



# IV-SAM-VXP-1B and IV-SAM-VXS-1B

## 1 Beyond Automate™ VX Series

Product Manual  
Crestron Electronics, Inc.

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# Overview

The 1 Beyond Automate™ VX series provides voice-activated camera switching solutions that bring a full multicamera studio experience to meetings, town halls, and classrooms. Camera switching and movement are done automatically based on the active speaking participant. Automate VX comes with built-in recording and streaming capability along with outputs for video conferencing.

**NOTE:** 1 Beyond Automate™ VX models are functionally similar. For simplicity within this documentation, the term "Automate VX system" is used except where otherwise noted.

# Features

Refer to the following sections for more information on the features provided by various 1 Beyond Automate™ VX models.

- [IV-SAM-VXP-1B Features on page 3](#)
- [IV-SAM-VXS-1B Features on page 5](#)
- [IV-PROSERVICE-1B Features on page 7](#)

## IV-SAM-VXP-1B Features

The IV-SAM-VXP-1B and IV-SAM-VXS-1B Automate™ VX Pro is a voice-activated camera switching solution that brings a full multicamera studio experience to meetings, town halls, and classrooms. Camera switching and movement are done automatically based on the active speaking participant. Automate VX Pro comes with built-in recording and streaming capability along with outputs for video conferencing.



Key features include:

- Automatic camera switching based on the active speaker
- Supports up to 12 Cameras for multi-camera video with broadcast-style cuts
- Intelligent video algorithm follows the conversation enabling smooth transitions between participants
- NDI® Compatible (IP video over the network)
- Seven HD-SDI Inputs

## Professional Services

The 1 Beyond Automate system requires the purchase of 1 Beyond Camera Systems Remote Professional Services.

An Equipment Proposal issued by the Crestron Sales Support Services team is required before placing an order for IV-SAM-VXP-1B and IV-SAM-VXS-1B. All orders must reference the Equipment Proposal number and include the complete camera system outlined in the Equipment Proposal, including Professional Services.

**NOTE:** The Equipment Proposal will include the required 1 Beyond cameras, Automate VX system, and 1 Beyond Camera Systems Remote Professional Services. It will also identify third-party equipment, such as microphones, which are necessary to complete the system and must be purchased separately from the applicable manufacturer, based upon the information provided regarding room size, furniture layout, and design specifics.

Visit [IV-PROSERVICE-1B](#) for more details.

## Improved Video for Meetings

See who is speaking with close-up camera shots. Clean production-style camera switching provides a more engaging experience for remote participants or viewers.

## Voice-Activated Switching

Hands-free operation uses room microphones to switch cameras to focus on the active speaking participant. Integrates with Shure®, Biamp® and Q-Sys® DSPs.

## Adapts to Room Sizes and Uses

Supports up to 12 cameras, including 1 Beyond tracking and NDI compatible cameras. Presets can be saved for rooms that are divisible or have different furniture layouts.

## Graphics, Titles, and Layouts

Combine multiple sources, superimpose titles, and add custom graphics. A graphical user interface allows for custom layouts, and not just picture-in-picture or side-by-side layouts.

## Browser or Third-Party Control

Turn on autoswitching, record/stream, and change room configurations or layouts from most phones, tablets or browsers. An API for Crestron® or Zoom Rooms™ Control is also provided.

## Conference, Stream, and/or Record

In addition to high-quality output for hard or soft codecs, the system has a built-in encoder and recorder to enable multiple live streams and over 100 hours of recording.



## IV-SAM-VXS-1B Features

The IV-SAM-VXS-1B Automate™ VX is a voice-activated camera switching solution that brings a full multicamera studio experience to meetings, town halls, and classrooms. Camera switching and movement are done automatically based on the active speaking participant. Automate VX comes with built-in recording and streaming capability along with outputs for video conferencing.



Key features include:

- Automatic camera switching based on the active speaker
- Supports up to 12 Cameras for multi-camera video with broadcast-style cuts
- Intelligent video algorithm follows the conversation enabling smooth transitions between participants
- NDI® Compatible (IP video over the network)
- Three HD-SDI Inputs

### Professional Services

The 1 Beyond Automate system requires the purchase of 1 Beyond Camera Systems Remote Professional Services.

An Equipment Proposal issued by the Crestron Sales Support Services team is required before placing an order for IV-SAM-VXS-1B. All orders must reference the Equipment Proposal number and include the complete camera system outlined in the Equipment Proposal, including Professional Services.

**NOTE:** The Equipment Proposal will include the required 1 Beyond cameras, Automate VX system, and 1 Beyond Camera Systems Remote Professional Services. It will also identify third-party equipment, such as microphones, which are necessary to complete the system and must be purchased separately from the applicable manufacturer, based upon the information provided regarding room size, furniture layout, and design specifics.

Visit [IV-PROSERVICE-1B](#) for more details.

## Improved Video for Meetings

See who is speaking with close-up camera shots. Clean production-style camera switching provides a more engaging experience for remote participants or viewers.

## Voice-Activated Switching

Hands-free operation uses room microphones to switch cameras to focus on the active speaking participant. Integrates with Shure®, Biamp® and Q-Sys® DSPs.

## Adapts to Room Sizes and Uses

Supports up to 12 cameras, including 1 Beyond tracking and NDI compatible cameras. Presets can be saved for rooms that are divisible or have different furniture layouts.

## Graphics, Titles, and Layouts

Combine multiple sources, superimpose titles, and add custom graphics. A graphical user interface allows for custom layouts, and not just picture-in-picture or side-by-side layouts.

## Browser or Third-Party Control

Turn on autoswitching, record/stream, and change room configurations or layouts from most phones, tablets or browsers. An API for Crestron® or Zoom Rooms™ Control is also provided.

## Conference, Stream, and/or Record

In addition to high-quality output for hard or soft codecs, the system has a built-in encoder and recorder to enable multiple live streams and over 100 hours of recording.

## IV-PROSERVICE-1B Features

1 Beyond Camera Systems Remote Professional Services provides support for commissioning your Automate™ VX voice-activated camera tracking solution.

The purchase of 1 Beyond Camera Systems Remote Professional Services (IV-PROSERVICE-1B) is required with the purchase of each Automate™ VX ([IV-SAM-VXS-1B](#)) or Automate™ VX Pro ([IV-SAM-VXP-1B](#)) model. 1 Beyond Camera Systems Remote Professional Services is not available for purchase separately.



