

MT300 Matrix Tracking Box

— User Manual —

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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The information contained in this documentation is subject to change without notice.

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/pro-av/support/

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

Contact Information

Headquarters

AVer Information Inc. 8F, No.157, Da-An Rd., Tucheng Dist., New Taipei City 23673, Taiwan Tel: +886 (2) 2269 8535

Europe Branch Office

AVer Information Europe B.V. Westblaak 134, 3012 KM, Rotterdam, The Netherlands

Tel: +31 (0) 10 7600 550

Vietnam Branch Office

Công ty TNHH AVer Information (Việt Nam) Tầng 5, 596 Nguyễn Đình Chiểu, P.3, Quận 3,

Thành phố Hồ Chí Minh 700000, Việt Nam Tel: +84 (0) 28 22 539 211

Hỗ trơ kỹ thuật: +84 (0) 90 70 080 77

USA Branch Office

AVer Information Inc., Americas 44061 Nobel Drive, Fremont, CA 94538, USA

Tel: +1 (408) 263 3828 Toll-free: +1 (877) 528 7824

Japan Branch Office

アバー・インフォメーション株式会社 〒160-0023 日本東京都新宿区西新宿 3-2-26 立花 新宿ビル 7 階 Tel: +81(0)359890290

お客様サポートセンター(固定電話のみ): +81 (0) 120 008 382

Korea Office

한국 에버 인포메이션 (주) 서울시 종로구 새문안로 92 (신문로 1 가, 광화문오피시아빌딩) 1831, 1832 호 Tel: +82 (0) 2 722 8535

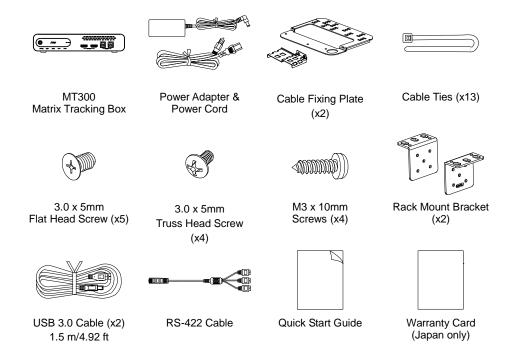
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Overview

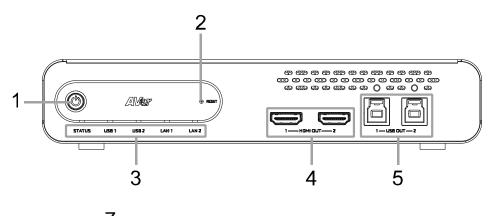
Package Contents

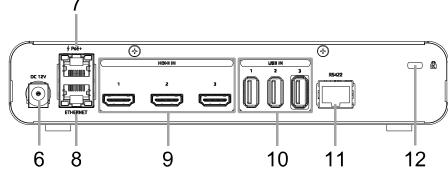


Optional Accessories



Parts Info





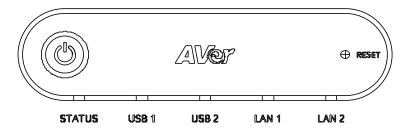
Front Panel

- 1. Power Button
- 2. Reset Button
- 3. LED Indicators
- 4. HDMI Out Port (x2)
- USB Out 3.0 Type-B Port (x2) (single USB out port per use only)

Back Panel

- 6. DC Power Jack
- 7. PoE+ Port IEEE 802.3AT
- 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

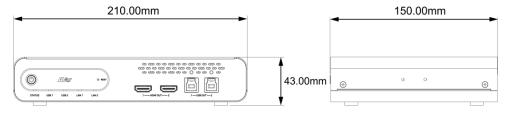
USB 1, USB 2

Color	Status
Solid green	Connected
Flashing green	Streaming

LAN 1, LAN 2

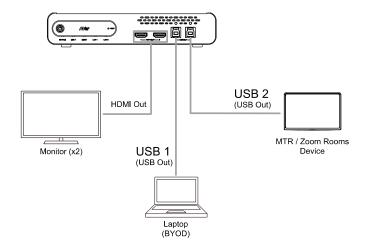
Color	Status
Solid green	Connected

Dimensions

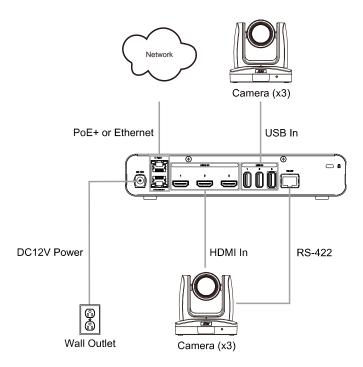


Connections

Front Panel



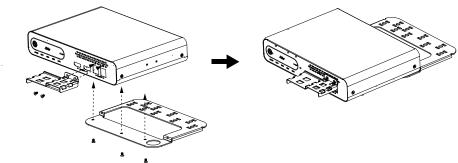
Back Panel



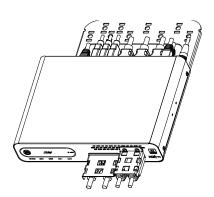
Installation

Cable Fixing Plate Installation

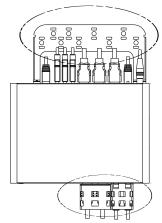
1. Secure the cable fixing plates to the tracking box with 5 flat hat 3.0 x 5mm screws in the package.



