INOGENI

INOGENI CAMTRACK

User guide

Version 2.0

December 15, 2025

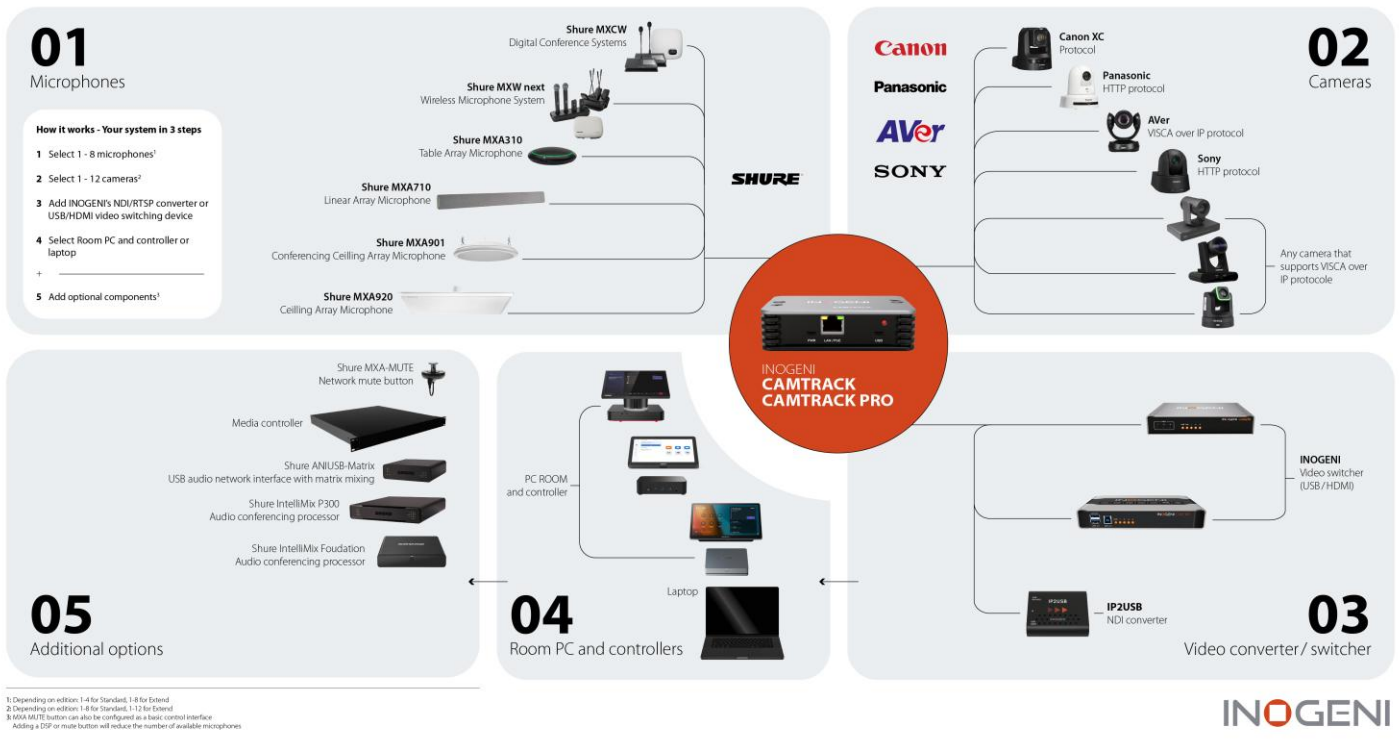
VERSION HISTORY

Version	Date	Description
1.0	October 21, 2025	Preliminary user guide for device launch.
2.0	December 15, 2025	Added minor changes.

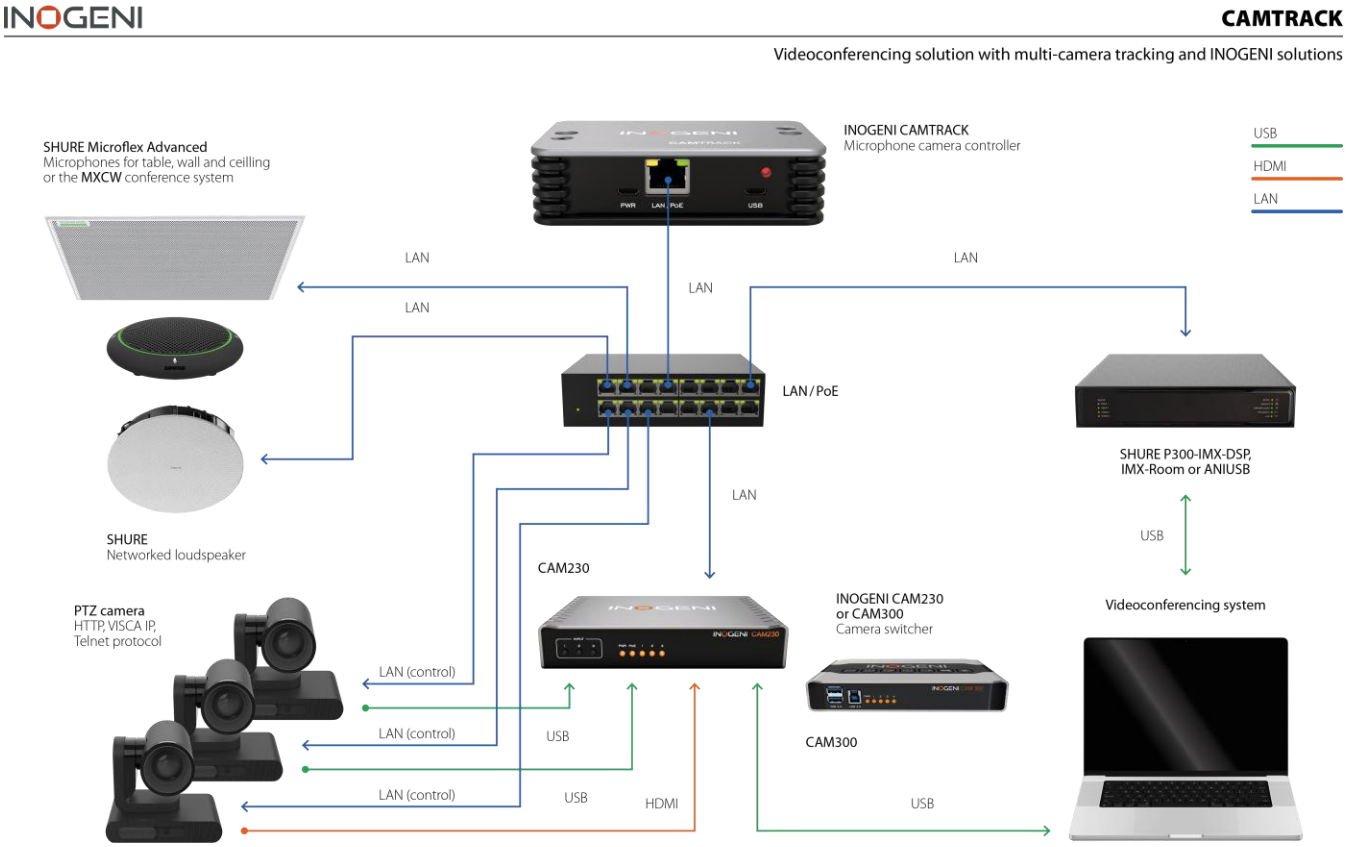
CONTENTS

TYPICAL APPLICATIONS

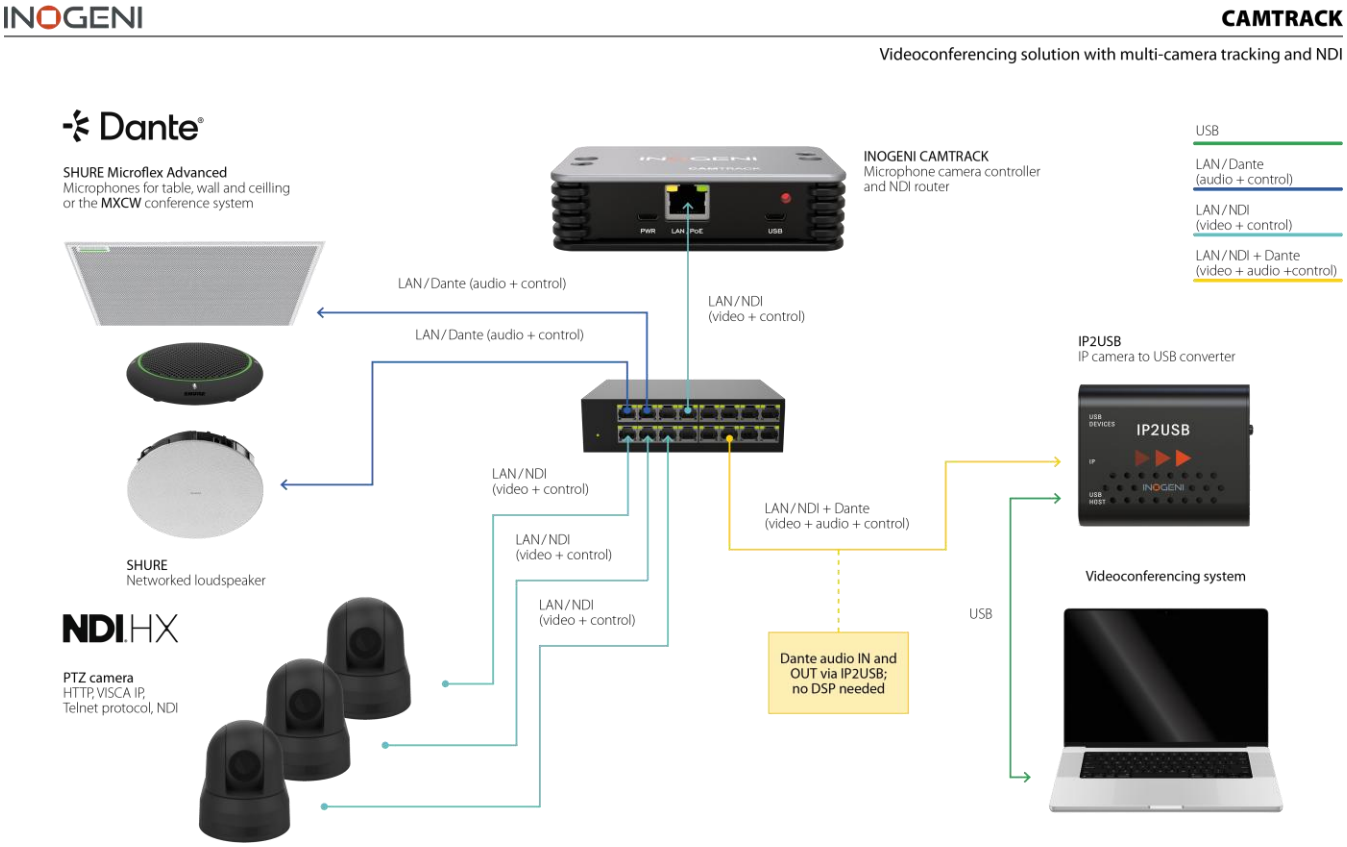
The **INOGENI CAMTRACK** is a voice-activated multi-camera switcher for the pro AV market, designed to streamline complex setups. It integrates with INOGENI multicamera switchers—supporting **USB**, **HDMI**, **NDI** cameras and **Shure microphones**—and automatically switches cameras based on voice activity for high-quality video in conference rooms and live events. Unlike proprietary systems, **CAMTRACK** delivers plug-and-play compatibility with many devices, including INOGENI's **CAM230**, **CAM300**, and the **IP2USB** NDI converter.



Here is a simple connectivity diagram with our CAM230 video switcher:



Here is a simple connectivity diagram with our IP2USB converter:



DEVICE INTERFACES

Here are the devices interfaces.

Items	
1	Micro USB. Power input.
2	Ethernet 10/100Mbps interface.
3	USB for service purpose.
4	Status LED.

LED BEHAVIOR

Here is the LED behavior:

LED behavior	Phase	Remarks
Double flashing	Booting	
Flashes every second	Pre-loading	Read/write USB stick
Continuous lighting	Initializing	
Flashes every 5 seconds for 200 ms	Running	Short heartbeat
Flashes every 5 seconds for 700 ms	Standby	Long heartbeat

SPECIFICATIONS

Here is the complete specification.

HARDWARE	
Control interface	10/100 Mbps Ethernet Interface
Power supply options	IEEE 802.3af PoE Class 0 – 15W – or – Micro USB 5V/2A
USB	Micro USB 2.0 OTG for service purpose
Mounting	5mm holes (2) at a distance of 88 mm. DIN rail adapter for control cabinet installation (optional)

CONTROL / COMPATIBILITY	
Protocols	HTTP / HTTPS / TCP/IP / WebSocket
Supported camera switchers	INOGENI CAM300 and CAM230 INOGENI IP2USB
Supported microphones	Shure MXA901, MXA910, MXA920, MXA710, and MXA310 microphones. Shure INTELLIMIX® P300, ANIUSB-MATRIX, and INTELLIMIX® ROOM Software. Shure MXCW conference system. Shure Microflex Wireless, Microflex Wireless neXt2, neXt4 and neXt8 . Shure MXA-MUTE button.

PHYSICAL DETAILS	
Dimensions	107 x 70 x 29 mm 4.21'' x 2.76'' x 1.14''
Weight	325g (0.72 lb)
Package contents	1x CAMTRACK module 4x Rubber Feet (pre-mounted) 1x Thank You card 1x Quick Start Guide
Accessories	Mountable/removable rubber feet for setting up in rack trays, on tabletops or similar.
Operating temperature	0° to 45° C 32° to 113° F
Storage temperature	-40° to 105° C -40° to 221° F
Relative humidity	0% to 90% non-condensing

INFORMATION	
UPC code – Standard	051497480448
UPC code – Pro	051497515140
Origin	Germany
Warranty	5 years

CERTIFICATIONS	
Certifications	FCC, CE, UKCA, RoHS, SoV
TAA-compliant	Yes

EDITIONS	
Standard	Supports up to 4 audio devices (Microphones/audio-DSP) and Supports up to 8 cameras
Pro	Supports up to 8 audio devices (Microphones/audio-DSP) and Supports up to 12 cameras

WEB INTERFACE ACCESS

A web interface is available for the device. This one is accessible through your network.

Since the device supports the mDNS networking protocol, you can access the web interface of the device using a networking URL. This URL looks like the following example and includes the last 3 bytes of the MAC address and will end with the **.local** suffix:

38:76:05:00:80:00
camtrack-008000.local

See the internal for more detailed configuration of the device by clicking on the icon next to the appropriate section.

To access to web interface, you will need to start the dashboard.

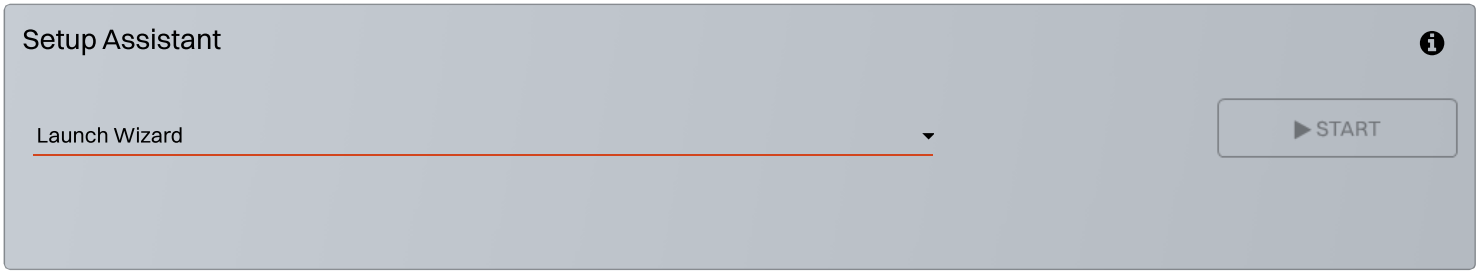
- HOME

In this section, you will get information about the unit, such as mDNS naming, application slot, setup assistant, actual device configuration and global presets.

ABOUT

- Displays key information about the application, including the current edition (Standard or Pro), the INOGENI CAMTRACK's unique hostname, serial number and whether Application Slot 1 or 2 is in use. This panel helps identify which instance of the INOGENI CAMTRACK system is currently active within the web browser.

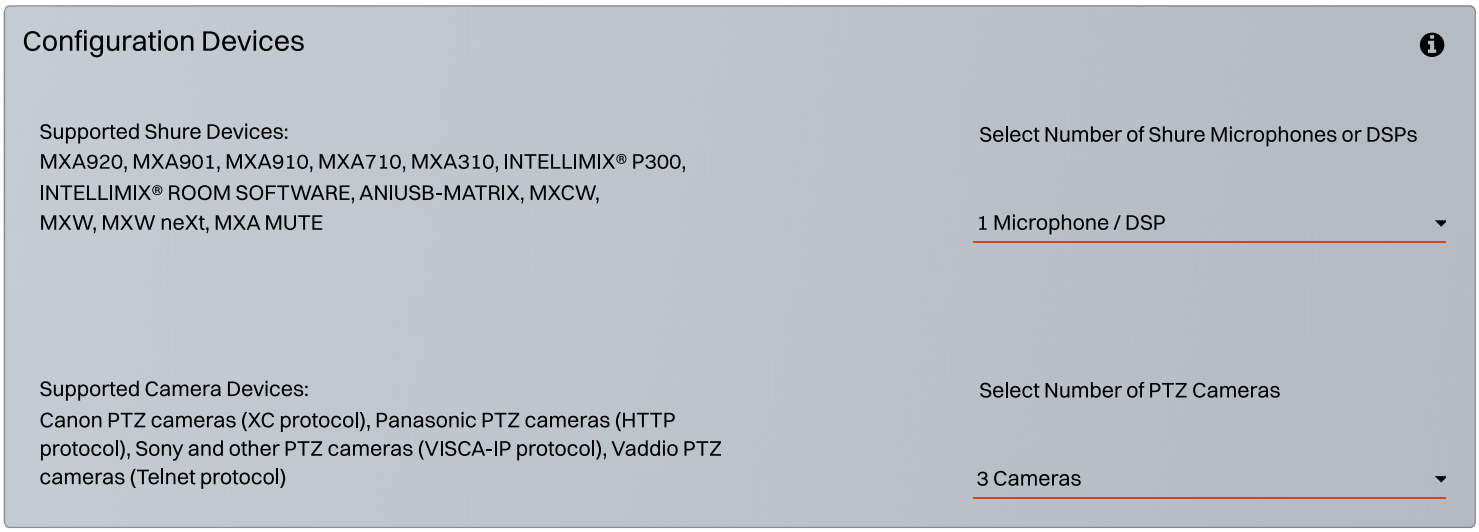
SETUP ASSISTANT



- The Setup Assistant Panel allows users to launch one of several predefined setup wizards via a simple dropdown menu. Once a wizard is selected, it starts immediately and guides the user step-by-step through the configuration process.

- Each step of the wizard is displayed in a dedicated wizard panel, showing relevant instructions and information. Users can navigate through the steps using the **Prev** and **Next** buttons.
- If the user navigates away from the current tab while the wizard is running, a **Resume** button becomes available. Clicking it will return the user directly to the last active wizard step.
- To end the setup process at any time, the user can click the **Exit** button, which will exit the wizard and clear its progress.
- The panel related to the current step is visually highlighted with an **orange border**, helping the user to easily identify where to focus their attention during the setup process.
- All dashboard functions remain fully active during the Setup Assistant. Users can freely make any necessary adjustments or changes in parallel to the wizard guidance.

CONFIGURATION DEVICES



- In this panel, users can configure how many Shure Devices and PTZ Cameras are controlled in the current setup, based on the active Application Slot and Edition.

The number of supported devices varies depending on the edition of the INOGENI CAMTRACK and the active slot:

- **Application Slot 1:**
  - In the **Standard Edition**, 4 Shure Devices and 8 PTZ Cameras are supported.
  - In the **Pro Edition**, 8 Shure Devices and 12 PTZ Cameras are supported, allowing for more complex setups with higher device capacity.
  - **Application slot 1 is accessible on port 1881 for HTTP and 8881 for HTTPS.**
- **Application Slot 2:**
  - Regardless of the edition, Application Slot 2 always supports 1 Shure Device and 1 PTZ Camera, making it ideal for simpler setups with fewer devices.
  - **Application slot 2 is accessible on port 1882 for HTTP and 8882 for HTTPS.**

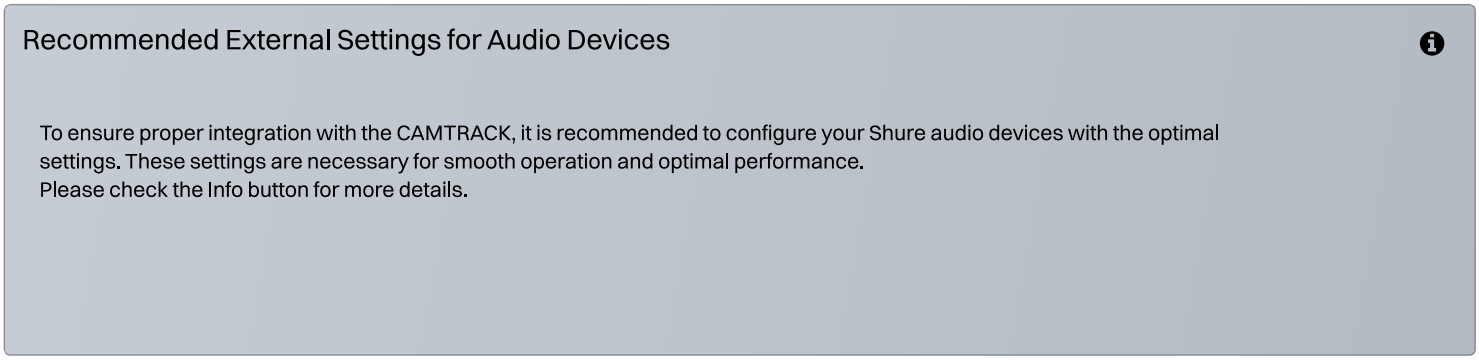
GLOBAL PRESETS

- The Global Presets Panel allows users to save, load, and delete up to 10 different global presets, capturing the configuration of the current setup, including the IP addresses of connected devices. Each preset can be given a custom description to help identify its purpose or system-wide configuration.
- Note: Each Application Slot has its own set of 10 global preset banks, allowing for distinct configurations between Slot 1 and Slot 2. It is important to note that INOGENI CAMTRACK-specific settings, such as the IP address and login credentials (username/password), are not saved within the global presets. Only the configuration of connected devices is stored.
    - **API Command Examples:**
    - **RECALL GLOBAL PRESET 1:**
      `http://<IP-ADDRESS>:1881/browser?command=SET%20PRESET&value1=1`
    - **RECALL GLOBAL PRESET 2:**
      `http://<IP-ADDRESS>:1881/browser?command=SET%20PRESET&value1=2`
    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.