### Overview

1 Beyond Camera Systems Remote Professional Services provides support for commissioning your Automate™ VX voice-activated camera tracking solution. An Equipment Proposal issued by Crestron's Sales Support Services team is required before placing an order for any Automate VX system. All orders must reference the Equipment Proposal number and include the complete camera system as set forth in the Equipment Proposal, including 1 Beyond Camera Systems Remote Professional Services (IV-PROSERVICE-1B).

**NOTE:** The Equipment Proposal will include the required 1 Beyond cameras, Automate VX system, and 1 Beyond Camera Systems Remote Professional Services. It will also identify third-party equipment, such as microphones, which are necessary to complete the system and must be purchased separately from the applicable manufacturer, based upon the information provided regarding room size, furniture layout, and design specifics.

For additional information or to request an Equipment Proposal, please contact [Sales Support Services](#). Refer to your order confirmation for details regarding the scheduling of professional services.

The services included in 1 Beyond Camera Systems Remote Professional Services are described in the sections that follow.

## Preinstallation Support

The Crestron support team will review your proposed installation plan and recommend optimum placement of the Automate VX system equipment and control panel programming for the Automate VX or Automate VX Pro camera systems.

The support team will provide an overview of the remote commissioning support process and answer any questions regarding system configuration and control programming. The support team will also identify the resources required onsite for commissioning.

## Remote Commissioning and Validation

Following installation, the Crestron support team will connect remotely with your onsite team to help deploy the solution and configure the Automate VX software. The support team accesses the Automate VX system remotely with your permission and assistance. An experienced and skilled AV technician is required onsite at this stage, as the support team may require file-system permissions to access the Automate VX system remotely when deploying hardware and configuring camera tracking.

Once the Automate VX system is installed and configured, the support team will remotely perform a comprehensive validation of the camera tracking system. The support team will simulate a video conference call with your on-site technician to validate camera tracking, microphone sensitivity, lip-sync, API control from your control panel, and all other related functionality. After the successful validation, the support team will archive your configuration files for future support needs.

# Physical Description

The camera switcher provides the following connectors and indicators.

## IV-SAM-VXP-1B Connectors and Indicators



## IV-SAM-VXS-1B Connectors and Indicators



No.	Name	Description
1	Power	AC power
2	BIOS Flashback Button	Not used
3	Wi-Fi	Connects the antenna to the onboard Wi-Fi™ network chip
4	HDMI	Not used
5	USB 3.2 Gen 1	2x USB Type-A ports for peripheral device connections
6	Audio Connections	<b>Orange:</b> Central/bass speaker out <b>Blue:</b> Line in <b>Black:</b> Rear speaker out <b>Green:</b> Headphone/speaker out <b>Pink:</b> Microphone in <b>Optical:</b> Optical SPDIF out
7	ETH1	1 Gbps RJ-45 Ethernet port

No.	Name	Description
8	USB 3.2 Gen1	USB Type-A port for peripheral device connections
9	USB 3.2 Gen2 Thunderbolt™ 4	USB Type-C® port for faster data rates
10	ETH2	2.5 Gbps RJ-45 Ethernet port
11	USB 3.2 Gen2	USB Type-A port for faster data rates
12	USB 3.2 Gen2 Thunderbolt 4	USB Type-C port for faster data rates
13	USB 3.2 Gen 1	2x USB Type-A ports for peripheral device connections
14	SDI (REF)	SDI reference port (not used)
15	SDI	SDI inputs  <b>1V-SAM-VXS-1B:</b> Equipped with 3 inputs <b>IV-SAM-VXP-1B:</b> Equipped with 7 inputs, use included mini-DIN to BNC adapters for camera inputs
16	SDI (OUT)	SDI video program output
17	DisplayPort	DisplayPort™ video connection for a computer monitor output (setup only)

# Specifications

Refer to the following sections for more information on the specifications for various 1 Beyond Automate™ VX models.

- [IV-SAM-VXP-1B Specifications on page 12](#)
- [IV-SAM-VXS-1B Specifications on page 14](#)

# IV-SAM-VXP-1B Specifications

Product specifications for the IV-SAM-VXP-1B and IV-SAM-VXS-1B are provided below.

## Product Specifications

### Automate VX Pro Capabilities

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<b>Titles, Graphics, Layouts</b>	Titles, logos, backgrounds can be added, Easy-to-use graphic designer to create any multi-source layout
<b>Program Record</b>	MP4 file (H.264 codec). User-selectable bitrate up to 10 Mbps
<b>ISO Record</b>	MJPEG MOV (30–200 Mbps) Individually selectable
<b>Recording Capacity</b>	Records to internal 1TB SSD storage
<b>Streaming Encoder</b>	Can stream to any RTMP server. Presets included for popular CDNs
<b>NDI Support</b>	For inputs and program output
<b>Camera Control</b>	Can control 1 Beyond PTZ cameras and tracking cameras (AutoTracker and AutoFramer) over IP
<b>System Control</b>	RESTful API over Network (TCP) for third party control
<b>Compatible Codecs</b>	Output via HD-SDI (SDI to HDMI® converter included) for connection to external conferencing codec or via USB adapter to external systems running Microsoft Teams® software, Zoom Rooms™ software, etc.
<b>Configuration</b>	Browser-based configuration with secure log-in and user administration

### Connectivity

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<b>Network Ports</b>	2x RJ-45 Gigabit Ethernet
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### Video

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<b>Video Inputs</b>	7x HD-SDI Inputs; Up to 12 cameras with NDI HX® interface
<b>Video Output</b>	Up to 1080p60 , 1x HD-SDI (SDI to HDMI® converter included); NDI HX
<b>Desktop Output</b>	4x DisplayPort™ output

### Audio

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<b>Audio Input</b>	3.5 mm Line In, USB, Dante® input
<b>Compatible Mic Systems</b>	For a list of compatible mic systems, refer to <a href="#">OLH Article 1001562</a> .
<b>Compatible DSPs</b>	For a list of compatible DSPs, refer to <a href="#">OLH Article 1001563</a> .