2. Plug in cables.

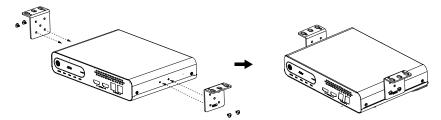


3. Use 13 cable ties in the package to secure the cables and cable fixing plates.

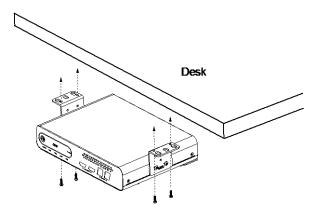


Desk Mount Installation

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

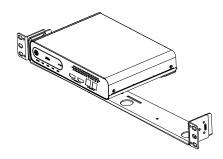


2. Install the mount brackets and the tracking box under the desk. Screw: 4 screws, M3 x 10mm



Server Rack Mount (Optional Accessories)

For details on optional accessories, consult your local dealer.



Get Started

Access the Web Interface

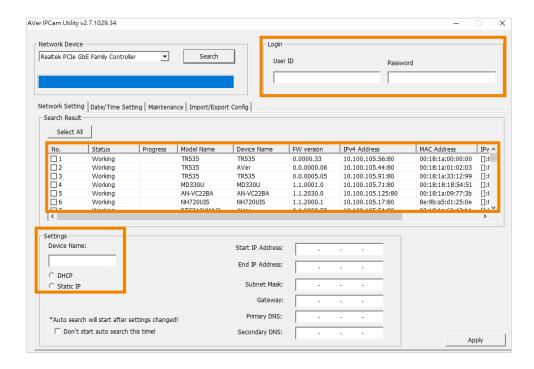
To access the web interface of the Matrix Tracking Box, you can use any of the following software to find its IP address:

- AVer IPCam Utility
- AVer PTZ Management

Note:

- The PoE+ port defaults to a static IP address of 192.168.1.168, while the Ethernet port uses DHCP.
- The MT300 default username and password is admin/admin.

AVer IPCam Utility



To access the web interface:

- Download IPCam 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 MT300 is connected to the internet.
- IPCam Utility and camera must be on the same LAN.
- Double-click on your MT300's IP address in the IPv4 Address column to open the web interface in your browser.

When you log in for the first time:

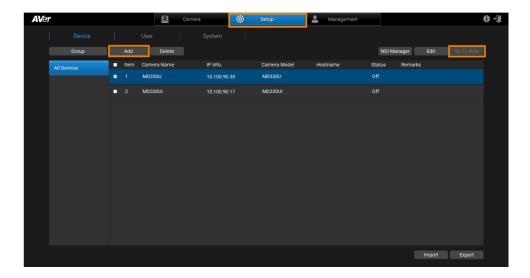
Change the username and password before logging in to the web interface.

- Username: Use 1-32 characters.
- Password: Use 8-32 characters and a combination of uppercase letters, lowercase letters, numbers, and symbols (%+=,-_^\@.~). The password cannot be the same as the username.

To change your network to DHCP or static IP:

- 1. Select the checkbox of your camera.
- 2. Enter the default or changed 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.

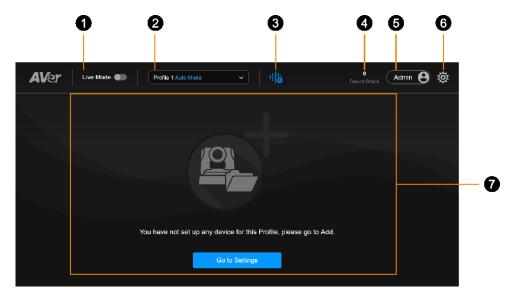
AVer PTZ Management



Note: The PTZ Management default username and password is admin/admin.

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

Main Page



1. Live Mode

Toggle Live Mode on or off.

2. Select profile

Choose a defined profile.

- While you can save Auto Mode and Manual Mode settings in the same profile, only one mode is applied per use.
- To switch modes, click the **Settings** icon (5) on the main page > **Profile**.

3. Pause / Resume Voice-Tracking

Click to pause or resume voice-tracking.

4. Device Status

Displays the number of online devices and the number of all added devices.

5. Account

Switch between Admin and User accounts.

A User can use voice-tracking function without editing the settings.

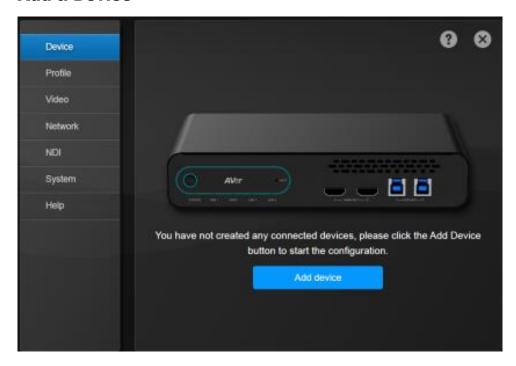
6. Settings

Click to enter the settings menu.

7. Live view

Displays the camera live view.

Add a Device



To add cameras and microphones:

- 1. Click the **Settings** icon (S) on the main page > **Device** > **Add device**.
- 2. Fill out the Add New Device dialog box.

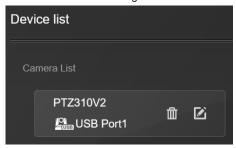
Item	Description
Select Camera or Microphone	Add a camera or a microphone.
Connect Camera via IP Connect Camera via USB Port Connect Camera via HDMI Port	 IP: Connect the camera via Ethernet or PoE+ port. USB: Port 1 and 2 is used for video streaming, while Port 3 is used for video and audio streaming. Enter a name to be displayed in the device list. HDMI: Select Control via IP or Control via RS-422. When Control via RS-422 is selected, turn Support Human Tracking on or off and enter a name to be displayed in the device list.
IP Address	Automatically search or manually enter the IP address.
Camera Account	Enter your camera's account and password.
Camera Password	
Streaming via RTSP	Real-Time Streaming Protocol (RTSP): Make sure your

Streaming via NDI	 camera and receiving device or application support RTSP. Network Device Interface (NDI): Make sure your camera and receiving device or application support NDI. Enter a name for your NDI group (optional).
Device Name	Enter a name to be displayed in the device list.

