Body Camera

User's Manual

V2.2.0

Foreword

General

This manual introduces the functions and operations of the body camera (hereinafter referred to as "the Device"). Read carefully before using the device, and keep the manual safe for future reference.

Safety Instructions

The following signal words might appear in the manual.

Signal Words	Meaning
⚠ DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
⚠ CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, reductions in performance, or unpredictable results.
⚠ TIPS	Provides methods to help you solve a problem or save time.
📖 NOTE	Provides additional information as a supplement to the text.

Revision History

Version	Revision Content	Release Time
V2.2.0	● Added **Face Settings** function. ● Added **Plate Settings** function. ● Added **Local login no certification** function. ● Added **Online Update** function. ● Added **Remote Debugging** function. ● Added **Signal Strength and Band** function.	February 2023
V2.1.0	Added 2 models.	June 2022
V2.0.0	Added platform operations.	December 2021
V1.0.0	First release.	November 2020

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, fingerprints, and license plate number. You need to be in compliance with your local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures which include but are not limited: Providing clear and visible identification to inform people of the existence of the surveillance area and provide required contact information.

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.
- We are not liable for losses incurred due to operating the product in ways that are not in compliance with the manual.
- The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, see the paper user's manual, use our CD-ROM, scan the QR code or visit our official website. The manual is for reference only. Slight differences might be found between the electronic version and the paper version.
- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual. Please contact customer service for the latest program and supplementary documentation.
- There might be errors in the print or deviations in the description of the functions, operations and technical data. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and company names in the manual are properties of their respective owners.
- Please visit our website, contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the Device, hazard prevention, and prevention of property damage. Read carefully before using the Device, and comply with the guidelines when using it.

Transportation Requirements

⚠️

Transport the Device under allowed humidity and temperature conditions.

Storage Requirements

⚠️

- Store the Device under allowed humidity and temperature conditions.
- To avoid short circuits caused by metal objects touching the battery anode and cathode, do not store the battery with other metals.
- If the Device will not be used for a week or longer, charge it to 60%, take the battery out of the Device, and store it in a clean, dry and ventilated room with an ambient temperature of 20 ± 5 ℃.
- Charge the battery once every four months during storage.

Installation Requirements

⚠️ WARNING

Do not expose the battery to environments with extremely low air pressure, or extremely high or low temperatures. Also, it is strictly prohibited to throw the battery into a fire or furnace, and to cut or put mechanical pressure on the battery. This is to avoid the risk of fire and explosion.

Operation Requirements

⚠️ WARNING

Use the power adapter and cables provided with the Device. We assume no responsibility for injuries or damage caused by using the incorrect power adapter and cables..

⚠️

- To prevent possible hearing damage, do not listen at high volume levels for long periods.
- Use the Device under allowed humidity and temperature conditions.
- Do not continuously charge the battery for 24 hours or longer. When it is finished charging or it no longer needs charging, disconnect the adapter from the Device, and unplug it from the power socket.
- Please be advised that your configurations will be lost after performing a factory reset.

Maintenance Requirements

⚠️ WARNING

Make sure to use the same model when replacing the battery to avoid fire or explosion. Dispose the battery strictly according to the instructions on it.

⚠

The battery is a consumable accessory. We recommend replacing it after it has been used for a year.

Table of Contents

1 Product Introduction

This product is a mobile portable terminal for persons of public security, insurance, traffic police and more. It integrates audio/video record and snapshot together.

This product can record the data during the whole law enforcement process. It is light and has small compact design, easy to install. It is waterproof and shockproof. The built-in IR light can guarantee clear video at night. The recorded video supports onsite playback and prevents the file from being tampered. The recorded data is fair and can be recognized by the authorities to solve a case and provide as the evidence on the court.

2 Structure and Installation

2.1 Packing List

Table 2-1 Packing list

Name	Quantity
Device	1
Shoulder clip	1
USB cable	1
Micro USB-to-mini USB adapter	1
Battery	1
Power adapter	1
Quick Start Guide	1