### Power

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**Power** 400 W, 100–240VAC

**Dimensions**

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**Height** 3.5 in. (89 mm)

**Width** 16.75 in. (425 mm)

**Depth** 14.5 in. (368 mm)

**Weight**

---

14 lb (6.35 kg)

# IV-SAM-VXS-1B Specifications

Product specifications for the IV-SAM-VXP-1B and IV-SAM-VXS-1B are provided below.

## Product Specifications

### Automate VX Capabilities

---

<b>Titles, Graphics, Layouts</b>	Titles, logos, backgrounds can be added, Easy-to-use graphic designer to create any multi-source layout
<b>Program Record</b>	MP4 file (H.264 codec). User-selectable bitrate up to 10 Mbps
<b>ISO Record</b>	MJPEG MOV (30–200 Mbps) Individually selectable
<b>Recording Capacity</b>	Records to internal 500GB SSD storage
<b>Streaming Encoder</b>	Can stream to any RTMP server. Presets included for popular CDNs
<b>NDI Support</b>	For inputs and program output
<b>Camera Control</b>	Can control 1 Beyond PTZ cameras and tracking cameras (AutoTracker and AutoFramer) over IP
<b>System Control</b>	RESTful API over Network (TCP) for third party control
<b>Compatible Codecs</b>	Output via HD-SDI (SDI to HDMI® converter included) for connection to external conferencing codec or via USB adapter to external systems running Microsoft Teams® software, Zoom Rooms™ software, etc.
<b>Configuration</b>	Browser-based configuration with secure log-in and user administration

### Connectivity

---

<b>Network Ports</b>	2x RJ-45 Gigabit Ethernet
----------------------	---------------------------

### Video

---

<b>Video Inputs</b>	3x HD-SDI Inputs Up to 12 cameras with NDI HX® interface
<b>Video Output</b>	Up to 1080p60 , 1x HD-SDI (SDI to HDMI® converter included); NDI HX
<b>Desktop Output</b>	4x DisplayPort™ output

### Audio

---

<b>Audio Input</b>	3.5 mm Line In, USB, Dante® input
<b>Compatible Mic Systems</b>	For a list of compatible mic systems, refer to <a href="#">OLH Article 1001562</a> .
<b>Compatible DSPs</b>	For a list of compatible DSPs, refer to <a href="#">OLH Article 1001563</a> .

### Power

---

**Power** 400 W, 100–240VAC

### Dimensions

---

**Height** 3.5 in. (89 mm)

**Width** 16.75 in. (425 mm)

**Depth** 14.5 in. (368 mm)

### Weight

---

14 lb (6.35 kg)

# Installation

Use the following procedures to install the Automate VX system.

## In the Box

Qty.	Description
1	IV-SAM-VXP-1B or IV-SAM-VXS-1B, Automate™ VX Camera Switcher
<b>Additional Items</b>	
2	Rail, 20 in. (508 mm)
1	Power Cord, IEC
1	Wi-Fi™ Network Antenna
1	SDI to HDMI® Signal Converter
1	DisplayPort™ to HDMI (female) Signal Adapter
1	Feet Set, Chassis
<b>IV-SAM-VXP-1B Only</b>	
8	Cable, MiniDIN to BNC

## Wire the Camera System

To perform basic wiring for the camera system:

1. Designate a number for each PTZ camera in your system.
2. Mount the cameras in as described in the appropriate [documentation for your 1 Beyond camera model](#).
3. Connect each PTZ camera to the SDI® ports of the Automate VX device using HD-SDI cables. Ensure the numbered SDI port corresponds to the camera number determined in step 1.

**NOTE:** Each PTZ camera should be connected to a network switch via Ethernet and can be powered via PoE+ (Power over Ethernet Plus) with 30 W power.

4. Connect the **Ethernet 2** port on the camera switcher device to the network switch via an Ethernet cable.

5. Connect the DisplayPort™ computer monitor output to a display (either directly or through a matrix).
6. To perform initial device setup, either connect the **Ethernet** port to a computer for remote desktop control, or use a mouse and keyboard for direct control. For more information, refer to [Connect to the System below](#).

## Connect to the System

For initial setup, either connect the Ethernet port to a computer for Windows® Remote Desktop, or use a mouse and keyboard for direct control.

To connect directly to the Windows Remote Desktop:

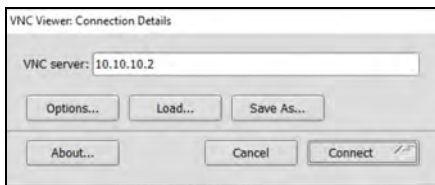
1. Connect the Ethernet port of the camera switcher device to a computer.

### Camera Switcher Device Ethernet Ports



2. Set the following static IP and subnet addresses on your computer:
  - **IP address:** 10.1.10.1
  - **Subnet address:** 255.255.255.0
3. Connect to the camera switcher device in the remote desktop client using the following IP address: 10.1.10.2.

### Remote Desktop Client Login



4. When prompted, enter the following default login credentials:
  - **Username:** Valued Customer
  - **Password:** 1beyond

# Configuration

Use the following procedures to configure the Automate VX system.

This section provides the following information:

- [Initial Setup on page 19](#)
- [System Configuration on page 21](#)
- [Wirecast Configuration on page 34](#)

# Initial Setup

Use the following procedures to set up the Automate VX system following installation.

## Assign Network Interfaces

The Automate VX system has two NICs labeled **Ethernet** and **Ethernet 2**. The Ethernet ports have the following default addressing configuration:

- The **Ethernet** port is set as a static IP for initial configuration via the VNC Viewer.
- The **Ethernet 2** port is set to use DHCP and is used for the Dante® Virtual Soundcard and the Dante Controller.

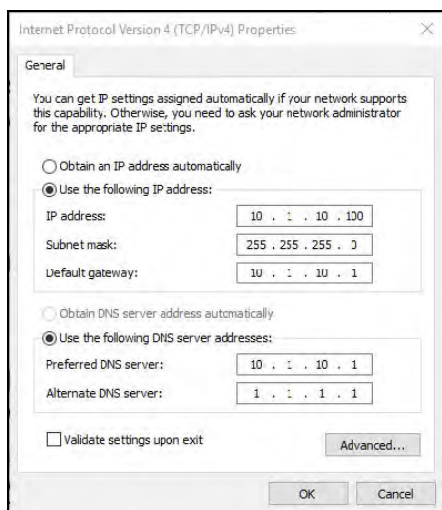
## Set Static IP Addresses

Static IP addresses must be set after assigning the network interfaces.

