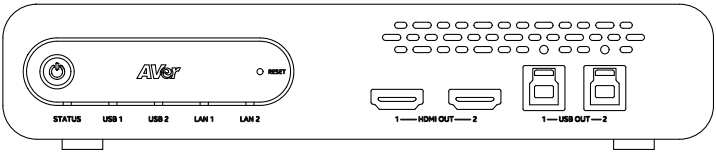

MT300/MT300N

Matrix Tracking Box

— User Manual —

Firmware 0.2.0000.92

Federal Communication Commission

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radiofrequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

PSTI Statement of Compliance

Please refer to the following website: https://www.aver.com/product-security-advisory

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Caution

Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

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More Help

For FAQs, technical support, software and user manual download, please visit:

Non-USA

Download Center: https://www.aver.com/download-center

Technical Support: https://www.aver.com/technical-support

USA

Download Center: https://www.averusa.com/support/

Technical Support: https://averusa.force.com/support/s/contactsupport

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Overview

The MT300 is a multi-camera matrix box with integrated voice-tracking technology. Three built-in modes—Live Mode, Manual Mode, and Auto Mode— help you present video feeds in a single, composited stream, while supported AVer cameras automatically switch views based on the active speaker's position.

Compare Modes

- **Live Mode:** Preview live video and control PTZ. Settings are not saved, making it suitable for on-the-fly operation.
- **Manual Mode:** Save fixed camera presets and output layouts. Supports human tracking.
- **Auto Mode:** Uses two types of voice-tracking technology—based on microphone channels or coordinate-based positioning—to automatically frame the active speaker.

Feature	Live Mode	Manual Mode	Auto Mode - Channel	Auto Mode - Active Position
Live view camera count	4	4	4	–
Profiles	–	36	36	36
Presets	–	256	256	–
AVer camera + microphone groups	–	–	25	–
Human Tracking	–	✓	✓	–
3rd-party microphone integration	–	–	✓	✓
X, Y, Z coordinates input	–	–	–	✓

⚠ When using non-AVer cameras, only Live Mode and Manual Mode are available. Auto Mode (voice tracking) and camera control are not supported.

Understand Human Tracking

Human Tracking includes the following modes:

- Presenter
- Zone
- Segment (supported models)
- Hybrid
- Framing (supported models)

To enable human tracking with Manual Mode and Auto Mode (Channel), make sure you have configured required tracking modes on the camera web interface. Please refer to <Supported AVer Devices> for supported AVer devices and your camera's user manual for tracking mode settings.

Example: Auto Mode (Channel) with Presenter Mode

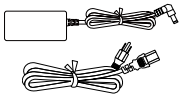
Channel 1 detects voice

Camera moves to preset 1

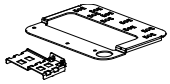
Presenter Mode is turned on

Package Contents

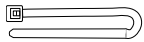
Matrix Tracking Box



Power Adapter & Power Cord



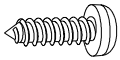
Cable Fixing Plate (x2)



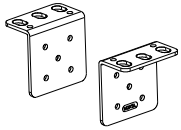
Cable Ties (x13)

3.0 x 5mm
Flat Head Screw (x5)

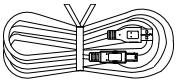
3.0 x 5mm
Truss Head Screw (x4)



M3 x 10mm
Screws (x4)



Rack Mount Bracket (x2)



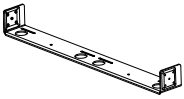
USB 3.0 Cable (x2)
1.5 m/4.92 ft

RS-422 Cable

Quick Start Guide

Warranty Card
(Japan only)

Optional Accessories

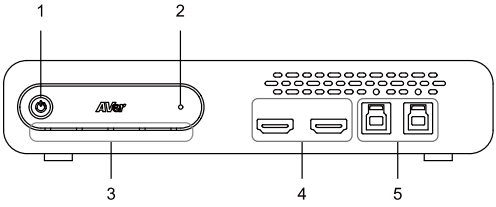


Server Rack Mount

3.0 x 5mm
Flat Head Screw (x3)

3.0 x 5mm
Truss Head Screw (x2)

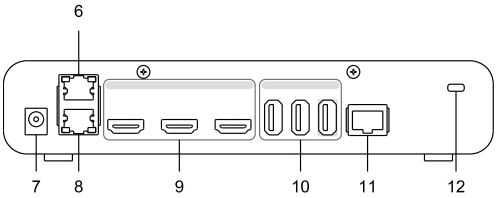
Parts Info



Front View

1. Power Button
2. Reset Button
3. LED Indicators
4. HDMI Out Port (x2)
5. USB Out 3.0 Type-B Port (x2)

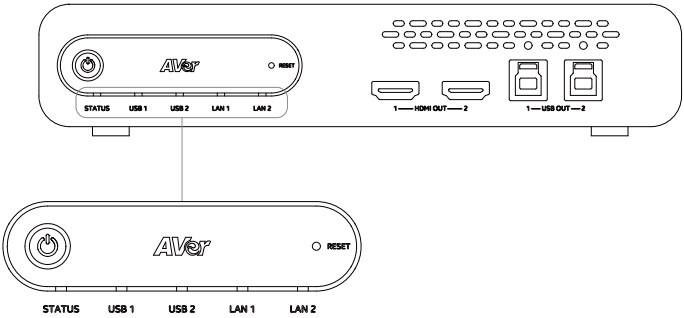
   (single USB out port per use only)



Back View

6. PoE+ Port IEEE 802.3AT
7. DC Power Jack
8. Ethernet Port
9. HDMI In Port (x3)
10. USB In 2.0 Type-A Port (x3)
11. RS-422 Port
12. Kensington Lock

LED Indicators



STATUS

Color	Status
Solid orange	Standby
Solid green	Normal
Flashing green	Firmware upgrade

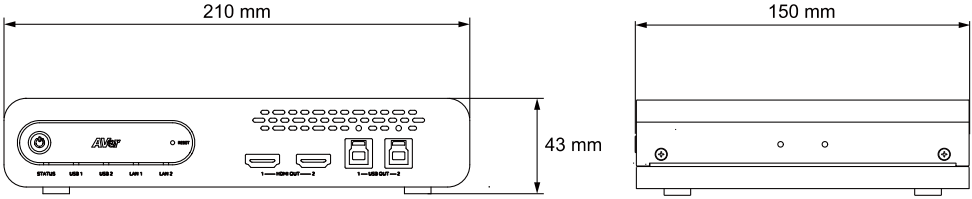
USB 1, USB 2

Color	Status
Solid green	Connected
Flashing green	Streaming

LAN 1, LAN 2

Color	Status
Solid green	Connected

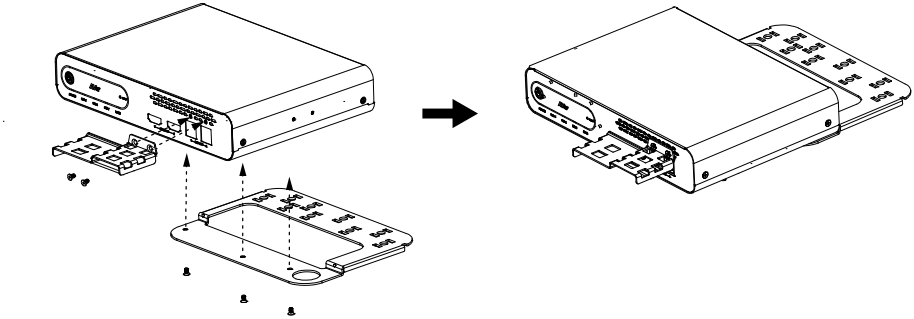
Dimensions



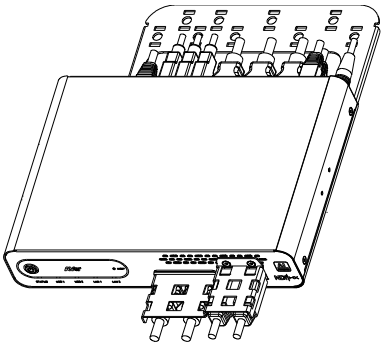
Installation

Cable Fixing Plate Installation

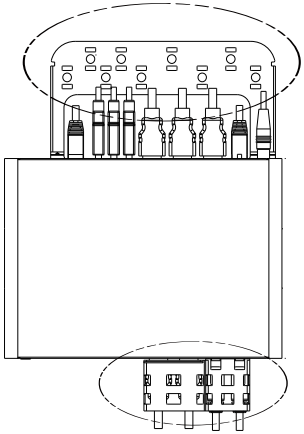
1. Secure the cable fixing plates to the matrix box with 5 flat hat 3.0 x 5 mm screws in the package.



2. Plug in cables.

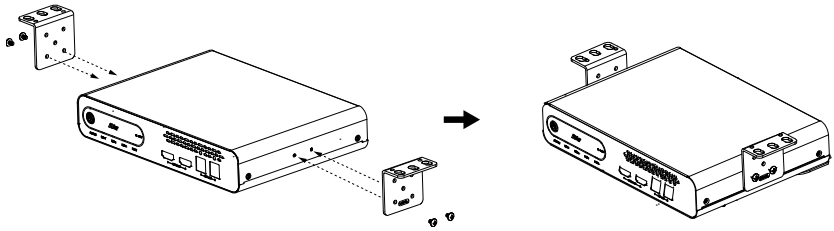


3. Use 13 cable ties in the package to secure the cables and cable fixing plates.

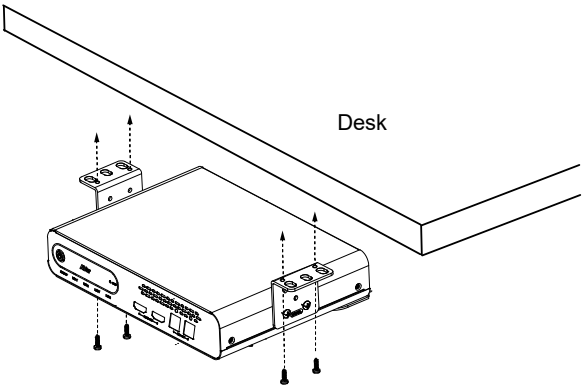


Desk Mount Installation

1. Secure the mount brackets on the matrix box.
   Screw: 4 truss head screws, 3.0 x 5 mm

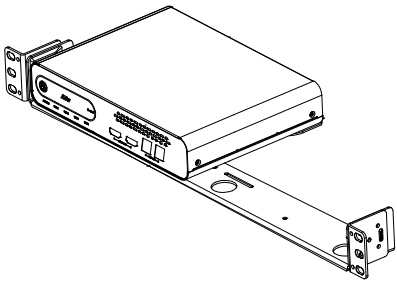


2. Install the mount brackets and the matrix box under the desk.
   Screw: 4 screws, M3 x 10 mm



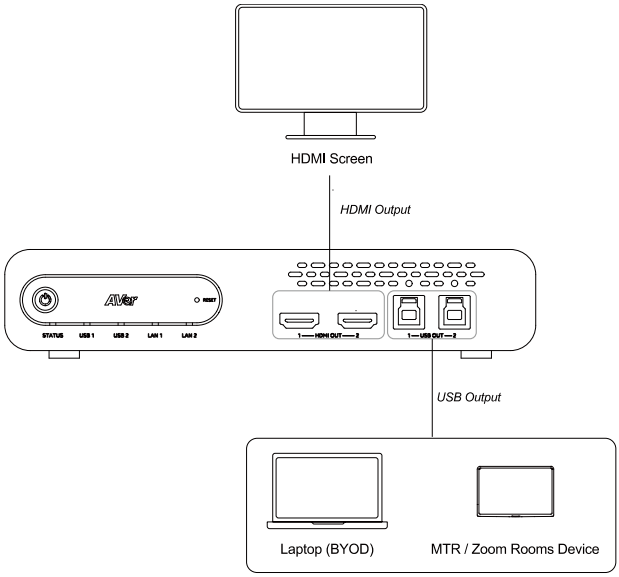
Server Rack Mount (Optional Accessories)

For details on optional accessories, consult your local dealer.

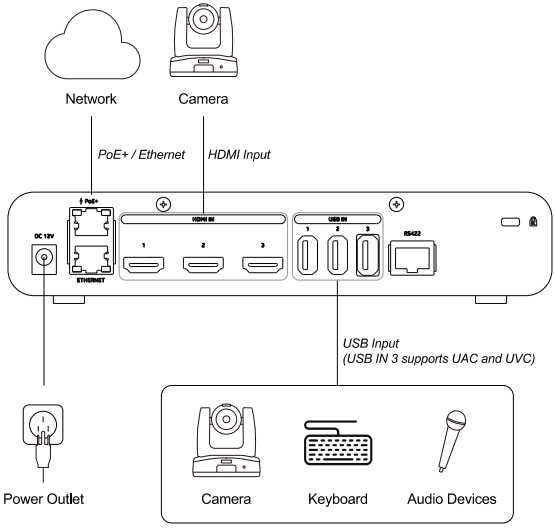


Connections

- **Front Panel**

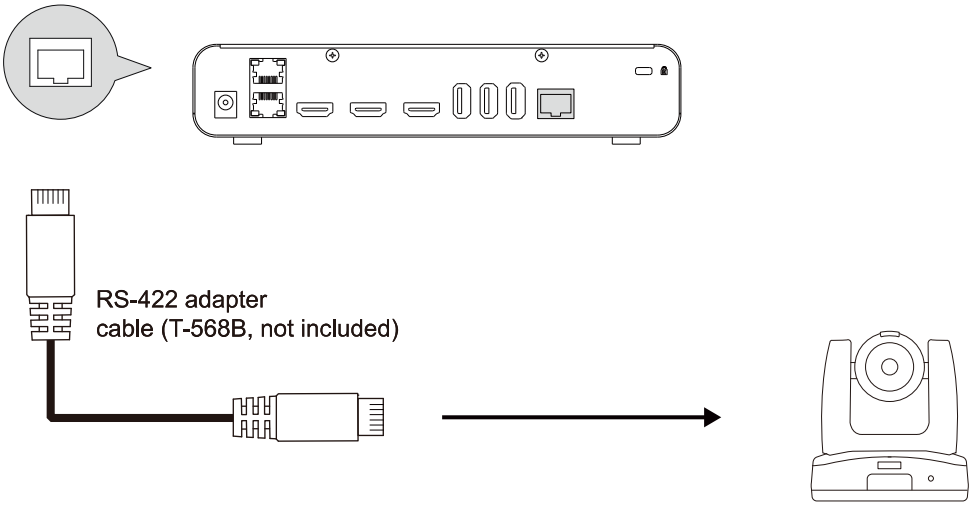


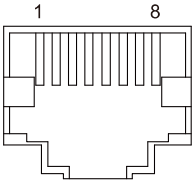
- **Back Panel**



RS-422 Connection

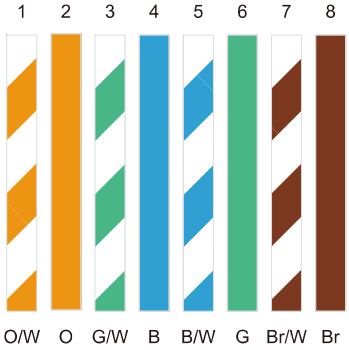
Use an RS-422 adapter cable to make a RS-422 connection to your control device.



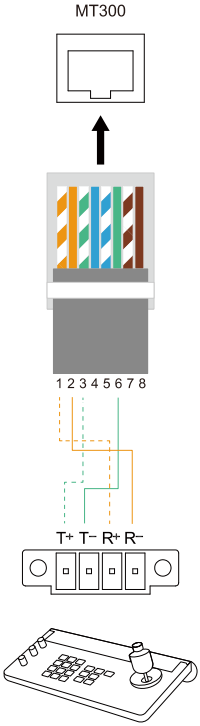


Pin #	Pin
1	TX+
2	TX-
3	RX+
4	TX+
5	TX-
6	RX-
7	RX+
8	RX-

RS-422 Port Pin Definition



T-568B Cable



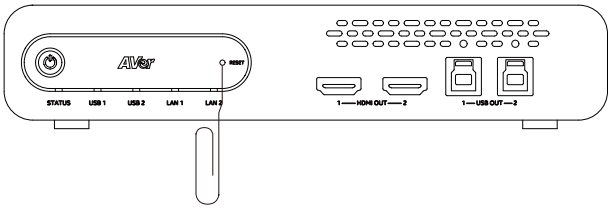
Get Started

Power Your Device

The device automatically powers on when connected to power. No need to press the **power** button ⏻. Press and hold for 5 seconds to enter Standby Mode. Press once to wake up.

Reset Your Device

Insert a paper clip into the reset hole, push in and hold for 5 seconds to reset to the device to factory default settings.



Access the Web Interface

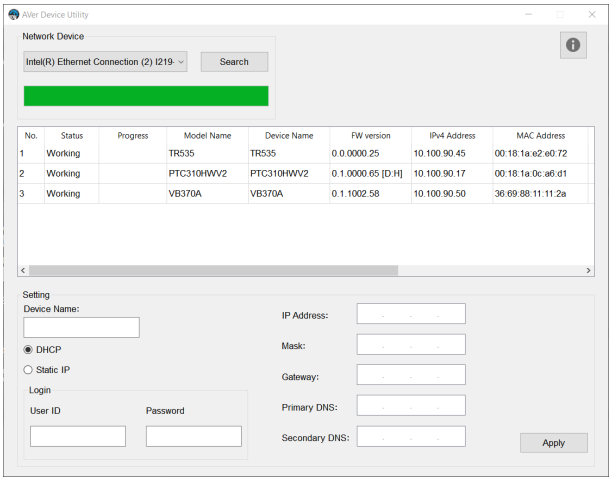
To access the web interface of the Matrix Tracking Box, you can use any of the following software to find its IP address:

- AVer Device Utility
- AVer Enterprise Management

Note:

- The default network setting is as follows:
  PoE+ port: DHCP
  Ethernet port: Static IP 192.168.168.168
- The default username and password is **admin**/**admin**.

AVer Device Utility



To access the web interface:

1. Download AVer Device Utility from AVer Download Center (https://www.aver.com/download-center) and launch the software.

2. Click **Search** to see available devices on the same local area network (LAN).

   Note:

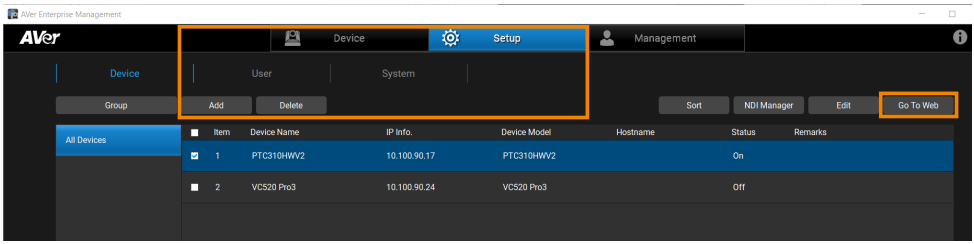
   - Make sure your device is connected to the internet.
   - AVer Device Utility and your device must be on the same LAN.

3. Double-click on your device's IP address in the **IPv4 Address** column to open the web interface in your browser.

To change your network to DHCP or static IP:

1. Select the checkbox of your device.
2. Enter the username and password in the **Login** field.
3. Select **DHCP** or **Static IP**, then enter your network settings if applicable in the **Settings** section.
4. Click **Apply**.

AVer Enterprise Management



Note: AVer Enterprise Management default username and password is **admin**/**admin**.

To access the web interface:

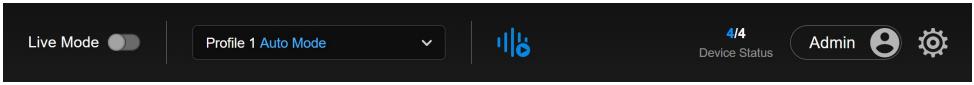
1. Download AVer Enterprise Management from AVer Download Center (https://www.aver.com/download-center) and launch the software.
2. Log in with the default username and password **admin**/**admin**.
3. Go to **Setup** > **Add**, then click **Auto Search** to see available devices on the same local area network (LAN).
4. Click to select your device, enter the username and password, then click **Save** to add the device to the device list.
5. Select the checkbox of your device, then click **Go to Web** button to open the web interface in your browser.