- MICROPHONE CONFIGURATION

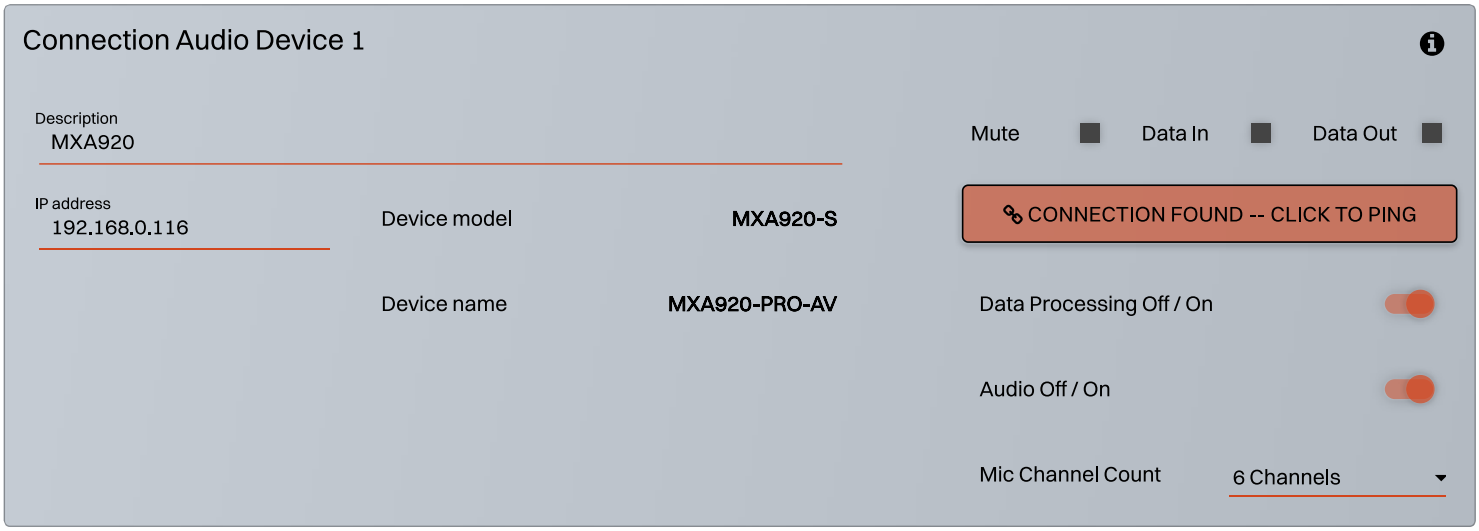
In this section, you can configure the unit to communicate with your audio microphone. This is where you will configure IP address of your audio device, get actual status from the device and be able to set some configurations.

RECOMMENDED EXTERNAL SETTINGS FOR AUDIO DEVICES



- This page provides all the necessary settings for communication with Shure microphones, DSPs, and external control devices. Supported devices include the MXA901, MXA920, MXA910, MXA710 and MXA310 microphones, the INTELLIMIX® P300, ANIUSB-MATRIX, and INTELLIMIX® ROOM Software, the MXCW conference system, Microflex Wireless, the Microflex Wireless neXt2, neXt4 and neXt8 and the MXA-MUTE button.
- It is crucial to configure the activation settings for the respective microphone chann1881els using the Shure Designer System Configuration Software or the corresponding web browser application. This includes settings for the built-in IntelliMix® DSP, as well as special configurations for the MXA920 regarding camera tracking commands.
- Up to 4 input devices for microphones or DSPs are available.
- Note: The MXA-MUTE button is not an audio device but a dedicated touch controller. Its function is defined entirely within this dashboard and allows for flexible actions such as system toggling, preset selection, or custom TCP/IP commands.

CONNECTION AUDIO DEVICE



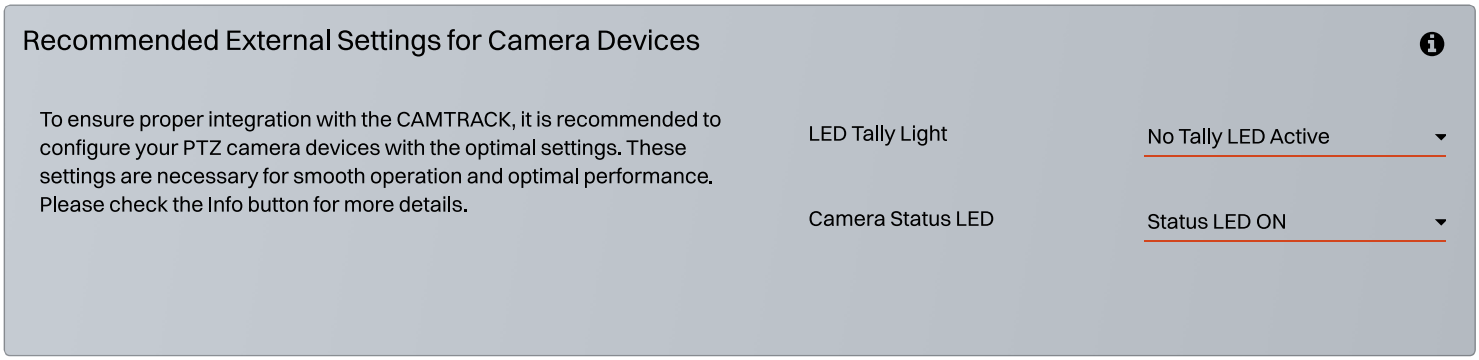
- **Description:** A customizable field where you can add a description specific to each audio device for easier identification and organization.
- **Mute:** A red LED indicator that shows the mute status of the audio device. This status can reflect either the device's own mute status or the system-wide mute status from the room.
- **Data In / Out:** Green/red LED indicators that display the status of incoming and outgoing data traffic. Green signifies valid commands, while red indicates invalid commands or general traffic errors.
- **IP Address:** An editable field where a valid IPv4 address in dotted format must be entered to establish a connection with the audio device.

- **Device Model and Device Name:** These fields display the model and name of the connected Shure audio device once an IP connection has been successfully established.
- **Data Processing On / Off:** A toggle switch that suppresses incoming commands, useful for excluding input devices from the camera tracking algorithm. This can also be managed via API to selectively activate or deactivate audio devices based on user needs in camera control scenarios.
    - **API Command Examples:**
    - **DISABLE INCOMING DATA FOR AUDIO DEVICE 1:**
      `http://<IP-ADDRESS>:1881/browser?command=SET%20INPUT_DEVICE_DATA&value1=1&value2=DISABLE`
    - **ENABLE INCOMING DATA FOR AUDIO DEVICE 1:**
      `http://<IP-ADDRESS>:1881/browser?command=SET%20INPUT_DEVICE_DATA&value1=1&value2=ENABLE`
    - **DISABLE INCOMING DATA FOR ALL AUDIO DEVICES:**
      `http://<IP-ADDRESS>:1881/browser?command=SET%20INPUT_DEVICE_DATA&value1=0&value2=DISABLE`
    - **ENABLE INCOMING DATA FOR ALL AUDIO DEVICES:**
      `http://<IP-ADDRESS>:1881/browser?command=SET%20INPUT_DEVICE_DATA&value1=0&value2=ENABLE`
    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.
- **Audio On / Off:** This switch is linked to the device mute status and plays a minor role in the active camera control process.
- **Mic Channel Count:** A dropdown field where you can select the number of microphone channels, microphone lobes, coverage areas, or wireless conference units supported by the connected Shure audio device.

- CAMERA CONFIGURATION

In this section, you will configure your cameras, regardless of the type of connection used with the chosen switcher. Each camera can be controlled through IP, if available, so you can assign a preset for example.

RECOMMENDED EXTERNAL SETTINGS FOR CAMERA DEVICES

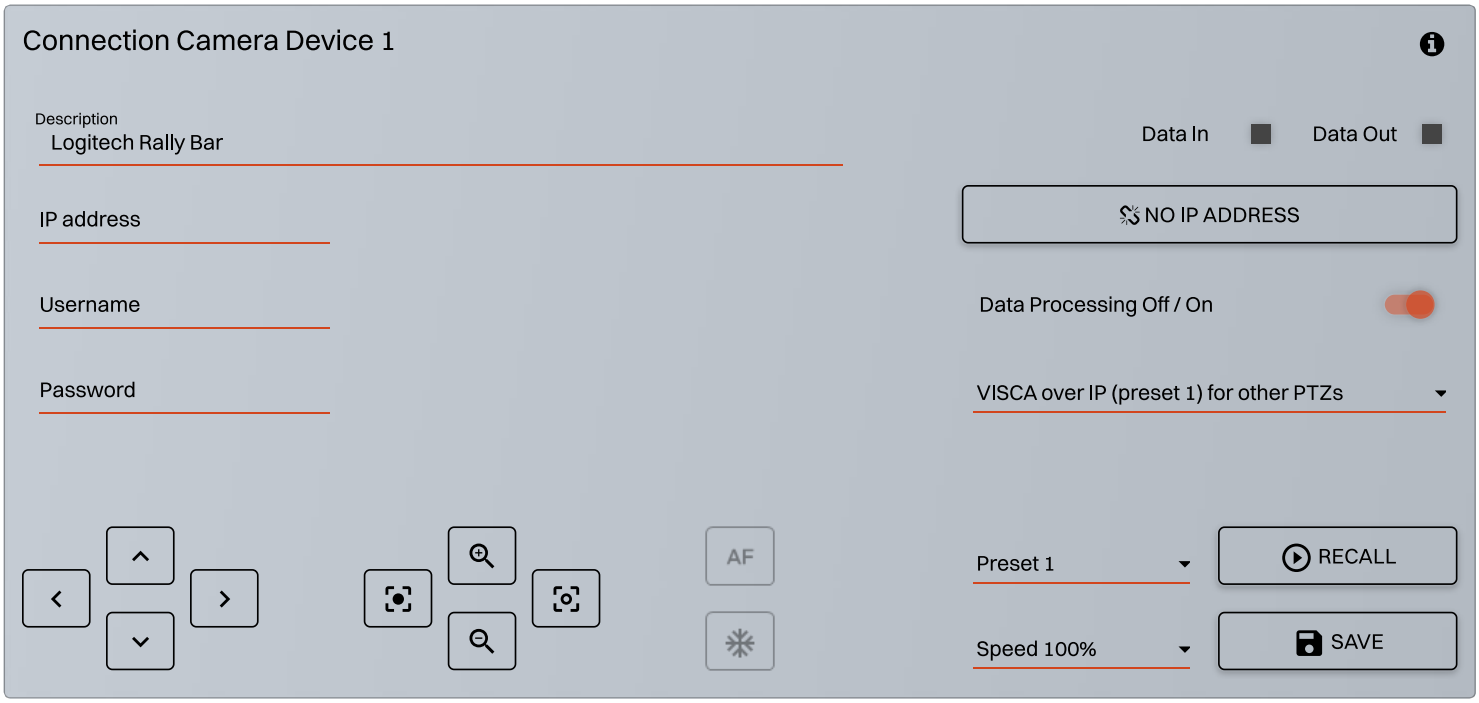


- Please ensure that communication over the appropriate protocol is enabled in the PTZ camera settings. Supported protocols include:

- **Canon PTZ cameras - XC protocol**
- **Panasonic PTZ cameras - HTTP protocol**
- **Sony and other PTZ cameras - VISCA over IP protocol**
- **Vaddio PTZ cameras - Telnet protocol**

- Verify that required credentials, such as username and password, are either enabled or disabled as necessary for the specific protocol.
  Note: Vaddio Telnet protocol may require authentication adjustments.
- Determine whether your PTZ camera starts its preset storage at 'preset = 0' or 'preset = 1,' as some models only begin from 1. Configure this setting accordingly in the INOGENI Dashboard to ensure correct functionality.
- If using NDI® for video transmission, ensure all necessary NDI® settings are correctly configured on the PTZ camera.
- **NDI® Software Tools:** Users can download additional NDI® software tools at ndi.video/tools. These tools enable advanced NDI® stream management, such as monitoring, switching, and managing multiple video and audio feeds across networked devices, providing flexibility for creative workflows.
- Configure the **LED Tally Light** to indicate the active camera for all connected devices. Note that these settings apply uniformly to all cameras, provided the camera and the utilized control protocol support this feature. Cameras controlled via VISCA over IP may have limited functionality regarding tally light settings.
- Configure the **Status LED** for all cameras. These settings apply to all cameras equally, depending on camera capabilities and the supported protocol.
- For additional details on each setting, refer to the manufacturer's manual for guidance on camera setup.

CONNECTION CAMERA DEVICE



- **Description:** A customizable field where a unique description for each camera device can be added for better identification and organization.

- **Data In / Out:** Green/red LED indicators that display the status of incoming and outgoing data. A green LED indicates valid commands, while a red LED signals invalid commands or data traffic errors.
- **IP Address:** An editable field where a valid IPv4 address in dotted format must be entered to establish a connection with the camera device.
- **Click to Ping:** A button that initiates a ping request to the entered IP address every 5 seconds. Clicking the button allows for manual pinging as well. An orange-lit button indicates a successful ping, while a black button signifies an unsuccessful ping.
- **Username and Password:** Credentials fields required only if specified by the selected protocol and camera model. Enter the correct username and password to enable communication where needed. Credentials are not stored separately for each protocol type.
- **Data Processing On / Off:** A toggle switch that can be used to suppress preset recalls. This is useful when setting up camera presets to prevent unintended camera movement due to preset recalls. API users can also manage this setting to selectively activate or deactivate camera preset recalls based on operational requirements.
    - **API Command Examples:**
    - **DISABLE PRESET RECALLS FOR CAMERA DEVICE 1:** `http://<IP-ADDRESS>:1881/browser?command=SET%20OUTPUT_DEVICE_DATA&value1=1&value2=DISABLE`
    - **ENABLE PRESET RECALLS FOR CAMERA DEVICE 1:** `http://<IP-ADDRESS>:1881/browser?command=SET%20OUTPUT_DEVICE_DATA&value1=1&value2=ENABLE`
    - **DISABLE PRESET RECALLS FOR ALL CAMERA DEVICES:** `http://<IP-ADDRESS>:1881/browser?command=SET%20OUTPUT_DEVICE_DATA&value1=0&value2=DISABLE`
    - **ENABLE PRESET RECALLS FOR ALL CAMERA DEVICES:** `http://<IP-ADDRESS>:1881/browser?command=SET%20OUTPUT_DEVICE_DATA&value1=0&value2=ENABLE`
    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.
- **Select Camera Protocol:** A mandatory dropdown field to select the correct protocol supported by the camera (e.g., VISCA over IP, HTTP, Canon XC, etc.). Ensure this setting aligns with the camera's specifications to allow camera control commands to be sent.
    - **Canon XC Protocol Features:** When the Canon XC protocol is selected, and used with a Canon PTZ camera, a live preview image from the camera will be displayed in the center of the panel. This allows for easier adjustment of PTZ and preset settings, as it provides a real-time view of the camera's current field of view. Furthermore, you can click on the preview image, and the camera will automatically center the clicked area in the frame, enabling quick and precise PTZ adjustments. This feature makes it much more intuitive to fine-tune camera settings, particularly for complex shots or dynamic environments. Keep in mind that this feature is exclusive to the Canon XC protocol and requires a compatible Canon PTZ camera for full functionality.
    - **Protocol and Feature Support for Canon PTZ Cameras**

Canon XC Protocol	VISCA over IP Protocol with Canon PTZ Camera
✅ PAN/TILT	✅ PAN/TILT

✓	ZOOM/FOCUS	✓	ZOOM/FOCUS
✓	PRESET SAVE	✓	PRESET SAVE
✓	SPEED	✗	SPEED (only FOCUS SPEED supported, please use the manufacturer's software tools to configure speed settings)
✓	AUTOFOCUS	✓	AUTOFOCUS
✓	FREEZE (active at Speed 100%, inactive at all other speeds)	✗	FREEZE

- **Protocol and Feature Support for Panasonic PTZ Camera AW-UE80/UE50/UE40**

	Panasonic HTTP Protocol		VISCA over IP Protocol with Panasonic PTZ Camera
✓	PAN/TILT	✓	PAN/TILT
✓	ZOOM/FOCUS	✓	ZOOM/FOCUS
✓	PRESET SAVE	✓	PRESET SAVE
✓	SPEED (the SPEED setting applies not per preset, but to all presets collectively)	✗	SPEED (please use the manufacturer's software tools to configure speed settings)
✓	AUTOFOCUS	✓	AUTOFOCUS
✓	FREEZE	✗	FREEZE

- **Protocol and Feature Support for Vaddio PTZ Cameras**

	Vaddio Telnet Protocol		Telnet Protocol with Vaddio PTZ Camera
✓	PAN/TILT	✓	PAN/TILT
✓	ZOOM/FOCUS	✓	ZOOM/FOCUS
✓	PRESET SAVE	✓	PRESET SAVE
✓	SPEED	✓	SPEED

Please note that the accuracy of the provided information cannot be guaranteed. It is highly recommended to conduct a thorough test with the specific PTZ camera model to verify compatibility and functionality. Manufacturer specifications should be consulted for detailed support information.

- **Camera Controls:** Use the eight control buttons to adjust the camera's Pan, Tilt, and Zoom (PTZ) settings. Additionally, focus settings can be adjusted, but focus is locked and applied only when using presets if the camera's autofocus (AF) feature is disabled.
    - **Tip:** For stable and quick focusing on subjects at varying distances, it may be advantageous to work without autofocus. Fixed focus works well when the subject is expected to remain in a designated spot within the room.
- **Autofocus Button:** This button toggles the camera's autofocus (AF) feature on or off. When autofocus is active, the button glows orange, indicating that the camera is automatically adjusting the focus to suit the subject. If autofocus is inactive, manual focus is used for preset storage. Presets can be saved with either manual focus or autofocus,

depending on the user's choice. Upon recalling a preset, the selected focus state will be applied automatically. Note: The best focus setting depends on the specific composition and viewing angle and should be tested according to room conditions.

    - **Tip:** Not all PTZ camera control protocols support toggling autofocus. It is recommended to consult the camera manufacturer's documentation to verify compatibility with this feature.

- **Freeze Button:** This button enables or disables the camera's freeze feature during preset recall. When active, the current image is frozen while the camera moves to the preset position, ensuring a smooth visual experience without displaying intermediate movements. This feature can be particularly useful for professional applications requiring seamless transitions. Note: As with autofocus, this feature may not be supported by all PTZ camera control protocols. Please confirm compatibility with your camera's manufacturer.

    - **Tip:** The freeze function is ideal for maintaining a clean and polished presentation, but its usefulness depends on the specific use case and the camera's capabilities.

- **Select Preset:** To save a camera position, select the desired preset number from this dropdown and use the **SAVE** button to store the position under this preset.

- **Select Speed:** This setting controls the camera's movement speed and is saved together with the preset at the moment you press the **SAVE** button. Five speed levels are available, each tailored to the different camera control protocols. Speed 100% corresponds to the maximum possible movement speed of the camera. Lower speed levels are progressively slower and can take up to 8 seconds for a preset move at 20% speed. These slower speeds are designed for specific effects and scenarios where a single camera is used without the freeze function. Additionally, the focus speed is also adjusted according to the 5 available speed levels. Please note that not all PTZ cameras or control protocols support these features, and it is recommended to consult the camera's specifications for detailed support information.

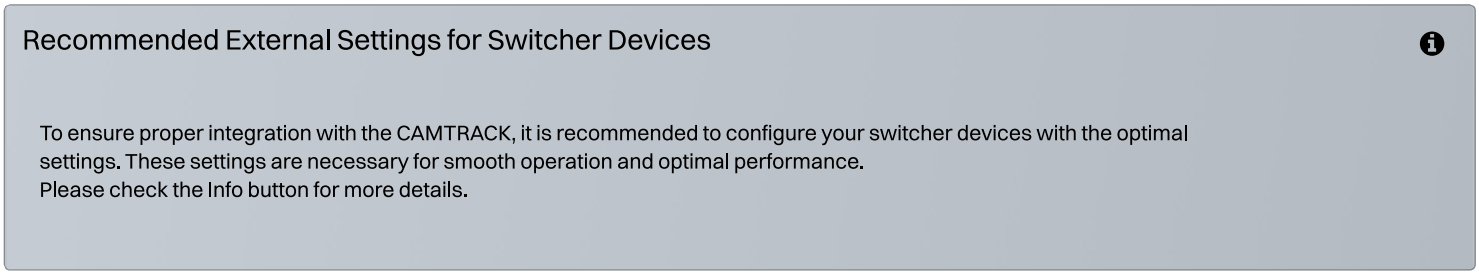
    - **Tip:** To minimize delays when recalling camera presets, it is generally recommended to select the highest available speed (100%) before saving. However, lower speeds can be advantageous for deliberate and smooth transitions in professional applications, particularly when freeze functionality is not required or supported. Be aware that the autofocus and manual focus speed will also adjust according to the selected movement speed.

- **Recall a Preset:** Use the **RECALL** button to retrieve and activate the camera position associated with the preset currently selected in the **Select Preset** dropdown.

- SWITCHER CONFIGURATION

In this section, you will configure your switcher, such as the CAM230 or CAM300 switcher. You can also use this section to test your sources when clicking on the “ACTIVATE” button on each switcher input.