**NOTE:** The web interface and API of the Automate VX system rely on static IP addresses for the system, cameras, and microphones. As a result, static IP address should be set during initial setup.

Depending on your network configuration, either set a static IP address in the network router or set them individually on each device. Static IP addresses can be set in the Windows **Network & Internet** settings.

### Windows Internet & Network Settings



To assign IP addresses for 1 Beyond cameras, refer to the [documentation for your 1 Beyond camera model](#).

It is also recommended to change the camera names to match the global camera IDs that have been designated in the Automate VX system software. For more information, refer to the [1 Beyond Camera Manager Product Manual](#)

## Use Remote Support

The Automate VX system can be configured from a laptop on the same subnet as the system using the web browser interface. For advanced configurations, Remote Desktop can be used. Professional Services can access your laptop using any remote access client.

In addition, TeamViewer Quick Support is available on the Automate VX system for remote access if the system is connected to the network. This setup allows the field technician's laptop to be made available for another use.



# System Configuration

The Automate VX system can be configured using its web configuration interface as described in the sections that follow.

**NOTE:** Most system configuration can be accomplished by using the [Intelligent Video Room Designer tool](#). This tool is available on the Crestron website and locally on the Automate VX system.

## Access the Web Configuration Interface

To access the web configuration interface for the Automate VX system, open the Chrome® browser on the Automate VX system. The web configuration interface loads automatically.

To access the web configuration interface from a different device:

1. Enter the IP address of the camera switching system with port 3579 appended to the address (for example, "10.1.10.31:3579")

A login page is displayed.

### Login Page

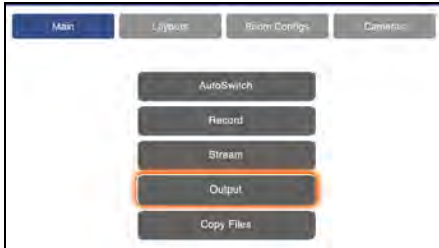


2. Enter the following login credentials:
  - **username:** admin
  - **password:** 1beyond
3. Select **Login**.

**NOTE:** Additional users can be set to access the Automate VX system. For more information, refer to [Admin and User Settings on page 32](#)

The web configuration interface opens with the **Main** tab open by default.

## Web Configuration Interface - Main Tab

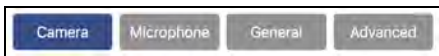


To enter the system settings, select the gear icon at the top of the web configuration interface.

## Camera Settings

Select the **Camera** tab to view the available camera settings.

### Camera Tab



The following camera settings can be configured.

### Select Control Protocol

Use the **Select Control Protocol** drop-down menu to select between Serial or IP control.

#### Select Control Protocol Setting



### Camera COM Port

Use the **Camera COM Port** drop-down menu to select a COM port within the system for a Serial camera connection.

**NOTE:** Ensure that a USB to RS-485 adapter is connected to an available USB port on the system. This will allow a COM port to be exposed on this drop-down menu.

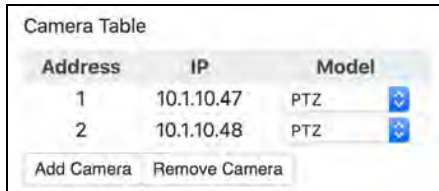
#### Select Control Protocol Setting



## Camera Table

For IP control, enter the IP address of each connected camera in the **IP** column of the **Camera Table**. The camera number in the table must match the SDI port number that the camera is connected to.

### Camera Table Setting



Address	IP	Model
1	10.1.10.47	PTZ
2	10.1.10.48	PTZ

Add Camera Remove Camera

The following camera models can be selected from the **Model** drop-down menu:

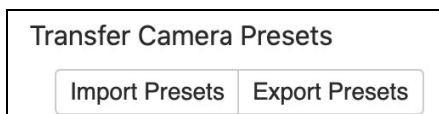
- PTZ
- AutoTracker

## Transfer Camera Presets

Camera preset settings can be exported once installation is complete and then imported into similar configurations.

**CAUTION:** Ensure that no custom presets interfere with any reserved presets. Presets 200 and 251–255 are reserved for Automate VX system functionality. Additional presets may be reserved depending on the 1 Beyond cameras added to the system. Refer to the camera's documentation for more information.

### Transfer Camera Presets Setting



Transfer Camera Presets

Import Presets Export Presets

- Select **Import Presets** to import all camera presets saved within the **Import.xml** file (located within **C:\Program Files\1 Beyond\Automate VX\Presets\Camera**).
- Select **Export Presets** to import all current camera presets to an **Export.xml** file (located within **C:\Program Files\1 Beyond\Automate VX\Presets\Camera**).

**NOTE:** The **Export.xml** must be renamed to **Import.xml** prior to importing the exported camera presets.

# Microphone Settings

Select the **Microphone** tab to view the available microphone settings.

## Microphone Tab

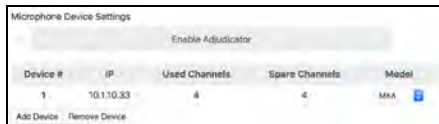


The following microphone settings can be configured. These settings can also be modified by editing the Room Designer file.

## Microphone Device Settings

The **Microphone Device Settings** table is used to add the control IP addresses of each microphone or automix device used within the camera switching system.

### Microphone Device Settings Table

A screenshot of the 'Microphone Device Settings' table. At the top, there is a toggle for 'Enable Adjudicator'. Below it is a table with columns: Device #, IP, Used Channels, Spare Channels, and Model. One row is visible with Device # 1, IP 10.1.10.33, Used Channels 4, Spare Channels 4, and Model MXA. At the bottom left, there are links for 'Add Device' and 'Remove Device'.

- **IP:** Enter the control IP address of the microphone or automixer device. Do not enter the Dante IP address of the device.
- **Used Channels:** Enter the number of channels (or lobes) in use by the device.
- **Spare Channels:** Enter the spare channels (or lobes) that are not in use by the device.

**NOTE:** The **Spare Channels** field is used to reserve additional camera presets in case extra channels must be added to a device during or after configuration. For example, if using a Shure MXA-910 microphone but not all 8 lobes are in use, it is recommended to set 2 or 3 spare channels.