Log in for the First Time

When you log in for the first time, you'll be prompted to change the username and password. The username and password cannot be the same.

- Username: Use 1-32 characters.
- Password: Use 8-32 characters and a combination of uppercase letters, lowercase letters, and, numbers. Symbols (!$%'()*+,-./<=>?@[]^_{}~) are optional.

Homepage



From left to right:

1. **Live Mode Toggle**

2. **Profile**
   Profiles allow you to store and switch between device configurations for Manual Mode and Auto Mode. Refer to <Manage Profiles> for details.

3. **Pause / Resume Voice Tracking**

4. **Device Status**
   Shows the number of online devices / total added devices.

5. **Account**
   Switch between Admin and User roles.
   Users can operate voice tracking but cannot modify settings.

6. **Settings**
   Add devices, configure voice tracking, and manage system settings.

Add, Edit or Delete Devices

You can add up to 25 unique cameras and 25 unique microphones via USB, HDMI and IP.

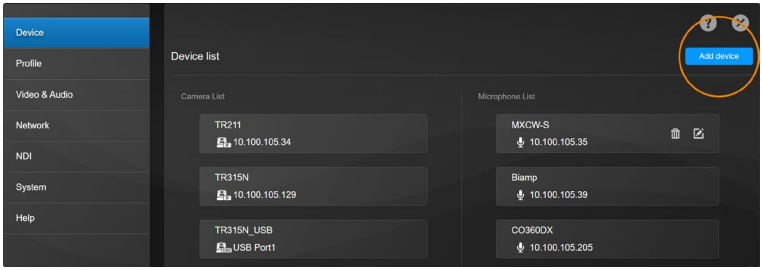
Note: You can create up to 25 groups, but Auto Mode (Channel and Active Position) supports a maximum of 7 unique cameras. Multiple groups can share the same camera.

Camera connection limits:

- IP and/or USB cameras: up to 4
- HDMI cameras: up to 3

To add devices:

1. Access the web interface.
2. Go to **Settings** > **Device** > **Add device**.



3. Fill out the **Add New Device** dialog box:

   - Camera

Item	Description
Select Camera or Microphone	Select camera.
Connect Camera via	Select the camera's connection method. ● USB 3 streams both audio and video, while USB 1 and 2 stream video only. ● HDMI cameras must also be connected via IP to enable PTZ control (IP, RS-422) and human tracking (IP). ● Non-AVer camera via IP supports only Live Mode and Manual Mode. Auto Mode (voice tracking) and PTZ control are not supported.
IP Address	Click **Auto Search** or enter the IP address.
Camera Account	Enter the camera's username and password.
Camera Password	

Streaming via RTSP	• Real-Time Streaming Protocol (RTSP): Ensure both the camera and the receiving device/application support RTSP. Enter the camera's RTSP username and password, if any. • Network Device Interface (NDI): Ensure both the camera and the receiving device/application support NDI. You can optionally assign an NDI group name.
Streaming via NDI	
Device Name	Enter the name you want to display in the device list.

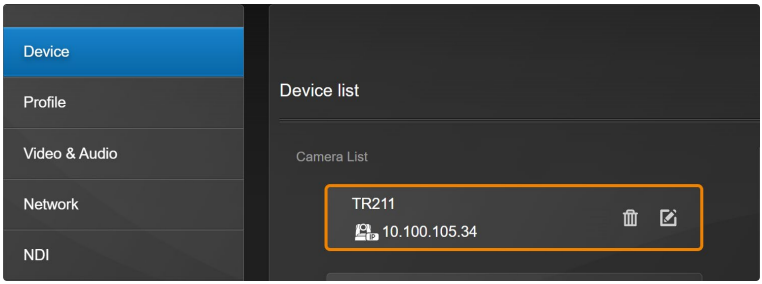
- Microphone

Item	Description
Select Camera or Microphone	Select microphone.
Microphone Brand	Select microphone brand.
IP Address	Enter the IP address.
Device Name	Enter the name you want to display in the device list.

4. Click **Save**.

To edit or delete devices:

1. Hover over the device.
2. Click the **Pencil** icon to edit it. Or click the **Trash can** icon to delete it.



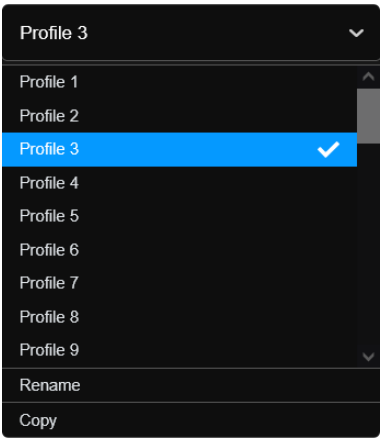
Manage Profiles

Profiles allow you to store and switch between device configurations for Manual Mode and Auto Mode.

You can rename a profile, copy a profile (duplicate), and switch between modes within a profile.

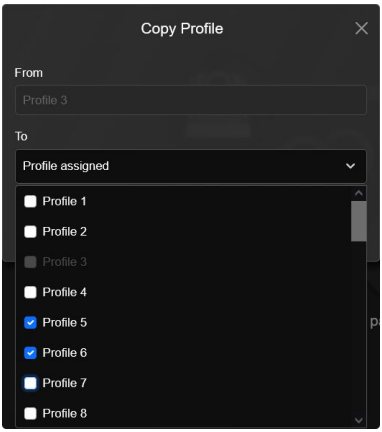
> ⚠ A single profile can store both **Manual Mode** and **Auto Mode** settings, but only one mode can be active at a time.

To rename a profile:



Go to **Settings** > **Profile** > select a profile and click **Rename**.

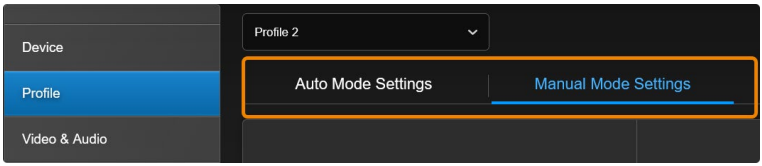
To copy a profile:



1. Go to **Settings** > **Profile** > select a profile you want to copy, and click **Copy**.
2. Select one or more destination profiles, then click **Confirm**.

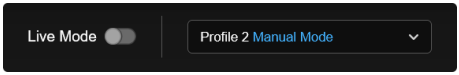
   Note: Any existing configurations in the selected profiles will be overwritten.

To switch between modes within a profile:

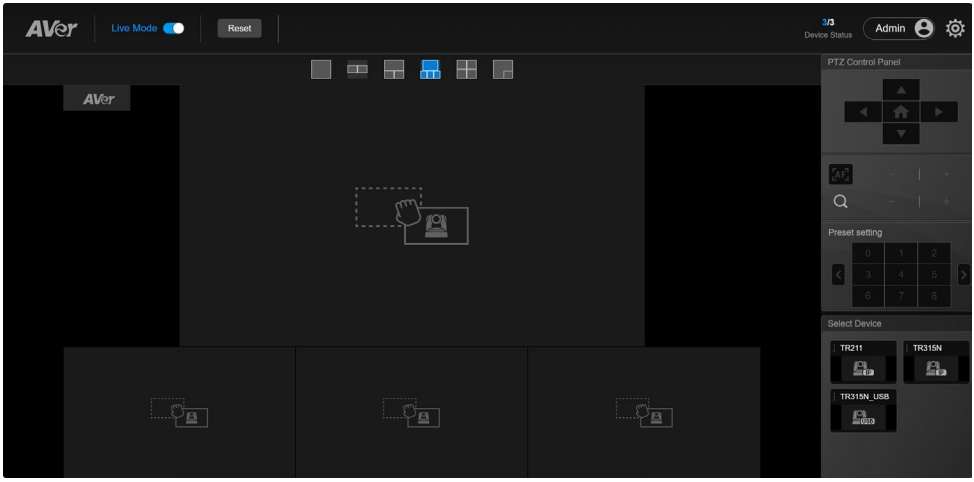


1. Go to **Settings** > **Profile** > click the tab for the mode you want to apply.
2. Click to exit the profile page. Your settings are automatically saved and applied.

   You can confirm the active mode from the on the homepage.



Live Mode

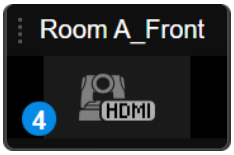


Live Mode lets you preview live video, control PTZ, adjust the video layout, and select audio sources. Settings are not saved, making this mode ideal for temporary or on-the-fly operation.

To set up:

1. Toggle on **Live Mode**.
2. Select an output layout.

3. Drag a camera icon from Select Camera onto the grid. The blue number on each camera icon indicates its position in the layout.

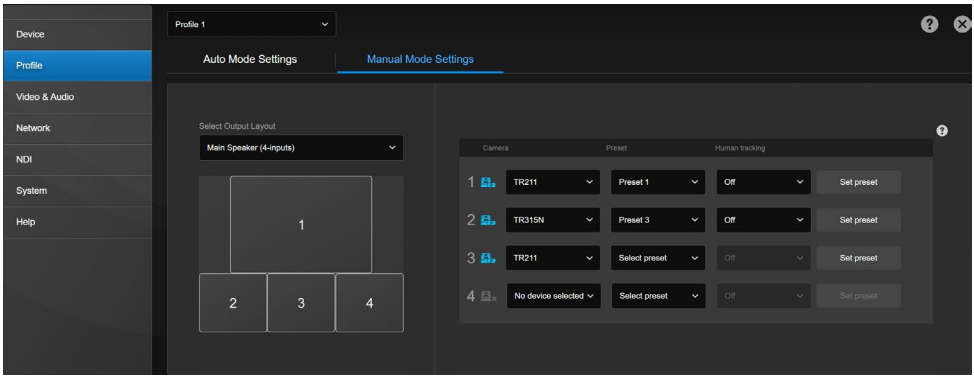


4. To clear the settings, click **Reset**.

To control a camera:

1. Click a grid to select a camera. The selected camera is highlighted with a blue frame, and the PTZ control panel becomes active.
2. Do any of the following:
   - PTZ control
   - Switch between PTZ and wide-angle lenses (TR535/TR535N only): Click the **switch lens** button .
   - Load a preset: Click its preset number.

Manual Mode



Manual Mode allows you to save fixed camera presets and output layouts for the room, and use human tracking to frame the speaker. Before using Manual Mode, make sure the required tracking mode is configured in each camera's web interface.

To set up:

1. Go to **Settings** ⚙ > **Profile** > **Manual Mode Settings**.

2. From the Profile drop-down menu, select the profile you want to save. To rename a profile, select the profile and click **Rename**.

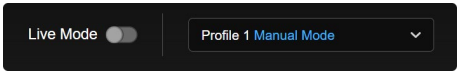
> ⚠ A single profile can store both **Manual Mode** and **Auto Mode** settings, but only one mode can be active at a time. Refer to <Manage Profiles> for details.

3. Select an output layout, then choose the camera, preset, and human tracking mode.

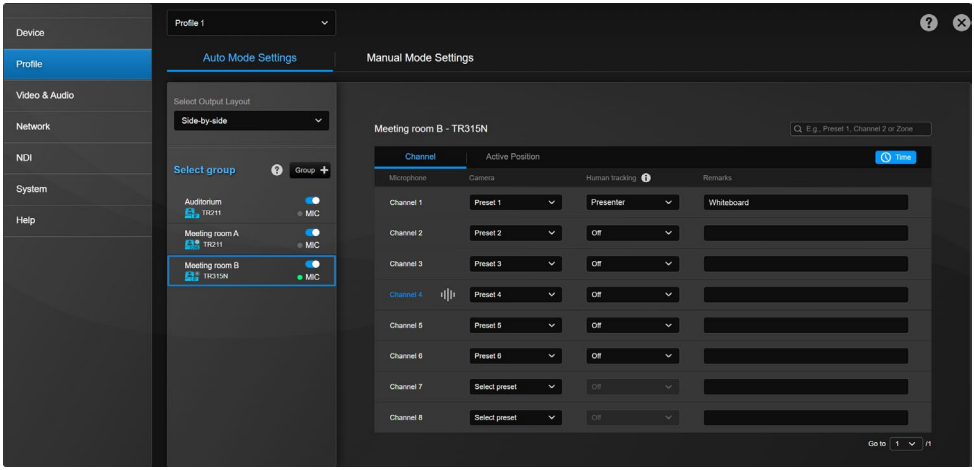
   To add a preset, click **Save preset** > use PTZ control to move the camera > click a preset number > click **Save** > click **Back** to return to the profile page.

4. Click ⊗ to exit the profile page. Your settings are automatically saved and applied.

   You can confirm the active mode from the profile drop-down list on the homepage.



Auto Mode (Channel)



Auto Mode (Channel) integrates supported third-party microphone systems from Audio-Technica, Biamp, Bosch, ClearOne, Nureva, Sennheiser, Shure, and Yamaha. By pairing AVer camera presets with microphone channels, the system uses voice tracking to automatically frame the active speaker.

Note: Third-party microphones may require configuration in their manufacture software. For microphone settings, please refer to <Supported Microphones>.

To set up:

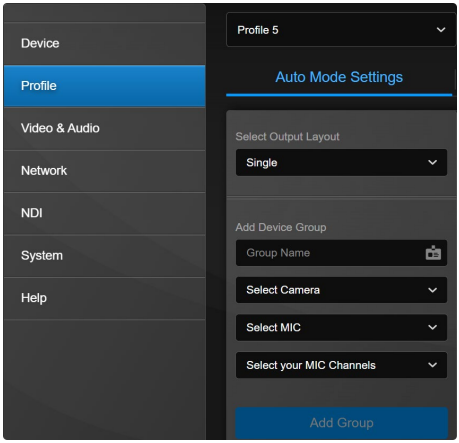
1. Go to **Settings** ⚙ > **Profile** > **Auto Mode Settings**.

2. From the Profile drop-down menu, select the profile you want to save. To rename a profile, select the profile and click **Rename**.

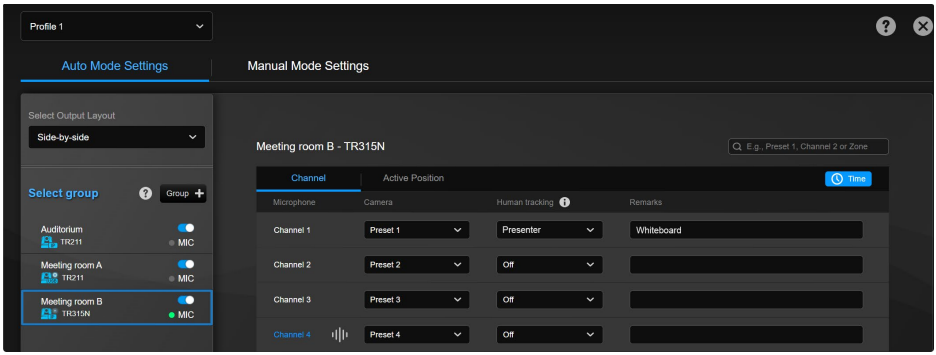
⚠ A single profile can store both **Manual Mode** and **Auto Mode** settings, but only one mode can be active at a time. Refer to <Manage Profiles> for details.

3. Select an output layout, then create groups by pairing the cameras you want with microphones and selecting the number of microphone channels.

Note: You can create up to 25 groups, but Auto Mode (Channel and Active Position) supports a maximum of 7 unique cameras. Multiple groups can share the same camera.



4. Newly created groups appear under **Select Group**. Click Group + to add additional groups.

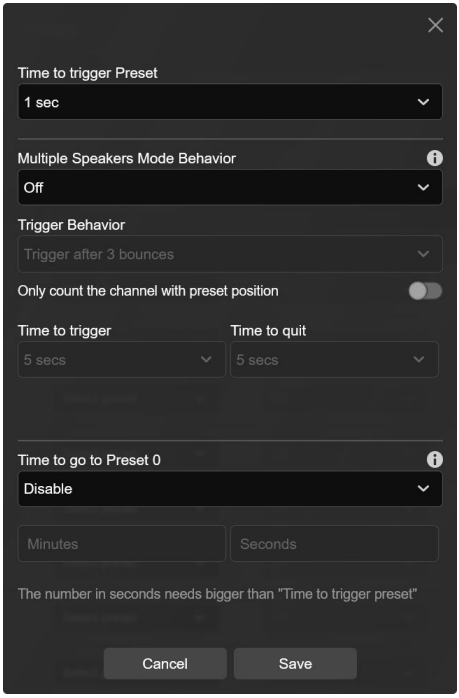


5. Create presets and pair them with microphone channels.

Use the camera remote or click the group's hamburger menu ≡ > **Set preset** to create presets according to the seating arrangement. Then pair each preset with the appropriate microphone channel.

6. If you are using Shure MXA920/925 microphones, configure lobes or coverage areas in the Shure software. Refer to <Supported Microphones> for instructions.

7. (Optional) Click Time to set a delay before the camera moves to a preset.

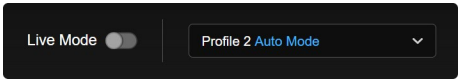


Item	Description
Time to trigger Preset	The group's camera moves to a preset after the delay time you set.
Multiple Speakers Mode behavior	When the microphone picks up multiple people speaking at the same time, the group's camera moves to preset 0. The purpose of this feature is to frame the whole room instead of switching rapidly between individual speakers. Refer to <Configure Multiple Speakers Mode>.
Time to go to Preset 0	When the microphone picks up no sound, the group's camera moves to preset 0 after the delay time you set. You can optionally choose a different preset other than preset 0 by assigning a priority group. **Note:** The duration of **Time to go to Preset 0** must be longer than **Time to trigger Preset**.

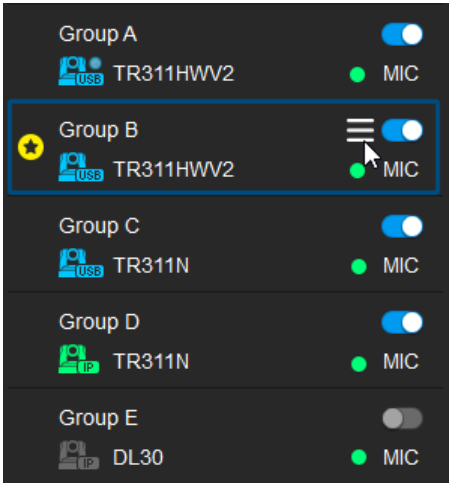
Far end speakers trigger Preset 0 (Sennheiser TCC2/TCCM, Shure P300 only)	When the microphone picks up audio from far-end participants on a video conferencing software, the group's camera moves to preset 0. This purpose of this feature is to show the whole room and prevent false tracking. You can optionally choose a different preset other than preset 0 by assigning a priority group.

8. Click ✕ to exit the profile page. Your settings are automatically saved and applied.

   You can confirm the active mode from the profile drop-down list on the homepage.



Add, Edit or Delete Groups



To add groups:

1. Access the web interface.
2. Go to **Settings** > **Profile** > **Auto Mode Settings** > Click Group +.

To edit or delete groups:

1. Hover over a group.
2. Click the hamburger menu , and do any of the following:
   - Set preset: Add camera presets.
   - Edit group
   - Delete group
   - Group overlay priority: Assign a priority group .
3. (Optional) Toggle a group on or off to enable or disable a group.

Device Status

- Camera

Color	Status
	Camera is sending data to the matrix box
	Device online
	Device offline
	Incorrect account or password

- Microphone

Color	Status
Green	Online
Gray	Offline

Assign a Priority Group

You can assign a priority group for the camera to go to when:

- Multiple groups share a camera.
- Microphone detects no sound (default preset 0).
- Multiple Speakers Mode activates (default preset 0).
- Microphone detects far end speakers (Sennheiser, Shure P300 + MXA920/925 microphones only, default preset 0)

To assign:

1. Hover over a group, then click the hamburger menu .
2. Click **Group overlay priority**.

   A **star** icon will appear next to the priority group.
3. Click **Group overlay priority** again to cancel priority group.

Configure Multiple Speakers Mode

When the microphone picks up multiple people speaking at the same time, the group's camera moves to preset 0. The purpose of this feature is to frame the whole room instead of switching rapidly between individual speakers.

