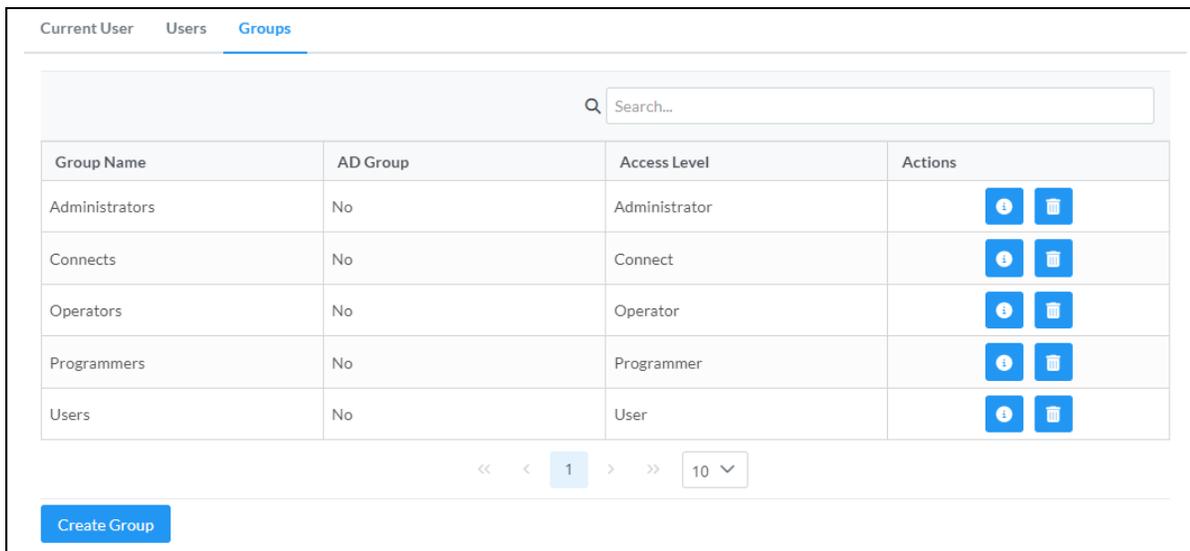
Use the following settings to create a new user:

- **Name:** Enter a username.
- **Active Directory User:** If this is an **Active Directory** user, turn on the toggle.
- **Password:** Enter a password for the user.
- **Confirm Password:** Reenter the password provided in the **Password** field.
- **Groups:** Add the user to one or more groups. For more information, refer to [Groups on page 47](#).

Select **OK** to save any changes and close the dialog box. Select **Cancel** to cancel creating a new user.

## Groups

Select the **Groups** tab to view and edit settings for USB 3.2 Data Matrix Switcher groups. USB 3.2 Data Matrix Switcher groups are used to group users by access level and Active Directory authentication settings.



The screenshot shows a web interface with three tabs: 'Current User', 'Users', and 'Groups'. The 'Groups' tab is active. At the top, there is a search bar with a magnifying glass icon and the text 'Search...'. Below the search bar is a table with the following columns: 'Group Name', 'AD Group', 'Access Level', and 'Actions'. The table contains five rows of data:

Group Name	AD Group	Access Level	Actions
Administrators	No	Administrator	 
Connects	No	Connect	 
Operators	No	Operator	 
Programmers	No	Programmer	 
Users	No	User	 

Below the table, there are navigation controls: '<<' and '<' arrows, a page number '1' in a light blue box, '>' and '>>' arrows, and a dropdown menu showing '10'. At the bottom left, there is a blue button labeled 'Create Group'.

Enter text into the **Search** field to find and display groups that match the search term(s).