- **Model:** Select the microphone or automixer device model from the drop-down menu:
  - ADECIA
  - Intellimix Room
  - MXA310/910
  - MXA920
  - MXC / MXCW
  - P300
  - Q-SYS
  - Tesira
  - TCC2
  - Taiden

Select **Add Device** to add additional devices to the table.

If using multiple devices, a P300, Q-SYS, SCM-820, or Tesira device (or the Intellimix Room software) must be set as an adjudicator. To set an adjudicator device, select the **Enable Adjudicator** check box, then enter the control IP address of the device into the **Adjudicator IP** text field.

#### Microphone Device Settings Table - Enable Adjudicator

Device #	IP	Used Channels	Spare Channels	Model	Adjudicator Channel
1	10.1.10.33	4	4	MXA	1
2	10.1.10.34	4	2	MXA	2

Select the device model from the **Adjudicator Model** drop-down menu:

- Intellimix Room
- P300
- SCM-820
- Q-SYS
- Tesira

Turning on an adjudicator will add a fifth **Adjudicator Channel** column to the table. Enter the channel number from which the automix from each device is routed to the adjudicator.

**NOTE:** If using an adjudicator as a device in the device list, enter the **Used Channels** as normal, and set the **Spare Channels** and **Adjudicator Channel** values to 0.

## Microphone Table

The **Microphone Table** setting shows the relationship between microphones and cameras in the system using five columns per row (**Device Number**, **Mic Number**, **Camera Preset**, **Primary Camera**, and **Secondary Camera**).

The number of devices and microphones is determined by the **Microphone Device Settings** table. The **Microphone Table** updates automatically when the configuration is saved. Any spare channels are indicated by grayed-out rows as a reminder that they are reserved if needed.

### Microphone Table Setting

Microphone Table

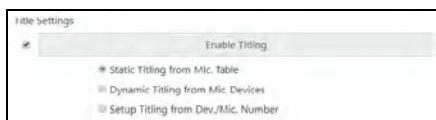
Device Number	Mic Number	Camera Preset	Primary Camera	Secondary Camera
1	1	1	1	2
1	2	2	1	2
1	3	3	1	2
1	4	4	1	2
2	1	7	2	1
2	2	8	2	1
2	3	9	2	1
2	4	10	2	1

Enter the camera numbers for both primary and secondary cameras with the **Device Number** and **Mic Number** entries.

**NOTE:** When using a 1 Beyond AutoTracker camera, ensure microphone 1/preset 1 is not used for camera switching, as this will call the framing reference preset.

Select the **Enable Tilting** text box to turn on titles. For more information on customizing the look of these titles, refer to [Wirecast Configuration on page 34](#).

### Title Settings



Title settings

Enable Tilting

Static Titling from Mic. Table

Dynamic Titling from Mic. Devices

Setup Titling from Dev./Mic. Number

While titles are turned on, three selections are provided:

- Select **Static Titling from Settings** to add a sixth column to the **Microphone Table** for entering titles manually.

## Microphone Table - Static Title Column

Device Number	Mic Number	Camera Preset	Primary Camera	Secondary Camera	Static Title
1	1	1	1	2	Seat 1
1	2	2	1	2	Seat 2
1	3	3	1	2	Seat 3
1	4	4	1	2	Seat 4
1	5	5	2	1	Seat 5
1	6	6	2	1	Seat 6
1	7	7	2	1	Seat 7
1	8	8	2	1	Seat 8

- Select **Dynamic Titling from Mic. Devices** to dynamically pull titles from a Shure Discussion System (if using).
- Select **Setup Titling from Dev/Mic. Number** for use during system configuration. The active device and corresponding microphone numbers will be displayed to verify that the correct camera preset calls are made.

Select the **Chairman Priority** check box to always switch to a specified microphone whenever someone speaks into it or it is gated. When this setting is turned on, enter a microphone number in the **Chairman Mic #** text field to set that microphone to have chairman priority.

## General Settings

Select the **General** tab to view the available general system settings.

### General Tab



The following general system settings can be configured.

## Output Settings

Three output settings are provided that can be turned on or off: **SDI**, **NDI**, and **Virtual Camera**.

### Output Settings



Each output has a drop-down menu with the following selections:

- NTSC
- PAL
- 2160p 30 (VX 4K Only)
- 2160p 25 (VX 4K Only)
- 1080i 50
- 1080i 59.94

- 1080i 60
- 1080p 23.98
- 1080p 24
- 1080p 25
- 1080p 29.97
- 1080p 30
- 1080p 50
- 1080p 59.94
- 1080p 60
- 720p 50
- 720p 59.94
- 720p 60

## Layout Settings

Layouts are a way of switching between different composite shots.

### Layout Settings

Layout Settings (Currently Selected: A)	
ID	Layout Name
A	Layout A
B	Layout B

Each layout is given an ID (A to Z) and can be named using the **Layout Name** text field. To add additional layouts, select **Add Row**. To remove layouts, select **Remove Row**.

The current layout is indicated above the table.

Different layouts can be configured within Wirecast. For more information, refer to [Wirecast Configuration on page 34](#).

## Record Settings

The following recording settings are provided.

### Record Settings

Record Settings	
<input type="checkbox"/>	Enable ISO Recording

Select the **Enable ISO Recording** check box to save a separate ISO recording of each camera input into the system in addition to the program recording.

For more information on starting and stopping recording through the web configuration interface, refer to [Basic Operation on page 38](#).

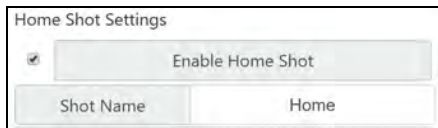


Select the **Enabling Pause** check box to provide pausing functionality during recording. Incomplete recordings are stored in **D:/Recording\_Temp**. Once a recording has been stopped, the incomplete recordings are joined into a complete recording and saved in **D:/Recordings**.

## Home Shot Settings

The following home shot settings are provided.

### Home Shot Settings



Home Shot Settings	
<input checked="" type="checkbox"/>	Enable Home Shot
Shot Name	Home

Select **Enable Home Shot** to turn on resetting to a predefined home shot whenever the Automate VX system turns on and when AutoSwitch is turned off. If this option is not selected, the last active camera will stay live until AutoSwitch is turned back on.