To set up:

1. Go to **Settings** > **Profile** > **Auto Mode Settings** > select a group > click Time.

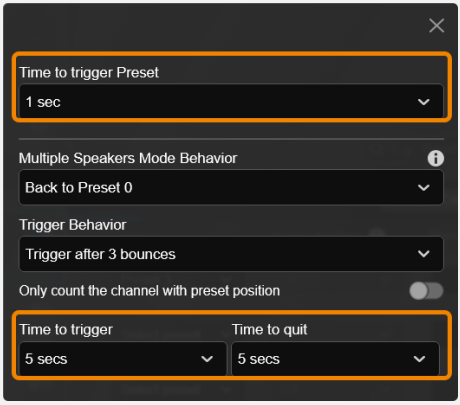
2. Enable the mode by selecting **Back to Preset 0**.

   You can optionally choose a different preset other than preset 0 by assigning a priority group.

3. Depending on your microphone type, set **Trigger Behavior** to adjust how multiple speakers are detected:

Mic Type	Trigger Behavior	Filter Setting (Only count...)
Ceiling	Trigger after 3 bounces (3 different active channels)	• OFF: If you want to include unmapped areas. • ON: If you want to ignore unmapped areas or have high background noise
Gooseneck	Trigger immediately (2+ audio signals)	• OFF: If you want to include unmapped areas. • ON: If you want to ignore unmapped areas.

4. Set **Time to trigger** and **Time to quit** to enter and exit the mode.



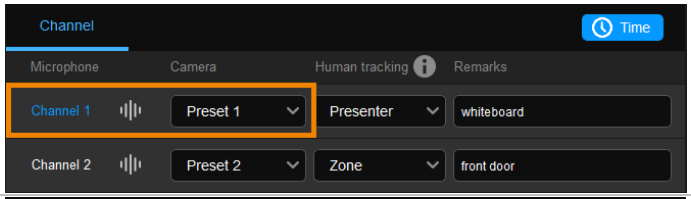
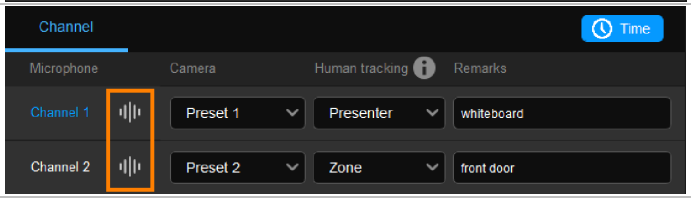
⚠ Set both **Time to trigger** and **Time to quit** to at least 3X the **Time to trigger preset**, so the system has enough time to detect multiple simultaneous speakers.

Understand Active Channels and Audio Signals

The matrix box uses active channels or audio signals based on the microphone type to detect multiple speakers.

- Ceiling microphones use **active channels** because open rooms cause sound to spread out. The system tracks how sound bounces across these virtual zones to recognize when a group discussion is happening.
- Gooseneck microphones use **audio signals** because they are fixed desktop units where spatial tracking isn't necessary.

Appearance in the Web Interface

Type	Example
Active channel (blue)	An active channel indicates the camera's location. 
Audio signal	

Configure Output Layout

Customize your video layout with a Single view, Side-by-side view, Active Speaker view, Picture-in-Picture view, and Customized view. The default setting dynamically adds up to 4 channels and keeps a fixed grid layout, but you can also enable Layout Reduction to hide inactive channels.

Output Layouts

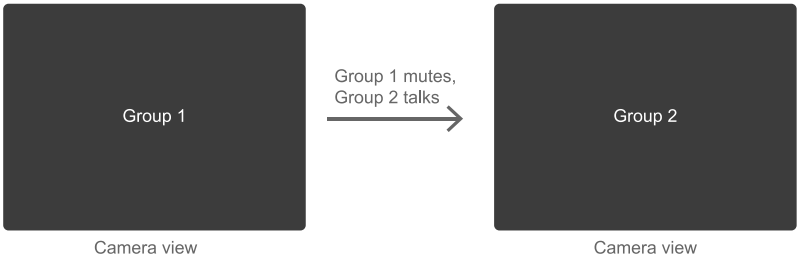
To select an output layout, go to **Settings** > **Profile** > **Auto Mode Settings** > select a group > **Select Output Layout**.

- **Single**

Displays current active channel's camera view in full-screen.

When all channels are muted, it shows the camera view of the first group on the list.

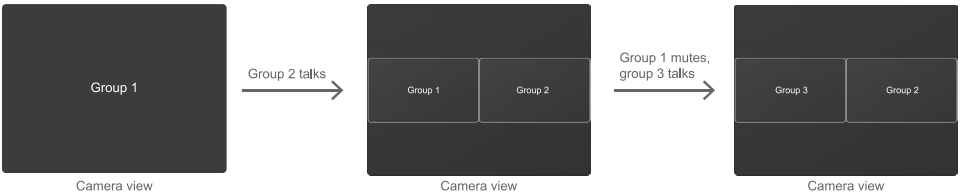
When one channel is muted, the next active channel will take over the full-screen.



- **Side-by-side**

Displays the camera views of two active channels side by side.

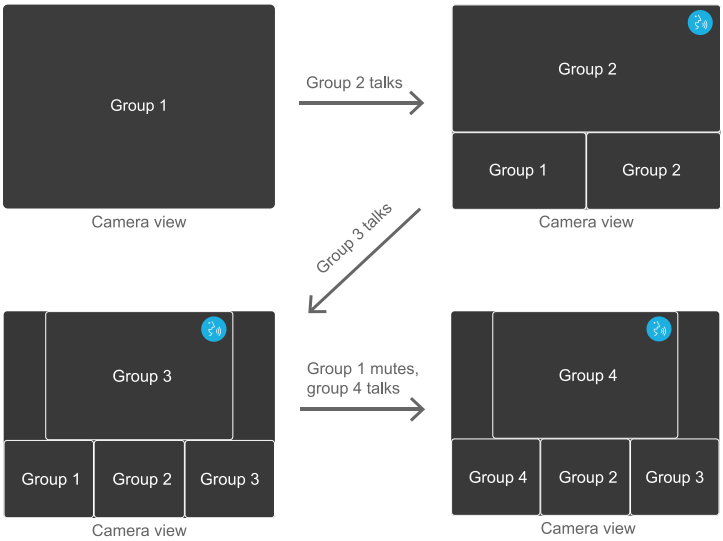
When one channel is muted, the next active channel takes the first available grid.



- **Active Speaker**

Dynamically displays the current active channel in the top large grid, while up to three standby channels appear in smaller grids on the second row.

When one channel is muted, the next active channel takes the first available grid.

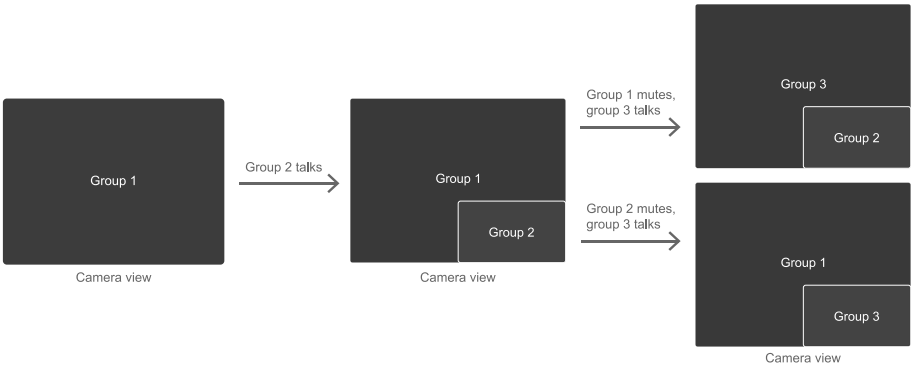


- **Picture-in-Picture (PIP)**

Displays two active channels in full-screen with a smaller grid.

When one channel is muted, the next active channel takes the first available grid.

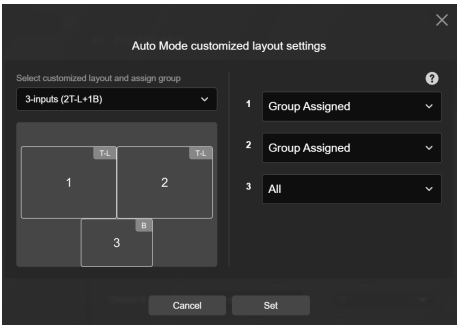
Note: When all channels are muted, it shows the camera view of the first group on the list, sorted alphabetically. To change the order, rename the group accordingly.



- **Customized** *(priority group unavailable)*

1. Select a customized layout from the pop-up window, or click ⚙ next to Customized.

   For a layout without blank space, we recommend using **4-inputs (1T-F+3B)**.



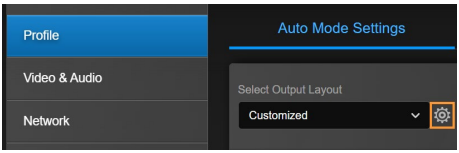
T = Top

L = Large

B = Bottom

F = Full screen (no blank space)

2. Assign one, multiple, or all groups to each grid using the drop-down lists.
   - Newly assigned grids display “Group Assigned” or “All.” Displaying group names are unavailable at this time.
   - When a channel is muted, the next active channel takes its assigned grid.
3. When finished, click **Set**.
4. To edit a customized layout and re-assign groups, click ⚙ next to Customized.



5. (Optional) To disable human tracking for a specific grid, go to **Profile** > **Auto Mode Settings** > select the grid’s group > set every channel’s human tracking to **Off**.

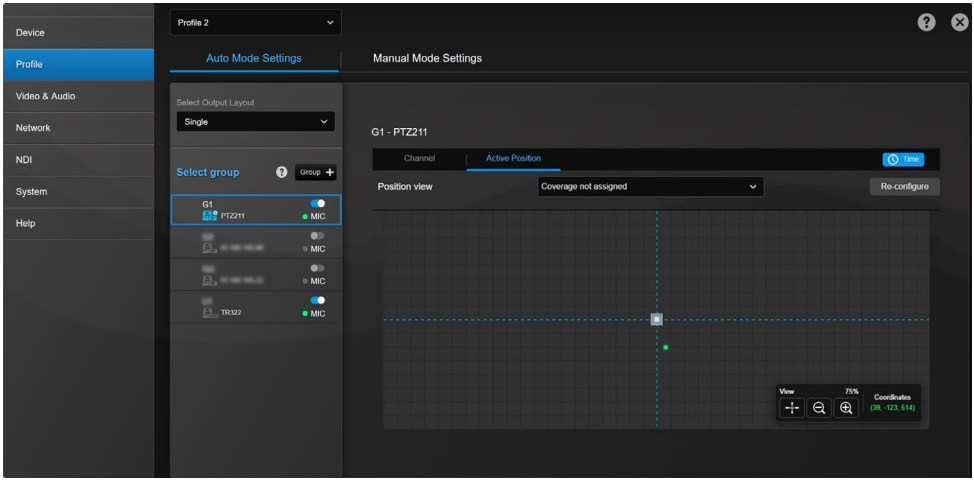
How to Hide Inactive Grids

Hiding inactive channels can reduce the number of grids displayed on the output layout and draw more attention to those who are speaking. You can hide inactive grids for any of the layouts except the Single view and Customized view.

To hide inactive grids, go to **Settings** ⚙ > **Video & Audio** > toggle on **Layout Reduction** and enter a delay time. If a channel is silent after, say 15 seconds (the delay time you set), their grid will be hidden.

Auto Mode (Active Position)

Active Position reports active talker positions from supported microphones in the form of X, Y, Z coordinates to deliver enhanced camera tracking.



Supported Devices

USB- and IP-connected supported AVer Devices

Shure® MXA901 Conferencing Ceiling Array Microphone

Shure® MXA920-S / MXA920-R Ceiling Array Microphone

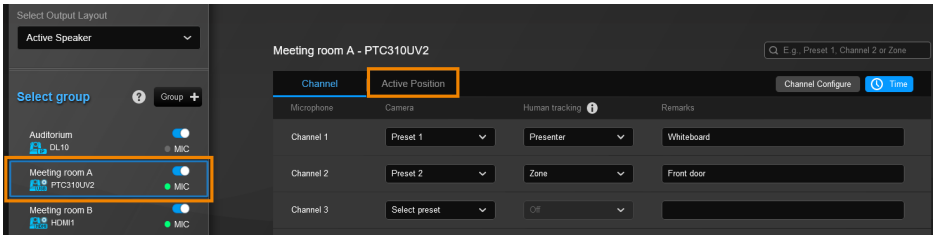
Shure® MXA925-S / MXA925-R Ceiling Array Microphone

Note: For optimal audio tracking performance, you can go to Shure microphone web application to set the height value.

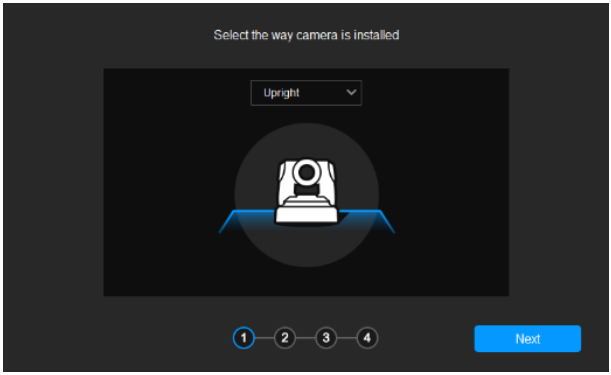
Square Microphone Calibration

1. Make sure the camera has been paired with a microphone.

2. Click to select a device group. A blue frame will indicate that it is selected.

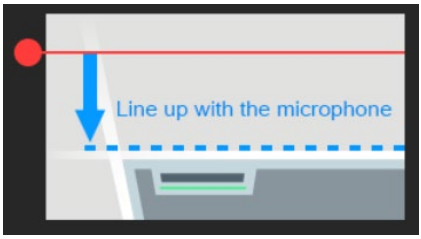


3. Click the **Active Position** tab and follow the setup wizard.
   Click the question mark in the top-right corner for instructions.

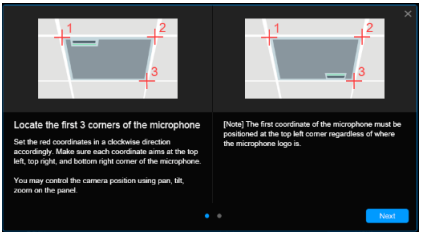


① Drag the red dot to align the red line to the top or bottom edge of the microphone.

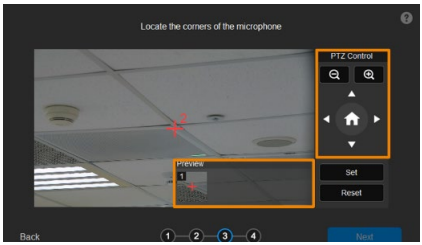
② The microphone doesn't need to be in the center of the live view, as long as the red line is aligned to the edge.
Adjust the camera angle using pan, tilt and zoom controls, if the microphone appears at a slight angle.



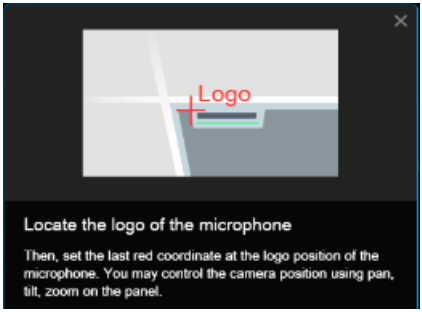
③ Starting from the top left, locate 3 microphone corners in a clockwise direction with a red cross.



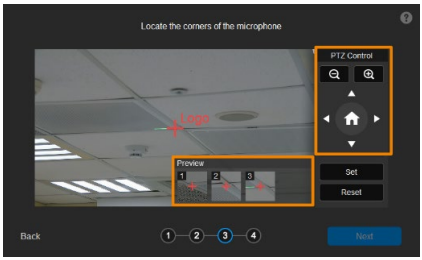
④ Click Set. The saved location will appear in the thumbnail.



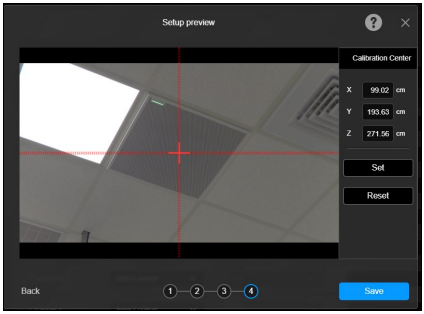
⑤ Finally, locate the logo on the microphone to indicate its orientation. Depending on the microphone orientation, the logo corner may be the same as one of the 3 corners.



⑥ Click Next after locating 3 corners and the logo. Or click Reset to relocate all of them.



⑦ Make sure the red cross appears in the center of the microphone, and click Save. If the red cross appears off center, you can use a laser measure and tweak the initial calibration values (x, y, z) on the right.

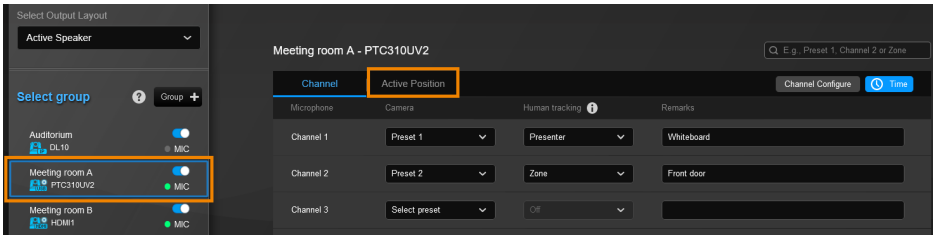


⑧ Click Reset to restore the initial calibration values. Or click Back to reconfigure.

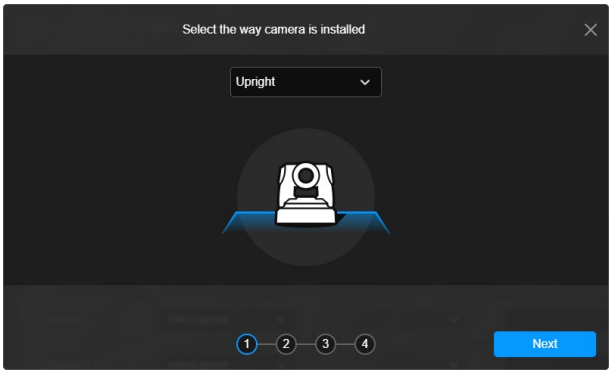
Round Microphone Calibration

1. Make sure the camera has been paired with a microphone.

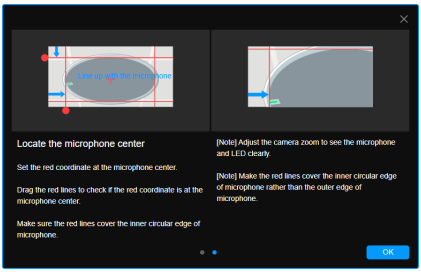
2. Click to select a device group. A blue frame will indicate that it is selected.



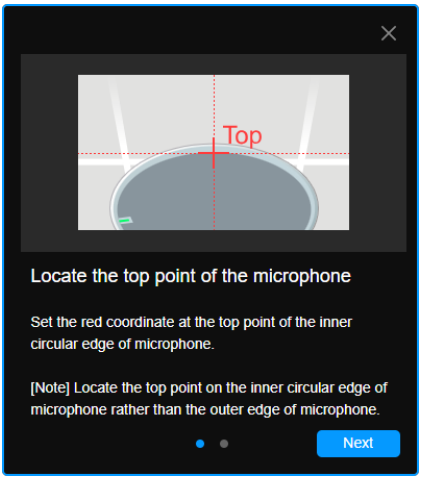
3. Click the **Active Position** tab and follow the setup wizard.
   Click the question mark in the top-right corner for instructions.