3. Click Save.

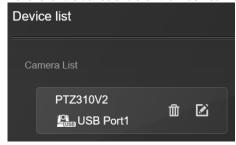
To edit devices:

- 1. Hover over the device and click the **Pencil** icon.
- 2. Edit device in the dialog box and click Save.



To delete devices:

Hover over the device and click the Trash can icon.



Set up Your MT300

The modes built into your MT300 help you present video feeds in a single stream composited gallery, follow the presenter in real time as they move, or frame the active talker. Choose from Live Mode, Manual Mode and Auto Mode.

Before you start, make you have added your devices.

Live Mode

Live Mode requires no setup. Both Admin and User can see live views of added cameras, change layouts and use pan-tilt-zoom functionality.





- Toggle on **Live Mode** to enter Live Mode.
- 2. Select a layout.
- Drag a camera icon from the Select Camera section to a grid.
 A blue circled number will appear on the camera icon to indicate the grid position.
- 4. Click to select a live view. The selected live view will be in a blue frame.
- 5. Use the pan-tilt-zoom control panel to position and focus the camera.
- 6. Or go to a preset by selecting a preset number.
- Toggle off Live Mode to exit Live Mode. Live Mode settings are saved automatically. Your last selected profile in Setting ⁽²⁾/₂ > Profile will be applied when you return to the main page.
- 8. To clear settings, click **Reset** to reset Live Mode to factory default settings.

Manual Mode

Follow the presenter in real time as they move using presets and Human Tracking modes.

Create up to 36 profiles to save your Manual Mode settings.

- You can rename a profile.
- While you can save Manual Mode and Auto Mode settings in the same profile, only one mode is applied per use.
- Switch to Manual Mode by clicking the Manual Mode Settings tab.
- A profile is saved and applied automatically when leaving the Profile page.





- 1. Click the **Settings** icon (S) on the main page > **Profile** > **Manual Mode Settings**.
- 2. Choose a profile from the **Profile** drop-down list to save your settings.
- Select a layout from the Select Output Layout drop-down list for up to 4 cameras.
- Select Camera, Preset, Human Tracking mode. Refer to < Human Tracking for details.

Set a Preset



- If you haven't defined presets for your camera, click **Set preset** to add presets.
- 6. Position your camera using pan, tilt, zoom and focus controls.
- Click a number and click Save to save that position.
- 8. Click **Back** to return to the **Profile** page.
- 9. Click the cross icon on the upper right corner to return to the main page.

Human Tracking

- For supported AVer cameras, refer to < Supported AVer Cameras>.
- For camera settings, refer to your AVer camera's user manual.

Human tracking includes three modes:

- Presenter
- Zone
- Hybrid
- Segment (TR535 Only)

Presenter Mode example:

- 1. Both microphone channel 1 and preset 1 are set to the whiteboard.
- 2. Select Presenter from the Human tracking drop-down list.
- 3. When microphone channel 1 picks up audio from the presenter, the camera moves to preset 1. Presenter Mode frames the presenter on screen and continues to follow them.

Channel 1 detects voice

Camera moves to preset 1

Presenter Mode is turned on







Auto Mode (Channel)

Frame the active talker with voice-tracking functionality by linking AVer cameras with third-party microphone systems (supported models) from Audio-Technica, Biamp, ClearOne, Nureva, Sennheiser, Shure and Yamaha.

Third-party microphone systems may require setup in their manufacture software. For details on settings, please refer to <<u>Supported Microphones</u>>.

Create a profile to save your Auto Mode settings:

- You can rename a profile.
- While you can save Manual Mode and Auto Mode settings in the same profile, only one mode is applied per use.
- Switch to Auto Mode by clicking the Auto Mode Settings tab.
- A profile is saved and applied automatically when leaving the **Profile** page.



- Click the Settings icon (on the main page > Profile > Auto Mode Settings.
- Choose a profile from the **Profile** drop-down list to save your settings.

Add a Camera and Microphone Group

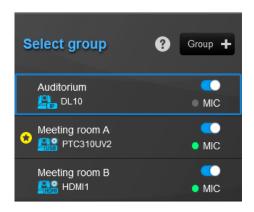


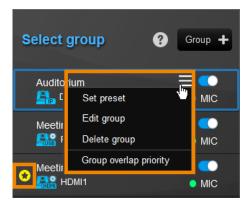
- Select a layout from the Select Output Layout drop-down list for up to 3 cameras.
- Add up to 25 groups of AVer camera and microphone pairs in the Add Device Group dialog box.



Your groups will be displayed in **Select** group.

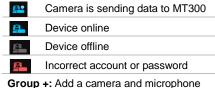
Select Group





The **Select group** menu includes:

• **Device status:** Click the question mark icon for reference.



- Group +: Add a camera and microphone group.
- Toggle switch: Enable or disable a group.
- MIC indicator:

Green	Online	
Gray	Offline	

Hover over a group to display the hamburger menu. Click the menu to:

- Set presets
- Edit a group
- Delete a group
- Set a group overlay priority

This is designed for the groups sharing one camera. When these microphones receive the same sound source, the camera moves to the preset defined in the priority group.

Set a Priority Group and Default Camera

When multiple microphone groups share one camera and receive the same sound source, the camera goes to the preset defined in the priority group.