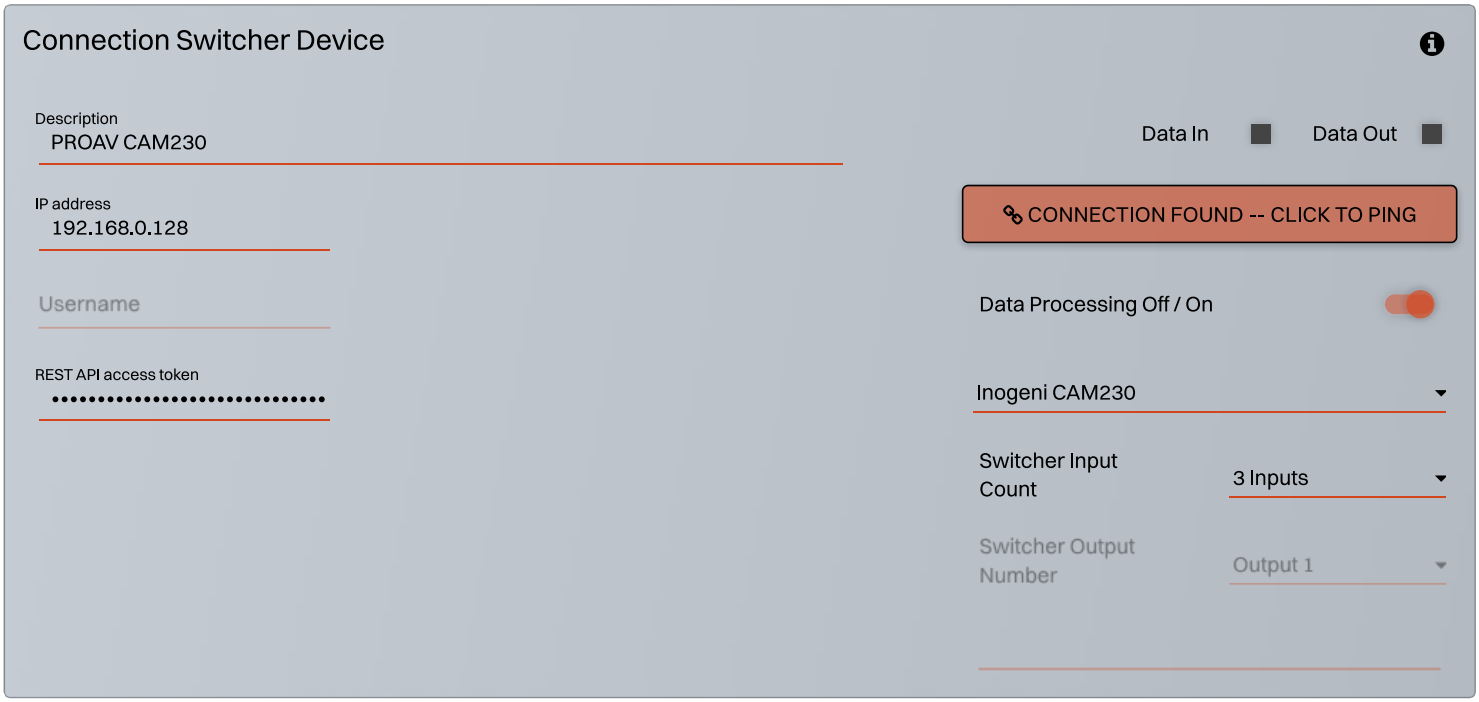
RECOMMENDED EXTERNAL SETTINGS FOR SWITCHER DEVICES



- The INOGENI CAMTRACK microphone and camera control system includes support for controlling a range of video switcher devices. To ensure compatibility, please verify that the correct communication protocol for your specific switcher model is enabled. Supported switcher protocols vary by device manufacturer.

- The INOGENI CAMTRACK is pre-configured with routing commands that allow seamless switching of video inputs to a designated video output. To prevent visual disruptions, such as black frames or signal pauses, INOGENI recommends using video switchers capable of input transitions without blackouts and with minimal latency. This is critical to delivering a smooth user experience.
- When selecting a video switcher, it is advised to carefully review the switcher's capabilities in terms of switching latency and blackout prevention during the planning phase. The INOGENI CAMTRACK currently supports both HDMI/USB-based video switchers from specific manufacturers, as well as selected Video over IP switchers. For a list of supported video switchers and systems, please refer to the latest INOGENI INOGENI CAMTRACK firmware documentation.
- **INOGENI NDI® Router:** The INOGENI CAMTRACK also features an integrated INOGENI NDI® Router, which acts as a software-based NDI® switcher. This application enables the INOGENI CAMTRACK to switch between NDI® streams within the IP network and make the selected stream available as a unified NDI® output that can be subscribed to by NDI®-compatible output devices. This configuration ensures the selected NDI® stream continues to output from NDI® devices even if the INOGENI CAMTRACK becomes inactive or temporarily loses network connectivity.
- **NDI® Recommendation:** INOGENI advises using NDI®-capable PTZ cameras for cost-effective and reliable video transmission over CAT cabling. NDI® technology, particularly in the NDI®-HX format, offers efficient video transmission with a manageable IP network bandwidth load.
- **NDI® Software Tools:** Users can download additional NDI® software tools at ndi.video/tools. These tools enable advanced NDI® stream management, such as monitoring, switching, and managing multiple video and audio feeds across networked devices, providing flexibility for creative workflows.
- For further information on specific features and settings, please use the information buttons on other panels within this page.

CONNECTION SWITCHER DEVICE



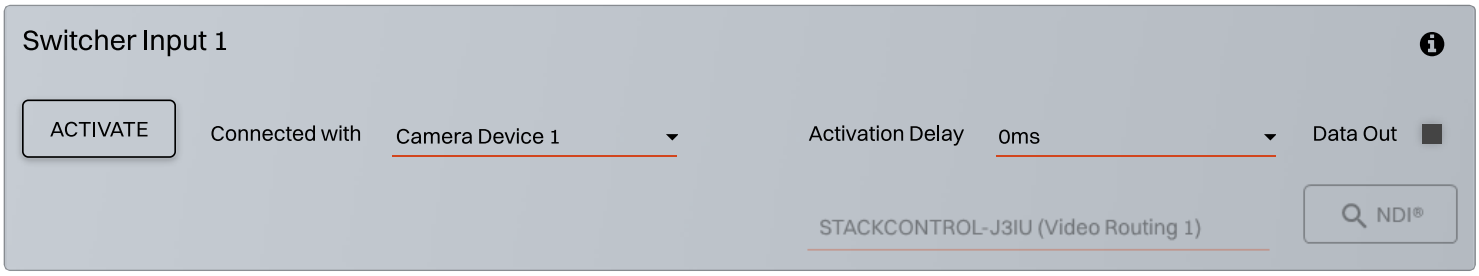
- **Description:** A customizable field where a unique description of the switcher device can be added for better identification and organization.
- **Data In / Data Out:** Green/red LED indicators that display the status of incoming and outgoing data. A green LED indicates valid commands, while a red LED signals invalid commands or data traffic errors.

- **IP Address:** An editable field where a valid IPv4 address in dotted format must be entered to establish a connection with the switcher device.
    - When using the CAMTRACK internal NDI® router, you can either use the actual CAMTRACK IP address or the local host address (127.0.0.1)
    - 

- **Click to Ping:** A button that initiates a ping request to the entered IP address every 5 seconds. Clicking the button allows for manual pinging as well. An orange-lit button indicates a successful ping, while a black button signifies an unsuccessful ping.
- **Username and Password:** Credential fields are required if specified by the selected protocol and switcher model. Enter the correct username and password to enable communication where needed. Note: Credentials are not stored separately for each protocol type.
- **Data Processing On / Off:** A toggle switch that can be used to suppress active switcher commands. This is useful when configuring the system to prevent accidental changes due to external commands. API users can also manage this setting to selectively activate or deactivate commands based on operational requirements.
    - **API Command Examples:**
    - **DISABLE COMMAND PROCESSING FOR SWITCHER DEVICE:** `http://<IP-ADDRESS>:1881/browser?command=SET%20SWITCH_DEVICE_DATA&value1=0&value2=DISABLE`
    - **ENABLE COMMAND PROCESSING FOR SWITCHER DEVICE:** `http://<IP-ADDRESS>:1881/browser?command=SET%20SWITCH_DEVICE_DATA&value1=0&value2=ENABLE`
    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.
- **Switcher Device Type:** A mandatory dropdown field to select the appropriate video switcher system type. Supported switcher protocols include options for a variety of switcher models and manufacturers. Ensure this setting aligns with the switcher's specifications to allow routing commands to be sent effectively.
- **Number of Video Inputs:** Use this dropdown to specify the number of available video inputs on the connected switcher device. This configuration ensures proper mapping of video input sources to the switcher for effective video routing.
- **Select Video Output:** (if applicable) For video matrix systems with multiple outputs, use this dropdown to select the specific output port to which the video will be routed. This setting is essential for switchers supporting multiple outputs, allowing precise control over video destination assignments.
- **Supported Video Switcher Systems:**
    - **INOGENI CAM230**
        - The INOGENI CAMTRACK Microphone Camera Controller is compatible with the INOGENI CAM230, a video switcher that allows seamless management of multiple video sources.

        - With the CAM230, you can connect up to 2 USB cameras and 1 HDMI camera, enabling dynamic video source switching. The INOGENI CAMTRACK can trigger these transitions based on microphone activity.
        - For detailed specifications and additional features of the CAM230, please refer to the documentation provided by the manufacturer.
    - **INOGENI CAM300**
        - The INOGENI CAMTRACK Microphone Camera Controller is compatible with the INOGENI CAM300, a video switcher that supports up to 4 video sources: 2 USB cameras and 2 HDMI cameras.
        - The CAM300 allows seamless integration with the INOGENI CAMTRACK, enabling dynamic camera switching based on microphone activity or manual push-button control.
        - For detailed specifications and additional features of the CAM300, please refer to the documentation provided by the manufacturer.
    - **INOGENI NDI® Router**
        - The INOGENI NDI® Router allows seamless switching between NDI® sources, making it an integral part of a microphone-driven setup with the INOGENI CAMTRACK Microphone Camera Controller.
        - Any NDI®/HX2 or NDI®/HX3 source can be assigned to the router's inputs. These sources primarily include NDI®-enabled PTZ cameras but may also feature other NDI® sources such as screen capture tools or HDMI-to-NDI® converters.
        - Once subscribed to the NDI® stream from the INOGENI NDI® Router, NDI® decoders will automatically follow the microphone-driven switching behavior of the INOGENI CAMTRACK, ensuring a dynamic and synchronized video experience.
        - Switching between NDI® sources is seamless, ensuring smooth transitions without visual interruptions or delays, making it ideal for professional video production, live streaming, and collaborative environments.
        - **NDI® Software Tools:** Users can download additional NDI® software tools at ndi.video/tools. These tools enable advanced NDI® stream management, such as monitoring, switching, and managing multiple video and audio feeds across networked devices, providing flexibility for creative workflows.
- Ensure that each switcher device is configured according to the specifications in the latest firmware documentation for the INOGENI CAMTRACK.

SWITCHER INPUT



- **Switcher Input Panel:** A dedicated configuration panel is displayed for each video switcher input. This panel includes all necessary settings and controls to ensure correct assignment and testing of each input source for seamless video routing.

- **Activate Button:** A button to trigger the switching to the specified video switcher input, regardless of the *Data Processing Off* status. This allows users to test whether the input switching is functioning correctly. This button is intended as a diagnostic tool to confirm that the switcher input can be activated independently.

- **Connected with Dropdown:** A dropdown menu to assign the specific camera device that is physically connected to the switcher input. This configuration is essential for accurately associating each camera device with the appropriate video switcher input, enabling automatic switching based on microphone camera controller actions.

- **Activation Delay:** A dropdown menu to set the required delay time between the activation of a camera device's PTZ preset and the actual switching of the input. This delay accounts for the time it takes the camera to complete any pan, tilt, or zoom movements. For devices using *VISCA over IP* or *Canon XC* protocols, the option *Auto* can be selected. This option automatically triggers the input activation based on feedback from the camera device once PTZ movements are completed. Note: Not all camera types support the *Auto* setting, and it may need to be tested prior to final system planning. When available, *Auto* provides optimal timing by synchronizing the end of PTZ movements with the seamless activation of the respective switcher input.

- **Data Out LED:** This LED indicator shows that a command has been sent to the video switcher system to activate the specified input. A lit LED confirms that the switch command is being processed.

- **Encoder Name / Stream Name:** In certain video switcher systems, such as *INOGENI NDI® Router*, *Magewell Pro Convert*, or *ZeeVee ZyPer Management*, this field must be filled with the exact name of the encoder or stream. Ensure precise spelling, as any deviation may result in incorrect input identification or activation errors. Alternatively, these fields can also be configured using the API, providing a seamless method for automated setup in advanced configurations.

    - **API Command Examples:**

    - **SET A STREAM NAME OR ENCODER NAME FOR SWITCHER INPUT 1:** `http://<IP-ADDRESS>:1881/browser?command=SET%20SWITCHER_INPUT_NAME&value1=1&value2=Your Name`

    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.

    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.

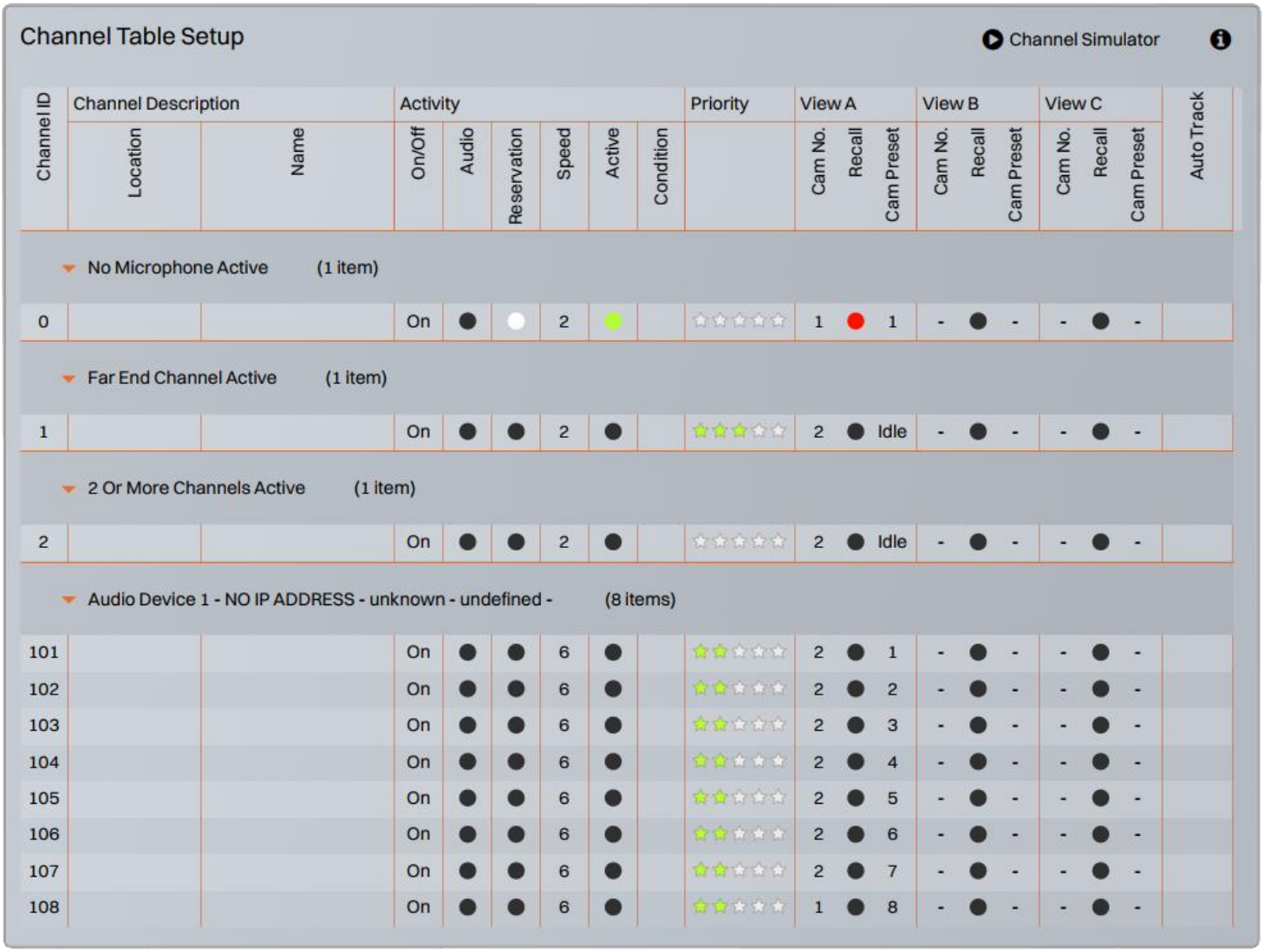
- **NDI® Button:** The 'NDI®' button opens a pop-up window displaying a list of NDI® sources detected on the network. Once a source is selected from the list, it will automatically populate the 'Stream Name' field with the chosen source. This button is only active when 'INOGENI NDI® Router' is selected as the 'Switcher Device Type' in the 'Connection Switcher Device' panel. If a different device type is selected, the button will remain inactive.

- Consult the documentation for each switcher system to verify required configurations and compatible camera devices.

- ROOM CONFIGURATION

In this section, you will configure the different cameras to specific zone.

CHANNEL TABLE SETUP



- **Overview:** This page provides a detailed configuration interface for managing camera and microphone logic. Each microphone channel of all connected audio devices, along with three special situations, is represented as a separate row in the table. The columns allow you to define settings for each channel and configure how they interact with cameras and presets.
- The **Channel Simulator** simulates turning certain channels on and off via HTTP commands in the channel table, effectively mimicking microphone/DSP trigger signals.
- **Channel ID:** The *Channel ID* column identifies each microphone channel or speaking position with a unique ID. For standard microphone channels, these IDs are assigned sequentially based on the connected audio device. The first audio device starts with Channel ID 101, the second with 201, and so on. Each audio device can manage up to 100 Channel IDs, except for the last audio device, which can support up to 300 Channel IDs. In the Standard Edition, the last audio device is Audio Device 4, while in the Pro Edition, it is Audio Device 8. Channel IDs 0, 1, and 2 are reserved for special situations, as explained below.
- **Location and Name:** The *Location* column allows you to specify a specific area in the room, while the *Name* column lets you label a channel with a participant's name or another identifier. Both fields are optional but can be used to transmit data via the API for display as lower-thirds in video outputs. Leaving these fields blank will not affect the system logic.
- **On/Off Toggle:** Use the toggle in this column to enable or disable signal processing for a specific channel. Disabling a channel means it will no longer participate in microphone or camera logic.

- **Status Indicators:** The LEDs labeled *Audio*, *Reservation*, and *Active* provide real-time feedback for each channel, indicating whether audio is detected, a channel is reserved for activation, or currently active. Additionally, an API function allows the manual simulation of a channel's *Audio* state. This lets you toggle a channel between active and inactive *Audio* status, influencing how the algorithm processes microphone signals. This is especially useful for simulating microphone behavior through external control system.
    - **API Command Examples:**
    - **ENABLE Channel ID 1:** `http://<IP-ADDRESS>:1881/browser?command=SET%20CHANNEL_ID_AUDIO&value1=1&value2=ENABLE`
    - **DISABLE Channel ID 1:** `http://<IP-ADDRESS>:1881/browser?command=SET%20CHANNEL_ID_AUDIO&value1=1&value2=DISABLE`
    - **ENABLE Channel ID 103:** `http://<IP-ADDRESS>:1881/browser?command=SET%20CHANNEL_ID_AUDIO&value1=103&value2=ENABLE`
    - **DISABLE Channel ID 103:** `http://<IP-ADDRESS>:1881/browser?command=SET%20CHANNEL_ID_AUDIO&value1=103&value2=DISABLE`
    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.
- **Speed Settings:** The *Speed* column determines how quickly a channel achieves the *Active* status and how tolerant the system is to speech pauses. The setting affects the required speaking time and allowed pause duration as follows:
- At **0**, the system allows longer speaking times before activation and tolerates longer pauses. This is useful for environments where speakers may have slower-paced speech.
- At **10**, the system requires significantly shorter speaking times to activate the channel but also tolerates only brief pauses. This is ideal for fast-paced discussions or scenarios where quick responsiveness is critical.
- **Condition Column:** The *Condition* column is a powerful tool for managing complex microphone setups where multiple microphones may cover overlapping areas or when additional precision is required to select the correct microphone. By defining a dependency on another Channel ID, you can ensure that camera presets are triggered based on the optimal microphone selected by an external processing device, such as an IntelliMix® Automatic Mixer (e.g., Shure P300 or IntelliMix® Room software). This setup is particularly useful in environments where multiple microphones are installed, and the distance to the active speaker is roughly the same.
- **Let's consider an example:**
    - In a room equipped with multiple Shure microphones, such as MXA310, MXA710, or MXA920, the Microphone Camera Controller algorithm alone cannot reliably determine which microphone is the intended one for camera activation if the speaker is equidistant from multiple microphones. To address this, an IntelliMix® Automatic Mixer, such as the Shure P300 or IntelliMix® Room software, can be introduced to enhance the system's precision.
    - In this setup, each microphone device is connected to the IntelliMix® mixer's input as a summed signal output. The mixer processes the audio signals from all microphones and selects the optimal microphone based on its advanced audio algorithms.
    - **For example, consider the following configuration:**

        - Two microphone devices (e.g., MXA920) are installed, and their individual microphone lobes are assigned to Channel IDs 101 to 108 and 201 to 208 respectively.
        - A Shure P300 IntelliMix® mixer is set up as Audio Device 3, with its summed outputs from the two microphone devices assigned to Channel IDs 301 and 302.
    - **To configure this system:**
        - In the *Condition* column of Channel IDs 101 to 108 (representing the lobes of the first microphone device), enter '301', which is the Channel ID of the P300 mixer's summed output for the first microphone device.
        - Similarly, in the *Condition* column of Channel IDs 201 to 208 (representing the lobes of the second microphone device), enter '302', the Channel ID for the mixer's summed output of the second microphone device.
    - With this configuration, the P300 IntelliMix® mixer acts as a decision-making layer, selecting the optimal microphone channel based on audio activity. The Microphone Camera Controller then uses the active Channel ID from the mixer to trigger the correct camera preset. This setup ensures precise and reliable microphone-to-camera mapping even in challenging acoustic environments with multiple overlapping microphones.

- **Priority Column:** The *Priority* column allows you to assign priority levels to different microphone channels or speaking positions in the room, ranging from 1 (lowest priority) to 5 (highest priority). By default, higher priority levels enable certain participants to override others and activate their associated camera presets more readily.
    - **Participants assigned Priority Levels 4 or 5 (indicated with stars) are granted additional advantages in terms of speech detection and retention of the *Active* status:**
    - The Speed setting for these priority levels is effectively increased by 2 to 3 steps, provided the resulting value does not exceed 10. This adjustment means that speech detection becomes faster, reducing the time needed for the participant to achieve *Active* status after starting to speak.
    - Additionally, longer speech pauses are tolerated for participants with Priority Levels 4 and 5, as the behavior of lower Speed settings. This ensures that their *Active* status remains intact during natural speaking patterns, even if brief pauses occur in their speech.
- **Camera Assignments:** The columns labeled *VIEW A*, *VIEW B*, and *VIEW C* allow up to three cameras and their corresponding presets to be assigned to each channel. These presets should reflect the areas of the room captured by the respective microphone channel. If no camera or preset is configured, the system will take no action for that channel.

VIEW A: The primary view, offering the optimal camera angle and coverage for the main area of interest. We can consider it as the best shot.

VIEW B: The secondary view, providing an alternative perspective that complements VIEW A. We can consider it as the better shot.