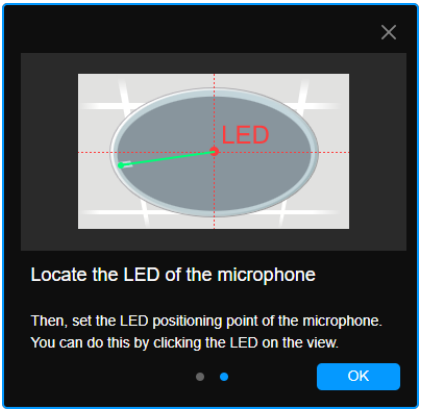
① Dragging the red dot to align the red lines to the top and left edge of the inner diameter so that the red cross appears at the center.



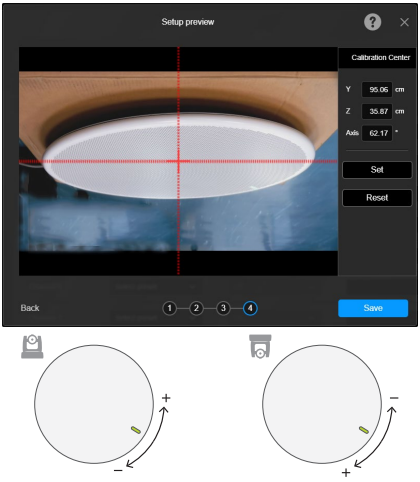
② Locate the top point of the inner diameter with the red cross.



③ Click to mark the position of the LED.



④ Make sure the red cross appears in the center of the microphone, and click Save. If the red cross appears off center, you can use a laser measure and tweak the initial calibration values (y, z, axis) on the right.

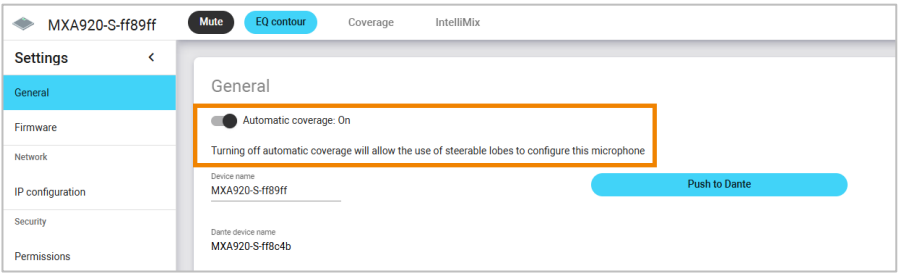


Note: When tweaking the axis value, the live view will not update. Adjust the initial axis value depending on how the camera is mounted. The axis angle range is -180 to 180.

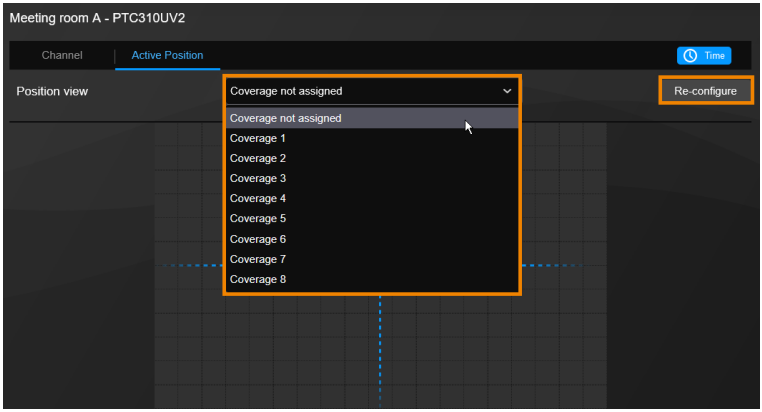
⑤ Click Reset to restore the initial calibration values. Or click Back to reconfigure.

Add a Coverage Area

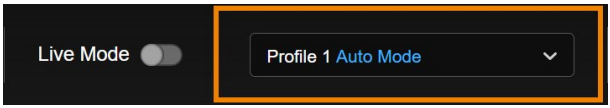
1. On the MXA920/925 web application, go to **Settings** > **General** > **Automatic coverage**.
2. Turn on **Automatic coverage** to add a mix of up to 8 dynamic and dedicated coverage areas,. The default setting is a 30 by 30 foot (9 by 9 meter) dynamic coverage area.



3. To add more coverage areas, go to **Coverage** > **Add coverage**.
4. Go to **Active Position** tab > select **Coverage not assigned** to use all coverage areas. Or select a coverage area that you have added in the microphone web application from the drop-down list. Talker positions outside of the selected coverage area won't be picked up by the matrix box.

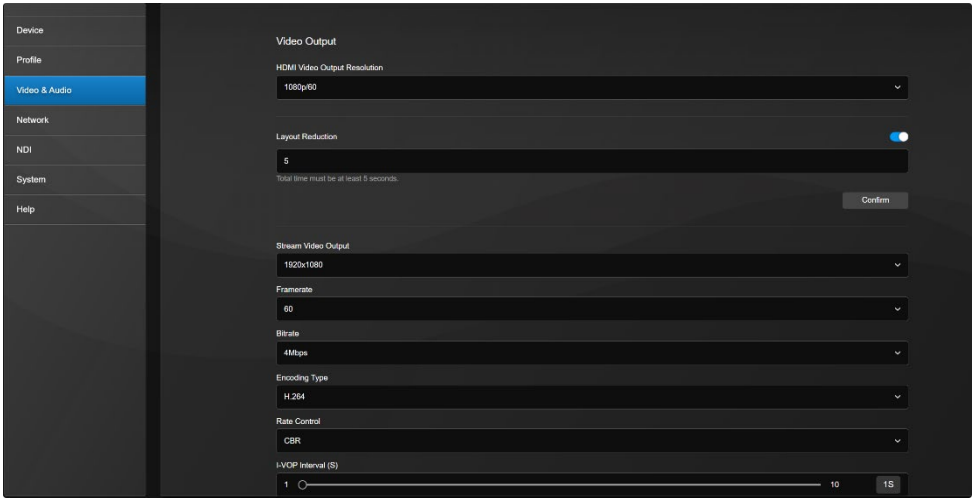


5. To change coverage areas, click **Re-configure**.
6. The profile is saved and applied automatically when you close the **Profile** page by clicking ⊗. Your Auto Mode profile will now be applied.


Live Mode
Profile 1 Auto Mode

System Settings

Video & Audio



Video Output

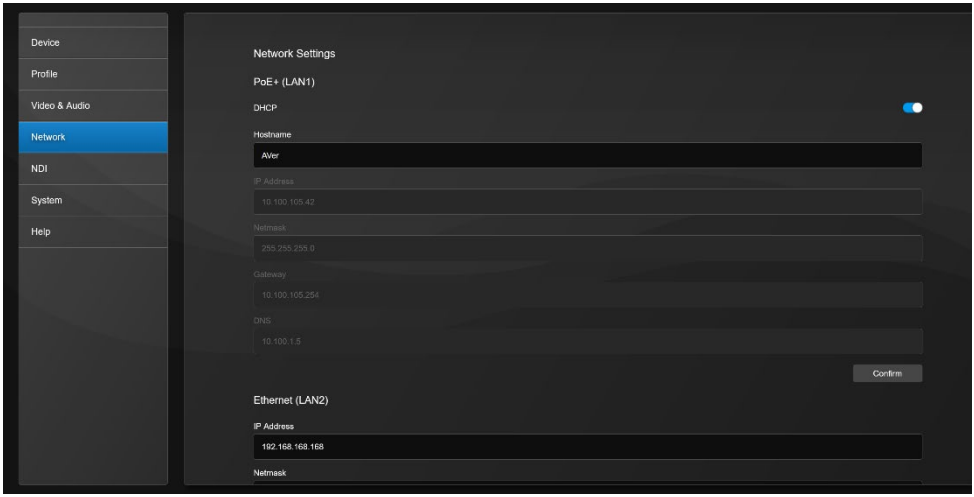
Item	Description
HDMI Video Output Resolution	Choose a video output resolution.
Layout Reduction	When toggled on, the matrix box hides inactive channels to reduce the number of layout grids after the delay time you set.
Stream Video Output	Choose a streaming output resolution for the live view.
Framerate	Choose a framerate.
Bitrate	Choose a bit rate.
Encoding Type	Choose **H.264** or **H.265**.
Rate Control	Choose Variable Bit Rate (**VBR**) or Constant Bit Rate (**CBR**).
I-VOP Interval (S)	Sets how often a keyframe (or I-frame) is inserted in the video stream. ● A keyframe is a full image frame used as a reference point in video. Shorter intervals improve video quality, but increase file size.
USB Output	Choose a USB output source. ● Auto: Automatic detection. ● USB #1: USB out port 1. ● USB #2: USB out port 2.

Switching Camera Delay Time	Choose a delay time to avoid displaying the live view when the camera is in motion; it will refresh once the delay time is up.
Auto-center on speaker	Keep the speaker at the center of the screen after the camera moves to a preset. **Note:** ● Auto-center on speaker is available in Auto Mode (Channel) only, for IP cameras and HDMI cameras (also connected via IP for PTZ control). ● Human tracking must be turned off for this feature to work.

Audio Output

Item	Description
Enable UAC	Enable 1-way audio input from the camera to the computer.
2-way UAC	Enable audio input from the computer to speaker connected to the USB port 3 on the matrix box.

Network



PoE+ (LAN1)

Item	Description
DHCP	Toggle DHCP on or off.
Hostname	Enter a hostname that is displayed on devices such as an IP router. The default is [Model name]-[last 6 digits of PoE+ MAC Address]
IP Address	Toggle off DHCP first, then enter your network settings to set up a static IP connection.
Netmask	
Gateway	
DNS	

Ethernet (LAN2)

Item	Description
IP Address	Enter your network settings to set up a static IP connection.
Netmask	
Gateway	
DNS	

RTMP Settings

Item	Description
RTMP Streaming 1 RTMP Streaming 2	Stream live video to a video platform such as YouTube. To enable live streaming on YouTube: 1. Go to YouTube. 2. From the top right, click **Create** > **Go live**. 3. Copy and paste your YouTube server URL and stream key into the web interface. 4. Click **Start Stream** to start streaming, **Stop** to stop streaming.

RTSP Settings

Item	Description
RTST Security	Turn on Real-Time Streaming Protocol (RTSP) Security to protect your video stream on media players such as VLC, PotPlayer and QuickTime by ensuring that only authorized users can access it. ● When RTSP Security is turned off, enter your camera's RTSP URL into the media player. RTSP URL: rtsp://[camera IP address]/live_st1 Example: rtsp://192.168.1.100/live_st1 ● When RTSP Security is turned on, enter your camera's RTSP URL and username/password into the media player. RTSP URL: rtsp://[username:password]@[camera IP address]/live_st1 Example: rtsp://1:1@192.168.1.100/live_st1 username/password: camera's username/password (web interface login)

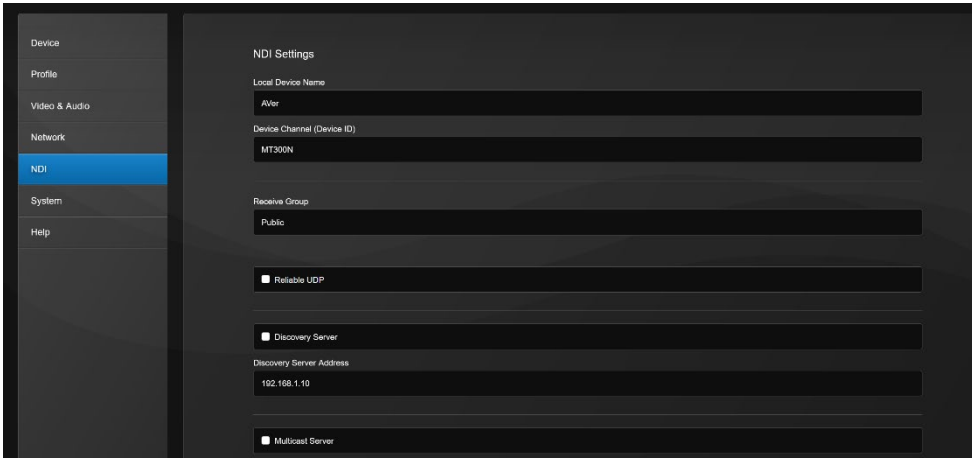
HLS Settings

Item	Description
Stream URL	Configure HTTP Live Streaming (HLS) settings to provide adaptive bitrate streaming, which ensures smooth playback and minimizes buffering. 1. Enter the stream URL obtained from the streaming service or server. 2. Click **Start Stream** to start streaming, **Stop** to stop streaming.

HTTP Settings

Item	Description
TCP Command String Control Port	Set a control port number. The default is 1315.
HTTPS	Enable HTTPS to establish a secure connection between your browser and your camera. To enable HTTPS access on your camera: 1. Obtain a SSL certificate for encryption and decryption in base-64 encoded format and use a private key in PKCS#8 format (unencrypted). 2. Package the required certificate content into PEM format. The SSL certificate uploaded to the camera must be in PEM format. 3. Click **Browse** to select the certificate file, and then click **Upload**. 4. Turn on **HTTPS**.

NDI

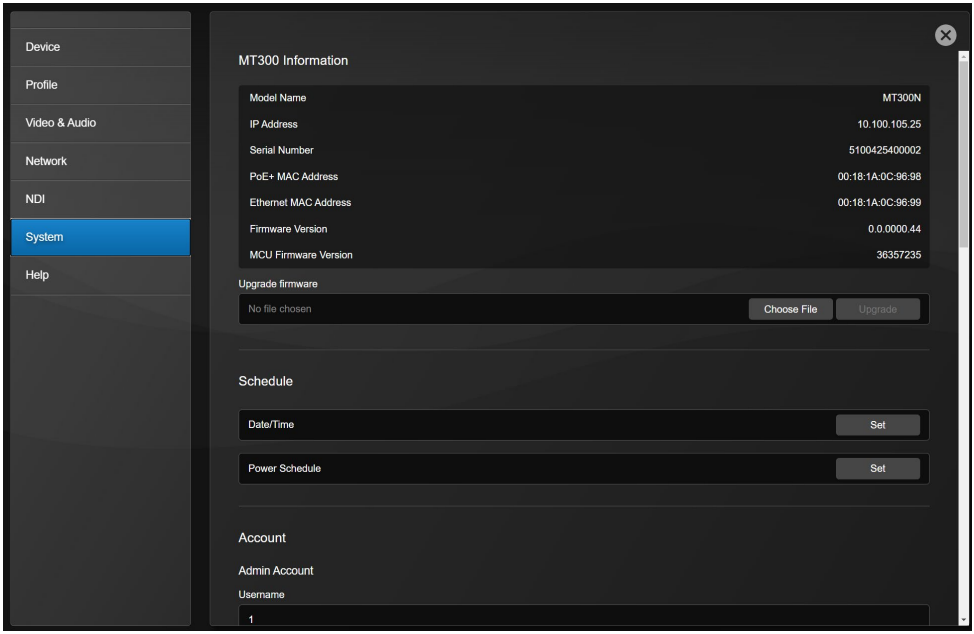


Tracking box comes in two models: MT300 (without NDI) and MT300N (with NDI). To purchase NDI|HX upgrade, please visit NewTek Online Store (https://store.newtek.com/ndi-hx-upgrade-for-cameras.html#).

Item	Description
Local Device Name	Enter a name that identifies your camera group on the NDI software.
Device Channel (Device ID)	Enter a name that identifies your camera on the NDI software. ● The default is MT300 or MT300N. ● Use no more than 10 characters, upper and lowercase letters, numbers and punctuation marks (! @ % ^ , . / : + ? [ ] { } - _ ~).
Receive Group	Enter a name for a receive group. ● All devices in the receive group receive the same NDI streams. ● The receive group should remain **public**. If this is changed, you will need to join the group through NDI® Access Manager.
Reliable UDP	Enable Reliable User Datagram Protocol (RUDP) to improve streaming quality.
Discovery Server	Select the checkbox to enable discovery server to allow devices to discover and connect to each other on a network automatically.
Discovery Server Address	Enter the IP address of a server running a discovery server

	application.
Multicast Server	Select the checkbox to enable multicast server to allow efficient distribution of NDI streams to multiple receivers without overwhelming the network.
Multicast Server Address	Enter the IP address of a group of recipients that receive NDI streams from a multicast server.
Multicast Server Mask	Enter the network mask to specify the range of IP addresses that are eligible to receive NDI streams.
Multicast TTL	Enter a multicast time to live (TTL) value between 1-255 to control the distance multicast packets can travel.

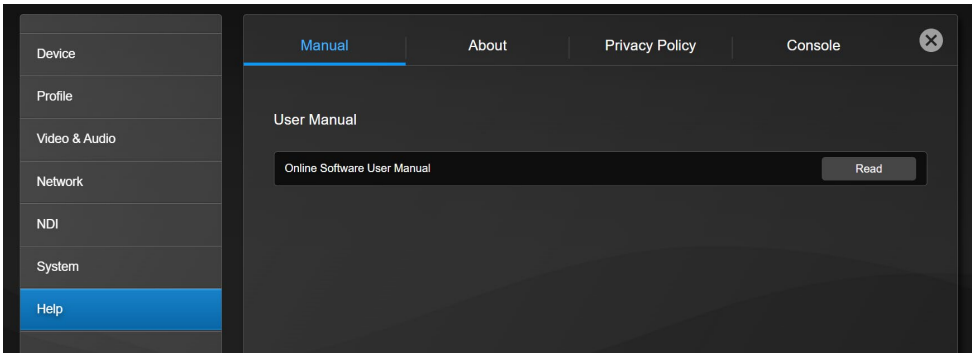
System



Item	Description
MT300 Information	Display the matrix box information such as the IP address.
Upgrade Firmware	Download the latest firmware from AVer Download Center (https://www.aver.com/download-center).
Schedule	Date/Time: Set date and time for your matrix box. Power Schedule: Schedule specific times for your matrix box to start up, reboot, or shut down.
Account	Edit your admin and user account for login. ● Admin: The default username/password is **admin/admin**. ● User: The default username/password is **user/user**.
General	● Language: Change the web interface language. ● Help us improve: Opt-in or opt-out of providing anonymous usage data. ● Factory default: Erase all data and settings and reset your matrix box to factory default settings. ● Reboot: Restart your matrix box.
Export / Import Settings	Export or import your matrix box settings and save debug files.
Shortcuts Key Setting	Set shortcuts for your USB keyboard or computer keyboard. You may set up to 36 shortcut keys.
Watermark Setting	Show or hide watermark on camera view. You may upload your

	own watermark image, and select a watermark position from the drop-down list. • Support file format: PNG only. • File size: Max. 2MB.

Help



Item	Description
Manual	View software user manual online.
About	View software terms and condition.
Privacy Policy	View software privacy policy.
Console	View and download real-time data on the camera-microphone action status for debugging purpose.

MT Control Panel App

Control your AVer matrix boxes from a desktop, tablet, mobile or the AVer CP10 G2 Collaboration Controller. The app gives you access to the same settings as the web interface, with added convenience—as an admin, you can add up to 3 matrix boxes and easily switch between their video feeds.

- Available on Windows, macOS, and Android.
- Defaults back to the user account after closing and reopening the app to protect system settings.
- Supports:

  MT100 Matrix Box
  MT300 Matrix Tracking Box
  MT300N Matrix Tracking Box
  MT500 Matrix Tracking Box

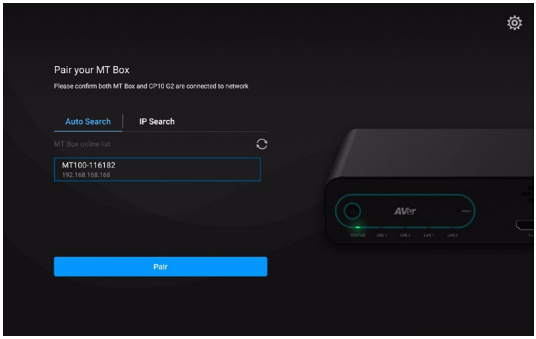
Install MT Control Panel

Download and install MT Control Panel to your desktop, tablet or mobile from AVer Download Center. (https://www.aver.com/download-center) and open the app.