Priority Group

Select **Group overlap priority** on the hamburger menu to set a priority. To cancel, deselect. The star icon indicates a priority group.

• Time to go to Preset 0
Click the Time button select Enable after below time interval in Time to go to Preset 0 and enter interval time (minutes/seconds).

When the microphone detects no sound, the camera will go to preset 0, and the live view will switch to the priority group's camera view.

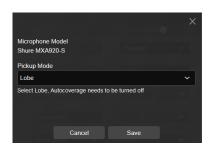
Set a preset



Set preset: If you haven't defined presets for your camera, click Set preset on the hamburger menu to add presets. Refer to the steps in <Set a Preset> in Manual Mode.

Pair Microphone Channels with Presets







- Select a device group in Select group.
 A blue frame indicates that it is selected.
- Select a preset from the Select preset drop-down list under Camera for each microphone channel.
- Select a Human Tracking mode. Refer to <Human Tracking> for details.
- 4. Add notes in the **Remarks** field, such as whiteboard to identify the location.
- Click Channel Configure to select a pickup mode based on your microphone setting.

- 6. Click the **Time** button to set a duration for:
 - Time to trigger Preset: Move to a preset after the microphone detects a voice.
 - Multiple Speakers Mode behavior: Select Back to Preset 0 for 3 or more multiple sound sources. Then set up Time to trigger and Time to quit Multiple Speaker Mode.
 - Time to go to Preset 0: Select
 Enable after below time interval
 and enter a duration for the camera
 to move to Preset 0 after it detects
 no sound. The camera view will also
 switch to the camera set priority
 group •.
 - Far end speakers trigger Preset 0
 (Sennheiser microphones only):
 During video conferencing, when the
 local microphone detects sound

- from the far end, the local camera will go to Preset 0 and display the camera live view.
- 7. The pairing is complete. The voice-tracking icon the channel indicates that it detects a voice. The blue channel marks the current preset.

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.

Active Position supports:

- USB-connected AVer cameras
- Shure MXA920 Ceiling Array Microphone

To set up Active Position:





- Make sure the USB-connected AVer camera has been paired with a Shure MXA920 in <<u>Add a Camera and</u> <u>Microphone Group</u>>.
- Select a device group in Select group.A blue frame indicates that it is selected.
- Click the Active Position tab. For first-time setup, calibrate the camera and microphone as prompted.

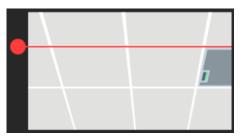
Step 1

4. Select the way camera is installed from the drop-down list and click **Next**.



Line up with the microphone

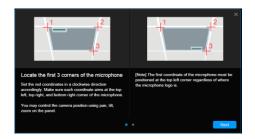


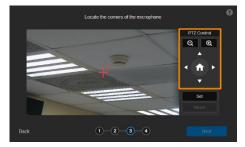


Step 2

- Align the red line with the top or bottom edge of the microphone by dragging the red dot.
 - Click the question mark for reference.

- Adjust the camera angle using pan, tilt and zoom controls, if the microphone appears at a slight angle.
 - Zoom controls here are for alignment only and don't affect the zoom ratio of the camera.
 - The microphone doesn't need to be in the center of the live view, as long as the red line is aligned with the edge.
- 7. Click Next.



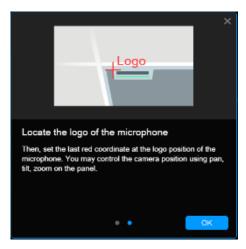




Step 3

- 8. Starting with the upper left, locate 3 microphone corners in a clockwise direction.
 - Click the question mark
 for reference.

- Move the red cross to the 1st corner (upper left) in the live view using pan, tilt and zoom controls.
- 10. Click **Set**. The saved location will appear in the thumbnail.
- 11. Repeat the steps to location the 2nd (upper right) and 3rd corners (lower right).







- 12. Finally, locate the logo on the microphone to indicate its orientation. Move the red cross to the logo in the live view using pan, tilt and zoom controls.
 - Depending on the microphone orientation, the logo corner may be the same as one of the 3 corners.
- 13. Click **Set**. The saved location will appear in the thumbnail.
- Click Next after locating 3 corners and the logo. Or click Reset to relocate all of them.

Step 4

- 15. Make sure the red cross appears in the center of the microphone, and click **Save**.
- 16. To reconfigure, click Back.

To adjust or add a coverage area:

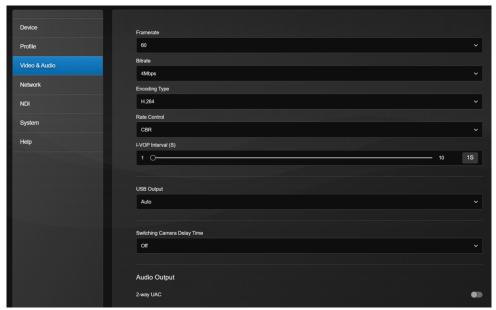




- 1. Open the MXA920 web application.
- Go to Settings > General > Automatic coverage.
- To add a mix of up to 8 dynamic and dedicated coverage areas, turn on Automatic coverage.
 - The default setting is a 30 by 30 foot (9 by 9 meter) dynamic coverage area.
- To add more coverage areas, go to Coverage
 Add coverage.
- On the Active Position tab, select Coverage not assigned to use all MXA920 coverage areas.
- Or select a coverage area that you have added in the MXA920 web application from the drop-down list.
 - Talker positions outside of the selected coverage area won't be picked up by the tracking box.
- 7. To change coverage areas, click **Re-configure**.