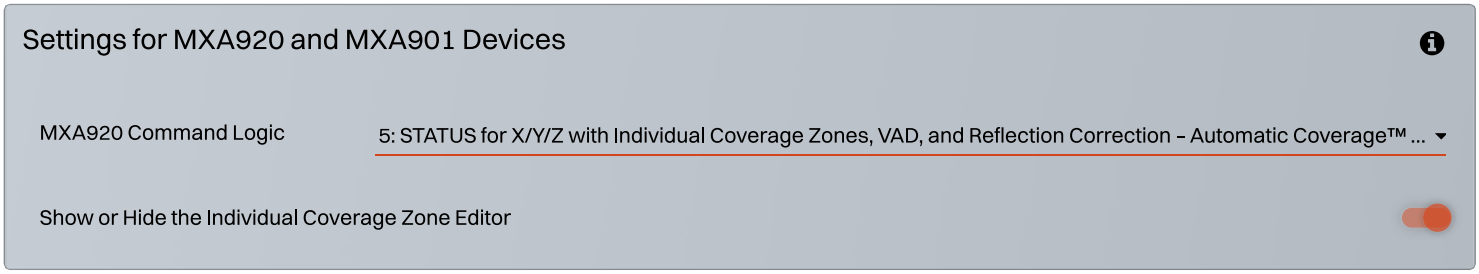
VIEW C: The tertiary view, used for general coverage or as a fallback option. We can consider it as the good shot.

- **Verification:** To test the configuration, you can click on the LED for any assigned camera preset. This will immediately activate the associated preset, allowing for quick verification of the setup.
- **AutoTrack Column:** The AutoTrack column allows you to enter command keys that control the behavior of the camera's built-in auto tracking function. These commands are executed automatically right after a preset of the corresponding camera has been triggered. Currently, only Canon PTZ cameras are supported. While installing the Canon Auto Tracking Application is recommended for full functionality, it is not strictly required.

- Command Syntax:
    - Commands are entered as letter–number combinations, e.g. A9, BC2, or AB1C0. Letters represent the target Views (A = View A, B = View B, C = View C), followed by a number or keyword indicating the action. Spaces between commands are optional and can be used for readability. Line breaks are also allowed.
- Available Commands:
    - 0 – Auto Tracking OFF
    - 9 – Auto Tracking ON (no preset selection)
    - 1–5 – Auto Tracking ON and activate the corresponding Auto Tracking preset from the Canon Auto Tracking Application
    - SNx – Stop Auto Tracking x seconds after the preset has been activated (counting starts when the preset command is sent)
    - STx – Stop Auto Tracking x seconds after tracking successfully begins (counting starts when a person is detected)

- Examples:
    - A9 SN5
        - Starts Auto Tracking on the camera for View A and stops it 5 seconds after preset activation.
    - BC2 ST8
        - Starts Auto Tracking Preset 2 on the cameras for View B and View C, and stops it 8 seconds after tracking begins.
    - AB1C0
        - Starts Auto Tracking Preset 1 on the cameras for View A and B, and turns it off on the camera for View C. (No space is needed between commands; spaces can be added for readability.)
    - Note: AutoTrack commands are only executed for the camera whose preset is being called. For example, when a preset linked to View A is triggered, only View A's AutoTrack commands are applied.
- **Special Situations:**
    - **Channel ID 0:** This special channel is activated when no microphone channel is active. Use the *Speed* column to set the response time for this state. It is often used to display an overview of the room, which can be configured using up to three cameras.
    - **Channel ID 1:**This special channel is activated when the microphone camera controller detects an audio signal from the far end during a video conference. It is recommended to assign this channel a higher priority than the seats in the room to ensure that the far-end audio takes precedence over local participants.
        - Refer to the *Settings Far End Channel* panel for additional insights on how to handle far-end audio effectively.
    - **Channel ID 2:** This channel is used when simultaneous speaking is detected from too many positions in the room. You can assign up to three presets to handle this situation effectively.

SETTINGS FOR MXA920 AND MXA901 DEVICES



- **MXA920 Command Logic:** The 'MXA920 Command Logic' dropdown menu provides five operational modes. Modes 1–4 apply exclusively to the MXA920 device. For the MXA901, Mode 5 is used by default and exclusively.

- **Mode 1:** *STATUS for Coverage Areas with VAD (Voice Activity Detection) - Automatic Coverage™ ON*
  This mode activates the Automatic Coverage™ feature on the MXA920, which responds only to areas where voice activity is detected. Commands are processed with a slight delay, as the system first detects and verifies speech before activating the response.

- **Mode 2:** *STATUS for Coverage Areas (without VAD) - Automatic Coverage™ ON*
  Like Mode 1, this mode also enables Automatic Coverage™ on the MXA920. However, in this setting, commands respond to all audio signals without filtering for voice detection. This results in a quicker response time for commands due to the heightened sensitivity to any audio input.

- **Mode 3:** *STATUS for Lobes with VAD (Voice Activity Detection) - Automatic Coverage™ OFF*
  This mode operates with Automatic Coverage™ disabled, focusing instead on specific lobe settings and processing commands only when voice activity is detected. Like Mode 1, there may be a slight delay in command response, as the system waits to confirm voice activity before initiating commands.

- **Mode 4:** *STATUS for Lobes (without VAD) - Automatic Coverage™ OFF*
  Also operating with Automatic Coverage™ off, this mode detects all audio signals without filtering for voice activity, making it faster to respond to commands than Mode 3. Sensitivity is increased, leading to a quicker reaction time for commands based on any audio input.

- **Mode 5:** *STATUS for X/Y/Z with Individual Coverage Zones, VAD, and Reflection Correction – Automatic Coverage™ will be switched ON.*
  This mode utilizes the **Individual Coverage Zone Editor** for evaluating the XYZ coordinates provided by the ceiling microphone, enabling precise real-time triggering based on speaker position. The editor defines spatial zones which are referenced when the system processes coordinate data.
  This mode utilizes the XYZ coordinates provided by the ceiling microphone for precise speaker localization. The XY coordinates are visually represented as **blue dots** on the interface, showing the tracked speaker positions over time. A **white dot** indicates the *weighted average position* of all blue dots associated with the same microphone lobe, labeled with its corresponding lobe number. Recent XY data is given higher weight in the calculation, while older points are gradually weighted less. Blue dots slowly fade and are removed approximately **20 seconds** after detection, no longer influencing the position calculation.

- Whenever new XYZ coordinates are received, the white dot briefly displays an **orange outline** to indicate an update. If the white dot is located within a coverage zone defined in the Individual Coverage Zone Editor at the time of the update, an **Audio Activity** event is triggered for the associated Channel ID in the Channel Table Setup. This allows highly accurate triggering based on real-time speaker position relative to user-defined coverage zones.
  In Mode 5, the Reflection Correction feature is also active. This feature enhances coordinate accuracy by compensating for ceiling and wall reflections. To function properly, the microphone's mounting height must be defined in the **Shure Designer Software**. This setting is critical to ensure accurate spatial processing.

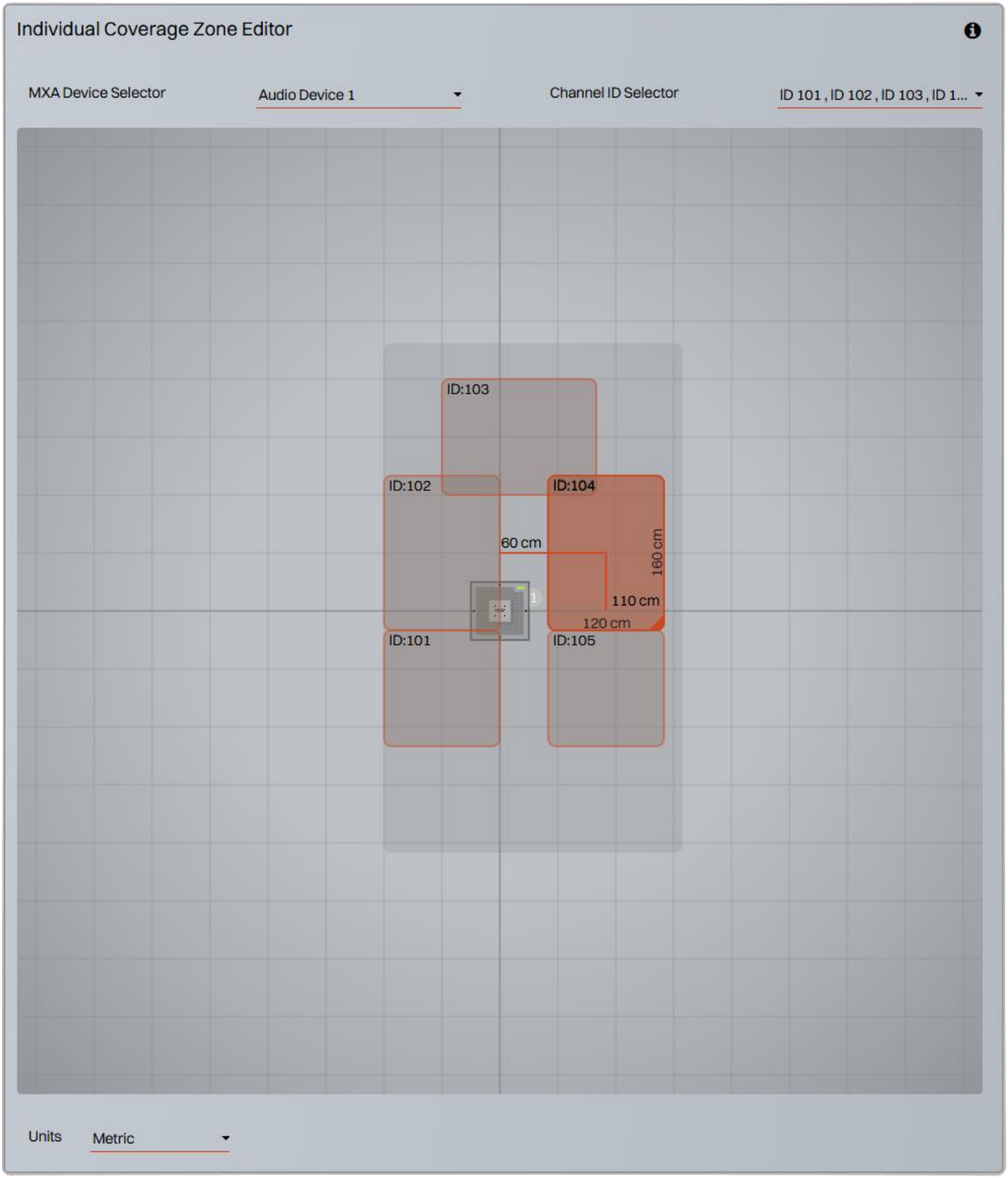
- Modes 1, 2, and 5 activate the Automatic Coverage™ feature on the MXA920, while Modes 3 and 4 operate with Automatic Coverage™ disabled. Mode 5 is used exclusively for MXA901 and can also be selected on the MXA920 for coordinate-based triggering.

- In Modes 1, 3, and 5, commands rely on Voice Activity Detection (VAD), which means the microphone must first detect and confirm speech before sending commands. This process introduces a slight delay but ensures that

responses are limited to actual voice signals. Modes 2 and 4, by contrast, detect all audio inputs, resulting in quicker, but less selective, responses.

- **Speed Adjustment in Channel Table Setup:** The Speed setting in the Channel Table Setup can be tailored according to the selected mode to optimize performance. For Modes 1, 3, and 5, where the system verifies whether detected audio is speech, it is recommended to use a higher Speed setting (e.g., 8–10) in the Microphone Camera Controller's algorithm. This ensures that microphone channels respond efficiently to verified speech signals. In contrast, for Modes 2 and 4, where the system responds broadly to any audio input, a slightly lower Speed setting can provide more balanced and reliable responses for rapid audio-triggered activation.

INDIVIDUAL COVERAGE ZONES FOR MXA920 AND MXA901 CEILING MICROPHONES



- The Individual Coverage Zone Editor is specifically designed for use with Shure MXA920 and MXA901 ceiling microphones. It enables precise speaker position detection and zone-based triggering by evaluating the XYZ coordinate data supplied by the microphones in Mode 5. This tool is an essential component when using coordinate-based triggering with these devices. Metric or Imperial units can be selected for the grid and distance measurements.

- Without individual coverage zones, channel triggering in the Table Setup for MXA ceiling microphones is based on the trigger information from microphone lobes or predefined coverage areas. However, since these default coverage options may not always cover every desired speaker position individually, the Individual Coverage Zone Editor allows users to define custom coverage zones, fully adjustable in position and size relative to the microphone.

- The number of individual coverage zones is only limited by the maximum number of selectable Channel IDs of the input device, supporting up to 100 zones. Each zone is linked to a corresponding Channel ID in the Table Setup.

- Coverage zones can also be placed on top of one another. In case of overlapping zones, the zone whose outer edge is farthest from the detected white dot takes priority. This ensures that the zone most closely encompassing the speaker's average position is selected for triggering.

Setting Up Individual Coverage Zones

- **Step 1 – Select Audio Device:** Choose the audio device to which the desired MXA920 or MXA901 ceiling microphone is connected.

- **Step 2 – Select Channel IDs:** Use the Channel ID Selector to click on the Channel IDs for which an individual coverage zone should be created.

- **Step 3 – Positioning Coverage Zones:** Newly created coverage zones are initially placed along the upper edge. Click on the respective Channel ID to select a zone and move it with the mouse to the desired speaker position.

- **Step 4 – Resizing Zones:** The size of a coverage zone can be adjusted by dragging its bottom-right corner.

Speaker Position Detection – Blue and White Dots

- These visual indicators help monitor speaker positioning during the setup of individual coverage zones.

- Shure MXA920 and MXA901 ceiling microphones provide detected speaker positions as XYZ coordinates for each of up to 8 microphone lobes. The INOGENI CAMTRACK processes this data and calculates the relative speaker positions in centimeters, displaying them separately for each microphone lobe as blue dots.

- **Blue Dots:** Each blue dot represents a single detection instance from a microphone lobe. Since speaker positions can change dynamically, multiple blue dots may appear at different locations over time.

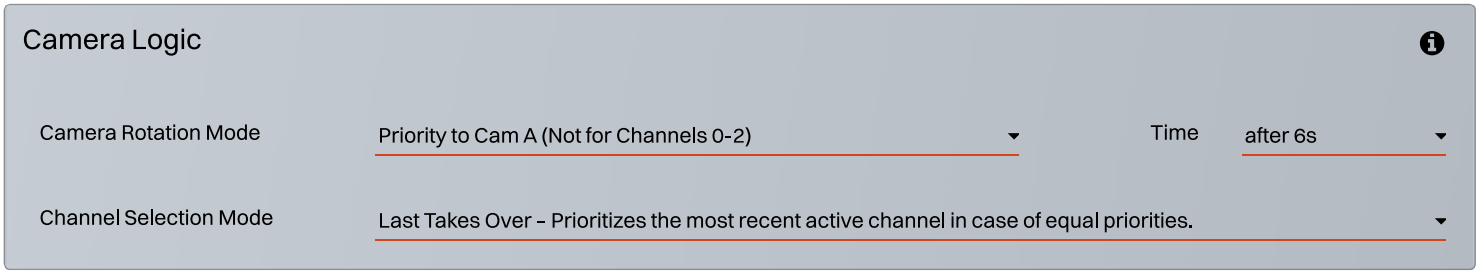
- **White Dot – Averaged Position:** To indicate a stabilized position, an additional white dot represents the averaged speaker position. The number next to the white dot corresponds to the lobe number of the MXA ceiling microphone.

- **Orange Outline – Update Indicator:** Whenever a new XYZ coordinate is received for a microphone lobe, the corresponding white dot is briefly highlighted with an orange outline. This visual cue indicates that an update has occurred based on recent positional data.

- **Audio Activity Event:** If the updated white dot lies within an individual coverage zone defined in the editor at the time of update, an **Audio Activity** event is triggered for the corresponding Channel ID in the Channel Table Setup. This enables precise triggering based on real-time speaker positioning in user-defined zones.

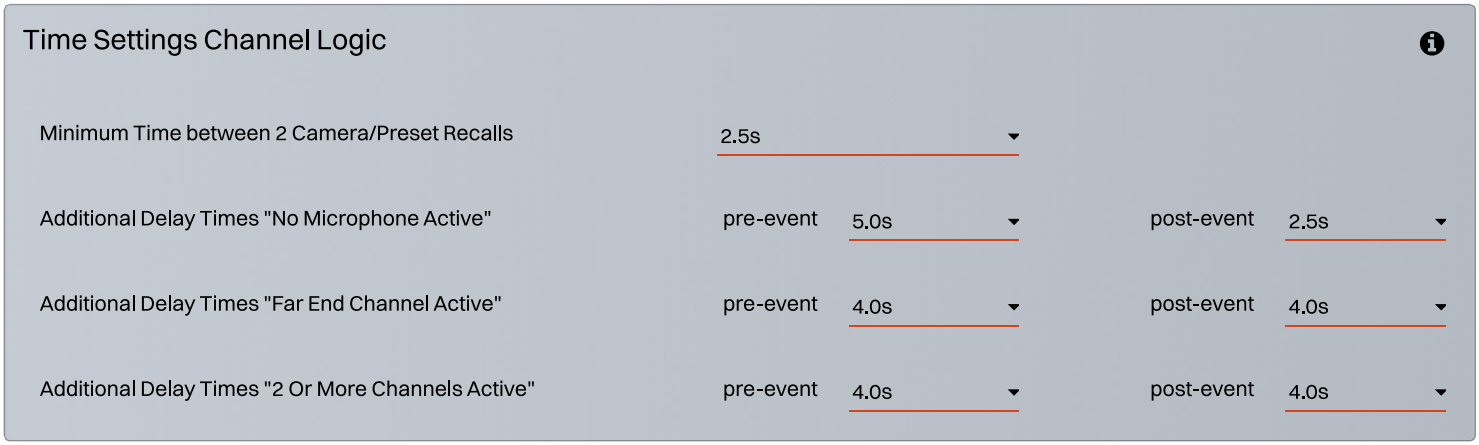
- **Fading Mechanism:** Blue dots gradually fade over a period of 20 seconds, while white dots disappear only 5 seconds after the last detected blue dot for a specific microphone lobe has faded.

CAMERA LOGIC



- **Camera Rotation Mode:** The Camera Rotation Mode determines how the system manages up to three selected cameras, defined in the columns VIEW A, VIEW B, and VIEW C.
- **No Camera Rotation:** The initially selected camera remains active, and no further switching to other cameras occurs. This mode is static and ensures that the chosen camera stays locked on the scene.
- **Priority to VIEW A:** If VIEW B or VIEW C is initially selected, the system will switch to VIEW A after a defined time interval. This mode ensures that VIEW A has the highest priority in the camera sequence.
- **Camera Rotation Scheduler:** This mode continuously cycles between VIEW A, VIEW B, and VIEW C, provided cameras and presets have been configured in these columns. The interval between each camera switch is based on the user-defined time, but with slight random variations to create a more natural and less predictable transition.
- Ensure that all cameras have their presets correctly assigned for the rotation modes to function properly. The system will only switch to cameras where both a camera and a preset have been selected.
- **Channel Selection Mode:** The Channel Selection Mode defines how the system decides which channel is selected based on specific conditions.
- **First Wins:** The system selects the first channel that meets the activation criteria, displaying a green indicator in the **Active** column. The selection is based on the cumulative speaking time minus pauses, shown in the **Audio** column. If two or more channels meet the **Active** state, the channel with the higher weighting is chosen. If they have equal weighting, the one that first activates the light blue indicator in the **Audio** column is selected.
- **Last Takes Over:** The system selects the most recent channel that meets the activation criteria, displaying a green indicator in the **Active** column. As with 'First Wins', the criteria for **Active** status are based on cumulative speaking time minus pauses (from the **Audio** column).
- A switch to the camera of another channel only occurs between channels with the same priority. If a channel with a higher priority than the currently active channel is displayed in the **Active** column, it will become the active channel, triggering the corresponding camera preset.

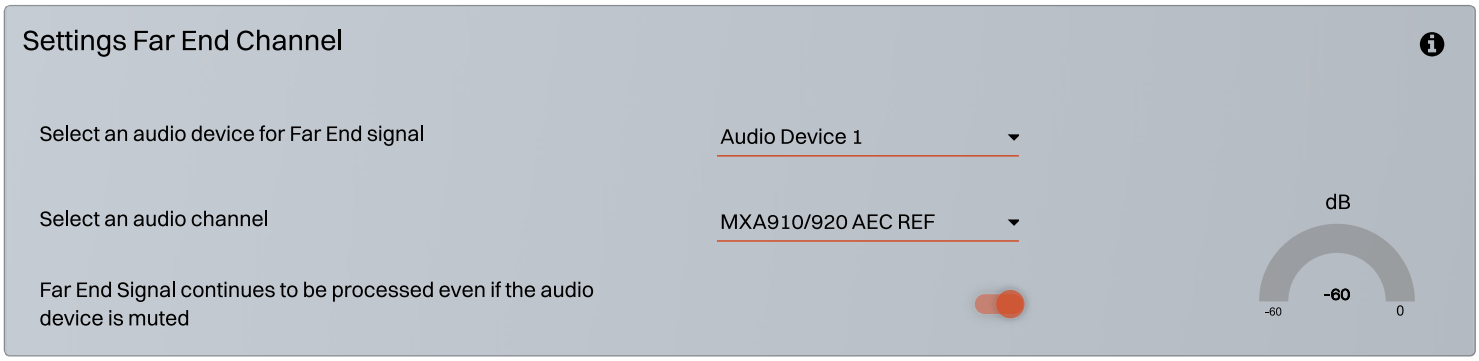
TIME SETTINGS CHANNEL LOGIC



- The **Minimum Time between 2 Camera/Preset Recalls** is the delay that the logic waits before triggering the next camera preset. Ensure that this time is set long enough so that the video transition remains smooth for the far-end participants. Note: Due to varying Pan/Tilt times required by different cameras to reach a preset, the duration between video transitions may vary. The time set here specifically refers to the interval between preset commands sent to each camera.
- The **Additional Delay Times** define the extra time added to the configured **Speed** of the respective Channel ID that the logic waits before activating this channel in the pre-event phase. In the post-event phase, it sets the minimum time the logic waits before switching to the camera preset of a newly selected Channel ID.