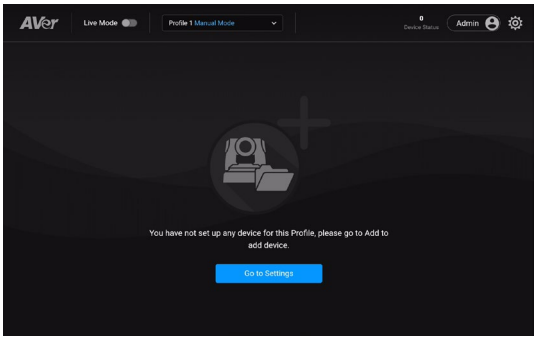
Note: For iPadOS and iOS, please download AVer Control Panel. This app gives you access to the same settings as the web interface.

Pair with MT Control Panel

1. Make sure the MT Control Panel and the matrix box are connected to the same LAN.
2. Open MT Control Panel app. The app will auto search for available matrix boxes. Or tap **IP Search** and enter your matrix box's IP address.
3. Tap to select your matrix box, tap **Pair**, then enter the username and password to start pairing.



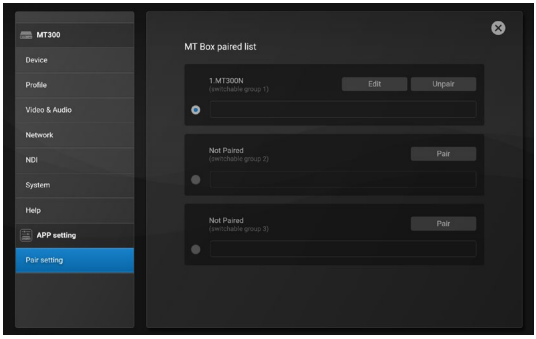
4. You will now be logged in to the matrix box.
   Configure settings as you would on its web interface.



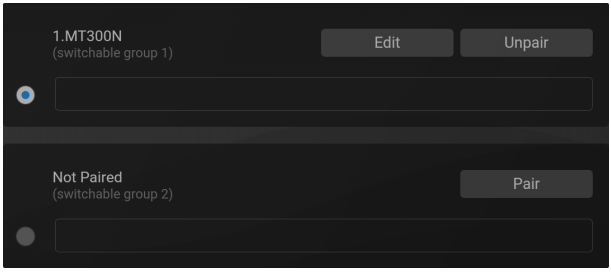
Add and Switch between Matrix Boxes

1. Make sure you are logged in as an admin.
   Or tap the **account** icon on the top-right corner to switch to the admin account.

2. Tap the **gear** icon in the top-right corner to enter system settings.



3. Tap **Pair setting** and do one of the following:



- To add a matrix box, tap **Pair**.

- To remove a matrix box, tap **Unpair**.
- To replace a matrix box with another, tap **Edit**.
- To switch between video feeds, tap the **radio button** ◉ to select the matrix box you want.

4. (Optional) Enter a description in the blank fields to help you identify the matrix boxes.

Specifications

DC Power	12V/1.5A
PoE+	42.5-57V / 0.6A
Reset Button	Yes
USB Inputs	3, Type-A for peripherals input #1,#2 are UVC only #3 can be UVC or UAC
USB Outputs	2, Type-B for user application Non-simultaneous output Automatic switch to the port that is connected to host. Port #1 has higher priority if both ports are connected to host (PC or MTR),. Resolution, providing 4K, 1080p FPS: 15, 30, 60
HDMI Inputs	3 Input resolution: up to 1080p per channel
HDMI Outputs	2 Simultaneous display, same configuration 1080p, 25Hz / 1080p, 50Hz / 1080p, 30Hz / 1080p, 60Hz / 4K, 25Hz / 4K, 50Hz / 4K, 30Hz / 4K, 60Hz
Ethernet	2, 1 PoE+, 1 RJ-45 Max connection number: 5 (Web/RTSP/RTMP) Resolution, providing 1080p and 4K FPS: 1, 5, 10, 15, 30, 60
LED Indicators	Yes
	Status, USB 1, USB 2, network 1, network 2
Security	Kensington security lock
RS-422	Yes
Operating Temperature	0-50°c
Dimension	4.3 x 21 x 15 cm (1.7 x 8.3 x 5.9 in.)
Installation	2, mountable in a rack or under a table

Specifications are subject to change without prior notice.

Troubleshoot

Using non-AVer cameras.

When using non-AVer cameras, only Live Mode and Manual Mode are available. Auto Mode (voice tracking) and camera control are not supported.

The device is optimized for AVer equipment. Performance with third-party cameras is not guaranteed.

No human tracking.

- Make sure your camera supports human tracking. For supported AVer devices, refer to <Supported AVer Devices>.
- If your camera is connected via HDMI, make sure you select **Control via IP**.
  Hover over the device in the device list and click the **Pencil** icon to edit.

Camera is too sensitive and flickering between presets.

- Select a longer duration for Time to Trigger Preset.
- If you camera is shared among several camera and microphone groups, assign a priority group.

Stop voice-tracking.

- Click the **voice tracking** icon on the main page to pause voice tracking for the current profile.
- Mute the microphone by pressing its physical button or accessing its web interface.
- Use the toggle switch on the Select Group Panel to disable the group.
  Single video output: Audio is muted while video is still transmitting.
  Multiple video output: Both audio and video stop transmitting.

Appendix

Supported AVer Devices

> ⚠ When using non-AVer cameras, only Live Mode and Manual Mode are available. Auto Mode (voice tracking) and camera control are not supported.
> The device is optimized for AVer equipment. Performance with third-party cameras is not guaranteed.

Professional Tracking Cameras

- Single Lens

TR211	TR311HWV2	TR310
TR315	TR313V2	TR311
TR315N	TR323V2	TR311HN
TR322	TR323NV2	TR313
TR335	TR333V2	TR331
TR335N	PTC310HWV2	TR333
TR615	PTC310UV2	PTC310
	PTC320UV2	PTC310N
	PTC320UNV2	PTC310U
	PTC330UV2	PTC330
		PTC330U

- Dual Lens

TR535	TR530+
TR535N	PTC115+
	PTC500+

Professional PTZ Cameras (no Human Tracking)

PTZ211	PTZ310
PTZ231	PTZ310N
PTZ310UV2	PTZ310W
PTZ310UNV2	PTZ330
PTZ330UV2	PTZ330N
PTZ330UNV2	PTZ330W

Video Conferencing Cameras (no Active Position)

CAM520 Pro3	VC520 Pro3
CAM550	VC550
CAM570	

Distance Learning Camera (no Active Position)

DL30

Supported Microphones

Important Note on Voice Tracking Installation

When installing voice tracking systems, consider the environment, materials, and distances to ensure optimal performance. Assess the room size, layout, and acoustics, as these factors impact accuracy. Different surfaces affect sound reflection and absorption, influencing effectiveness. Measure and maintain appropriate distances between devices and the coverage area for clear tracking. To achieve the best experience, connect with an AVer technical expert who can tailor the installation to your specific needs.

Note:

- Third-party microphone systems may require setup in their manufacture software.
- Make sure you have turned on **Multicast** on the router before setting up your microphone.

Audio-Technica

ATND1061DAN, ATND1061LK

ATUC-50

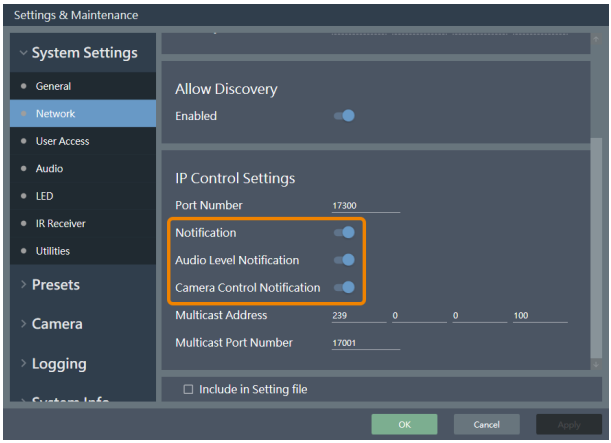
ATUC-IR

ESW - Engineered Sound® Wireless System

To set up ATND1061 Beamforming Ceiling Array Microphone:

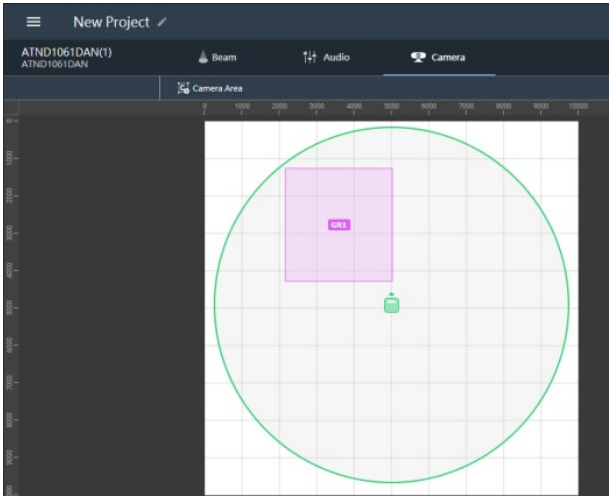
1. Open Digital Microphone Manager. Go to **Settings & Maintenance** > **System Settings** > **Network** > **IP Control Settings**.

2. Turn on **Notification**, **Audio Level Notification**, and **Camera Control Notification**.

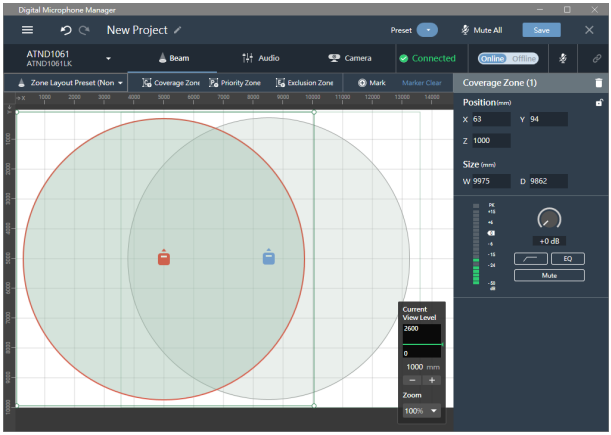


3. Select a microphone in the main area.

4. Go to **Camera** > **Camera Area**. Add a Camera Area by dragging a rectangle within the microphone pickup area. Each Camera Area group corresponds to the matrix box channel of the same number.



5. Go to **Beam** >**Coverage Zone**. Add a Coverage Zone by dragging a rectangle that covers the entire microphone pickup area.



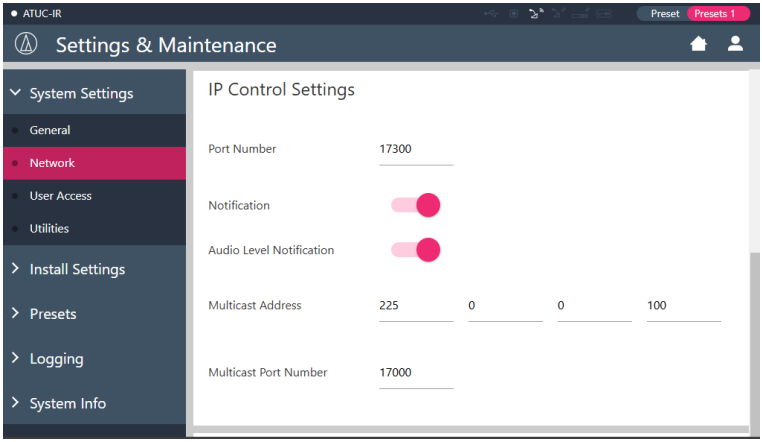
6. Repeat steps 4-5 for all microphones, if any.

To set up ATUC-IRCU infrared control unit:

1. On the ATUC-IRCU Web Remote interface, go to **Settings & Maintenance** > **System Settings** > **Network** > **IP Control Settings**.

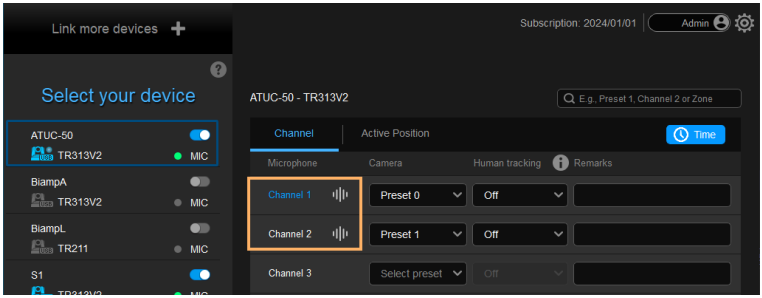
2. Turn on **Notification**.

> **Note:** If a powered-off ATUC-IRDU appears to be sending audio signal in the matrix box, turn on **Audio Level Notification** to resolve the issue.



Pairing ATUC-50 with AVer camera presets for voice tracking :

- Each ATUC-50DU or ATUC-IRDU discussion unit corresponds to a matrix box channel.
- A discussion unit whose talk button is pressed first takes priority over others until it is mute. For example, Channel 1 (pressed first) takes priority over Channel 2 whose talk button is also pressed.

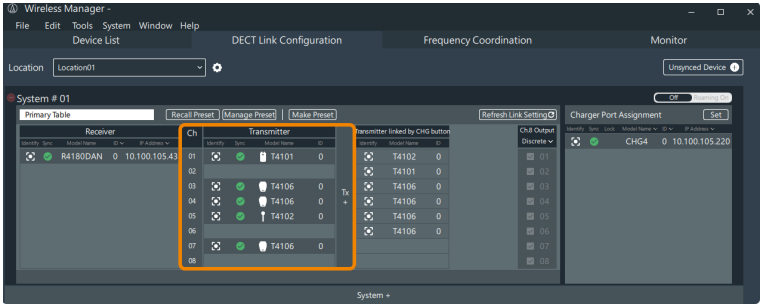


To set up Engineered Sound® Wireless System:

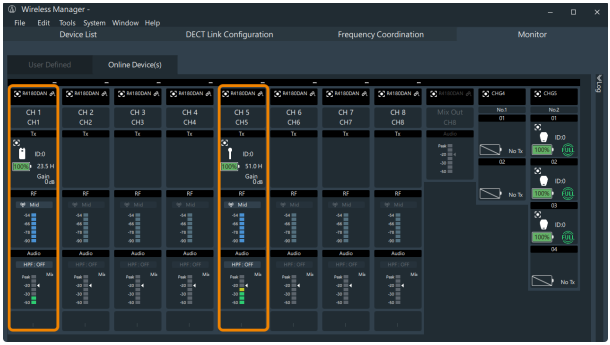
1. Open Wireless Manager and configure the links to each device.

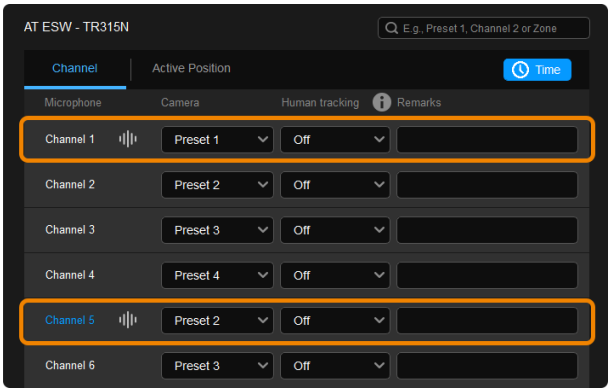
2. You can reconfigure a transmitter's link to a different channel by dragging it there.

   - The linked channel number is mapped to the matrix box's channel of the same number.



   - Audio signals are displayed on the matrix box when sound is detected on a channel. The active channel is triggered by the channel with the highest audio level.





- Please note that the TCP port for the Engineered Sound® Wireless System is 17200, whereas the ATND1061 uses port 17300.

Table 2-1 Communication Interfaces

No	Item	Content	Remarks
1.	Communication system	Full duplex	
2.	Transmission speed	10Mbps / 100Mbps	
3.	Port number	TCP (control): 17200	Cannot be changed. (Fixed value)
		UDP (notification): 17000	Can be changed. (17000 at factory shipment)

Biamp

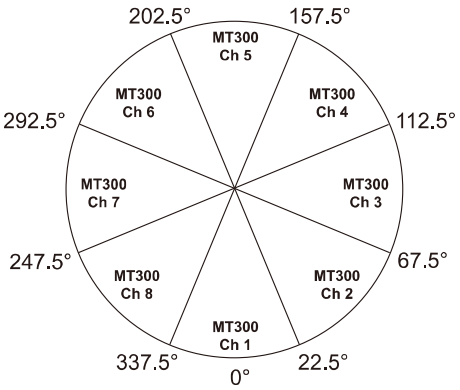
> Tesira Digital Signal Processor
>
> Parlé Ceiling Microphones (requires Parlé product revision A or B)

Hardware and Channels Overview

Tesira Digital Signal Processor	Tesira Forte X, Tesira Forte Rackmount, Tesira Server IO, Tesira Server.
Parlé TCM-X	Plenum network box + one ceiling-mount microphone array
Parlé TCM-XA	Plenum network box with built-in amplifier+ one ceiling-mount microphone array
Parlé TCM-XEX	One expansion ceiling-mount microphone array

One ceiling microphone arrays is permitted for network box (one TCM-X or TCM-XA with TCM-XEX).

Each ceiling microphone array has 8 channels. The matrix box divides the microphones' horizontal angles into 8 equal parts, which correspond to the matrix box Channel 1 - 8.



Microphone	Channel Start/End
AVerParleMic1	1-8 (ceiling mic 1) 9-16 (ceiling mic 2)
AVerParleMic2	17-24 (ceiling mic 1) 25-32 (ceiling mic 2)
AVerParleMic3	33-40 (ceiling mic 1) 41-48 (ceiling mic 2)
AVerParleMic4	49-56 (ceiling mic 1) 57-64 (ceiling mic 2)
AVerParleMic5	65-72 (ceiling mic 1) 73-80 (ceiling mic 2)
AVerParleMic6	81-88 (ceiling mic 1) 89-96 (ceiling mic 2)

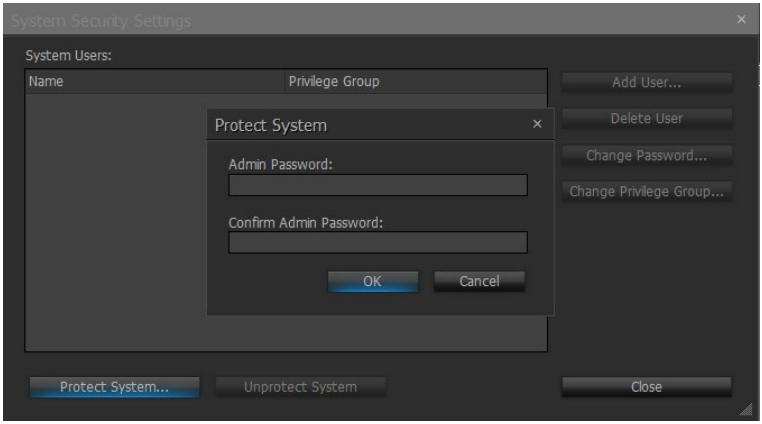
To enable system security:

You can protect 3rd party media control access for the Tesira system using username and password.

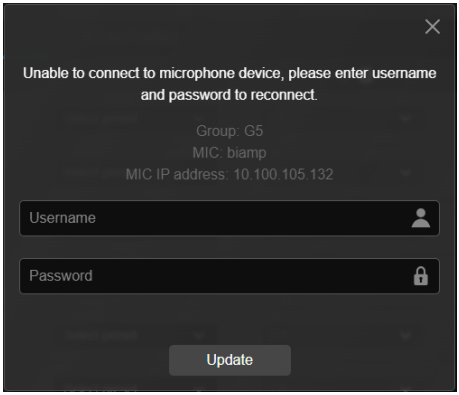
1. After the DSP has been configured, connect to the unprotected Tesira system with Tesira Designer Software.

2. Open the **System** page > **Security** menu > **Manage System Security...**

3. Click the **Protect System...** button to create the admin user and password.



4. You'll be prompted to enter the same set of username and password when connecting to Biamp microphones in the matrix box.