Video & Audio

Select the **Settings** icon \S on the main page > **Video & Audio**.



Video Output

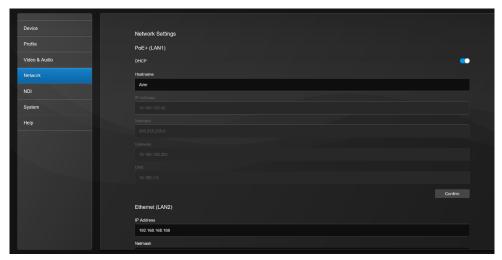
Item	Description
HDMI Video Output Resolution	Choose a video output resolution.
Stream Video Output	Choose a streaming output resolution for the live view.
Framerate	Choose a framerate.
Bitrate	Choose a bit rate.
Encoding Type	Choose H.264 or H.265 .
Rate Control	Choose Variable Bit Rate (VBR) or Constant Bit Rate (CBR).
I-VOP Interval (S)	Drag the slider to choose how often I-VOPs appear in a video
	stream.
	Shorter I-VOP intervals result in higher video quality but also
	larger file sizes.
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.

Audio Output

Item	Description
2-way UAC	Turn on to make USB in port 3 available for both audio input and
	output.

Network

Select the **Settings** icon $\{\hat{\wp}\}$ on the main page > **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 AVer.
IP Address	Enter your network settings to set up a static IP connection. Toggle off
Netmask	DHCP first.
Gateway	
DNS	

Ethernet (LAN2)

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

RTMP Settings

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

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

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

Set a TCP Command String 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:

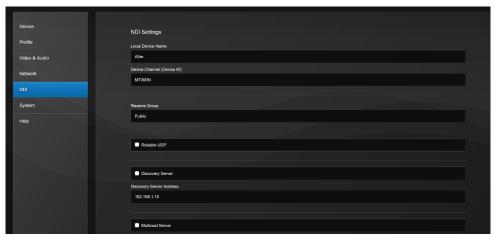
- Obtain a SSL certificate for encryption and decryption in base-64 encoded format and use a private key in PKCS#8 format (unencrypted).
- Package the required certificate content into PEM format. The SSL certificate uploaded to the camera must be in PEM format.
- 3. Click **Browse** to select the certificate file, and then click **Upload**.
- 4. Turn on HTTPS.

NDI

Network Device Interface (NDI) is a protocol that transmits high-quality, low-latency video and audio streams over IP networks.

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#).

Select the **Settings** icon $\{\hat{y}\}$ on the main page > **NDI**.

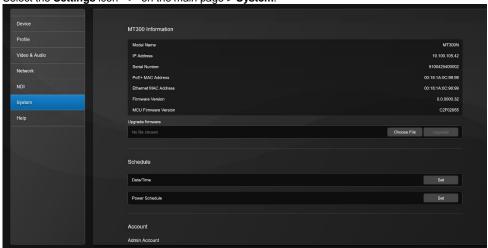


Item	Description
Local Device Name	Enter a name that identifies your camera group on the NDI software.
Device Channel (Device ID)	 Enter a name that identifies your camera on the NDI software. The default is MT300 or MT300N. Use no more than 10 characters, upper and lowercase letters, numbers and punctuation 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	Select the checkbox to enable Reliable User Datagram Protocol (RUDP).
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

Select the **Settings** icon $\langle \hat{\wp} \rangle$ on the main page > **System**.

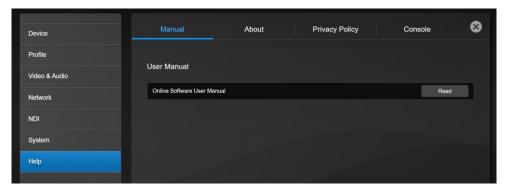


Item	Description	
MT300 Information	Display MT300 information such as the IP address.	
Upgrade Firmware	Download the latest firmware from AVer Download Center	
	(https://www.aver.com/download-center).	
Schedule	Date/Time: Set date and time for your tracking box.	
	Power Schedule: Schedule specific times for your tracking 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	
	tracking box to factory default settings.	
	Reboot: Restart your tracking box.	
Export / Import Settings	Export or import your tracking 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

View our user manual, terms and conditions, privacy statement, and the console. Select the **Settings** icon $\{0\}$ on the main page > **Help**.



Console



 Console: View and download real-time data on the camera-microphone action status for debugging purpose.

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.

Troubleshooting

No human tracking.

- Make sure your camera supports human tracking. For supported AVer cameras, see <u>Supported</u>
 AVer Cameras.
- If your camera is connected via HDMI and controlled via RS-422, make sure you select "Support Human Tracking" from the drop-down list. 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 length of time for <u>Time to Trigger Preset</u>.
- If you camera is shared among several camera and microphone groups, set a priority group in Group Overlay Priority.

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 to disable the group in the <u>Select group</u> section.
 Single video output: Audio is muted while video is still transmitting.
 Multiple video output: Both audio and video stop transmitting.

Appendix

Supported AVer Cameras

Professional Tracking Cameras (US model name in italics)

TR200/300 Series	PTC300 V2 Series	PTC300 Series	PTC500 Series
TR211	PTC330U(N)V2	PTC330	PTC500S
	TR333(N)V2	TR331	TR530
TR315(N)	PTC320UV2	PTC330N	PTC500+
		TR331N+	TR530+
TR335(N)	PTC310UV2	PTC330U	
	TR313V2	TR333	
	PTC310HWV2	PTC310(N)	PTC115 Series
	TR311HWV2	TR311(N)	
		PTC310U(N)	PTC115
		TR313(N)	TR320
		PTC310H(N)	PTC115+
			TR320+

Professional PTZ Cameras (do not support human tracking)

PTZ300 V2 Series	PTZ300 Series	PTC Series
PTZ330UV2	PTZ330	PTC500S
PTZ330UNV2	PTZ330N	PTC500+
PTZ310UV2	PTZ310	PTC115
PTZ310UNV2	PTZ310N	PTC115+
PTZ211		
PTZ231		

Distance Learning Camera

DL Series
DL30

Supported Microphones

Turn on **Multicast** on your router before setting up.