Additional Delay Time	Channel ID
No Microphone Active	0
Far End Channel Active	1
2 Or More Channels Active	2

SETTINGS FAR END CHANNEL



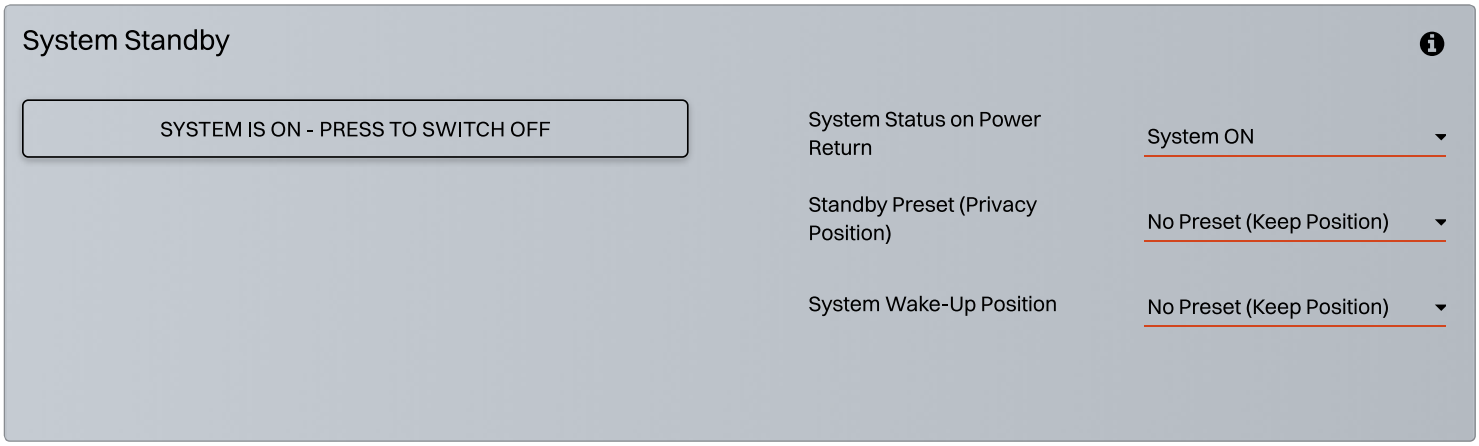
- **Select an audio device** and the **corresponding audio channel** where the Far End Signal is present.
- The **'dB' indicator** shows the level. If it drops below -55dB, the signal is interpreted as 'Off'.
- In some applications, it may be necessary not to process the Far End Signal when the **audio device is in mute status**.
- Note that both the audio mute status of the audio device and the system mute status are evaluated as mute status.
    - **Devices supporting Far End Channel functionality:**
    - MXA910 Ceiling Array Microphones
    - MXA920 Ceiling Array Microphones
    - MXA710 Linear Array Microphones
    - INTELLIMIX® P300
    - ANIUSB-MATRIX
    - **Note:** The MXA310 Table Array Microphones, INTELLIMIX® ROOM SOFTWARE, and MICROFLEX® COMPLETE WIRELESS - MXCW do not support Far End Channel functionality.
- **External Far End Channel Control via API:** The Far End Channel state can also be controlled externally through the API using the following commands:
    - **API Command Examples:**

- **ENABLE:** `http://<IP-ADDRESS>:1881/browser?command=SET%20CHANNEL_ID_AUDIO&value1=1&value2=ENABLE`
- **DISABLE:** `http://<IP-ADDRESS>:1881/browser?command=SET%20CHANNEL_ID_AUDIO&value1=1&value2=DISABLE`
- The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
- **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.
- **Recommendation:** It is recommended to select 'No Audio Device' when triggering the Far End Channel via API, as the audio device might otherwise trigger the Far End Channel simultaneously with the API command.

⚙ - SYSTEM CONFIGURATION

In this section, you can manage system configuration, such as login information, IP addressing, firmware update, factory reset and get troubleshooting information.

SYSTEM STANDBY



- **Standby Toggle Function:** The 'System Standby' panel includes a button that toggles between two states: 'SYSTEM IS WORKING - PRESS TO SWITCH OFF' and 'SYSTEM IN STANDBY - PRESS TO SWITCH ON'. This toggle controls the active/standby state of the selected Application Slot (1 or 2) only. In the 'SYSTEM IS WORKING' state, the Microphone Camera Controller operates fully, and all tabs remain accessible. In the 'SYSTEM IN STANDBY' state, the controller enters standby mode, halting all control functions and stopping communication with audio, camera, and switcher devices. Only the Settings tab remains visible while all other tabs are hidden. API commands remain active and functional in this mode.
- **External Standby Control via API:** The standby state can also be controlled externally through the API using the following commands:
  - **API Command Examples:**
  - **ENABLE WORKING MODE:** `http://<IP-ADDRESS>:1881/browser?command=SET%20SYSTEM_STANDBY&value1=SYSTEM_ON`
  - **ENABLE STANDBY MODE:** `http://<IP-ADDRESS>:1881/browser?command=SET%20SYSTEM_STANDBY&value1=SYSTEM_OFF`
  - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.

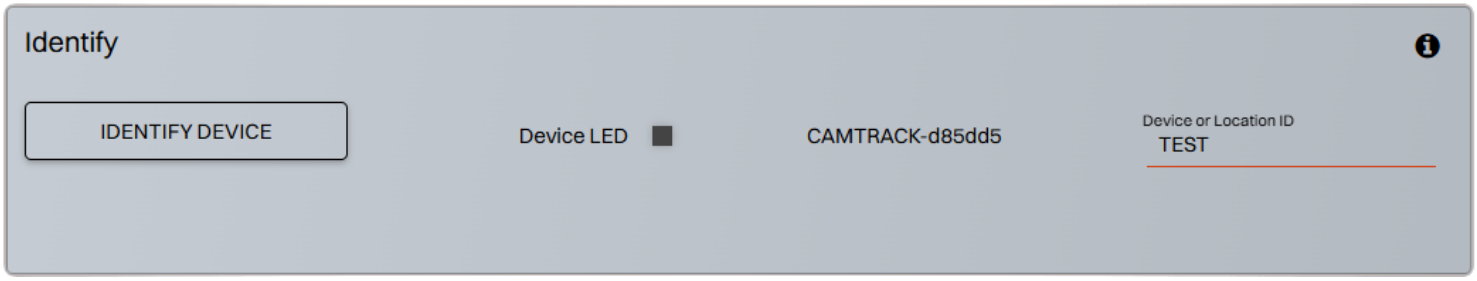
- **API Methods**: These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.

- **System Status on Power Return:** A dropdown menu labeled 'System Status on Power Return' allows users to define the system state after a device restart. **Options include:**
  - **System ON**: Automatically starts the system in the 'working' state.
  - **System OFF**: Initiates the system in standby mode after power returns.
  - **Last System Status**: Restores the system to the last recorded state before shutdown, whether working or standby.

- **Standby Preset (Privacy Position):** A dropdown in which users can select a preset number to be recalled when the standby function is activated for all connected cameras. If no preset should be activated, the user can select 'No Preset'. Depending on the configured 'System Status on Power Return,' this preset may also be executed immediately after a system startup.

  System Wake-Up Position: A dropdown in which users can select a preset number to be recalled when the system wakes up from standby mode for all connected cameras. If no preset should be activated, the user can select 'No Preset'. Depending on the configured 'System Status on Power Return,' this preset may also be executed immediately after a system startup.

IDENTIFY



- **Purpose of the Identify Function:** The Identify function is designed to trigger a visual identification process for the connected device. When activated, it causes the LED on the device to blink in a recognizable pattern, helping to easily locate and identify the device in a setup. The blinking will stop either manually by the user or automatically after a pre-set duration (5 minutes).

- **Activate Button:** A button within the Identify Panel allows users to toggle the LED identification blinking. When the button is pressed, the LED on the device starts blinking at a predefined rate (alternating every 500ms). The blinking will continue until the button is pressed again to stop it or automatically after 5 minutes. This function is particularly useful for visual identification during device setup or maintenance.

- **INOGENI Device Name:** The field next to the button displays the name of the device as predefined in the *INOGENI INOGENI CAMTRACK* system. This name corresponds to the specific device that will perform the LED identification blink.

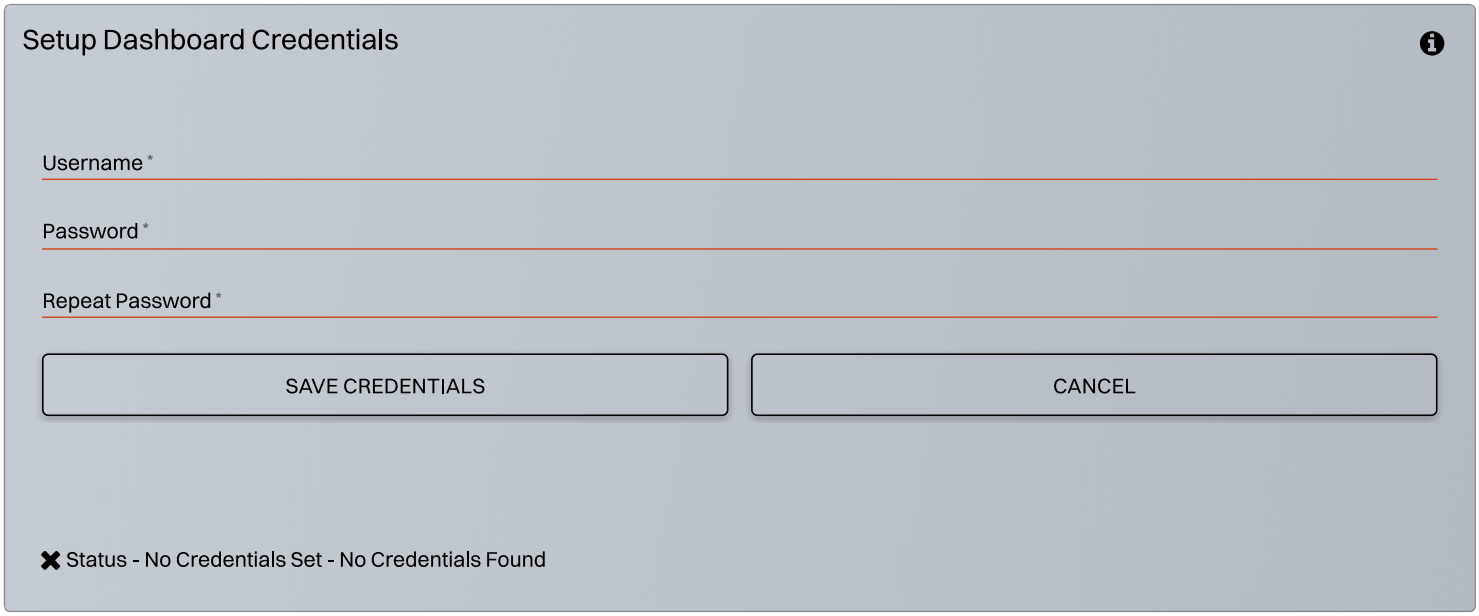
- **Device LED:** The 'Device LED' indicator in the panel shows the real-time status of the LED blinking on the physical device.

- **Note:** Irregularities in the blinking pattern may occur. This is due to the second application slot maintaining its own blink rhythm, which can interfere with the Identify function's blink pattern. Please note that this is not a malfunction but a system limitation and is expected behavior.

  Serial or Location ID: This optional identifier is included in the device's mDNS name for better visibility in network discovery tools like Bonjour or Avahi. It does not affect access via the device's hostname (e.g. INOGENI

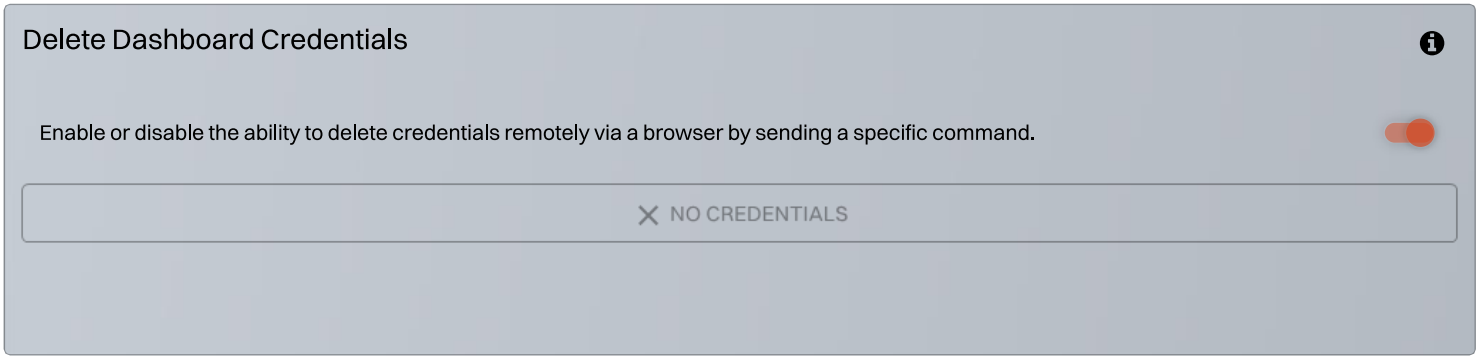
CAMTRACK-TiO1 or INOGENI CAMTRACK-TiO1.local). Changes take effect after the next reboot. **This field can also be used to store the device's serial number**, making it easier to associate a specific unit with its network identity.

SETUP DASHBOARD CREDENTIALS



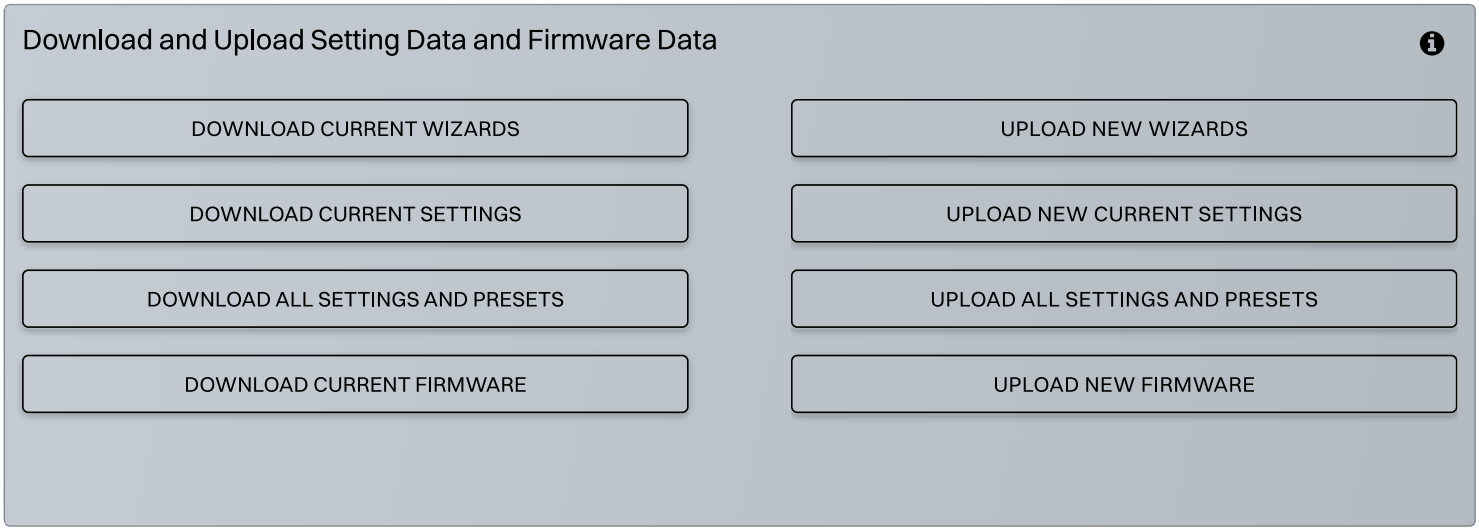
- **Current Status:** The panel initially displays the current status, indicating whether credentials are stored or not. This information allows users to know if access to the dashboard is currently restricted by credentials.
- **Username and Password Fields:** To set up or update credentials, users are provided with input fields for 'Username', 'Password', and 'Repeat Password'. All fields must be filled out accurately to ensure credential verification. After saving new credentials, a restart of the INOGENI device is necessary to activate these settings and secure dashboard access.
- **Save and Cancel Buttons:** Once the fields are filled out, users can save the new credentials by clicking 'SAVE CREDENTIALS'. This action will update the stored access data, and a device restart will be required to apply these changes. Alternatively, clicking 'CANCEL' will abort the process without saving changes, maintaining the previous credentials if they exist.
- **Credential Prompt During Connection:** When accessing the dashboard in a browser, a credential prompt will appear, and access is only granted upon correct entry of the username and password. This provides a secure access control mechanism for the dashboard.
- **Related Panel - Delete Dashboard Credentials:** Users should also be aware of the 'Delete Dashboard Credentials' panel, which allows IT administrators to securely remove stored credentials and reset access restrictions as needed. After deleting the credentials, a restart of the INOGENI device is also necessary to fully remove the access restrictions.

DELETE DASHBOARD CREDENTIALS



- **Credential Deletion Feature:** This panel allows IT administrators to enable a special deletion process for stored dashboard credentials. Once enabled, this feature allows credentials to be deleted remotely via a browser or API command.
- **Activate Credential Deletion via Browser or API Command:** Toggle the switch to allow credentials to be deleted through an external command sent via the browser or API.
    - **API Command Examples:**
    - **DELETE CREDENTIALS:**
      `http://<IP-ADDRESS>:1881/browser?command=DELETE%20CREDENTIALS`
    - The user will receive a confirmation or error message in the browser regarding the execution of the command when using the HTTP URL method.
    - **API Methods:** These commands can also be triggered using the INOGENI CAMTRACK's API via WebSocket or TCP/IP. Refer to the INOGENI CAMTRACK API documentation for details on how to use these methods.
- **Delete Credentials Button:** Additionally, a button within this panel allows for immediate deletion of the credentials directly from the dashboard. Clicking 'CLEAR CREDENTIALS ... ' removes any stored access data, resetting dashboard access controls.

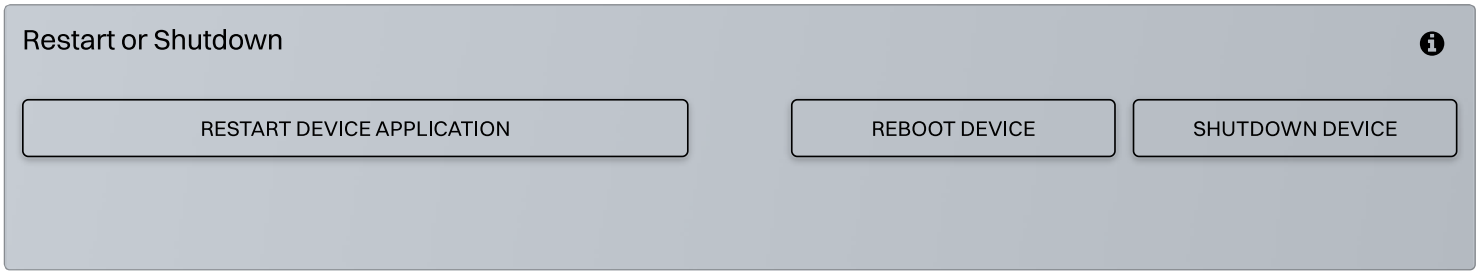
DOWNLOAD AND UPLOAD SETTING DATA AND FIRMWARE DATA



- **Overview:** This panel provides options for managing various types of data on the INOGENI device, including setup wizards, application settings, presets, and firmware. You can upload new configuration files, download backups of current configurations, and manage firmware for each application slot individually. Each slot (1 and 2) operates independently with its own current settings, presets, and firmware. Note that it is highly recommended to keep firmware versions consistent across both slots to ensure optimal compatibility and functionality.

- **Important Note:** IP settings are shared across both Application Slots and remain unaffected by downloads, uploads, or firmware updates on individual slots. This ensures network accessibility is consistent, regardless of the slot configuration or firmware version.
- **UPLOAD NEW WIZARDS:** Upload a .zip file containing one or more wizard definition files in .json format. Each JSON file must follow the correct structure and naming convention to be accepted. Uploaded files will be validated automatically and integrated into the system's wizard library if valid. Use this function to add new setup wizards or update existing ones.
- **DOWNLOAD CURRENT WIZARDS:** Download a .zip archive containing all currently available wizard definitions. This archive includes all valid .json files used by the system, allowing for external editing, duplication, or sharing. A README.txt file is included in the archive, describing the required file structure, naming conventions, and accepted fields for wizard definitions.
- **UPLOAD NEW CURRENT SETTINGS:** Upload a configuration file containing the current settings for the selected application slot. Current settings encompass all parameters currently displayed and active on the dashboard for that slot.
- **DOWNLOAD NEW CURRENT SETTINGS:** Download a file with the current settings from the selected application slot. This file reflects the active configurations as seen on the dashboard and can be used as a backup or reference for future uploads.
- **UPLOAD ALL SETTINGS AND PRESETS:** Upload a comprehensive configuration file that includes both the current settings and all preset data for the selected application slot. This file enables restoring all previously saved configurations and presets.
- **DOWNLOAD ALL SETTINGS AND PRESETS:** Download a file containing all settings and presets stored in the selected application slot. This data can be used to completely restore the application slot, including any custom presets previously configured.
- **UPLOAD NEW FIRMWARE:** Upload a new firmware file to the selected application slot. This action will update the firmware for that slot, affecting the underlying application running in that slot. Consistent firmware versions across both slots are recommended to maintain optimal system functionality. For new firmware versions, please visit www.inogeni.com/support.
- **DOWNLOAD NEW FIRMWARE:** Download the firmware currently installed on the selected application slot. This file can be used as a backup or for analysis, ensuring the ability to restore the current firmware if needed.
- **Note:** Always verify compatibility of settings and firmware files before uploading to ensure consistent performance across application slots. IP configurations are preserved across all settings and firmware changes.

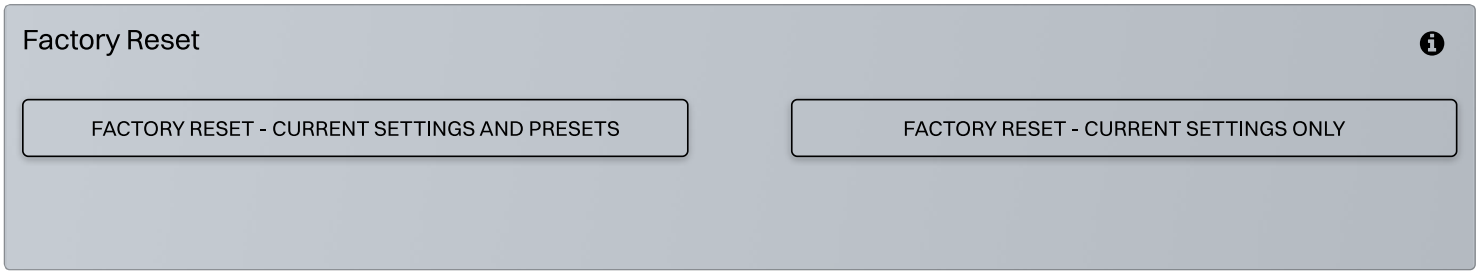
RESTART OR SHUTDOWN



- **Overview:** This panel provides options for restarting the application in a specific application slot, rebooting the entire INOGENI device, or shutting down the device. Use these functions with care, especially the shutdown option, as the device cannot be remotely powered back on.
- **RESTART APPLICATION:** This button restarts the application within the selected application slot, disconnecting the user temporarily. Once the application has fully restarted, the dashboard will automatically reload in the browser.