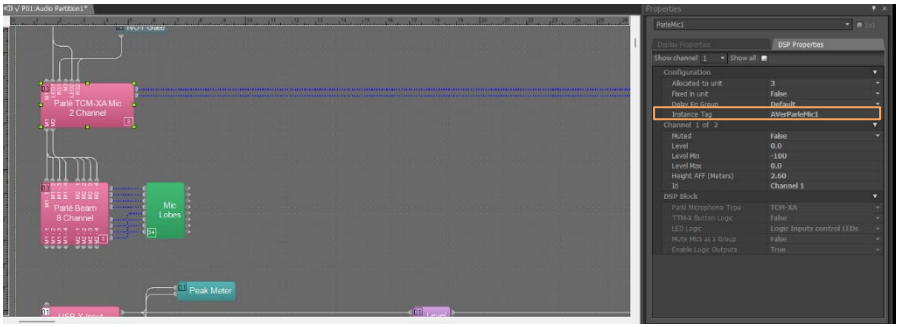
To set up Parlé TCM-X microphones:

1. Open Tesira Design Software.

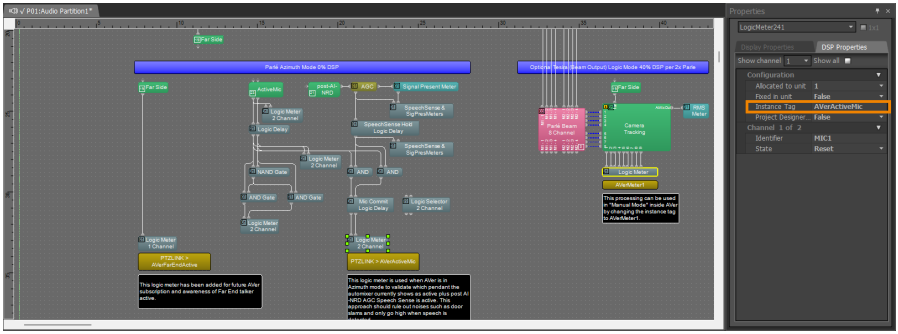
2. After the TCM-X microphone has been added to the layout, rename the instance tag of the Parlé microphone block or Logic Meter block you want to controlled with the following naming schemes:

   To check or rename the instance tag of a specific block, click on that block, go to **Properties** panel > **DSP Properties** tab > **Instance Tag**.

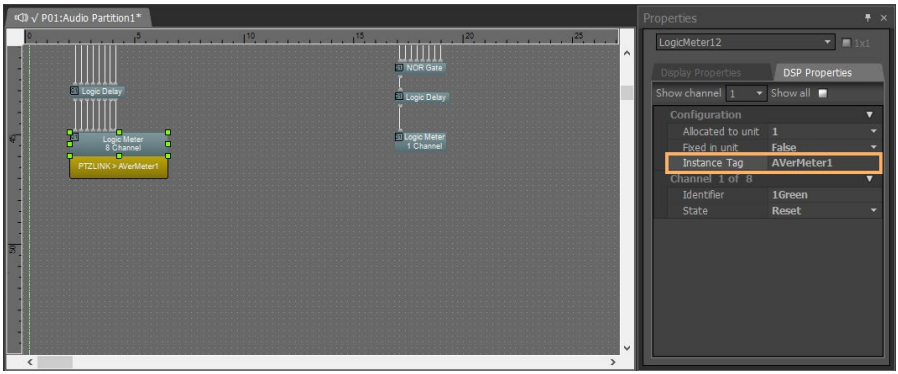
   - Parlé microphone block: **AVerParleMicX** (default tag, X=1–6 starting with 1)
     You can customize the instance tag with a trailing X as the channel number placeholder.



   - Logic Meter Parle Processing active mic output: **AVerActiveMic** (default tag)
     You can customize the instance tag.

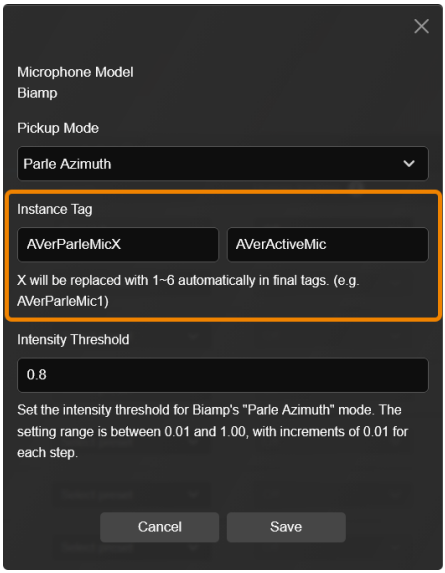


- Logic Meter block: **AVerMeterX** (default tag, X=1–4 starting with 1)
  You can customize the instance tag with a trailing X as the channel number placeholder.

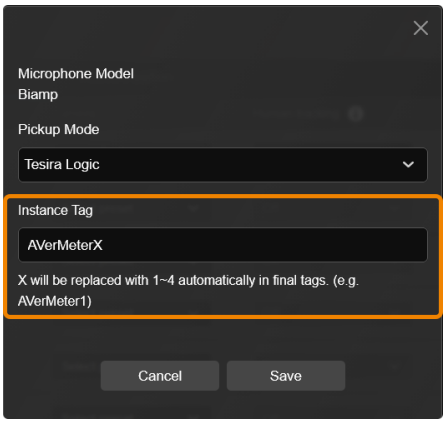


3. In the matrix box, click **Channel Configure** > select a pickup mode > edit the instance tags to match those in the Tesira Design Software as needed. When finished, click **Save**.

Parle Azimuth



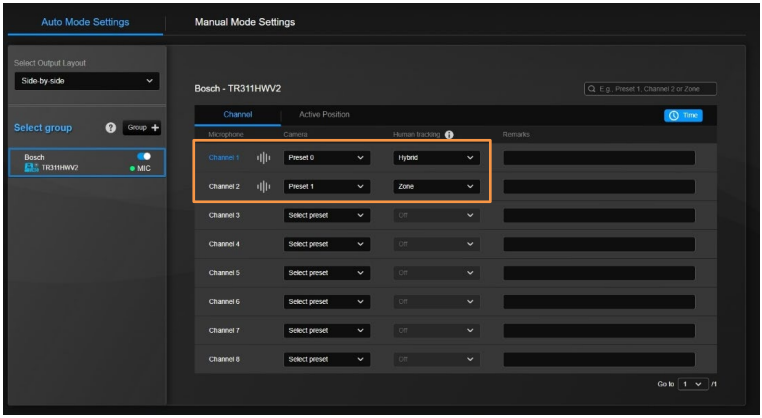
Tesira Logic



Bosch

> CCS 1000 D Digital Discussion System
>
> DICENTIS Wireless Conference System
>
> DICENTIS Conference System

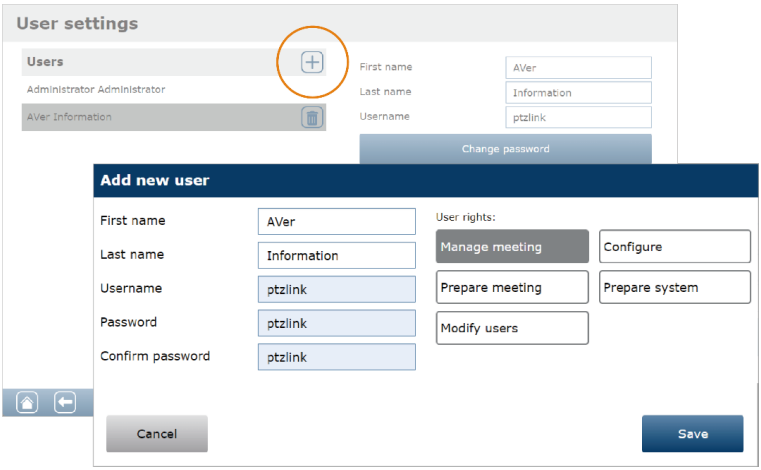
- Each CCS 1000 D Control Unit supports up to 80 Discussion Devices.
- Assign each CCS 1000 D Discussion Device to one matrix box channel by changing the seat name.
- A discussion unit whose talk button is pressed first takes priority over others until it is mute. For example, Channel 1 (pressed first) takes priority over Channel 2 whose talk button is also pressed.



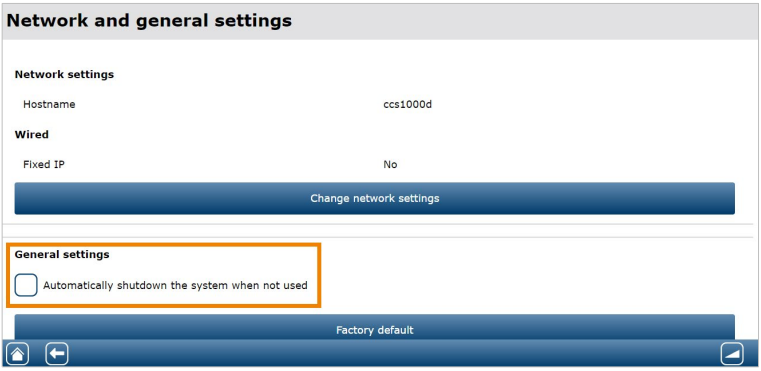
To set up CCS 1000 D:

1. Connect to the CCS 1000 D Control Unit through IP. Access the web interface with an administrator account.

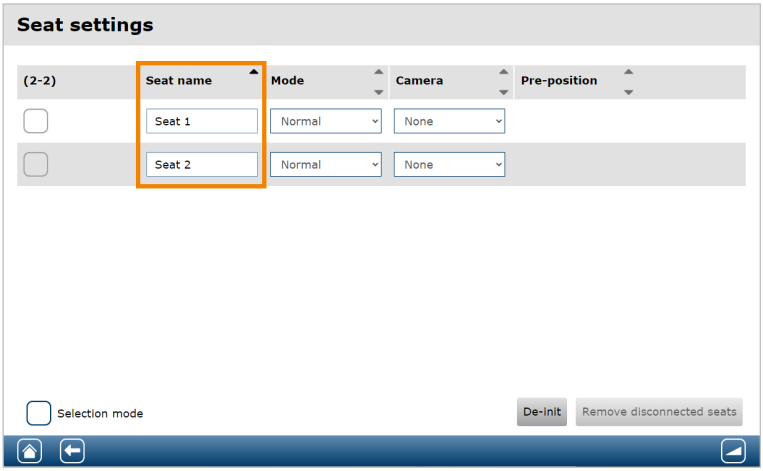
2. Go to **System Settings** > **Users**, create a user for the matrix box with the default username/password **ptzlink**/**ptzlink**. The password can be changed later. For **User rights**, select **Manage meeting**.



3. Go to **System Settings** > **Network and general settings** > **General settings**, deselect **Automatically shut down the system when not used** to avoid entering standby mode.



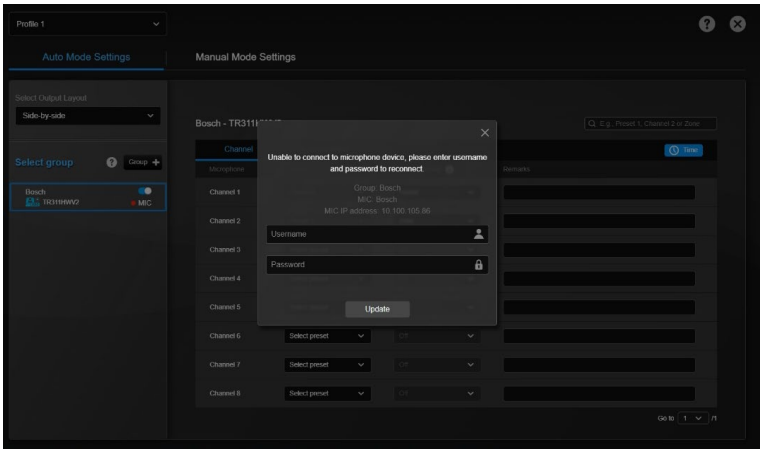
4. Go to **System Settings** > **Seats**, rename the **Seat name** ending with a space and a number to assign each discussion device to one matrix box channel of the same number.



Seat 1 corresponds to channel 1, seat 2 to channel 2, and so on.

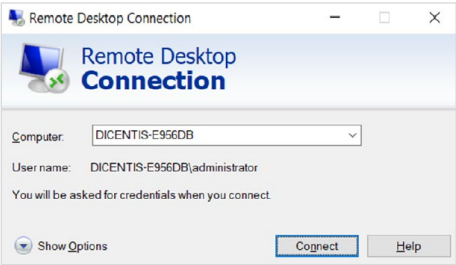
5. You'll be prompted to enter the same set of username and password when connecting to Bosch microphones in the matrix box.

Note: CCS 1000 D Control Unit allows one login at a time. When connecting CCS 1000 D Discussion Devices to the matrix box, make sure you are not logged in anywhere else.



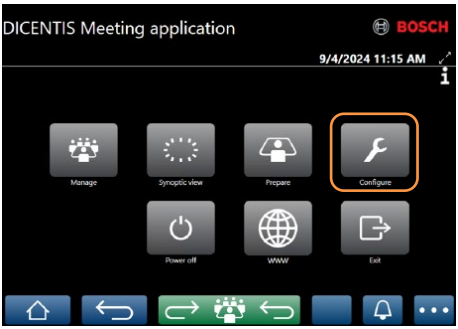
- **To log in to DICENTIS System Server:**

1. Open **Remote Desktop Connection** on your computer. Enter the DICENTIS server name printed on the product label.

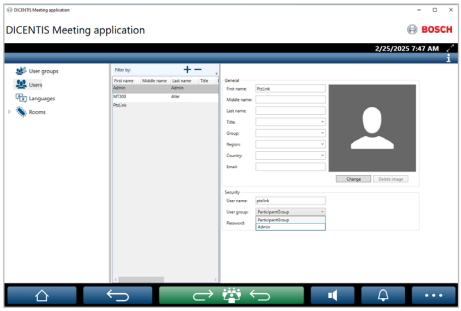


2. Enter the credentials you purchased from Bosch. On security message pop-up window, click **Yes**.

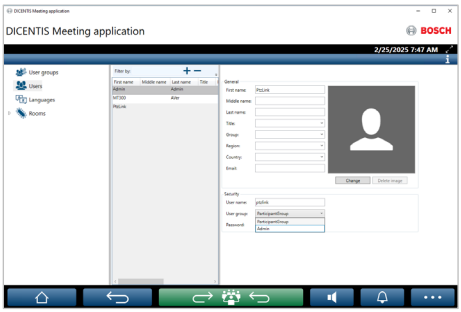
3. Open **Bosch Meeting Application**, enter your credentials to log in. Go to **Configure** for further meeting room and user settings.



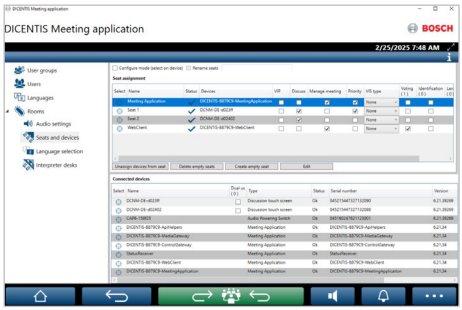
4. Go to **Users** > click **+** to create a user for the matrix box with the default username/password **ptzlink**/**ptzlink** (Click **Change Password** to enter the password.)



5. In **Security**, assign **User group** based on the user privilevge you want to give. Both **ParticipantGroup** and **Admin** can use voice tracking.



6. Go to **Rooms** > **Seats and devices**. Assign each microphone to the matrix box channels by renaming them to **Seat X** (X = channel number, e.g., Seat 1 corresponds to channel 1, Seat 2 to channel 2, and so on).



7. (Optional) You can change the password of the default username **ptzlink**. To do so, you must log in as admin.

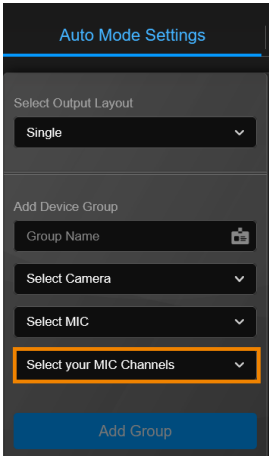
ClearOne

> BMA 360 + CONVERGE® Pro 2 DSP Mixers

- CONVERGE® Pro 2 connects up to 3 daisy-chained BMA 360 microphone arrays.
- The matrix box assigns 12 channels to each BMA 360. Unused channels are retained in the assigned BMA 360.

Daisy-Chained	Channel Start/End
1st BMA 360	1-12
2nd BMA 360	13-24
3rd BMA 360	25-36

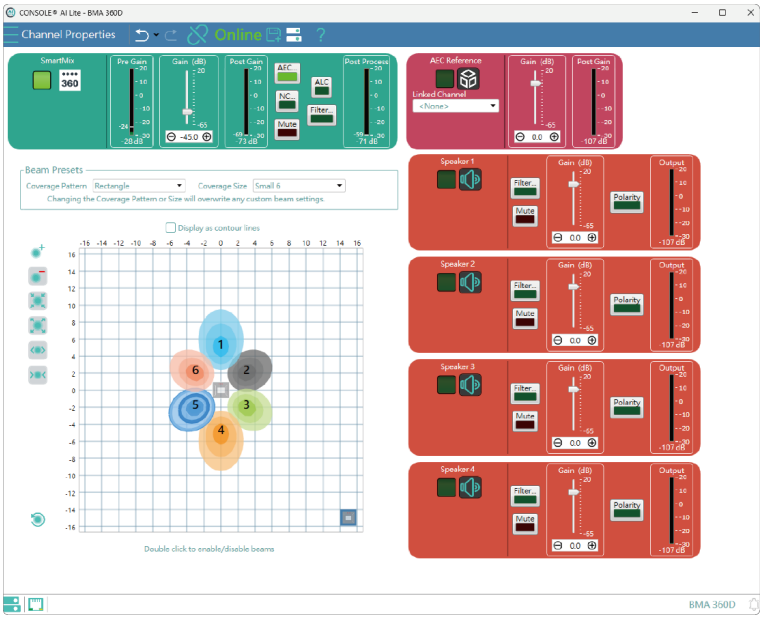
- When adding your device in the matrix box, select your MIC channels in the drop-down list according to the number of BMA 360 daisy-chained.



BMA 360D

- Use CONSOLE AI Lite software to select preset beam patterns for common room or custom pattern for unique floorplans of up to 12 beams.

- Each microphone beam corresponds to one matrix box channel of the same number.

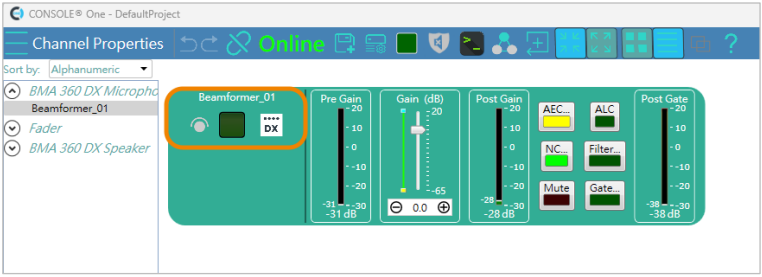


BMA 360DX

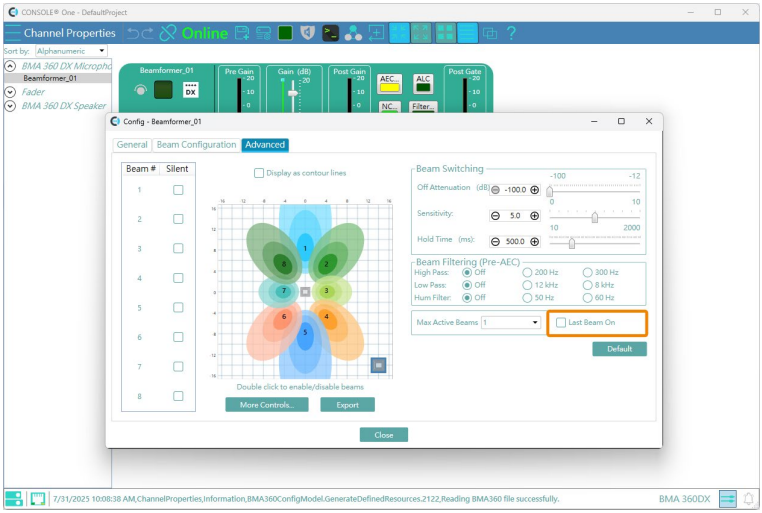
To set up BMA 360DX:

1. Connect the BMA 360DX to the CONSOLE One software to select preset beam patterns for common room or custom pattern for unique floorplans of up to 12 beams.