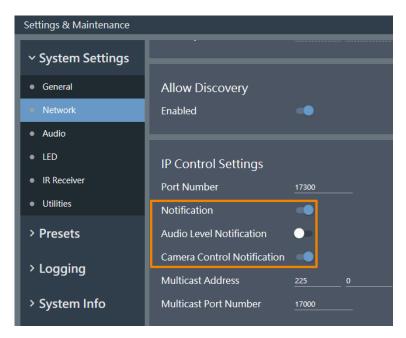
Some models may require setup in their manufacture software before using MT300.

Audio-Technica

ATND1061LK/DAN ATUC-50

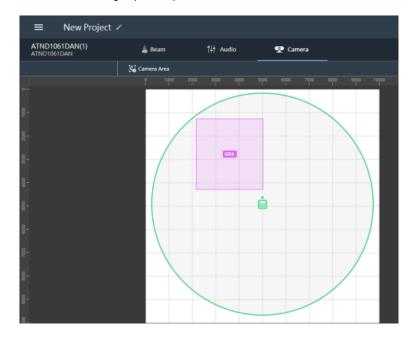
ATND1061LK Beamforming Ceiling Array Microphone Setup:

- Open Digital Microphone Manager. Go to Settings & Maintenance > System Settings > Network > IP Control Settings.
- 2. Turn on Notification and Camera Control Notification.



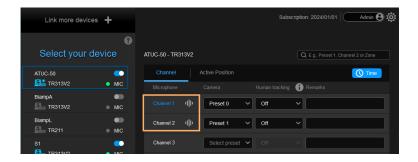
3. Select a microphone in the main area.

- Go to Camera > Camera Area. Add a Camera Area by dragging it within the microphone pickup area.
 - Each Camera Area group corresponds to MT300 channel 1-8.



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

- Each ATUC-50CU wired control unit supports a total of 100 ATUC-50DU discussion units.
- Each ATUC-50DU discussion unit corresponds to AVer PTZ Link channel 1-100.
- 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.



Biamp

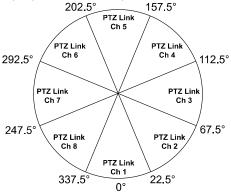
TesiraFORTÉ X
Parlé TCM-X/XA/XEX

Hardware and Channels Overview

TesiraFORTÉ X	Supports up to 4 Parlé microphones.
TCM-X	Plenum network box + one ceiling-mount microphone array
TCM-XA	Plenum network box with built-in amplifier+ one ceiling-mount microphone array
TCM-XEX	One expansion ceiling-mount microphone array

Up to 2 ceiling microphone arrays are permitted per network box (one TCM-X or TCM-XA with TCM-XEX).

Each ceiling microphone array has 8 channels. MT300 divides the microphones' horizontal angles into 8 equal parts, which correspond to MT300 Channel 1 - 8.

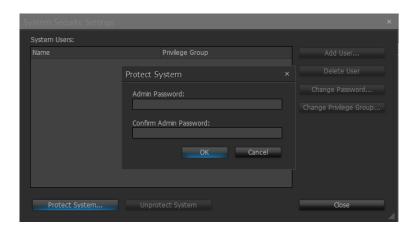


Microphone	Channel Start/End
AVerParleMic1	1-8 (ceiling mic 1)
Averraneiviici	9-16 (ceiling mic 2)
AVerParleMic2	17-24 (ceiling mic 1)
AverPaneiviicz	25-32 (ceiling mic 2)
A\/-=D==I=Mi=2	33-40 (ceiling mic 1)
AVerParleMic3	41-48 (ceiling mic 2)
A)/D	49-56 (ceiling mic 1)
AVerParleMic4	57-64 (ceiling mic 2)

You can protect 3rd party media control access for TesiraFORTÉ X using username and password.

To enable system security:

- After the DSP has been configured, connect to the unprotected Tesira system with Tesira Designer Software.
- 2. Open the System menu > Security menu > Manage System Security...
- 3. Click the Protect System... button to create the admin user and password.

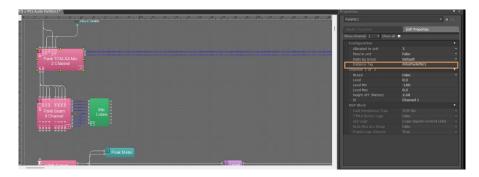


4. You'll be prompted to enter the same set of username and password when connecting to Biamp microphones in MT300.

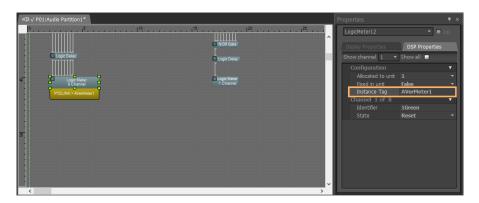


To set up Parlé TCM-X microphones:

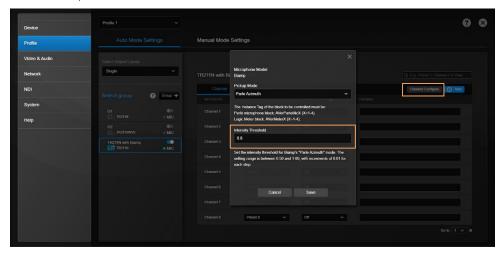
- 1. Open Tesira Design Software.
- After the TCM-X microphone has been added to the layout, the instance tag of the Parlé
 microphone block or Logic Meter block to be controlled must be the following.
 To check or rename the instance tag of a specific block, click on that block, go to Properties panel >
 DSP Properties tab > Instance Tag.
 - Parlé microphone block: AVerParleMicX (X=1 4).