The **Shot Name** field determines the shot in Wirecast that is used as the home shot. By default, a Home shot is already predefined in the Wirecast document.

When the home shot is called, each camera will be sent the same preset call determined by the value set in **Preset**. This is set to 200 by default so as not to interfere with presets used for switching.

The home shot can be changed as needed in Wirecast. For more information, refer to [Wirecast Configuration on page 34](#).

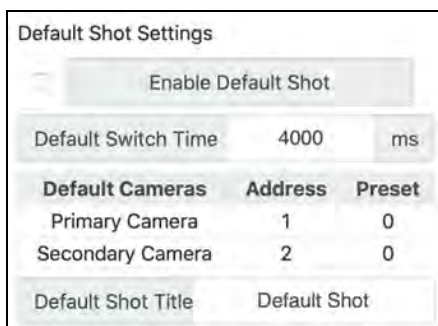
## Enable AutoTrack on Wake

Select this option to turn on the AutoTrack functionality of any AutoTracker, AutoFramer, or AutoFinder cameras in use when calling the Wake API.

## Default Shot Settings

The following default shot settings are provided.

### Default Shot Settings



Default Shot Settings		
<input checked="" type="checkbox"/>	Enable Default Shot	
Default Switch Time	4000	ms
<b>Default Cameras</b>	<b>Address</b>	<b>Preset</b>
Primary Camera	1	0
Secondary Camera	2	0
Default Shot Title	Default Shot	

Select the **Enable Default Shot** check box to turn on resetting to a default camera preset when microphones have been inactive for a set duration. If this option is not selected, the active camera stays live until the next active participant is speaking.

The **Default Switch Time** field sets the duration that must elapse (in milliseconds) after the last active participant stops speaking before the default shot is called.

The Automate VX system will select between the **Primary Camera** and **Secondary Camera** to call a default shot after the default switch time expires. Enter the camera number into the **Address** field and the preset number that should be called into the **Preset** field. It is recommended to set the **Preset** to 0 as to not interfere with any microphone presets.

The **Default Shot Title** sets the title for the default shot when titling is turned on.

## Side by Side Settings

The following side-by-side settings are provided.

### Side-by-Side Settings



The screenshot shows a control panel titled "Side by Side Settings". It features a checkbox labeled "Enable Side by Side" which is currently unchecked. Below this is a text field labeled "Discussion Threshold" with the value "2000" and a unit selector set to "ms".

Select the **Enable Side by Side** check box to turn on side-by-side shots. A side-by-side shot is a split screen shot that captures two active participants who are speaking largely at the same time. This shot will be called after the system detects that two active participants have been speaking together for longer than the provided duration.

Use the **Discussion Threshold** text field to determine how long two active participants need to be speaking before the side-by-side shot is called.

**NOTE:** It is recommended to use this setting with a Shure Discussion System that has push-to-talk microphones in formal meetings. However, this setting can also be used with MXA-910 ceiling arrays.

## Enable AutoSwitch on VX Startup

Select this option to turn on AutoSwitch when the Automate VX system starts up.

## AutoSwitch Settings

The following AutoSwitch settings are provided.

### Auto Switch Settings



The screenshot shows a control panel titled "Auto Switch Settings". It contains three rows of settings, each with a label, a value, and a unit selector:

Switch Time	1000	ms
Noise Delay	400	ms
Pause Delay	400	ms

- **Switch Time:** Sets the delay (in ms) between when a preset is called after someone is speaking to when the shot is made live. The default value is 1000ms.

**NOTE:** Lowering this value increases switch speed. If any motion or zooming is observed during switching, increase this value.

- **Noise Delay:** Determines how long a noise needs to occur before the system recognizes it. This feature helps to avoid switching based on coughs or other short sounds.
- **Pause Delay:** Determines how long after an active participant stops speaking before the camera will switch to another camera or a default shot.

## Advanced Settings

Select the **Advanced** tab to view the available advanced settings.

### Advanced Tab



The following advanced settings can be configured.

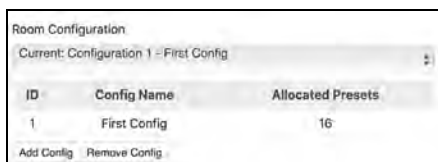
## Room Configurations

The **Room Configurations** setting allows for different microphones and room furniture arrangements to be used. This is especially helpful within divisible and multipurpose rooms.

Each room configuration saves a separate copy of all the settings in the Automate VX system.

**NOTE:** The camera presets assigned to the **Microphone Table** are different for each room configuration.

### Room Configurations Settings

A screenshot of the 'Room Configuration' settings interface. It features a drop-down menu at the top showing 'Current: Configuration 1 - First Config'. Below it is a table with three columns: 'ID', 'Config Name', and 'Allocated Presets'. The table contains one row with the value '1' in the ID column, 'First Config' in the Config Name column, and '16' in the Allocated Presets column. At the bottom of the interface, there are two buttons: 'Add Config' and 'Remove Config'.

To change room configurations, use the drop-down menu to select the desired room configuration. Information for the room configuration is shown in the table below the drop-down menu.

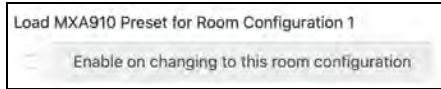
**NOTE:** Loading a room configuration will discard any unsaved changes on your current room configuration. Ensure any changes are saved prior to making a new selection.

Selecting a room configuration can also be called with an API or Crestron command.

## Load MXA910 Presets

When using multiple room configurations, it is possible to load corresponding presets for MXA-910 microphone arrays. This is useful when multiple room and lobe layouts are used.

### Load MXA910 Presets

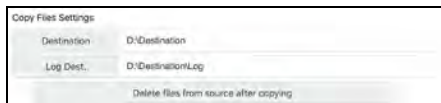


Select the **Enable on changing to this room configuration** check box to load to corresponding numbered preset in any MXA-910 microphone arrays when the room configuration is changed.

## Copy Files Settings

The following file copying settings are provided.

### Copy Files Settings



By default, all recordings are saved to local storage at **D:\Recordings**. The **Copy Files** button on the home page copies these files to the specified destination when selected. For more information, refer to [Basic Operation on page 38](#).