Groups are listed in table format. The following information is displayed for each group:

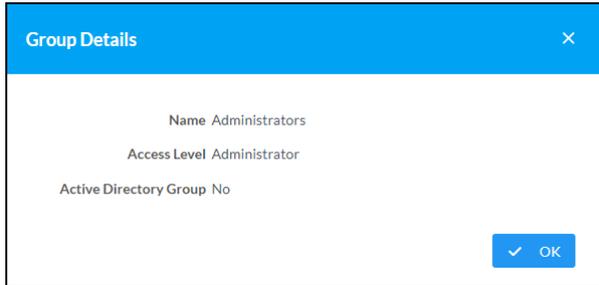
- **Group Name:** The chosen group name
- **AD Group:** Indicates if the group uses **Active Directory**
- **Access Level:** The access level for the selected group (**Administrator**, **Programmer**, **Operator**, **User**, or **Connect**)

If the USB 3.2 Data Matrix Switcher groups span multiple pages, use the navigation arrows on the bottom of the page to move forward or backward through the pages, or select a page number to navigate to that page. Additionally, the number of groups displayed on each page may be set to 5, 10, or 20 users.

An **Action** column is also provided for each group that allows various actions to be performed. The following selections may be selected from the **Action** column.

## Group Details

Select the information button  in the **Action** column to view information for the selected group. The **Group Details** dialog box is displayed.



The following settings are displayed for the current group:

- **Name:** The chosen group name
- **Access Level:** The access level of the group and its users
- **Active Directory Group:** **Yes** or **No**

Select **OK** to close the dialog box.

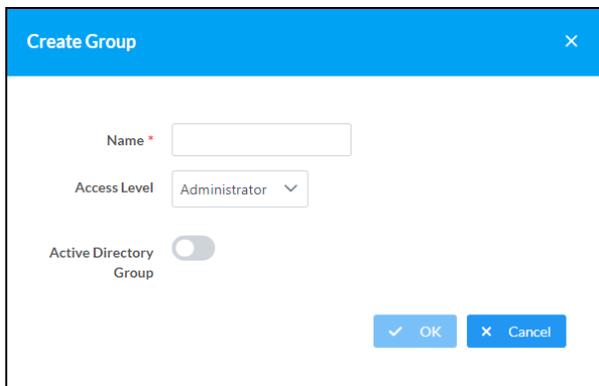
## Delete Group

Select the trashcan icon  in the **Action** column to delete the group.

A dialog box is displayed asking whether the group should be deleted. Select **Yes** to delete the group or **No** to cancel deleting the group.

## Create Group

Select **Create Group** at the bottom of the page to create a new USB 3.2 Data Matrix Switcher group. The **Create Group** dialog box is displayed.



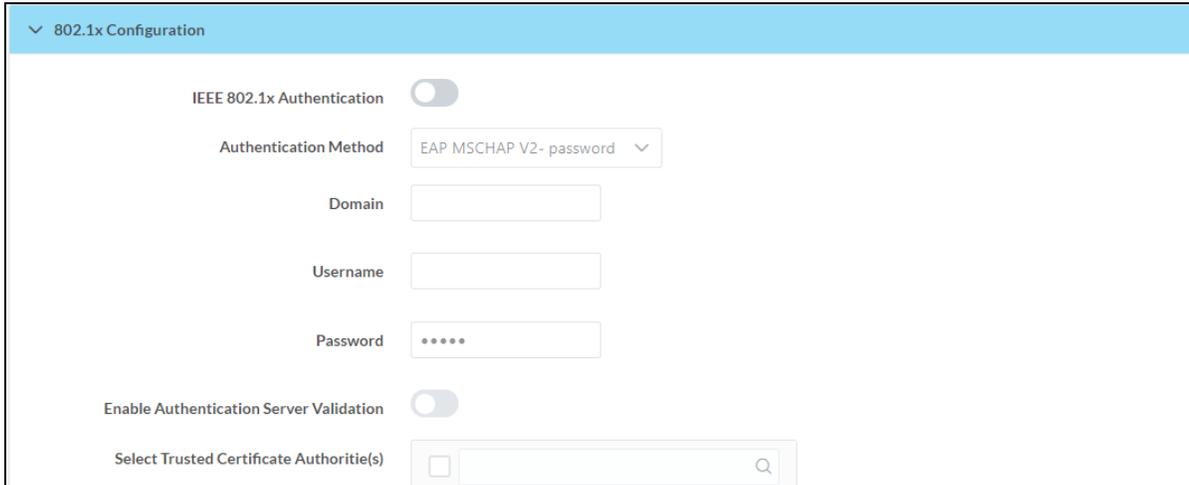
Use the following settings to create a new group:

- **Name:** Enter a group name.
- **Access Level:** Select an access level for the group and its users from the drop-down menu.
- **Active Directory Group:** If this is an **Active Directory** user, turn on the toggle.

Select **OK** to save any changes and close the dialog box. Select **Cancel** to cancel creating a new group.

# 802.1x Configuration

Select the **802.1x Configuration** tab on the top left of the interface to display selections for configuring IEEE 802.1X network authentication for USB 3.2 Data Matrix Switcher security.



The screenshot shows the '802.1x Configuration' interface. At the top, there is a blue header with a dropdown arrow and the text '802.1x Configuration'. Below this, the settings are as follows:

- IEEE 802.1x Authentication:** A toggle switch that is currently turned on.
- Authentication Method:** A dropdown menu with 'EAP MSCHAP V2- password' selected.
- Domain:** An empty text input field.
- Username:** An empty text input field.
- Password:** A text input field with six dots representing a masked password.
- Enable Authentication Server Validation:** A toggle switch that is currently turned on.
- Select Trusted Certificate Authority(s):** A section with a search bar and a list of certificate authorities, each with a checkbox to its left.

Use the following **802.1x Configuration** settings to configure IEEE 802.1X network authentication:

Expand the **802.1x Configuration** accordion to configure the following settings:

- **IEEE 802.1x Authentication:** Turn on the toggle to use 802.1X authentication for the device.
- **Authentication Method:** Select an 802.1X authentication method (**EAP-TLS Certificate** or **EAP MSCHAP V2- password**) from the drop-down menu.
- **Domain:** If **EAP MSCHAP V2- password** is selected for Authentication Method, enter a domain name that is required for authentication.
- **Username:** If **EAP MSCHAP V2- password** is selected for Authentication Method, enter a username that is required for authentication.
- **Password:** If **EAP MSCHAP V2- password** is selected for Authentication Method, enter a password that is required for authentication.
- **Enable Authentication Server Validation:** Turn on the toggle to use server validation for increased security.
- **Select Trusted Certificate Authorities:** Select trusted CAs (Certificate Authorities) from the provided CAs to be used for server validation:
  - Select the check box to the left of a CA to select it as a trusted CA.
  - Enter a search term into the text field at the top of the CA menu to search for and display CAs that match the search term.
  - Select the check box to the left of the search field at the top of the CA menu to select all CAs as trusted CAs.

For more information on managing certificates for use with 802.1X IEEE authentication, refer to [Manage Certificates on page 28](#).

# Resources

The following resources are provided for the USB 3.2 Data Matrix Switcher.

**NOTE:** You may need to provide your Crestron.com web account credentials when prompted to access some of the following resources.

## Crestron Support and Training

- [Crestron True Blue Support](#)
- [Crestron Resource Library](#)
- [Crestron Online Help \(OLH\)](#)
- [Crestron Training Institute \(CTI\) Portal](#)

## Programmer and Developer Resources

- [help.crestron.com](http://help.crestron.com): Provides help files for Crestron programming tools such as SIMPL, SIMPL#, and Crestron Toolbox™ software
- [developer.crestron.com](http://developer.crestron.com): Provides developer documentation for Crestron APIs, SDKs, and other development tools

## Product Certificates

To search for product certificates, refer to [support.crestron.com/app/certificates](http://support.crestron.com/app/certificates).