2. Go to **Channel Properties** > click **DX** next to **Beamformer**.



3. Go to **Advanced** > deselect **Last Beam On**.
   This prevents the last active channel from appearing active in the matrix box when the room is silent.



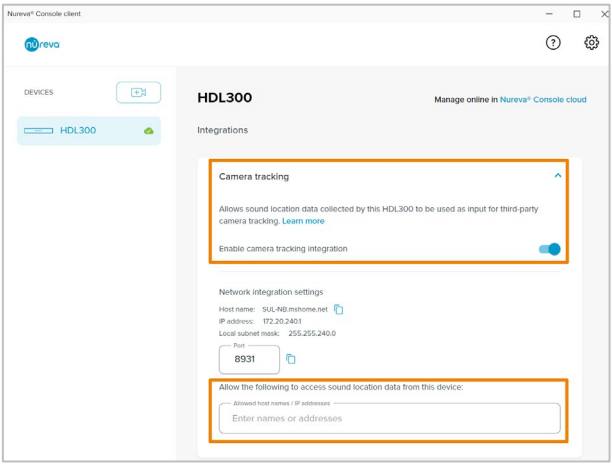
4. Each microphone beam corresponds to one matrix box channel of the same number.

Nureva

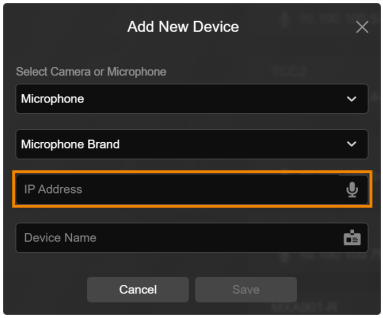
> HDL300
>
> HDL310
>
> Dual HDL300
>
> HDL410

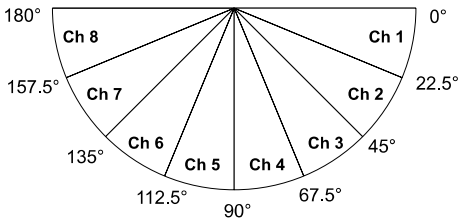
To set up HDL microphones:

1. In Nureva Console Client, turn on **Enable camera tracking integration**, then enter the IP address of the matrix box in the **Allowed host names / IP addresses** field.



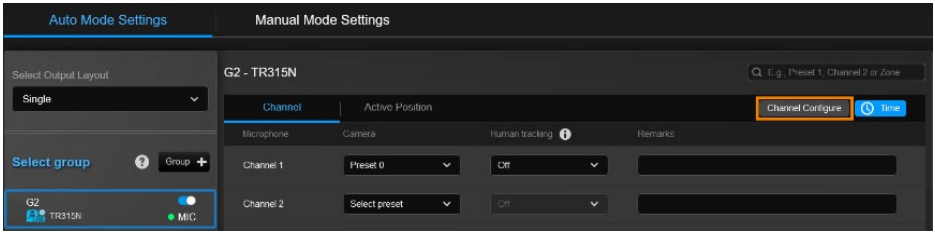
2. On the matrix box web interface, enter the IP address of the computer running Nureva Console Client in the **IP Address** field when adding microphones.
   The matrix box divides HDL microphones' horizontal angles into 8-24 equal parts, which correspond to the matrix box channel 1-24.





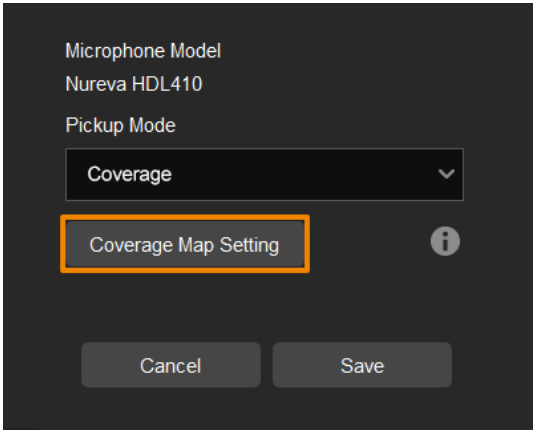
To add a coverage area for HDL410:

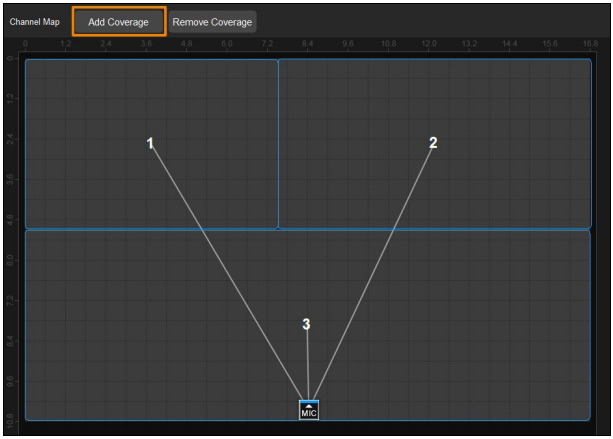
1. Go to **Auto Mode Settings** > **Channel** > **Channel Configure**.



2. Select **Coverage** from the **Pickup Mode** drop-down list.

3. Click **Coverage Map Setting** > Click **Add Coverage**.





4. Add a coverage area by dragging it.
    - You can add up to 8 coverage areas per microphone.
    - When coverage areas overlap, the microphone will default to the area with the smaller number.

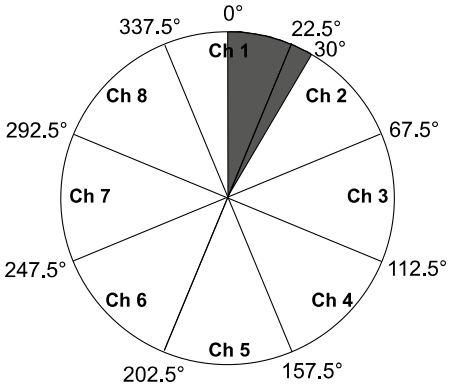
Sennheiser

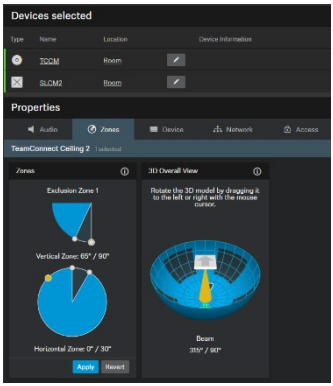
> TeamConnect Ceiling 2
>
> TeamConnect Ceiling Medium
>
> EW-DX EM 2 Half Rack Receiver
>
> EW-DX EM 2 Dante Half Rack Receiver
>
> EW-DX EM 4 Dante Full Rack Receiver
>
> EW-DX TS 3-Pin Table Stand Transmitter (and compatible microphones)
>
> EW-DX TS 5-Pin Table Stand Transmitter (and compatible microphones)

The matrix box divides TeamConnect Ceiling 2's and TeamConnect Ceiling Medium's horizontal angles into 8-24 equal parts, which correspond to the matrix box channel 1-24.

- **TeamConnect Ceiling 2**

  An Exclusion Zone set in Sennheiser Control Cockpit also affects the corresponding channel in the matrix box.





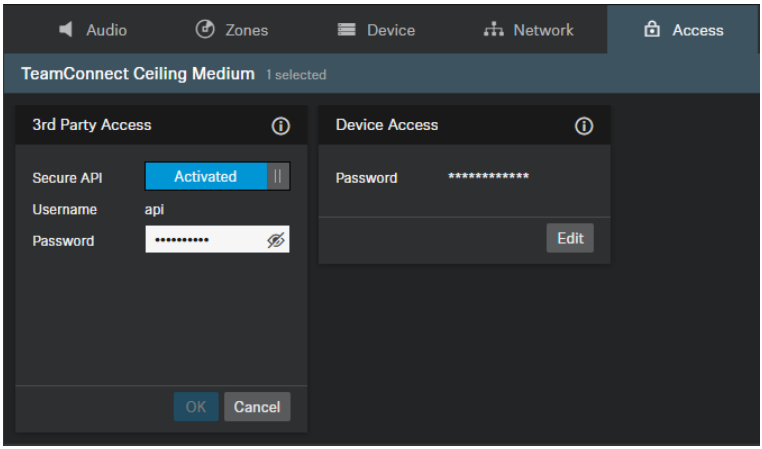
Sennheiser Control Cockpit

- **TeamConnect Ceiling Medium**

The 3rd party media control access for TeamConnect Ceiling Medium is encrypted and protected using username and password. It has to be enabled using Sennheiser Control Cockpit before use.

To set a 3rd Party device control password:

1. Open Sennheiser Control Cockpit. Go to the **Access** tab in the device configuration page.



2. Activate the toggle switch.
3. Enter a password.
4. You can use the username "api" and configured password for your API calls.

Note:

- If you deactivate 3rd party access, the previously set password will be deleted.
- Password must be at least 10 characters and no more than 64 characters. Use at least one lowercase letter, one uppercase letter, one number and one special character (!#$%&()*+,-./:;<=>?@[]^_{|}~).

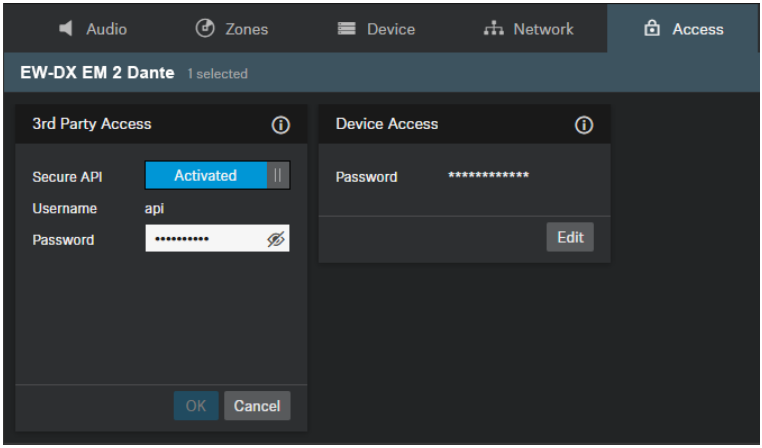
- **EW-DX EM 2, EW-DX EM 2 Dante, EW-DX EM 4 Dante**

The 3rd party media control access for EW-DX EM receivers is encrypted and protected using username and password. It has to be enabled using Sennheiser Control Cockpit before use.

Important: For compatibility with EW-DX firmware version 4.0.0, the matrix box firmware version 0.1.0000.82 or later is required.

To set a 3rd Party device control password:

1. Open Sennheiser Control Cockpit. Go to the **Access** tab in the device configuration page.

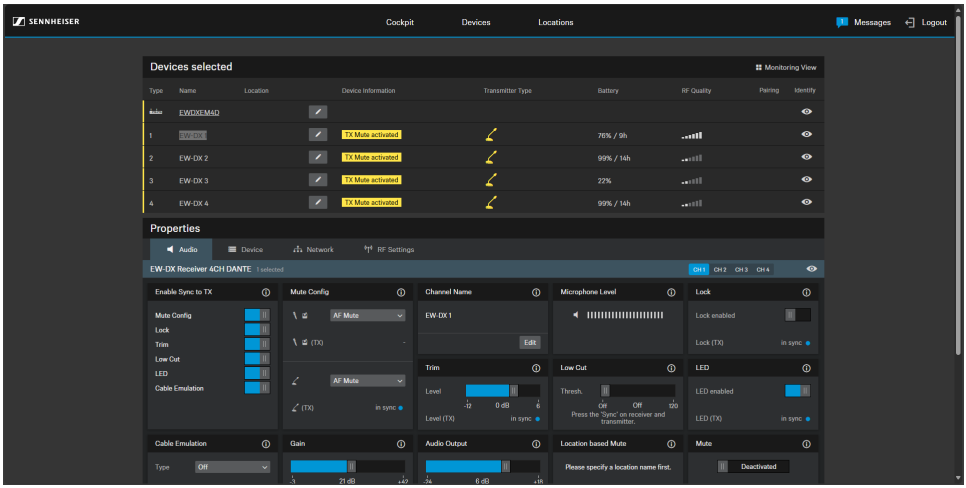


2. Activate the toggle switch.
3. Enter a password.
4. You can use the username "api" and configured password for your API calls.

Note:
- If you deactivate 3rd party access, the previously set password will be deleted.
- Password must be at least 10 characters and no more than 64 characters. Use at least one lowercase letter, one uppercase letter, one number and one special character (!#$%&()*+,-./:;<=>?@[]^_{|}~).

- **EW-DX EM 4 Dante Receiver and Transmitters**

Each transmitter will connect to EW-DX 1-4, which correspond to the matrix box channel 1-4.
You can log in to Sennheiser Control Cockpit to view the status of each transmitter.
For connecting the receiver with the transmitters, please refer to Sennheiser official website:
https://docs.cloud.sennheiser.com/en-us/ew-d/ew-d/ew-dx-connecting-synchronizing-em.html



Shure

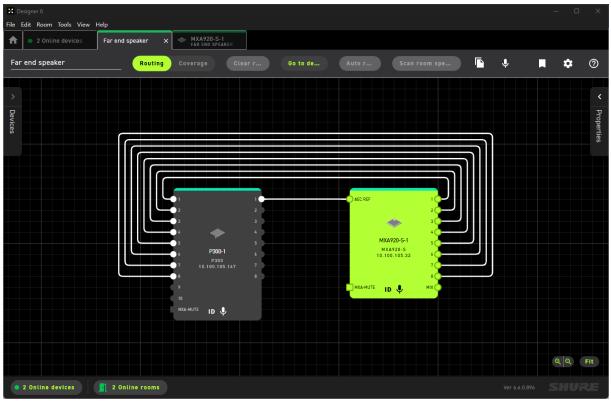
> Shure® IntelliMix® P300 Audio Conferencing Processor
> Shure® IntelliMix® Room Audio Processing Software
>
> Shure® MXA310 Table Array Microphone
> Shure® MXA710 Linear Array Microphone
> Shure® MXA910 Ceiling Array Microphone
> Shure® MXA901 Conferencing Ceiling Array Microphone
> Shure® MXA920-S / MXA920-R Ceiling Array Microphone
> Shure® MXA925-S / MXA925-R Ceiling Array Microphone
>
> Shure® Microflex® Complete Wireless (MXCW) System
> Shure® Microflex Wireless neXt 4
> Shure® Microflex Wireless neXt 8

- **Shure® IntelliMix® P300 Audio Conferencing Processor**

  When the microphone picks up audio from far-end participants on a video conferencing software, the group's camera moves to preset 0. This purpose of this feature is to show the whole room and prevent false tracking.

  To set up far-end speaker detection:

  1. Add your devices (e.g., P300 and MXA920/925) in Shure Designer.
  2. Route your devices.

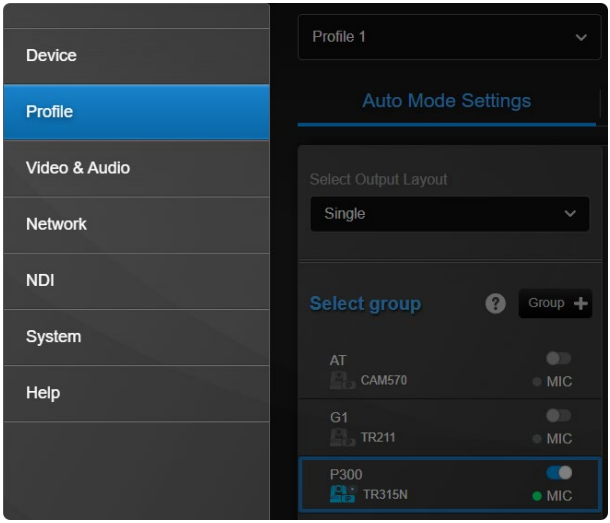


  3. Add P300 and your camera in the matrix box's web interface.

     Go to **Settings** ⚙ > **Device** > **Add device**, then add the P300 as microphone.

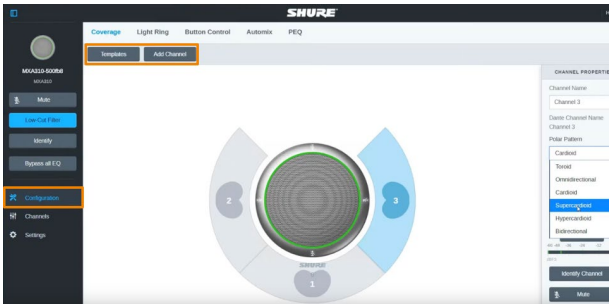
4. Create your camera and microphone group in the matrix box's web interface.

   Go to **Settings** > **Profile** > **Select group**, then click Group + to create a group.



5. Pair presets and microphone channels.
6. Click Time to configure **Far end speakers trigger preset 0**.
7. Start a meeting on your video conferencing software and select P300 as audio.
8. When the microphone picks up audio from far-end participants, the most recently used camera should move to Preset 0 after the configured delay.

- **MXA310 Table Array Microphone**

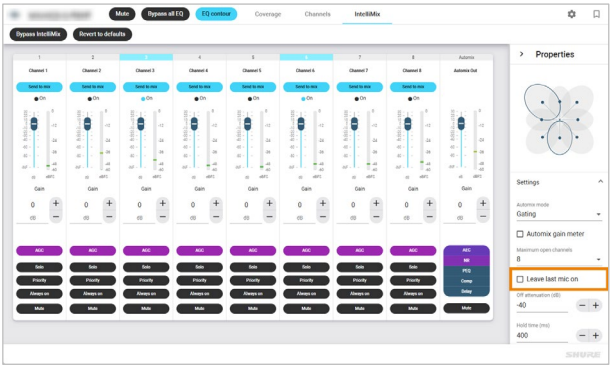


Web Application

1. Open the **Configuration** tab.

2. Select **Template** to apply a multi-channel option or select **Add Channel** to add more than 1 channel. The matrix box does not support a single channel for the MXA310.

- **MXA910 Ceiling Array Microphone**



Web Application

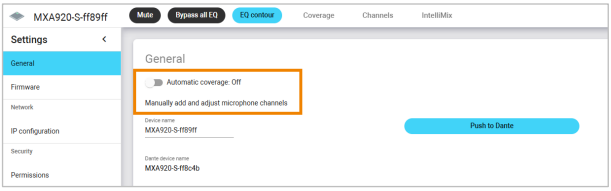
Go to **IntelliMix** > **Automixer Properties** > Deselect **Leave last mic on**.

- **MXA901 / MXA920 / MXA925 Ceiling Array Microphone**

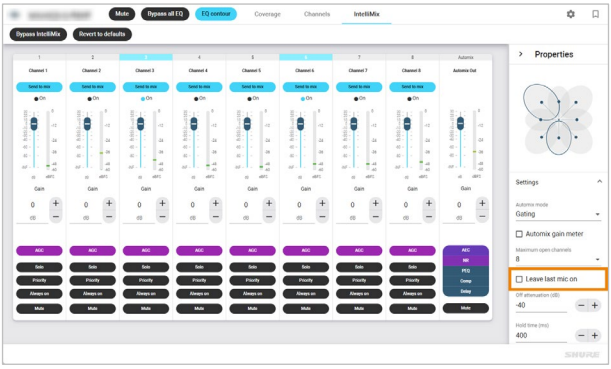
Note: To integrate with supported AVer camera tracking system via active talker positions, refer to <Auto Mode (Active Position)>.

To manually position up to 8 lobes:

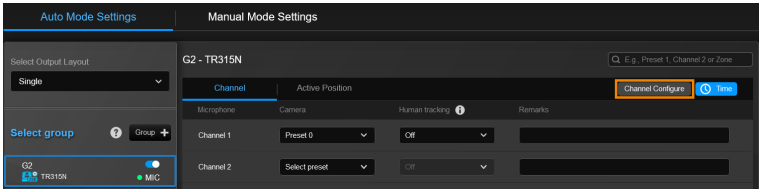
1. In the microphone's web application, go to **Settings** > **General** > Turn off **Automatic coverage**.