The **Destination** path can be set to a mapped network location, a full network address, or an external drive. A log of the copy will be created at the location set for **Log Dest.**

Select the **Delete files from source after copying** check box to remove files from **D:\Recordings** after a successful copy. When unchecked, copied files are moved to **D:\RecordingsDone**.

## External Switcher Settings

Turn on this setting to use Blackmagic® Design ATEM switchers with the Automate VX system.

## Save VX Logs

Enter a file path into this text field to save log files to this location.

## Admin and User Settings

Admin and User settings are accessible by selecting the **Users** icon within the settings while logged in as an admin.

The admin user has full access to all settings. New users can be created with full or limited access to system settings.

## Add User

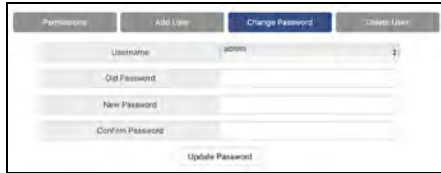
Select the **Add User** tab to add a new user.

Enter the new username and password when prompted, then select **Add User**.

## Change Password

Select the **Change Password** tab to update the password for an existing user.

### User Settings - Change Password



The screenshot shows the 'Change Password' tab selected in the 'User Settings' interface. It features a 'Username' dropdown menu with 'admin' selected. Below are three text input fields: 'Old Password', 'New Password', and 'Confirm Password'. An 'Update Password' button is located at the bottom of the form.

1. Select the user from the **Username** drop-down menu
2. Enter the existing password in the **Old Password** text field.
3. Enter the new password in the **New Password** and **Confirm Password** text fields.
4. Select **Update Password**.

## Delete User

Select the **Delete User** tab to delete an existing user.

Enter the username of the user to delete, then select **Delete User**.

## Permissions

Select the **Permissions** tab to set permissions for additional users in the system. For example, an end user could be given permissions only to operate the AutoSwitch feature.

### User Settings - Permissions



The screenshot shows the 'Permissions' tab selected in the 'User Settings' interface. It features a 'Username' dropdown menu with 'test user' selected. Below is a table with columns for 'Permissions' and 'Enable'. The table lists various permissions under different categories: 'Main Tab Buttons' (AutoSwitch, Record, Stream, Output, Copy Files), 'Home Page Tabs' (Layouts, System Config, Cameras), and 'Navigation Icons' (Settings, User Admin). An 'Update Permissions' button is located at the bottom of the form.

Select a user from the **Username** drop-down menu to change permissions for that user.

**NOTE:** The admin user will always have full permissions.

Select the check box next to a setting under the **Enable** column to allow the user to access that setting. Unselect the check box to remove the setting for that user.

Select **Update Permissions** to save any changes.

# Wirecast Configuration

The Automate VX system uses Wirecast® streaming software to change live shots, layouts, and output.

During initial setup, changes may need to be made to the Wirecast document to customize the system, such as setting custom layouts with logos. The Wirecast document is located within **C:\Program Files\1 Beyond\Automate Project.wcst**.

**NOTE:** The Wirecast document uses a specific naming convention for shots that must be adhered to for the Automate VX system to function properly. These naming conventions are described in the sections that follow.

The project provides basic shots for a layout A, including side-by-side shots, as well as a layout B with an alternative appearance.

## Configure Basic Shots

A basic shot is labeled with the input number and the layout it is associated with (for example, **A\_Cam 1**, **A\_Cam 2**, **A\_Cam 3**, **B\_Cam 1**, **B\_Cam 2**, **B\_Cam 3**, and so forth).

**NOTE:** The naming convention above must be used for the Automate VX system to function properly.

### Basic Wirecast Shots



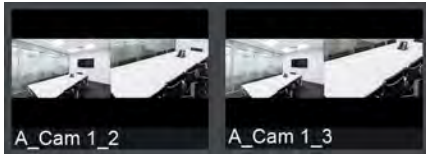
If using less than three inputs on the IV-SAM-VXS-1B or less than seven inputs on the IV-SAM-VXS-1B, any unused basic shots can be removed by right-clicking the shot and then selecting **Delete Shot**.

## Create Side-by-Side Shots

When side-by-side shots are turned on, two active speaking participants are shown simultaneously. The labeling convention for side-by-side shots is similar to basic shots with the second camera added to the end (for example, **A\_Cam 1\_2**, **A\_Cam 1\_3**, **A\_Cam 2\_3**, and so forth).

**NOTE:** Not every camera permutation is required, and the lower camera number will always be used first. For example, **A\_Cam 1\_2** is used, but **A\_Cam 2\_1** is not.

## Side-by-Side Wirecast Shots



When creating side-by-side shots in the Wirecast document, place the first camera on the left and the second camera on the right.

## Add Titles

Titles are placed in shots in the layer above the basic and side-by-side shots. Each layout has a regular title and a side-by-side title (for example, **A\_Title** and **A\_Title\_S**).

### Wirecast Titles



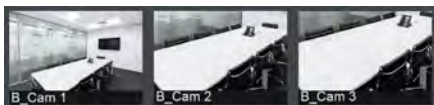
Wirecast is able to display text in title based on a text file. To ensure titles are displayed correctly, regular titles must reference **titles.txt** (in **C:\Program Files\1 Beyond\Automate VX\**), and side-by-side titles must reference **titles.txt** for the left shot and **titles2.txt** for the right shot.

Images, shapes, and other elements can be added to titles. For more information, refer to the [Wirecast documentation](#).

## Create Layouts

Layouts are labeled by letter (A through Z). This labeling convention applies to basic shots, side-by-side shots, and titles (for example, layout B would use **B\_Cam 1**, **B\_Cam 1\_2**, **B\_Title**, and **B\_Title\_S**).

### Wirecast Layouts



**NOTE:** If side-by-side shots are turned on, side-by-side shots must be configured in every layout that will use these shots.

## Configure Audio

Audio input to the Automate VX system is not required for voice-activated camera switching. For video conferencing, send audio directly from your DSP to your codec with a 400ms delay in order to ensure proper lip sync.

For local recording or streaming with the system, activate the installed Dante Virtual Soundcard by purchasing a license from [www.audinate.com](http://www.audinate.com). Alternatively, use the line in input on the system rear panel for an analog signal flow.



# Operation

Use the following procedures to operate the Automate VX system.