Logic Meter block: AVerMeterX (X=1 - 4).



- 3. Click on **Channel Configure** and select a pickup mode in MT300 web interface. In **Parle Azimuth** mode, set the intensity threshold from 0.50 to 1.00 in increments of 0.01.
- 4. When finished, click Save.



ClearOne

BMA 360 Microphone System
CONVERGE® Pro 2 (supports up to 3 daisy-chained BMA 360s)

 MT300 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
2 nd BMA 360	13-24
3 rd BMA 360	25-36

 When adding your device in MT300, select your MIC channels in the drop-down list according to the number of BMA 360 daisy-chained.

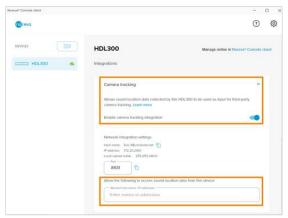


Nureva

HDL300 HDL310 Dual HDL300 HDL410

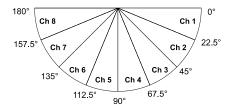
To set up HDL microphones:

- Nureva Console Client:
 - 1. Turn on Enable camera tracking integration.
 - Enter the IP address of the computer running MT300 in the Allowed host names / IP addresses field.



MT300:

- MT300 divides HDL microphones' horizontal angles into 8-24 equal parts, which correspond to MT300 channel 1-24.
- When adding microphones in MT300, enter the IP address of the computer running Nureva Console Client in the IP Address field.

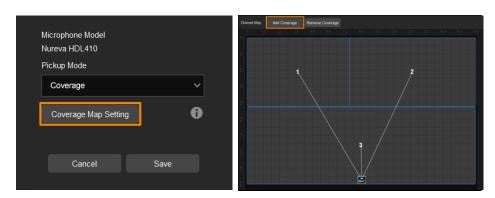


To add a coverage area for HDL410 in MT300:

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

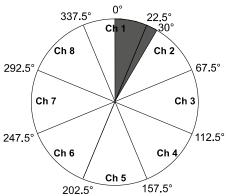
TeamConnect Ceiling 2
TeamConnect Ceiling Medium

MT300 divides TeamConnect Ceiling 2's and TeamConnect Ceiling Medium's horizontal angles into 8-24 equal parts, which correspond to MT300 channel 1-24.

• TeamConnect Ceiling 2

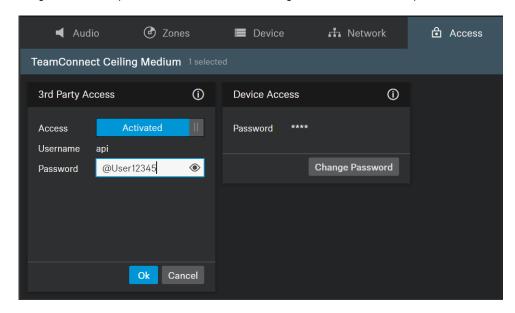
An Exclusion Zone set in Sennheiser Control Cockpit also affects the corresponding channel in MT300.





• 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:

- 5. Open Sennheiser Control Cockpit. Go to the Access tab in the device configuration page.
- 6. Activate the toggle switch.
- 7. Enter a password.
- 8. 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 (!#\$%&()*+,-./:;<=>?@[]^_{|}~).

Shure

Microflex® Complete Wireless
IntelliMix® P300 Audio Conferencing Processor
MXA710 Linear Array Microphone
MXA310 Table Array Microphone
MXA910 Ceiling Array Microphone
MXA920 Ceiling Array Microphone

MXA310 Table Array Microphone

Web Application



- 1. Open the Configuration tab.
- Select a template from the multi-channel options. Or select **Add Channel** to add more than 1 channel.
 - MT300 does not support single channel for the MXA310.

MXA910 Ceiling Array Microphone

Web Application



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

MXA920 Ceiling Array Microphone

Web Application







To manually position up to 8 lobes:

- Go to Settings > General > Automatic coverage.
- 2. Turn off Automatic coverage.
- Go to IntelliMix > Automixer Properties >
 Deselect Leave last mic on.

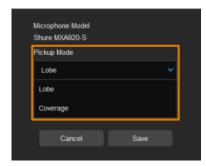
To add a mix of up to 8 dynamic and dedicated coverage areas:

- Go to Settings > General > Automatic coverage.
- 2. Turn on Automatic coverage.
 - The default setting is a 30 by 30 foot (9 by 9 meter) dynamic coverage area.
- To add more coverage areas, go to Coverage
 Add coverage.

MT300



- 4. Go to Auto Mode Settings > Channel.
- Click Channel Configure to choose a Pickup Mode.

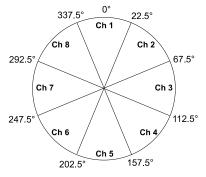


- 6. Select a Pickup Mode from the drop-down list:
 - Lobe: The lobes you have positioned in the MXA920's web application. They correspond to MT300 channel 1-8.
 - Coverage: The coverage areas you have added in the MXA920's web application.
 They correspond to MT300 channel 1-8.
- To integrate with supported AVer camera tracking system via active talker positions, please refer to <<u>Auto Mode (Active Position)</u>>.