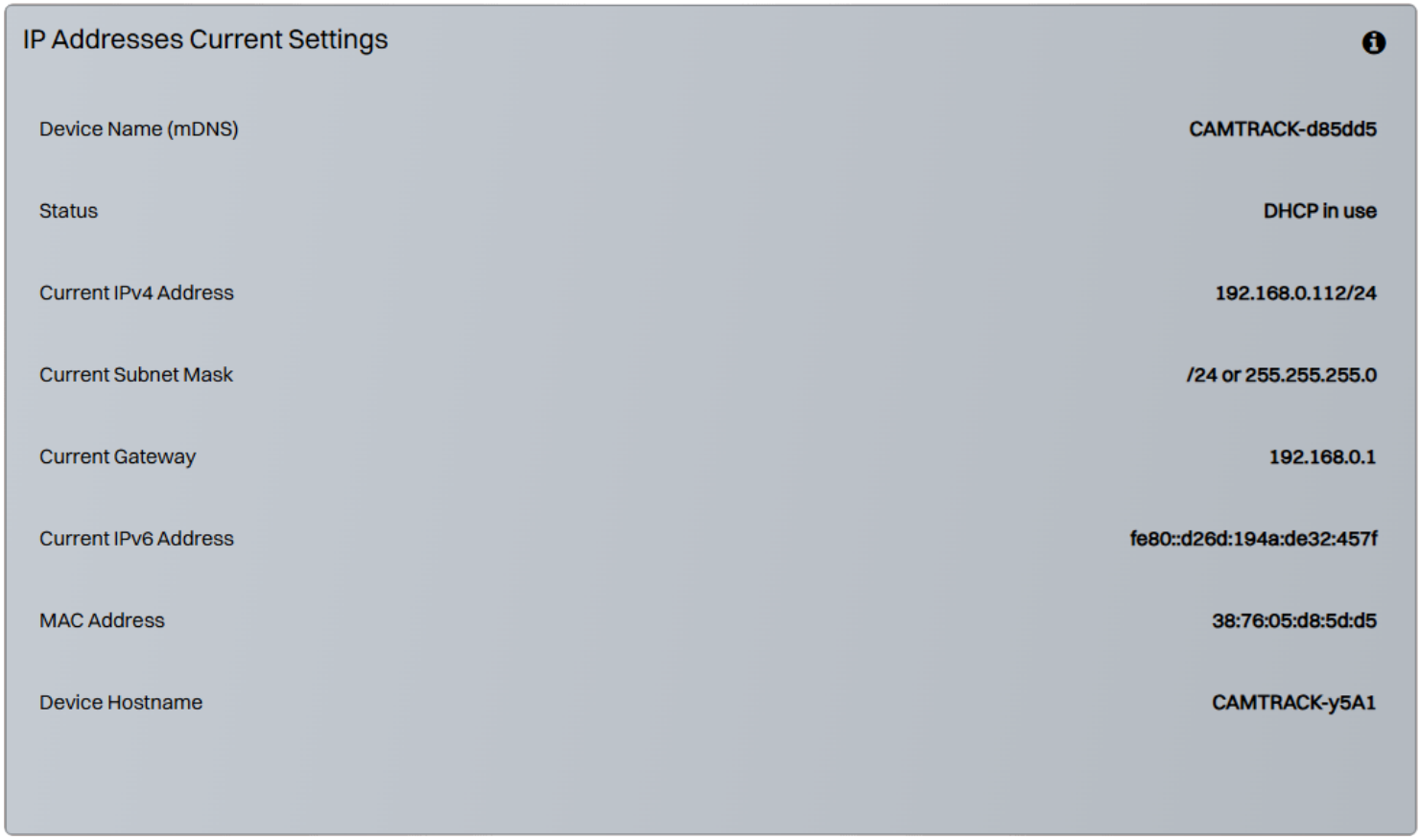
- **Note:** Application Slot 2 requires an additional 60 seconds to fully boot compared to Application Slot 1.
- **REBOOT DEVICE:** This button reboots the entire INOGENI device. All active processes will be terminated, and both application slots will restart.
- **Note:** Application Slot 2 requires an additional 60 seconds to fully boot compared to Application Slot 1.
- **SHUTDOWN DEVICE:** This option powers off the INOGENI device entirely, disconnecting all users and stopping all system functions. Please note that the device cannot be turned back on remotely after shutdown. Ensure that physical access to the device is available before using this option.
- **Tip:** To power the device back on, toggle the PoE (Power over Ethernet) or USB power supply, which will automatically restart the device.
- **Reminder:** Use the shutdown function cautiously if no physical access to the device is available to avoid unintended downtime.

FACTORY RESET



- **Overview:** The 'Factory Reset' panel provides options to reset specific settings or presets to their factory defaults. These resets apply only to the current application slot selected on the dashboard and do not affect the IP settings, which are shared by both slots and remain unchanged.
- **FACTORY RESET - CURRENT SETTINGS AND PRESETS:** This button restores all settings and presets in the selected application slot to their original factory configurations. All customized settings and any saved presets will be permanently erased and reset to their default states. Use this option if you need to completely reset the application slot to its original factory condition.
- **FACTORY RESET - CURRENT SETTINGS ONLY:** This button resets only the current settings in the selected application slot, reverting them to the factory defaults while leaving any saved presets intact. This option is useful for resetting operational configurations without impacting preset data.
- **Note:** Use these reset options with caution, as they will overwrite current settings and may impact device functionality. Always ensure that any critical configurations are backed up before proceeding with a factory reset.

IP ADDRESSES CURRENT SETTINGS



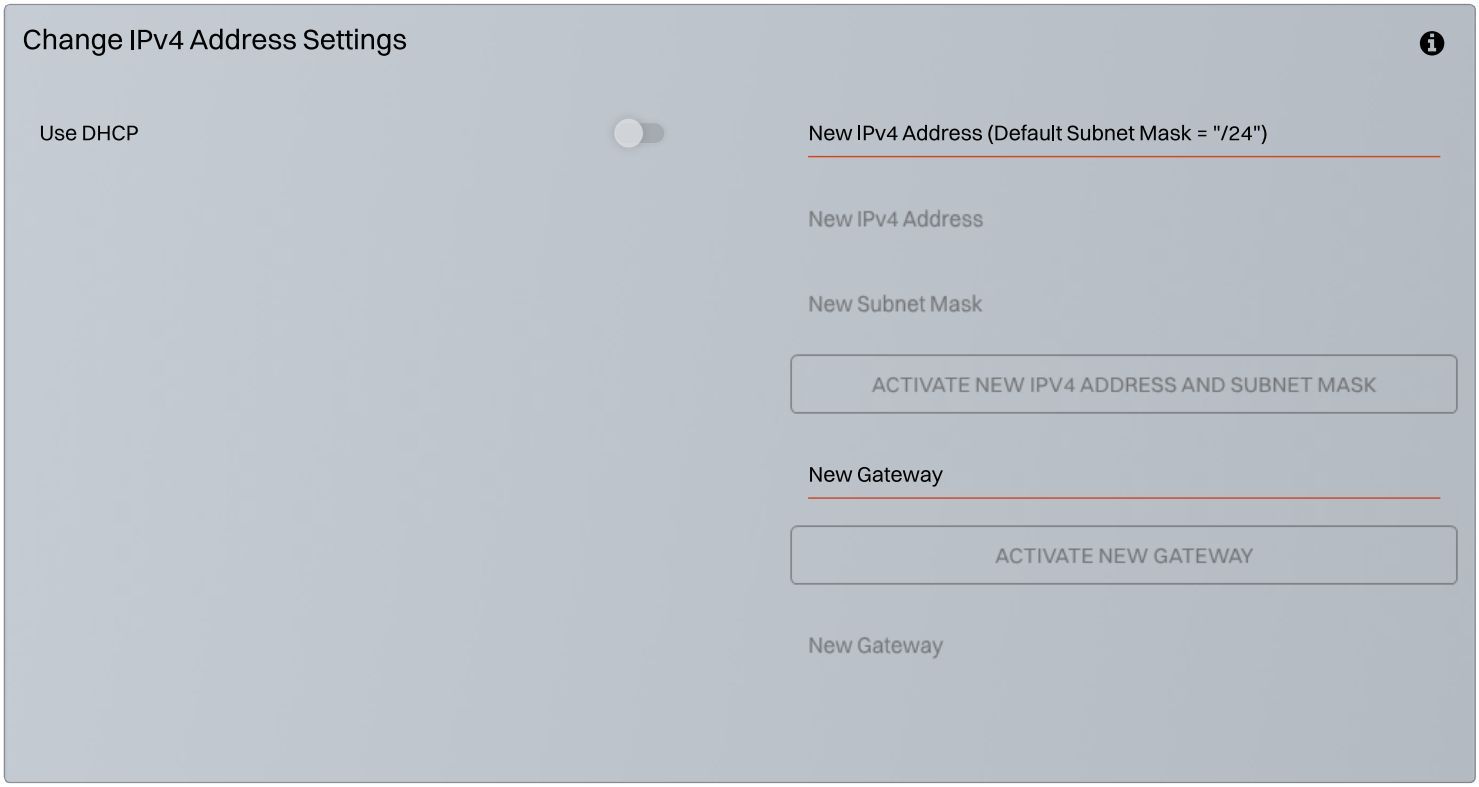
- **Overview:** The 'IP Addresses Current Settings' panel displays the current network configuration details for the device. This includes essential network information such as IP addresses, subnet mask, and gateway, which define how the device communicates within its network. Note that these fields reflect the active settings only, and any changes to IP configuration are made in a subsequent panel.
- **Device Name:** This label displays the designated name of the INOGENI device, which helps identify it within the network and in other system components. It is especially useful in environments with multiple devices.
- **Status:** This field indicates whether the device is configured to use a DHCP (Dynamic Host Configuration Protocol) IP address or a static IP address. DHCP assigns IP addresses dynamically based on network availability, while a static IP address remains fixed. This is only a display of the current status; adjustments to this setting can be made in the following panel.
- **Current IPv4 Address:** The current IPv4 address being used by the device, allowing it to connect to and communicate with other devices on an IPv4 network. This address may be either dynamically assigned via DHCP or manually set as a fixed address, depending on the configuration.
- **Current Subnet Mask:** The subnet mask associated with the IPv4 address, which determines the network segment in which the device operates. The subnet mask defines which part of the IP address identifies the network and which part identifies the individual device. It can be represented in two common formats:
- **CIDR notation (Classless Inter-Domain Routing):** This is the shorthand format, where the subnet mask is represented by the number of bits used for the network portion. For example, **<IP-ADDRESS>/24** means the first 24 bits of the address represent the network, and the remaining 8 bits are used for individual devices in the network. Another common example is **<IP-ADDRESS>/16**, where the first 16 bits represent the network, leaving more room for devices in the network.
- **Traditional subnet mask:** This format shows the full 32-bit subnet mask as four octets, e.g., **255.255.255.0**, which represents the same network structure as **/24** CIDR notation. Similarly, **255.255.0.0** corresponds to the **/16** CIDR notation, representing a larger network with more available addresses.

- **Current Gateway:** Displays the IP address of the network gateway, typically the router that connects the device to external networks or the internet. The gateway enables communication beyond the local network, such as reaching remote servers or other external resources.
- **Current IPv6 Address:** Shows the current IPv6 address of the device if configured. IPv6 is the newer internet protocol designed to handle a larger address space than IPv4, supporting more devices and enabling advanced network configurations.

Using IPv4 and IPv6 for Dashboard Access

- **Overview:** If the INOGENI device is configured with an IPv6 address, users can access the dashboards for Application Slot 1 and Slot 2 using IPv6 in the HTTP URL. IPv6 addresses are enclosed in square brackets when used in URLs, allowing the browser to distinguish them from port numbers or path components.
- **Dashboard Access Links:** Use the following examples to access the dashboards via IPv4 or IPv6:
    - **Application Slot 1 (IPv4):** `http://<IP-ADDRESS>:1881/dashboard`
    - **Application Slot 2 (IPv4):** `http://<IP-ADDRESS>:1882/dashboard`
    - **Application Slot 1 (IPv6):** `http://[fe80::8860:5f5f:5678:95c1 fd77:2e7a:e3ff:2a47:5c79:2652:d800:106e]:1881/dashboard`
    - **Application Slot 2 (IPv6):** `http://[fe80::8860:5f5f:5678:95c1 fd77:2e7a:e3ff:2a47:5c79:2652:d800:106e]:1882/dashboard`
    - In these examples, **[fe80::8860:5f5f:5678:95c1 fd77:2e7a:e3ff:2a47:5c79:2652:d800:106e]** represents the device's IPv6 address, and **<IP-ADDRESS>** represents the IPv4 address. The port numbers **1881** and **1882** differentiate the slots. Ensure that the IPv6 address is enclosed in brackets and the IPv4 address is used directly in the URL.
    - **Note:** When switching from IPv4 to IPv6, verify that both the network and the browser fully support IPv6 to ensure successful access to the dashboard.
    - The settings shown here are for informational purposes only. Changes to IP configurations, including DHCP/static IP selection, are managed in the next panel.

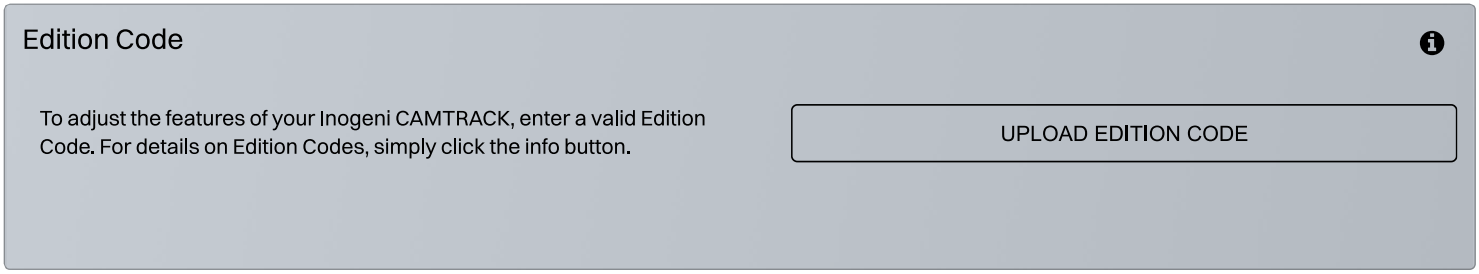
CHANGE IPV4 ADDRESS SETTINGS



- **Overview:** This panel allows you to configure the device's IPv4 network settings. You can either assign a static IP address or enable DHCP to automatically receive an IP address from a DHCP server in the network. Proper configuration of the IPv4 address and gateway ensures seamless communication with other devices within the network.
- The **Use DHCP** switch allows you to configure the device to automatically obtain an IPv4 address from a DHCP server. When enabled, the device will no longer require manual IP configuration, and it will request an IP address from the network's DHCP service. If disabled, you can manually assign a static IPv4 address to the device. Ensure that the network's DHCP server is properly set up if you choose this option.
- **New IPv4 Address (Default Subnet Mask = /24):** In this input field, you can enter a new static IPv4 address for the device. The subnet mask must be specified using CIDR notation (e.g., **/24**), where **/24** represents the network's first 24 bits and allows up to 254 devices. A common alternative is **/16**, where the first 16 bits define the network, supporting up to 65,534 devices. Note that traditional dotted decimal notation (e.g., **255.255.255.0** for **/24** or **255.255.0.0** for **/16**) is not supported here.
- **IP Address and Subnet Mask Labels:** Once the IPv4 address is entered in the **New IPv4 Address** input field, the system will check its validity. If the entered address follows the correct format (e.g., **<IP-ADDRESS>**), the device will display the recognized IP address and its corresponding subnet mask, **/24**. This will provide real-time feedback, allowing you to verify that the syntax is correct before applying the changes.
- After entering the desired IPv4 address and confirming its validity, click the **Activate New IPv4 Address and Subnet Mask** button to apply the new configuration. The device will immediately attempt to change its IP address. If the change is successful, the device may temporarily disconnect as it reconfigures itself. Once completed, it will reconnect using the new IPv4 address.
- The **New Gateway** input field allows you to enter the IP address of the default gateway for the device. The gateway address is essential for devices that need to communicate with devices outside their local network, such as when accessing the internet. The entered gateway address must follow the proper IPv4 address format, such as **192.168.0.1**.
- The **Activate New Gateway** button becomes active once a valid gateway address is entered in the 'New Gateway' input field. When clicked, it will apply the new gateway configuration to the device, enabling it to route traffic to external networks. Make sure the gateway address is correct and reachable from the device's network.

- **Gateway Address Label:** Once the gateway address is entered correctly, the **New Gateway** field will display the newly entered gateway address. This serves as a confirmation to ensure the gateway address entered matches what was intended before activating the configuration.
- Note: Changing the IP address or gateway will cause a temporary network disruption. Ensure the new settings are correct to avoid losing access to the device. In case of issues, you may need to revert the changes manually.

EDITION CODE

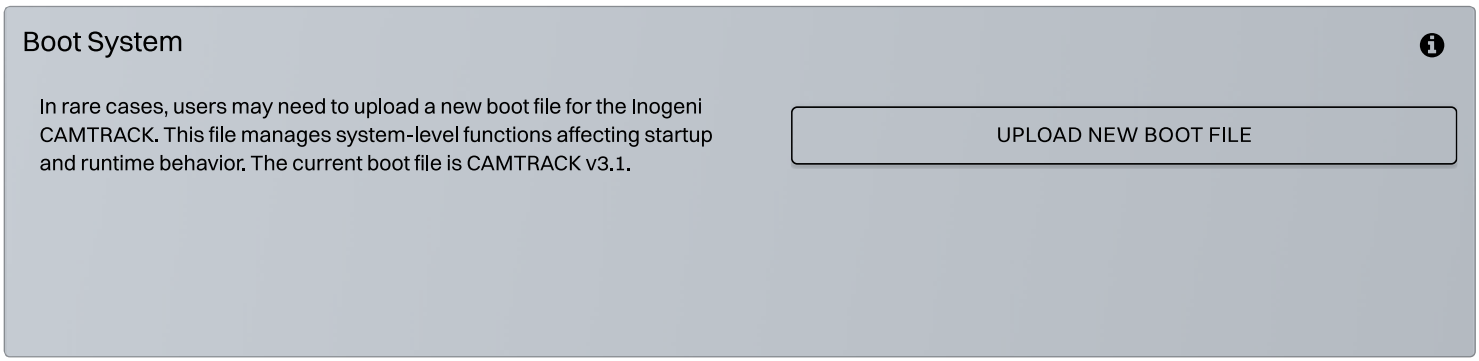


- This panel allows you to upgrade or change the current software edition of the INOGENI device by uploading a new encrypted edition code file. This file, uniquely bound to the device's hostname, provides specific access permissions and features. If the hostname does not match during verification, the upload process will be canceled to prevent unauthorized updates.
- Use the **UPLOAD EDITION CODE** button to upload an encrypted file containing the new edition code. The uploaded file includes the necessary credentials to unlock features associated with the chosen edition. Only a file matching the device's assigned hostname will be accepted, ensuring that edition settings remain secure and device-specific.
- **Available Edition Versions:** The INOGENI INOGENI CAMTRACK device supports three main edition versions, each offering different features across Application Slots 1 and 2:
    - **Standard Edition:** Supports up to 4 Audio Devices, 8 Camera Devices, and 1 Switcher Device in Application Slot 1. Application Slot 2 supports 1 Audio Device, 1 Camera Device, and 1 Switcher Device, making this edition suitable for standard setups requiring moderate audio and video capacity.
    - **Pro Edition:** Supports up to 8 Audio Devices, 12 Camera Devices, and 1 Switcher Device in Application Slot 1. Application Slot 2 supports 1 Audio Device, 1 Camera Device, and 1 Switcher Device, catering to more advanced configurations with greater device support.

To obtain an upgrade to a different edition, please contact your dealer or distributor, or visit www.inogeni.com for assistance. Upgrades require a new edition code file specific to the desired edition and bound to the device.

Note: Ensure that you have the correct edition code file associated with your device's hostname before attempting an upload to avoid issues during verification.

BOOT SYSTEM



- **Overview:** This panel allows you to upload a new boot file to the INOGENI INOGENI CAMTRACK device. This file manages system-level functions that affect the device's operation during startup and runtime. While the boot file is not directly related to the INOGENI Dashboard, it has a significant impact on the device's behavior, including its boot process and system stability. New boot files are typically released at longer intervals and may not always be compatible with older firmware versions.

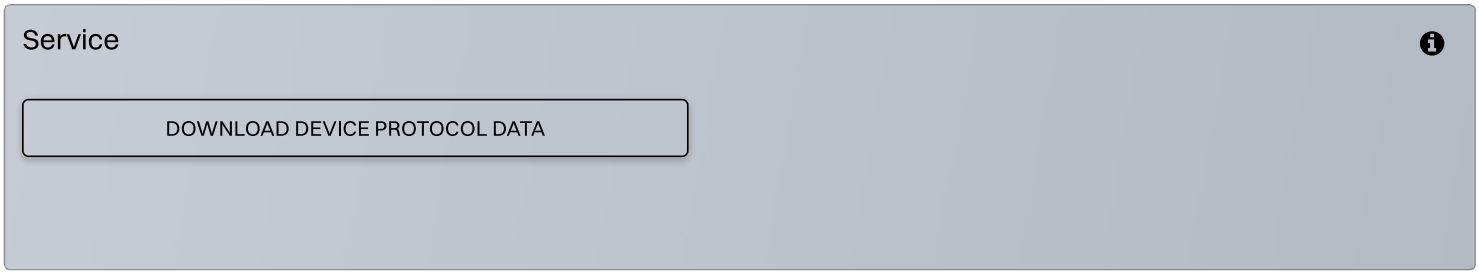
- Use the **UPLOAD NEW BOOT FILE** button to upload a new boot file. This file updates essential system-level configurations and functionality. Keep in mind that new boot files may not be compatible with older firmware versions, and it is recommended to perform a firmware update along with the boot file update to ensure system compatibility.

  For the currently installed firmware version, it is recommended to use the boot file **INOGENI CAMTRACK v3.0** to ensure compatibility and optimal system performance.

  Boot files are offered periodically via www.inogeni.com/support. Please visit the website for new releases and follow the provided instructions for installing the latest boot file.

  Note: Always ensure compatibility between the boot file and your firmware version before proceeding with the update. If you are uncertain, consult the documentation or reach out to support for guidance.