This section provides the following information:

- [Basic Operation on page 38](#)
- [Camera Setup Tool on page 41](#)

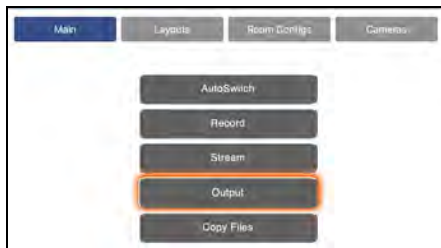
# Basic Operation

The following procedures describe how to operate basic functions of the Automate VX system.

## Main Menu

Select the **Main** tab to view and perform common functions for the Automate VX system.

### Main Menu Selections



Select **AutoSwitch** to start and stop automated switching. A blue outline is shown around the button when autoswitching is turned on, and the system output will switch automatically based on the active speaking participant. Select **AutoSwitch** again to stop automated switching.

Select **Record** to start and stop a recording. A red outline is shown around the button when recording is turned on. Select **Record** again to stop recording.

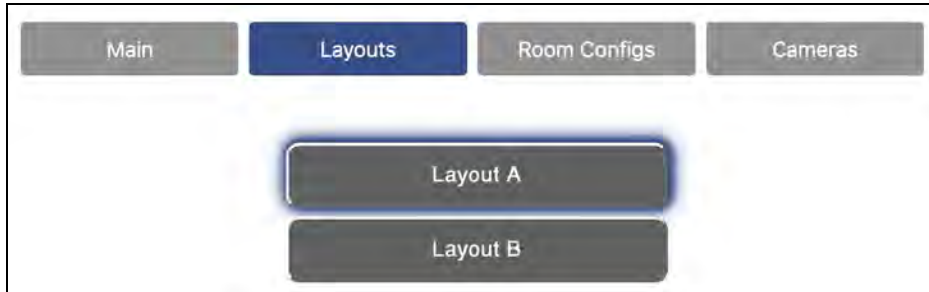
- Recordings can be paused and resumed. This option is turned off by default. To turn on this option, refer to [General Settings on page 27](#).
- If ISO recording is turned on, separate video files for each input are created in addition to the main program recording.
- Program recordings and ISO recordings are saved to local storage at **D:\Recordings**.

Select **Copy File** to copy any recordings to the destination specified in the copy file settings.

## Layouts Menu

Select the **Layouts** tab to view and select preset layouts for the Automate VX system.

### Layouts Menu Selections



To change layouts during AutoSwitch mode, select the button that corresponds with the desired layout. The layout changes immediately.

## Room Configs Menu

Select the **Room Configs** tab to view and select preset room configurations for the Automate VX system.

### Room Configs Menu Selections



To change room configurations, select the button that corresponds with the desired room configuration. The room configuration changes immediately.

# Cameras Menu

Select the **Cameras** tab to view and select individual cameras for manual control.

## Cameras Menu Selections



To select a camera for manual control, select a button under **Cameras** that corresponds to the desired camera. The live shot will change to the selected camera immediately.

After selecting a camera, use the buttons under **Presets** to select a saved camera preset. The buttons in this section correspond to the numbered presets for the selected camera. If the home shot is turned on, select **Home** to call the home shot preset.

If using a camera that supports tracking, the **Start Track** and **Stop Track** buttons are used to start and stop tracking, respectively.

# Camera Setup Tool

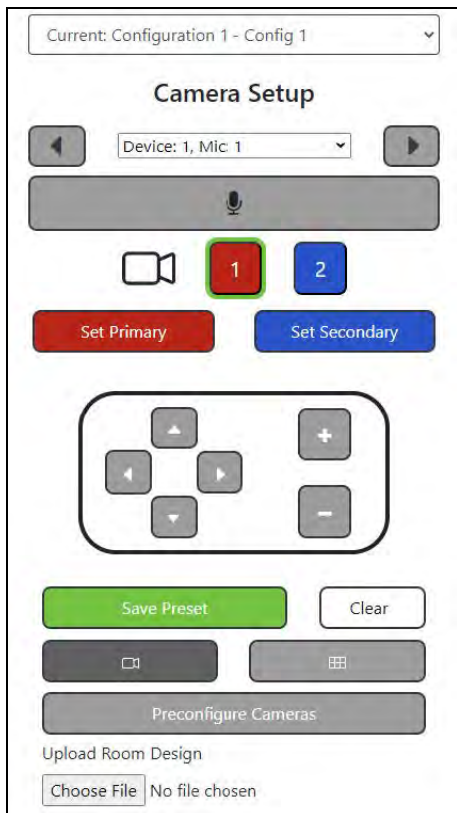
The Automate VX system provides a Camera Setup tool that allows microphones to be paired with their corresponding camera shot for each configuration. The tool also simplifies changing any camera presets.

To access the camera setup tool, select the camera icon within the settings page.

## Camera Icon Selection



The **Camera Setup** page is displayed.



The following controls are provided. Use these controls to configure any microphones that are used in this configuration.

- Use the drop-down menu at the top of the page to change the room configuration.
- Use the drop-down menu under **Camera Setup** to select a microphone that will be paired to the camera preset.

**NOTE:** The selections in this list will be formatted as "Device #, Mic: #" unless custom titling has been turned on.

- Select the microphone icon button to turn on AutoLocate mode, which activates the microphone closest to the active speaking participant.
- After selecting a microphone, select a numbered button next to the camera icon to select a camera. The numbered icon matches the camera number set in the Cameras list setting. The Wirecast output will switch to the selected camera.

**NOTE:** The **Camera Setup** page is best used with the web configuration interface and Wirecast tool in a split-screen view so that the camera feed that is being controlled can also be seen. Toggle between a Single-Camera View or a Multi-Camera View as needed.

- Use the PTZ controls to select the desired position that the camera will move to when the selected microphone is gated on. Then, select **Set Primary** or **Set Secondary** to have these settings become the primary or secondary shot, respectively.
- Select **Save Preset** to save any changes.

# Resources

The following resources are provided for the Automate VX system.

**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 \(OLH\)](#)
  - [support.crestron.com/app/answers/detail/a\\_id/1001561](https://support.crestron.com/app/answers/detail/a_id/1001561)
- [Crestron Training Institute \(CTI\) Portal](#)

## Product Certificates

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

## Related Documentation

[1 Beyond Camera Manager Product Manual](#)