Yamaha

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

 MT300 divides RM-CG's horizontal angles into 8-24 equal parts, which correspond to MT300 channel 1-24.



- MT300 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 MT300.

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	http://[account]:[password]@[IP	
status of all groups	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	http://[account]:[password]@[IP	
group	Address]/request=disable&group=[Group ID]	
Enable a specified	http://[account]:[password]@[IP	
group	Address]/request=enable&group=[Group ID]	
Query status of a	http://[account]:[password]@[IP	
specified group	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	http://[account]:[password]@[IP	Hours are separated
schedule	Address]/cgi-bin?GetData=sys_power_schedule	by a ", ".
		Days are separated by
		an "_".
Set power	http://[account]:[password]@[IP	Hours are separated
schedule	Address]/cgi-bin?SetData=sys_power_schedule,"0,	by a ", ".
	1,0,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1	Days are separated by
	1,	an "_".
	1,	An "_" must precede
	1,	the end quote.
	1,	
	1,	
	1,1,1,1,0_"	
Get auto reboot	http://[account]:[password]@[IP	0: disable
status	Address]/cgi-bin?Get=sys_reboot_time_en	1: enable
Set auto reboot	http://[account]:[password]@[IP	0: disable
status	Address]/cgi-bin?Set=sys_reboot_time_en,3,0	1: enable
	http://[account]:[password]@[IP	
	Address]/cgi-bin?Set=sys_reboot_time_en,3,1	
Get auto reboot	http://[account]:[password]@[IP	"02:00"
time	Address]/cgi-bin?GetString=sys_reboot_time	
Set auto reboot	http://[account]:[password]@[IP	
time	Address]/cgi-bin?SetString=sys_reboot_time,"02:00	

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

	yout ID]	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: { "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: { "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]	liveLayout ID: 0~5 sourceOrder: 1~4 deviceTbCamDid: camera ID

PTZ Control Panel

HOME	http://[account]:[password]@[IP Address]/request=ptzHome&camDid=[deviceTbCamDid]	deviceTbCamDid: camera ID	
PanLeftStart	http://[account]:[password]@[IP Address]/request=ptzLeftStart&camDid=[d eviceTbCamDid]	deviceTbCamDid: camera ID	
PanLeftStop	http://[account]:[password]@[IP Address]/request=ptzLeftStop&camDid=[d eviceTbCamDid]	deviceTbCamDid: camera ID	
PanRightStart	http://[account]:[password]@[IP Address]/request=ptzRightStart&camDid=[deviceTbCamDid]	deviceTbCamDid: camera ID	
PanRightStop	http://[account]:[password]@[IP Address]/request=ptzRightStop&camDid=[deviceTbCamDid]	deviceTbCamDid: camera ID	
TiltUpStart	http://[account]:[password]@[IP Address]/request=ptzUpStart&camDid=[de viceTbCamDid]	deviceTbCamDid: camera ID	

TiltUpStop	http://[account]:[password]@[IP Address]/request=ptzUpStop&camDid=[de viceTbCamDid] deviceTbCamDid: camera ID		
TiltDownStart	http://[account]:[password]@[IP Address]/request=ptzDownStart&camDid= [deviceTbCamDid] deviceTbCamDid: camera ID		
TiltDownStop	http://[account]:[password]@[IP Address]/request=ptzDownStop&camDid=[deviceTbCamDid]	deviceTbCamDid: camera ID	
ZoomInStart	http://[account]:[password]@[IP		
ZoomInStop	http://[account]:[password]@[IP Address]/request=ptzZoomInStop&camDid =[deviceTbCamDid]	deviceTbCamDid: camera ID	
ZoomOutStart	http://[account]:[password]@[IP Address]/request=ptzZoomOutStart&cam Did=[deviceTbCamDid] deviceTbCamDid: camera ID		
ZoomOutStop	http://[account]:[password]@[IP		
FocusInStart	http://[account]:[password]@[IP deviceTbCamDid: camera II Address]/request=ptzFocusInStart&camDi d=[deviceTbCamDid]		
FocusInStop	http://[account]:[password]@[IP deviceTbCamDid: camera Address]/request=ptzFocusInStop&camDi d=[deviceTbCamDid]		
FocusOutStart	http://[account]:[password]@[IP Address]/request=ptzFocusOutStart&cam Did=[deviceTbCamDid]	count]:[password]@[IP	
FocusOutStop	http://[account]:[password]@[IP deviceTbCamDid: camera ID Address]/request=ptzFocusOutStop&cam Did=[deviceTbCamDid]		
GoPreset	http://[account]:[password]@[IP Address]/request=ptzGoPreset&camDid=[deviceTbCamDid]&presetNum=[preset number]	deviceTbCamDid: camera ID presetNum: 0~255	
SavePreset	http://[account]:[password]@[IP		
GetFocusMode	http://[account]:[password]@[IP Address]/request=ptzGetFocusMode&cam	deviceTbCamDid: camera ID focusMode: 0:AF	

	Did=[deviceTbCamDid]	1:MF -1:NO Focus function device
SetFocusMode	http://[account]:[password]@[IP Address]/request=ptzSetFocusMode&cam Did=[deviceTbCamDid]&focusMode=[0:AF 1:MF]	deviceTbCamDid: camera ID focusMode: 0:AF 1:MF -1:NO Focus function device

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

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)
	Reboot	8x 01 04 A4 FF	Reboot MT300
	Curitale LICE Curtary	8x 01 7E 03 01 FF	USB port 1
	Switch USB Output	8x 01 7E 03 02 FF	USB port 2