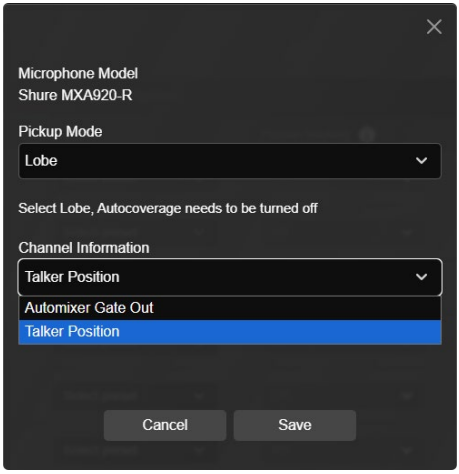
2. Go to **IntelliMix** > **Automixer Properties** > Deselect **Leave last mic on**.



3. In the matrix box's web interface, go to **Auto Mode Settings** > **Channel** > **Channel Configure** > Select **Lobe** as **Pickup Mode**: The lobes you have positioned in the microphone's web application correspond to channel 1-8.

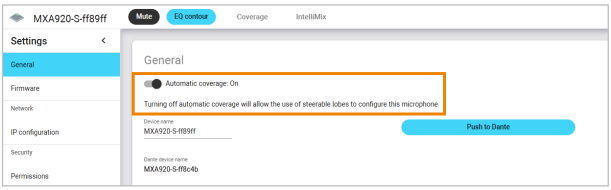


4. Select one of the following from the **Channel Information** drop-down list:
   - Talker Position (default): Detects active talkers
   - Automixer Gate Out: Detects all sounds



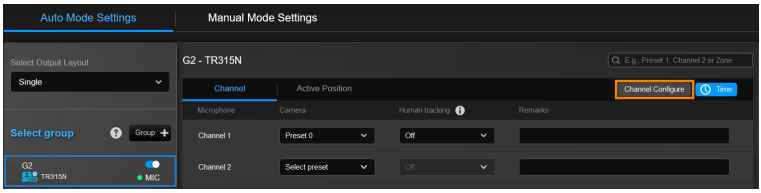
To add a mix of up to 8 dynamic and dedicated coverage areas:

1. In the microphone's web application, go to **Settings** > **General** > turn on **Automatic coverage**. The default setting is a 30 by 30 foot (9 by 9 meter) dynamic coverage area.

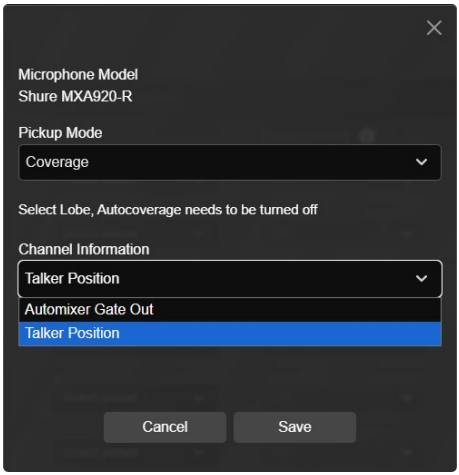


2. To add more coverage areas, go to **Coverage** > **Add coverage**.

3. In the matrix box's web interface, go to **Auto Mode Settings** > **Channel** > **Channel Configure** > select **Coverage** as **Pickup Mode**. The coverage areas you have positioned in the microphone's web application correspond to the matrix box channel 1-8.

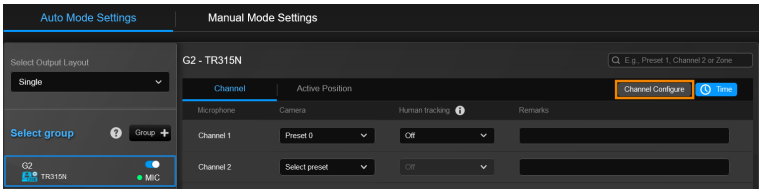


4. Select one of the following from the **Channel Information** drop-down list:
   - Talker Position (default): Detects active talkers
   - Automixer Gate Out: Detects all sounds

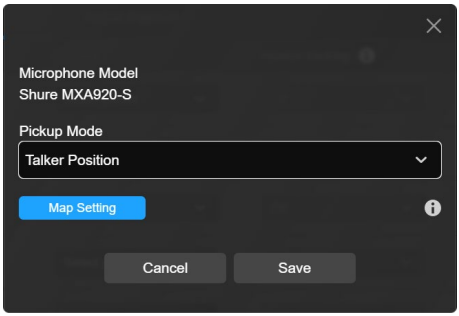


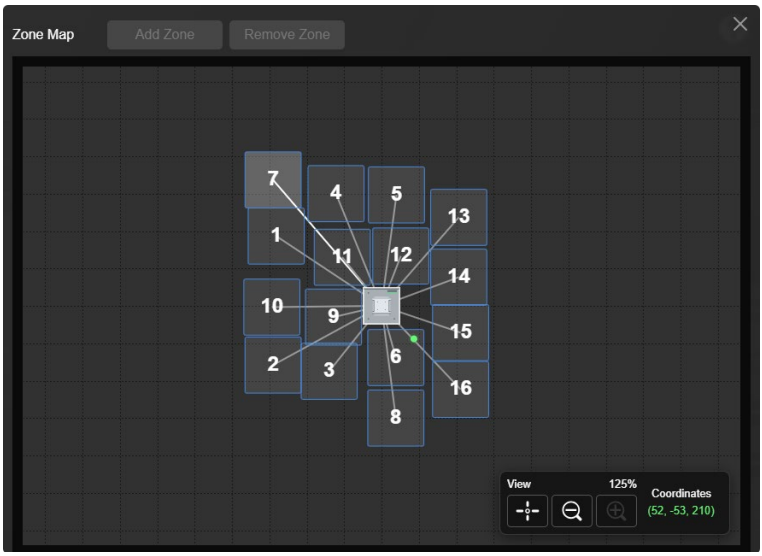
To add up to 16 dedicated coverage areas:

1. In the matrix box's web interface, go to **Auto Mode Settings** > **Channel** > **Channel Configure** > select **Talker Position** as **Pickup Mode**.



2. Click **Map Setting** > **Add Zone**.
   You can add up to 16 coverage areas per microphone. Each background square is 1.97 by 1.97 foot (60 by 60 centimeter) and the green dot indicates the talker position. Move and resize as needed.

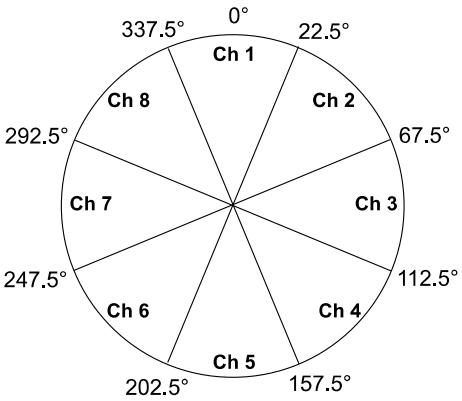




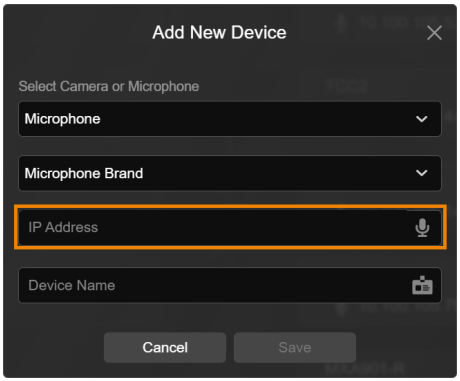
Yamaha

> RM-CG Ceiling Array Microphone
>
> RM-TT Tabletop Array Microphone
>
> RM-CR Remote Conference Processor
>
> RM-W Wireless Microphone System

- The matrix box divides RM-CG's horizontal angles into 8-24 equal parts, which correspond to the matrix box channel 1-24.



- the matrix box voice tracking function requires linking more than one RM-TT or RM-W microphones for location data.
- When linking RM-TT or RM-W microphones to the RM-CR Remote Conference Processor, enter the processor's IP address in the **IP Address** field when adding microphones in the matrix box.



HTTP Requests

Function	Request	Description
Pause all groups	http://[account]:[password]@[IP Address]/request=pause	
Resume all groups	http://[account]:[password]@[IP Address]/request=resume	
Query pause status of all groups	http://[account]:[password]@[IP Address]/request=queryPauseStatus	
Disable all groups	http://[account]:[password]@[IP Address]/request=disableAll	
Enable all groups	http://[account]:[password]@[IP Address]/request=enableAll	
Disable a specified group	http://[account]:[password]@[IP Address]/request=disable&group=[Group ID]	
Enable a specified group	http://[account]:[password]@[IP Address]/request=enable&group=[Group ID]	
Query status of a specified group	http://[account]:[password]@[IP Address]/request=queryStatus&group=[Group ID]	
Set profile	http://[account]:[password]@[IP Address]/request= setProfile&profile=[number]	
Reboot	http://[account]:[password]@[IP Address]/cgi-bin?OnePush=!	
Get power schedule	http://[account]:[password]@[IP Address]/cgi-bin?GetData=sys_power_schedule	Hours are separated by a “, “. Days are separated by an “_”.
Set power schedule	http://[account]:[password]@[IP Address]/cgi-bin?SetData=sys_power_schedule,"0,1,0,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1_1,1,1,1,1,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1_1,1,1,1,1,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1_1,1,1,1,1,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1_1,1,1,1,1,1,1,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1_1,1,1,1,1,1,1,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1_1,1,1,1,1,1,1,1,1,1, 1,1,1,1,1,1,1,1,1,1,1,1,0_"	Hours are separated by a “, “. Days are separated by an “_”. An “_” must precede the end quote.
Get auto reboot status	http://[account]:[password]@[IP Address]/cgi-bin?Get=sys_reboot_time_en	0: disable 1: enable
Set auto reboot status	http://[account]:[password]@[IP Address]/cgi-bin?Set=sys_reboot_time_en,3,0 http://[account]:[password]@[IP Address]/cgi-bin?Set=sys_reboot_time_en,3,1	0: disable 1: enable
Get auto reboot time	http://[account]:[password]@[IP Address]/cgi-bin?GetString=sys_reboot_time	"02:00"
Set auto reboot time	http://[account]:[password]@[IP Address]/cgi-bin?SetString=sys_reboot_time,"02:00"	
Get 2-way UAC	http://[account]:[password]@[IP Address]/cgi-bin?Get=TrkBox_Two_way_uac_on	0: disable 1: enable

Set 2-way UAC	http://[account]:[password]@[IP Address]/cgi-bin?Set=TrkBox_Two_way_uac_on,3,0 http://[account]:[password]@[IP Address]/cgi-bin?Set=TrkBox_Two_way_uac_on,3,1	0: disable 1: enable
Get USB output	http://[account]:[password]@[IP Address]/cgi-bin?Get=TrkBox_Usb_output_switch	0: Auto 1: USB#1 2: USB#2
Set USB output	http://[account]:[password]@[IP Address]/cgi-bin?Set=TrkBox_Usb_output_switch,3,0 http://[account]:[password]@[IP Address]/cgi-bin?Set=TrkBox_Usb_output_switch,3,1 http://[account]:[password]@[IP Address]/cgi-bin?Set=TrkBox_Usb_output_switch,3,2	0: Auto 1: USB#1 2: USB#2
Get device status	http://[account]:[password]@[IP Address]/request=queryDeviceStatus	Device Info: name=device name, type=camera or microphone, port=USB1~3, HDMI1~3, or IP status=online or offline
Get general mode	http://[account]:[password]@[IP Address]/request=getGeneralMode	0 (profile mode), 1 (live mode)
Set general mode	http://[account]:[password]@[IP Address]/request=setGeneralMode&generalMode=[generalMode ID]	generalMode ID: 0 (profile mode), 1 (live mode)
Enable live mode	http://[account]:[password]@[IP Address]/request=enableLiveMode	
Disable live mode	http://[account]:[password]@[IP Address]/request=disableLiveMode	
Get live mode layout	http://[account]:[password]@[IP Address]/request=getLiveLayout	liveLayout: PIP(0), Single(1), Side-by-side(2), Main Speaker(3), Main Speaker(4), Quad View(5)
Set live mode layout	http://[account]:[password]@[IP Address]/request=setLiveLayout&liveLayout=[liveLayout ID]	liveLayout: PIP(0), Single(1), Side-by-side(2), Main Speaker(3), Main Speaker(4), Quad View(5)

Query all profile info	http://[account]:[password]@[IP Address]/request=queryAllProfileTbInfo	response profile data array.
		array item:
		{
		"currentGroup":1, // current group ID
		"enableVoiceTracking":1, // pause or resume
		"isCurrent":1,
		// is current profile
		"layoutAuto":4,
		// auto mode layout

		"layoutManual":3, // manual mode layout
		"mode":0,
		// auto mode or manual mode
		"pid":1,
		// profile ID 1~36
		"profileName":"", // profile name naming by user
		"profileOrder":1
		}

Get current profile mode	http://[account]:[password]@[IP Address]/request=getMode	auto or manual mode
Set current profile mode	http://[account]:[password]@[IP Address]/request=setMode&mode=[mode ID]	mode ID=0(auto mode), 1(manual mode)
Query device status	http://[account]:[password]@[IP Address]/request=queryOnlineDevice	

Query live mode all layout settings	http://[account]:[password]@[IP Address]/request=queryLiveModeData	response live mode data array.
		
		array item:
		{
		"camView":0 // camView: 0 (Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
		"deviceTbCamDid":43, // camera ID
		"liveModeLayout":1, // layout ID: 0~5
		"sourceOrder":1 // source order: 1~4
		}

Reset live mode data	http://[account]:[password]@[IP Address]/request=clearLiveModeData	
Get live mode device list	http://[account]:[password]@[IP Address]/request=queryLiveModeDeviceInfo	response live mode device array. array item: { "camLensCount":1 // 0(Unknown), 1(Single lens camera), 2(Dual lens camera), ... "deviceTbCamDid":1, // camera ID "name":"USB1", // device name "port":"USB1", // device port or IP address(IP cam)

		"type":"camera" // device type }
Set camera to live mode layout source	http://[account]:[password]@[IP Address]/request=setLiveModeSource&liveLayout=[liveLayout ID]&srcOrder=[sourceOrder]&camDid=[deviceTbCamDid]&camView=[camView Index]	liveLayout ID: 0~5 sourceOrder: 1~4 deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
RTMP Start streaming	http://[account]:[password]@[IP Address]/cgi-bin?Set=vdo_rtmp_enable, 3, 1	
RTMP Stop streaming	http://[account]:[password]@[IP Address]/cgi-bin?Set=vdo_rtmp_enable, 3, 0	

AVer Control Panel (formerly PTZ Control Panel)

HOME	http://[account]:[password]@[IP Address]/request=ptzHome&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
PanLeftStart	http://[account]:[password]@[IP Address]/request=ptzLeftStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
PanLeftStop	http://[account]:[password]@[IP Address]/request=ptzLeftStop&camDid=[deviceTbCamDid]&camView=[camView Index]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
PanRightStart	http://[account]:[password]@[IP Address]/request=ptzRightStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
PanRightStop	http://[account]:[password]@[IP Address]/request=ptzRightStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
TiltUpStart	http://[account]:[password]@[IP Address]/request=ptzUpStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
TiltUpStop	http://[account]:[password]@[IP Address]/request=ptzUpStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...

TiltDownStart	http://[account]:[password]@[IP Address]/request=ptzDownStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
TiltDownStop	http://[account]:[password]@[IP Address]/request=ptzDownStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
ZoomInStart	http://[account]:[password]@[IP Address]/request=ptzZoomInStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
ZoomInStop	http://[account]:[password]@[IP Address]/request=ptzZoomInStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
ZoomOutStart	http://[account]:[password]@[IP Address]/request=ptzZoomOutStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
ZoomOutStop	http://[account]:[password]@[IP Address]/request=ptzZoomOutStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
FocusInStart	http://[account]:[password]@[IP Address]/request=ptzFocusInStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
FocusInStop	http://[account]:[password]@[IP Address]/request=ptzFocusInStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
FocusOutStart	http://[account]:[password]@[IP Address]/request=ptzFocusOutStart&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
FocusOutStop	http://[account]:[password]@[IP Address]/request=ptzFocusOutStop&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
GoPreset	http://[account]:[password]@[IP Address]/request=ptzGoPreset&camDid=[deviceTbCamDid]&presetNum=[preset	deviceTbCamDid: camera ID presetNum: 0~255 camView: 0(Single lens camera), 1 (The

	number]&camView=[camView Index]	first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
SavePreset	http://[account]:[password]@[IP Address]/request=ptzSavePreset&camDid=[deviceTbCamDid]&presetNum=[preset number]&camView=[camView Index]	deviceTbCamDid: camera ID presetNum: 0~255 camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
GetFocusMode	http://[account]:[password]@[IP Address]/request=ptzGetFocusMode&camDid=[deviceTbCamDid]&camView=[camView Index]	deviceTbCamDid: camera ID focusMode: 0:AF 1:MF -1:NO Focus function device camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...
SetFocusMode	http://[account]:[password]@[IP Address]/request=ptzSetFocusMode&camDid=[deviceTbCamDid]&focusMode=[0:AF 1:MF]&camView=[camView Index]	deviceTbCamDid: camera ID focusMode: 0:AF 1:MF -1:NO Focus function device camView: 0(Single lens camera), 1 (The first lens of multi-lens camera), 2 (The second lens of multi-lens camera), ...

TCP Commands

A TCP command string starts with AVER:[account]:[password]:/request=X, and ends with \r\n. X is as HTTP requests above. For example, AVER:[account]:[password]:/request=pause\r\n, AVER:[account]:[password]:/request=resume \r\n, and so on.

VISCA Command Table

The matrix box also can be controlled via below VISCA over IP commands, but does not support VISCA RS-422 commands.

VISCA over IP

PORT

Internet protocol	IPv4
Transport protocol	UDP
Port address	52381

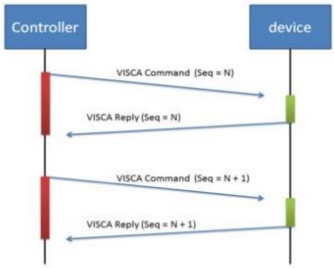
FORMAT

	byte 0	byte 1	byte 2	byte 3	byte 4	byte 5	byte 6	byte 7	byte8 ~~~ byte23
func	Payload type		Payload length		Sequence number				Payload (1 to 16 bytes)
data	Value1	Value2	1~16 (0x0001~0x0010)		0X00000000 ~ 0XFFFFFFFF				VISCA Packet (see page VISCA)

Payload type

Name	Value1	Value2	Description
VISCA command	0x01	0x00	Stores the VISCA command.
VISCA inquiry	0x01	0x10	Stores the VISCA inquiry.
VISCA reply	0x01	0x11	Stores the reply for the VISCA command or VISCA inquiry

Sequence number



Sequence number = N

Command Set	Command	Command Packet	Comments
Power	OFF	8x 01 04 00 03 FF	Power off MT300
Voice Tracking	Pause	8x 01 04 7D 03 00 FF	Pause voice tracking
	Resume	8x 01 04 7D 02 00 FF	Resume voice tracking
System	Change Profile	8x 01 04 40 01 YY FF	YY = profile num(0x01~0x24)
		8x 01 04 3F 02 YY FF	Preset recall, YY = profile num(0x01~0x24)
	Reboot	8x 01 04 A4 FF	Reboot MT300
	Switch USB Output	8x 01 7E 03 01 FF	USB port 1
		8x 01 7E 03 02 FF	USB port 2

Command samples:

Command Set	Command	Command Packet	Comments
Power	OFF	01 00 00 07 00 00 00 01 81 01 04 00 03 FF	Power off MT300
Voice Tracking	Pause	01 00 00 07 00 00 00 01 81 01 04 7D 03 00 FF	Pause voice tracking