DOWNLOAD DEVICE PROTOCOL DATA

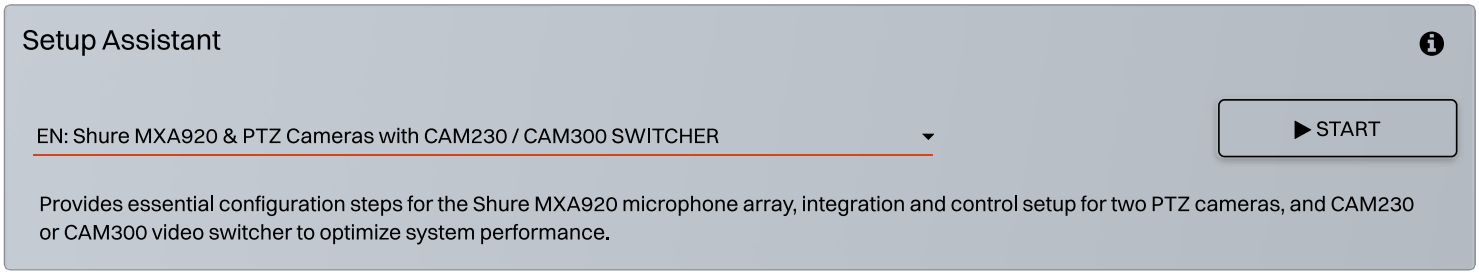


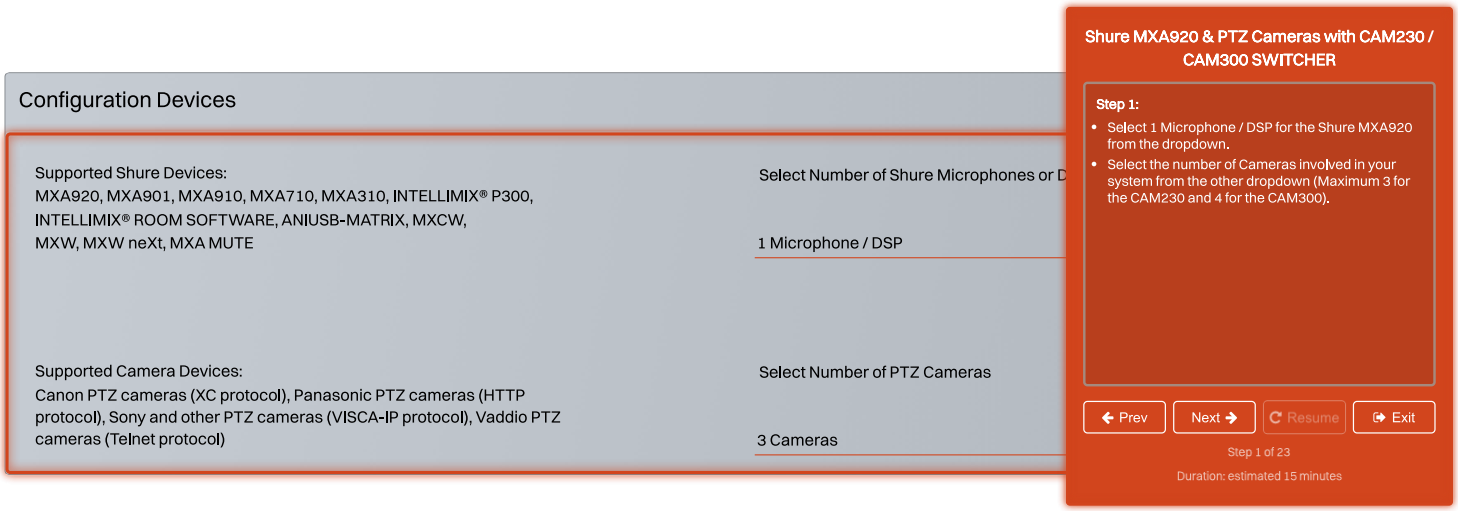
- The **Download Device Protocol Data** button currently allows users to download a log file containing records of system startups. This includes the date and time of each startup, which may not always reflect the actual real-time due to potential issues with synchronizing the device's clock with an NTP (Network Time Protocol) server. Possible reasons for inaccurate timestamps include network connectivity problems, unreachable NTP servers, or misconfigurations related to time synchronization.

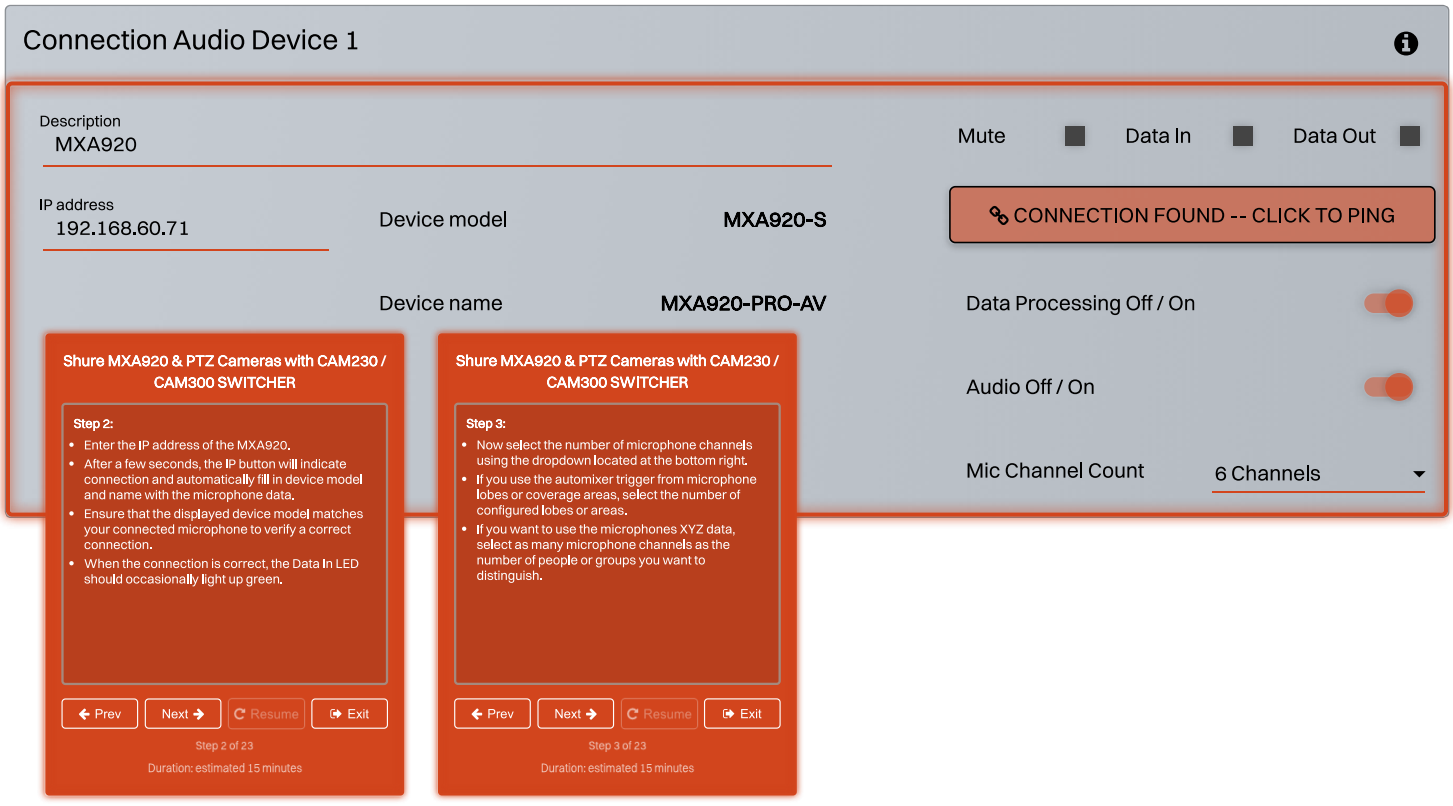
  The functionality of this feature will be expanded in the future to include additional system data beyond just the startup records, providing more comprehensive device diagnostics and monitoring capabilities.

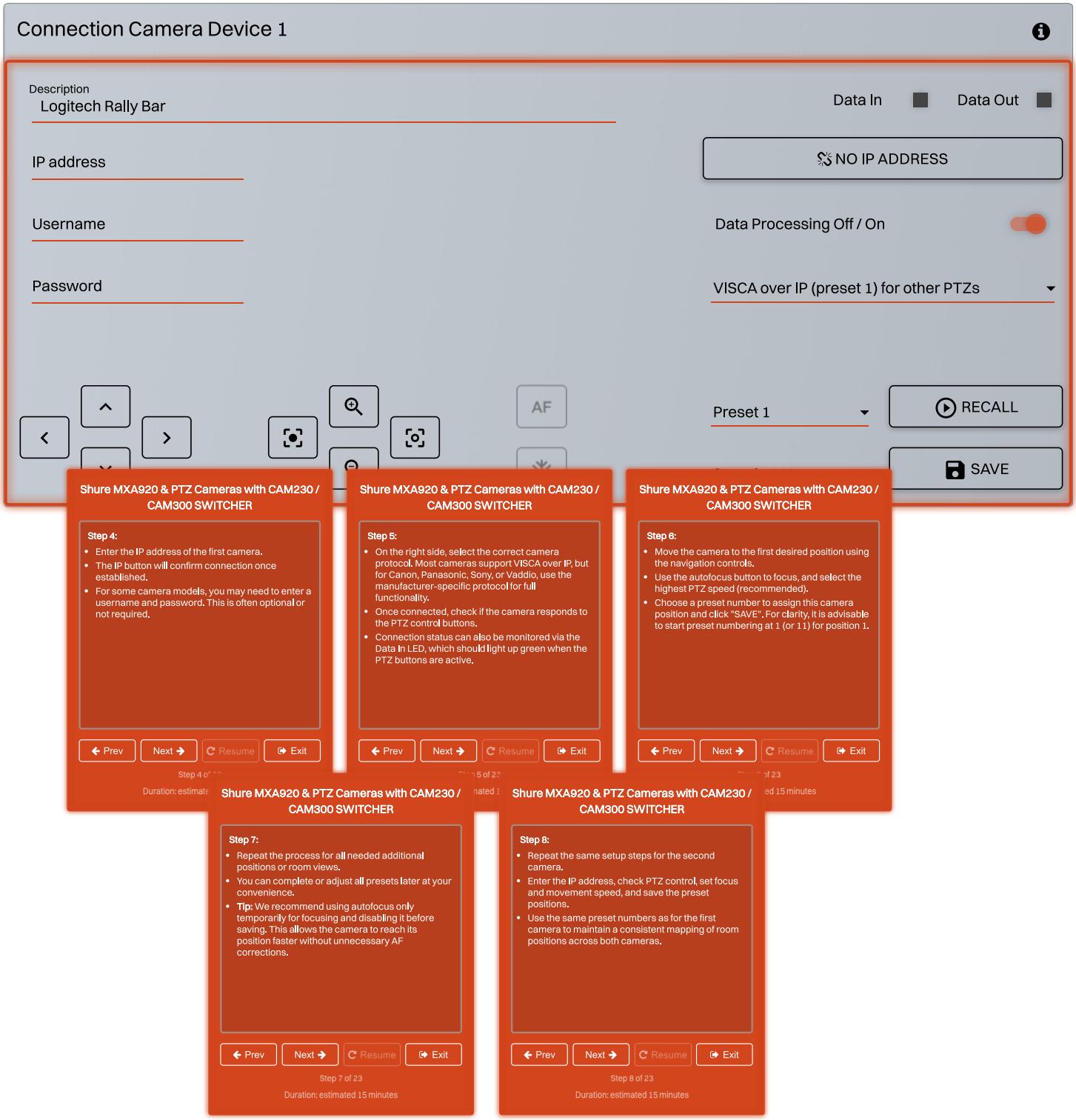
The device implements a setup assistant to help user to guide them through the configuration process of the installation. Here is an example of setting up a room with 2x PTZ cameras along with an INOGENI CAM300 with a connection to a SHURE MXA920 microphone ceiling tile for automatic camera switching.

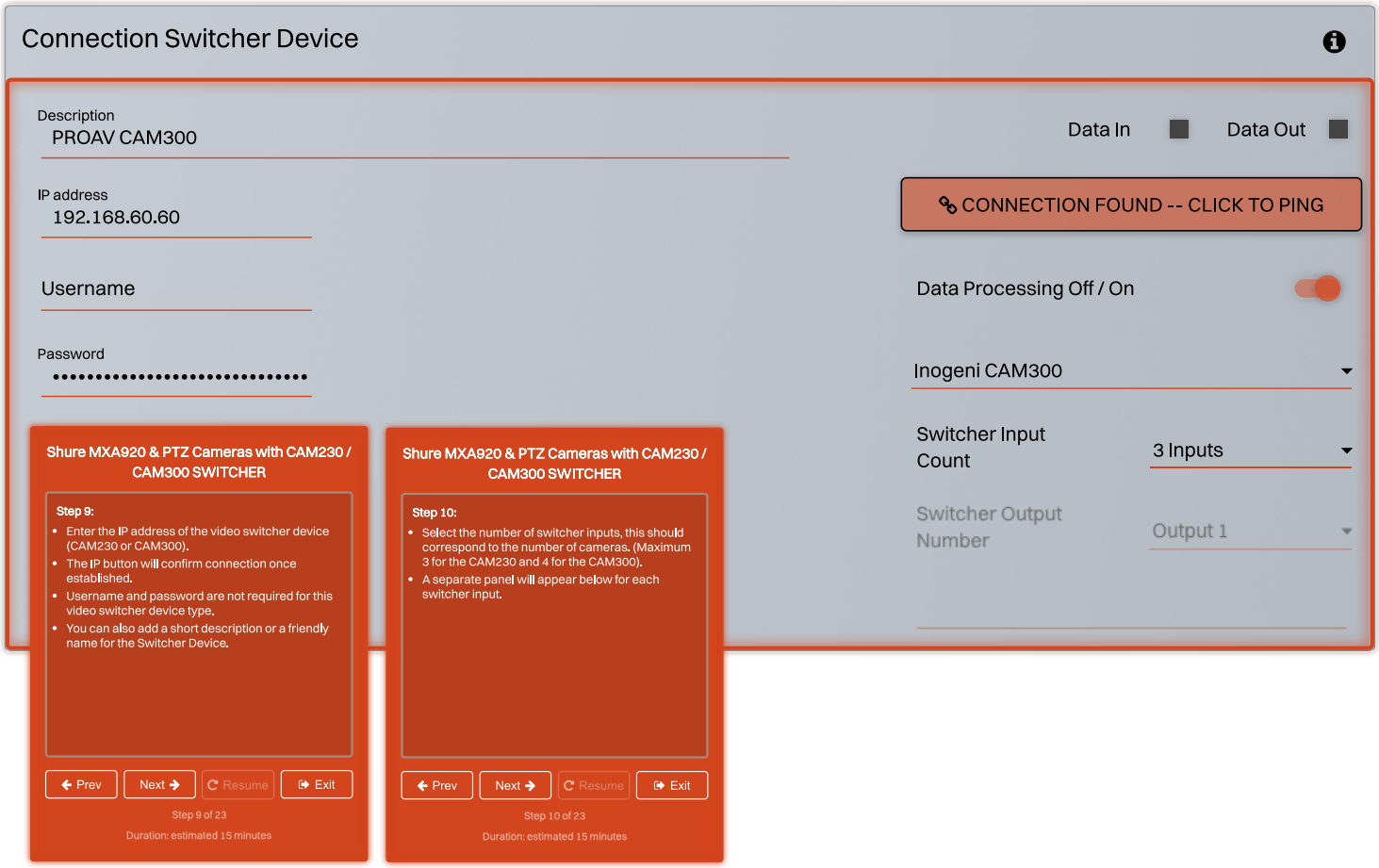
Configuration steps:

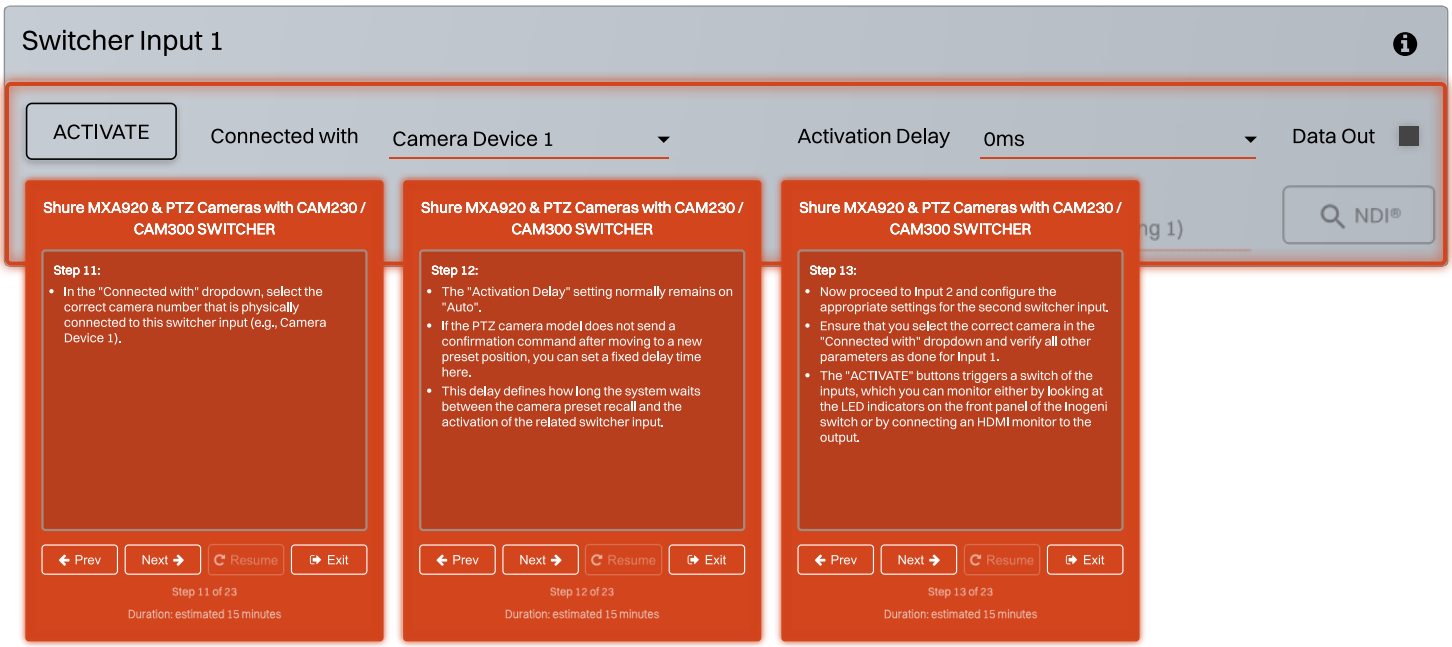


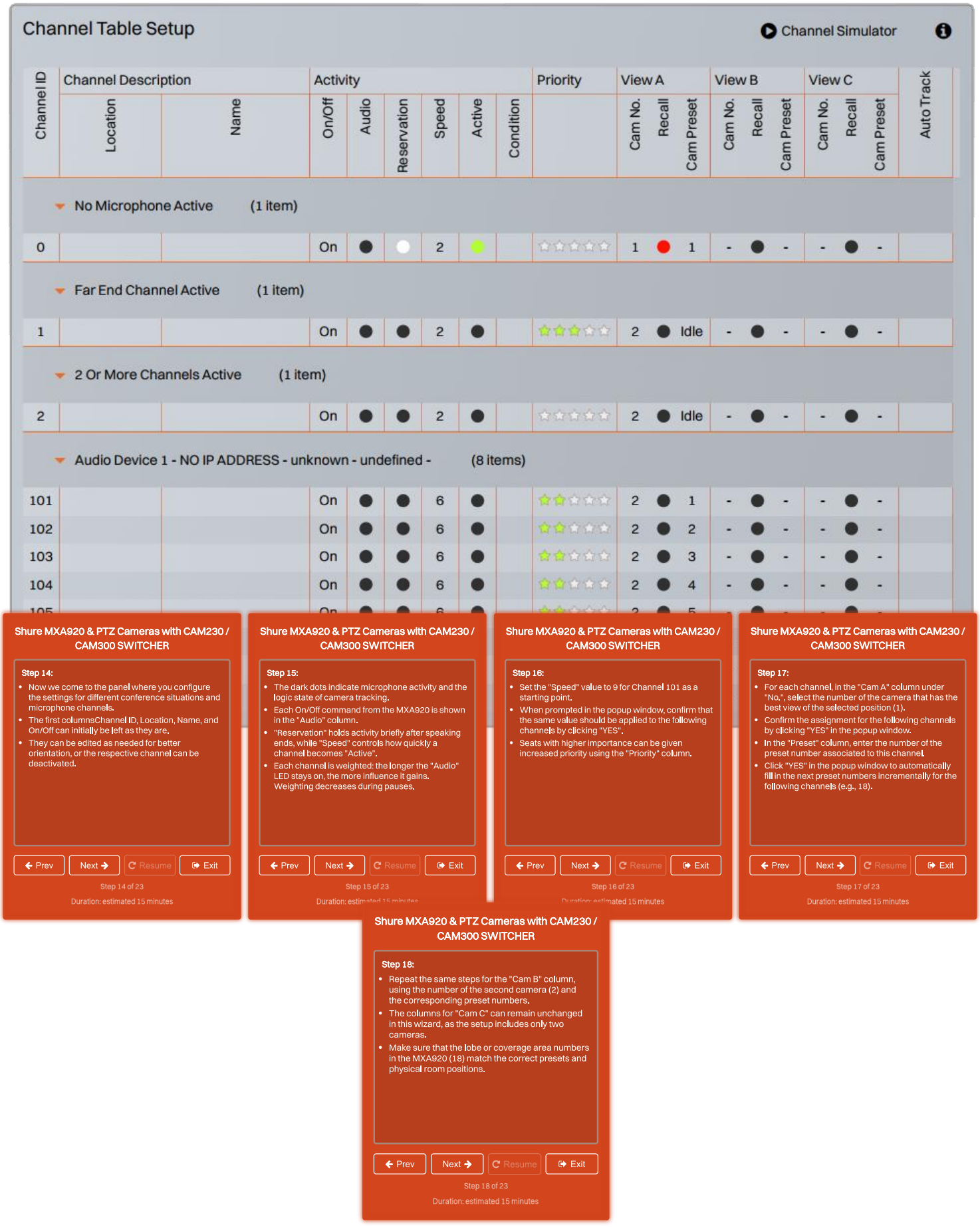


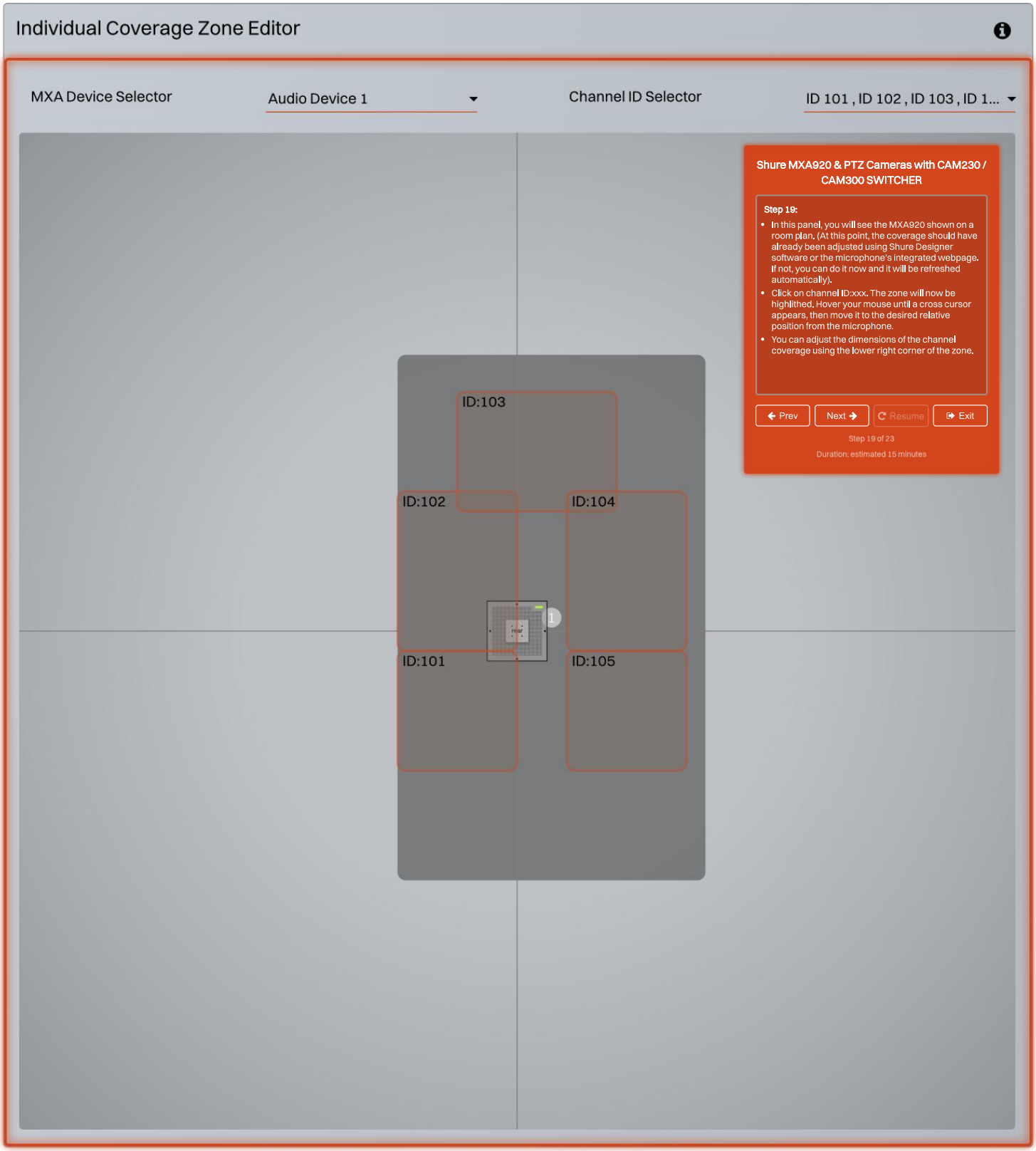


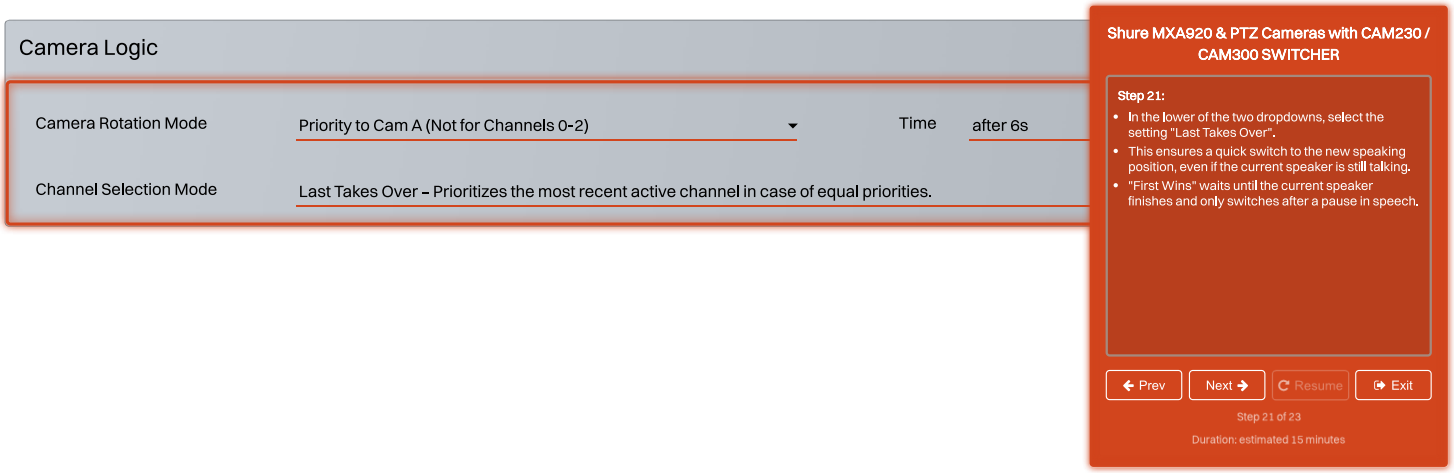

Connection Camera Device 1
Description
Logitech Rally Bar
Data In
Data Out
IP address
NO IP ADDRESS
Username
Data Processing Off / On
Password
VISCA over IP (preset 1) for other PTZs
AF
Preset 1
RECALL
SAVE
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 4:
Enter the IP address of the first camera.
The IP button will confirm connection once established.
For some camera models, you may need to enter a username and password. This is often optional or not required.
Prev
Next
Resume
Exit
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 5:
On the right side, select the correct camera protocol. Most cameras support VISCA over IP, but for Canon, Panasonic, Sony, or Vaddio, use the manufacturer-specific protocol for full functionality.
Once connected, check if the camera responds to the PTZ control buttons.
Connection status can also be monitored via the Data In LED, which should light up green when the PTZ buttons are active.
Prev
Next
Resume
Exit
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 6:
Move the camera to the first desired position using the navigation controls.
Use the autofocus button to focus, and select the highest PTZ speed (recommended).
Choose a preset number to assign this camera position and click "SAVE". For clarity, it is advisable to start preset numbering at 1 (or 11) for position 1.
Prev
Next
Resume
Exit
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 7:
Repeat the process for all needed additional positions or room views.
You can complete or adjust all presets later at your convenience.
Tip: We recommend using autofocus only temporarily for focusing and disabling it before saving. This allows the camera to reach its position faster without unnecessary AF corrections.
Prev
Next
Resume
Exit
Step 7 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 8:
Repeat the same setup steps for the second camera.
Enter the IP address, check PTZ control, set focus and movement speed, and save the preset positions.
Use the same preset numbers as for the first camera to maintain a consistent mapping of room positions across both cameras.
Prev
Next
Resume
Exit
Step 8 of 23
Duration: estimated 15 minutes

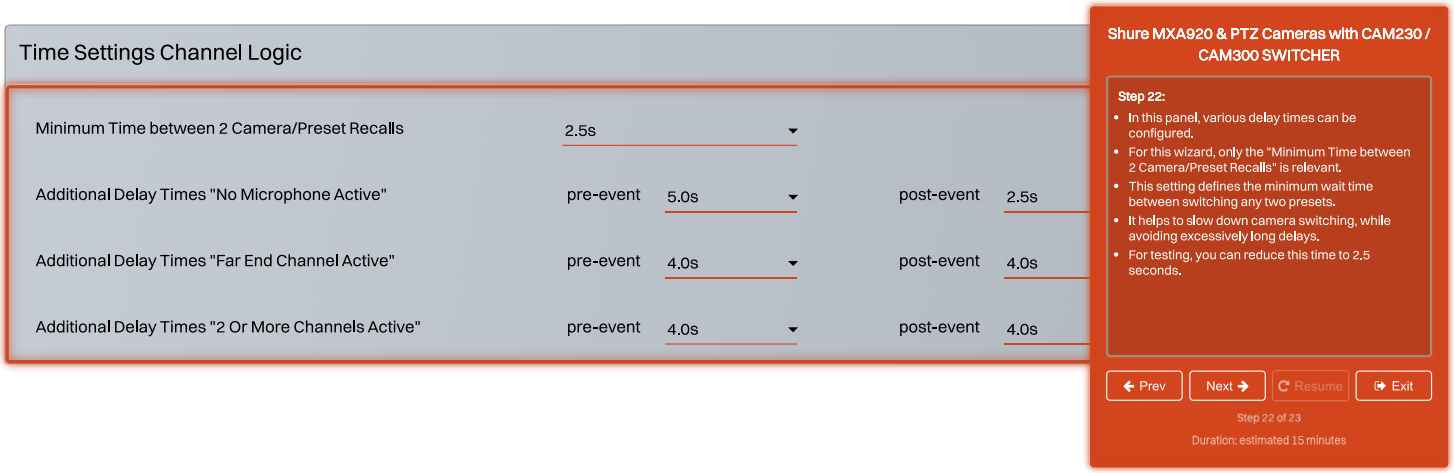

Connection Switcher Device
Description
PROAV CAM300
Data In
Data Out
IP address
192.168.60.60
CONNECTION FOUND -- CLICK TO PING
Username
Data Processing Off / On
Password
Inogeni CAM300
Switcher Input Count
3 Inputs
Switcher Output Number
Output 1
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 9:
Enter the IP address of the video switcher device (CAM230 or CAM300).
The IP button will confirm connection once established.
Username and password are not required for this video switcher device type.
You can also add a short description or a friendly name for the Switcher Device.
Prev
Next
Resume
Exit
Step 9 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 10:
Select the number of switcher inputs, this should correspond to the number of cameras. (Maximum 3 for the CAM230 and 4 for the CAM300).
A separate panel will appear below for each switcher input.
Prev
Next
Resume
Exit
Step 10 of 23
Duration: estimated 15 minutes

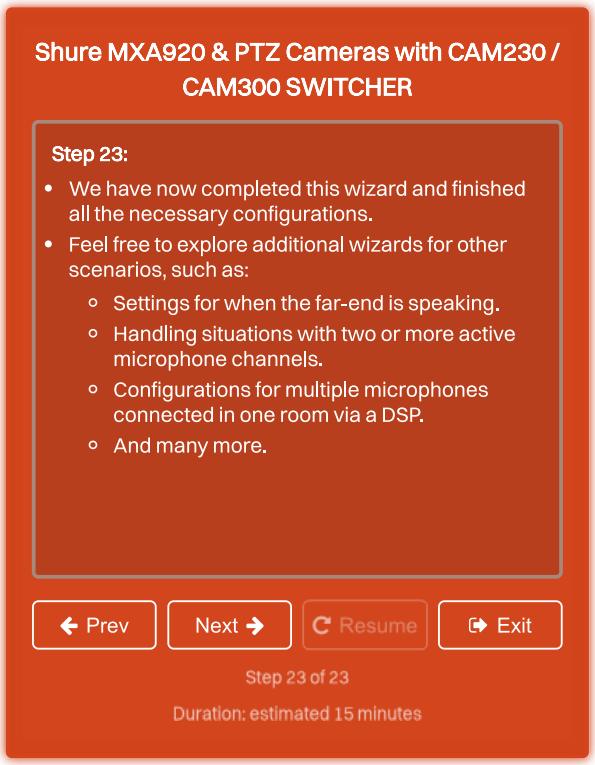

Switcher Input 1
ACTIVATE
Connected with
Camera Device 1
Activation Delay
0ms
Data Out
NDI®
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 11:
In the "Connected with" dropdown, select the correct camera number that is physically connected to this switcher input (e.g., Camera Device 1).
Prev
Next
Resume
Exit
Step 11 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 12:
The "Activation Delay" setting normally remains on "Auto".
If the PTZ camera model does not send a confirmation command after moving to a new preset position, you can set a fixed delay time here.
This delay defines how long the system waits between the camera preset recall and the activation of the related switcher input.
Prev
Next
Resume
Exit
Step 12 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 13:
Now proceed to Input 2 and configure the appropriate settings for the second switcher input.
Ensure that you select the correct camera in the "Connected with" dropdown and verify all other parameters as done for Input 1.
The "ACTIVATE" buttons triggers a switch of the inputs, which you can monitor either by looking at the LED indicators on the front panel of the Inogeni switch or by connecting an HDMI monitor to the output.
Prev
Next
Resume
Exit
Step 13 of 23
Duration: estimated 15 minutes


Channel Table Setup
Channel Simulator
Channel ID
Channel Description
Location
Name
Activity
On/Off
Audio
Reservation
Speed
Active
Condition
Priority
View A
Cam No.
Recall
Cam Preset
View B
Cam No.
Recall
Cam Preset
View C
Cam No.
Recall
Cam Preset
Auto Track
No Microphone Active (1 item)
0 On 2 1 1
Far End Channel Active (1 item)
1 On 2 2 Idle
2 Or More Channels Active (1 item)
2 On 2 2 Idle
Audio Device 1 - NO IP ADDRESS - unknown - undefined - (8 items)
101 On 6 2 1
102 On 6 2 2
103 On 6 2 3
104 On 6 2 4
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 14:
Now we come to the panel where you configure the settings for different conference situations and microphone channels.
The first columnsChannel ID, Location, Name, and On/Off can initially be left as they are.
They can be edited as needed for better orientation, or the respective channel can be deactivated.
Prev
Next
Resume
Exit
Step 14 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 15:
The dark dots indicate microphone activity and the logic state of camera tracking.
Each On/Off command from the MXA920 is shown in the "Audio" column.
"Reservation" holds activity briefly after speaking ends, while "Speed" controls how quickly a channel becomes "Active".
Each channel is weighted: the longer the "Audio" LED stays on, the more influence it gains. Weighting decreases during pauses.
Prev
Next
Resume
Exit
Step 15 of 23
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 16:
Set the "Speed" value to 9 for Channel 101 as a starting point.
When prompted in the popup window, confirm that the same value should be applied to the following channels by clicking "YES".
Seats with higher importance can be given increased priority using the "Priority" column.
Prev
Next
Resume
Exit
Step 16 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 17:
For each channel, in the "Cam A" column under "No.", select the number of the camera that has the best view of the selected position (1).
Confirm the assignment for the following channels by clicking "YES" in the popup window.
In the "Preset" column, enter the number of the preset number associated to this channel.
Click "YES" in the popup window to automatically fill in the next preset numbers incrementally for the following channels (e.g., 18).
Prev
Next
Resume
Exit
Step 17 of 23
Duration: estimated 15 minutes
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 18:
Repeat the same steps for the "Cam B" column, using the number of the second camera (2) and the corresponding preset numbers.
The columns for "Cam C" can remain unchanged in this wizard, as the setup includes only two cameras.
Make sure that the lobe or coverage area numbers in the MXA920 (18) match the correct presets and physical room positions.
Prev
Next
Resume
Exit
Step 18 of 23
Duration: estimated 15 minutes


Individual Coverage Zone Editor
MXA Device Selector
Audio Device 1
Channel ID Selector
ID 101 , ID 102 , ID 103 , ID 1...
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 19:
In this panel, you will see the MXA920 shown on a room plan. (At this point, the coverage should have already been adjusted using Shure Designer software or the microphone's integrated webpage. If not, you can do it now and it will be refreshed automatically).
Click on channel ID:xxx. The zone will now be highlithed. Hover your mouse until a cross cursor appears, then move it to the desired relative position from the microphone.
You can adjust the dimensions of the channel coverage using the lower right corner of the zone.
Prev
Next
Resume
Exit
Step 19 of 23
Duration: estimated 15 minutes
ID:103
ID:102
ID:104
ID:101
ID:105
rear
1


Camera Logic
Camera Rotation Mode
Priority to Cam A (Not for Channels 0-2)
Time
after 6s
Channel Selection Mode
Last Takes Over – Prioritizes the most recent active channel in case of equal priorities.
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 21:
In the lower of the two dropdowns, select the setting "Last Takes Over".
This ensures a quick switch to the new speaking position, even if the current speaker is still talking.
"First Wins" waits until the current speaker finishes and only switches after a pause in speech.
Prev
Next
Resume
Exit
Step 21 of 23
Duration: estimated 15 minutes


Time Settings Channel Logic
Minimum Time between 2 Camera/Preset Recalls
2.5s
Additional Delay Times "No Microphone Active"
pre-event
5.0s
post-event
2.5s
Additional Delay Times "Far End Channel Active"
pre-event
4.0s
post-event
4.0s
Additional Delay Times "2 Or More Channels Active"
pre-event
4.0s
post-event
4.0s
Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 22:
In this panel, various delay times can be configured.
For this wizard, only the "Minimum Time between 2 Camera/Preset Recalls" is relevant.
This setting defines the minimum wait time between switching any two presets.
It helps to slow down camera switching, while avoiding excessively long delays.
For testing, you can reduce this time to 2.5 seconds.
Prev
Next
Resume
Exit
Step 22 of 23
Duration: estimated 15 minutes

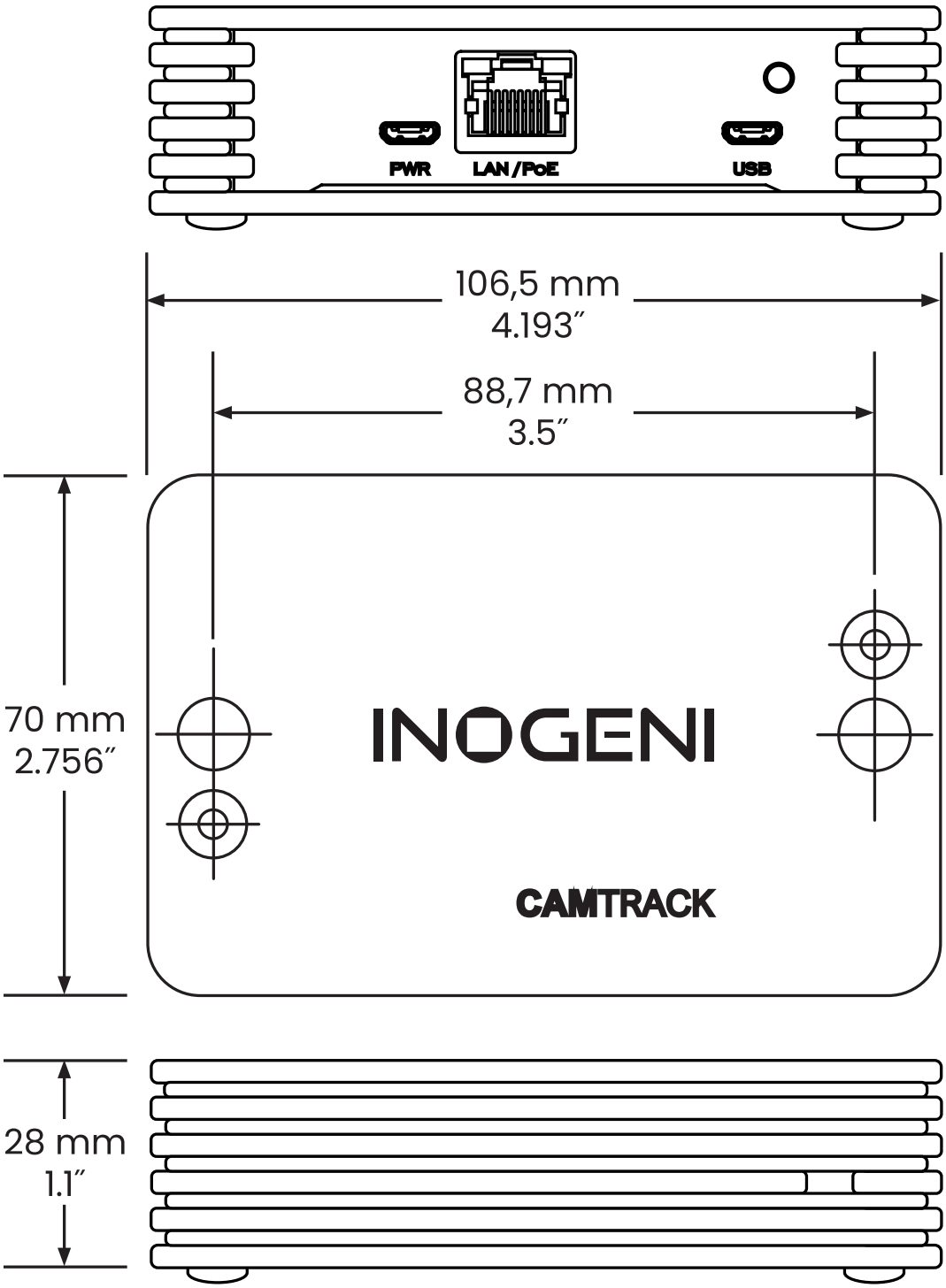

Shure MXA920 & PTZ Cameras with CAM230 / CAM300 SWITCHER
Step 23:
We have now completed this wizard and finished all the necessary configurations.
Feel free to explore additional wizards for other scenarios, such as:
Settings for when the far-end is speaking.
Handling situations with two or more active microphone channels.
Configurations for multiple microphones connected in one room via a DSP.
And many more.
Prev
Next
Resume
Exit
Step 23 of 23
Duration: estimated 15 minutes

API

The device offers a variety of communication options, supporting HTTP, WebSocket, and TCP/IP communication. The complete API documentation is available on product web page.

MECHANICAL SPECIFICATION

You can find the mechanical specification of the device. All dimensions are in **mm [in]**.



SUPPORT

Engineered by video professionals, for video professionals, it is your most compatible USB 3.0 device. INOGENI expertise at your fingertips:

- **Expert Technical Support team** at support@inogeni.com for immediate help or if you have any technical question about our products.
- Extensive **Knowledge Base** to learn from other customers' experiences.

INOGENI, Inc.
1045 Avenue Wilfrid-Pelletier
Suite 101
Québec, QC, Canada, G1W0C6
(418) 651-3383

CERTIFICATIONS

FCC Radio Frequency Interference Statement Warning
This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received including interference that may cause undesired operation.

IC Statement
This Class A digital apparatus complies with Canadian CAN ICES-3(A)/NMB-3(A).

CE Statement
We, INOGENI Inc., declare under our sole responsibility that this product, to which this declaration relates, is in conformity with European Standards EN 55032, EN 55035, and RoHS Directive 2011/65/EU + 2015/863/EU.

UKCA Statement
This device is compliant with the Electromagnetic Compatibility Regulations 2016 No. 1091 as part of the requirements leading to the UKCA marking.

WEEE Statement
The European Union has established regulations for the collection and recycling of all waste electrical and electronic equipment (WEEE). Implementation of WEEE regulations may vary slightly by individual EU member states. Please check with your local and state government guidelines for safe disposal and recycling or contact your national WEEE recycling agency for more information.

RCM Statement
This device is compliant with Regulator Compliance Mark (RCM) certification.