2.2 Device Structure

The structure differs depending on the model you are using. The following figures are for reference only.
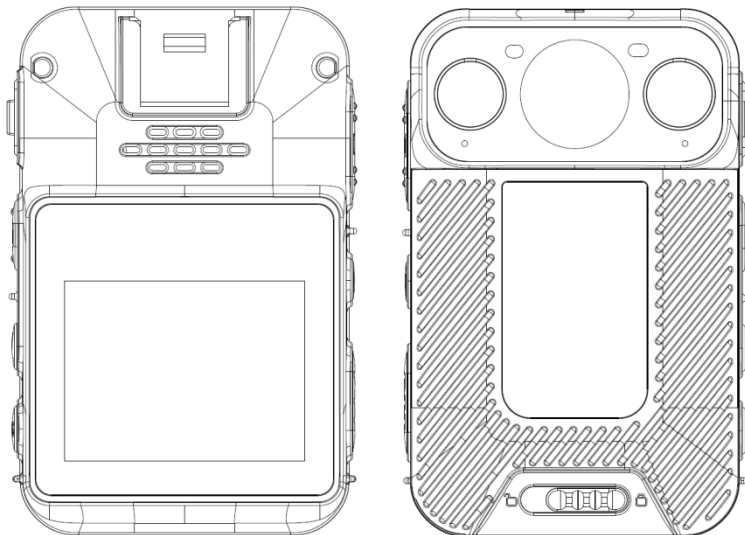
Figure 2-1 Front and rear panels (1)
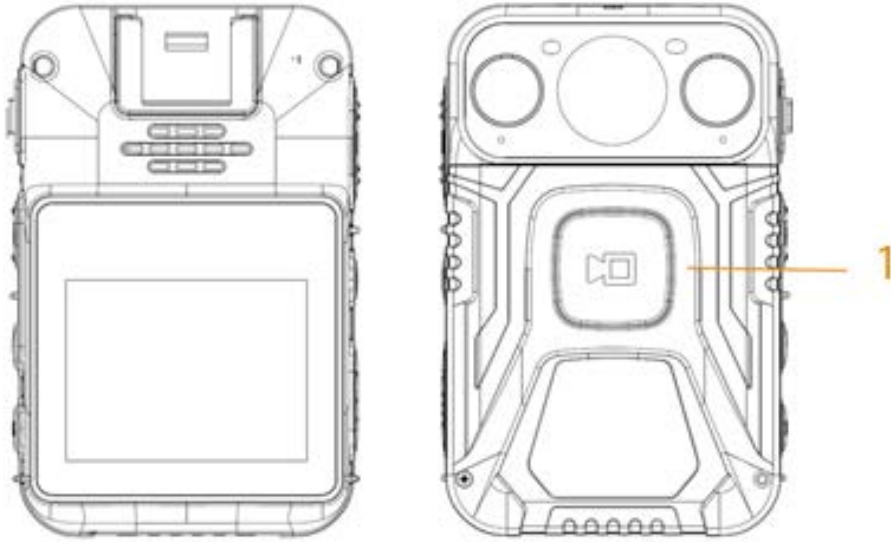
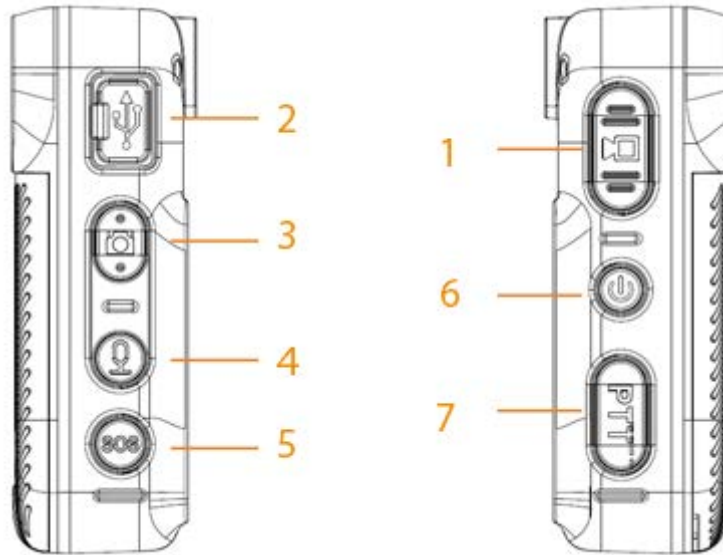Figure 2-2 Front and rear panels (2)

Figure 2-3 Sides (1)

Figure 2-4 Sides (2)
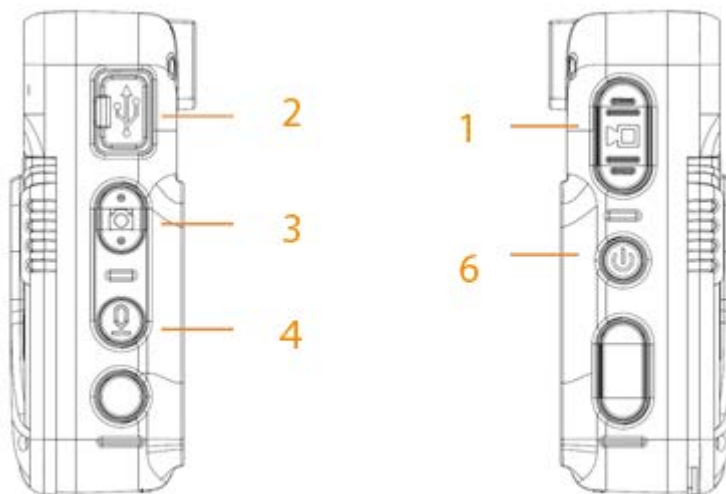
Table 2-2 Structure introduction

No.	Name	No.	Name
1	Record video	5	SOS button
2	USB port and power input	6	Power button
3	Capture button	7	Voice talk
4	Record audio	—	—

2.3 Indicator Lights

The states of the indicator indicate different statuses of the Device.

📖

For the model that does not support network connection, platform is not available. The following indicator behaviors are for reference only.

Table 2-3 Indicator lights

Working Status	Indicator Light	Working Status	Indicator Light
Standby	Solid green.	Recording audio	Flashes yellow.
Standby (battery level≤ 5%)	Solid red.	Charging	Solid red.
Recording video	Flashes red.	Battery fully charged	Solid green.
Snapshot	Flashes red.	Platform is pulling stream	Flashes blue.

2.4 Installing Shoulder Clip

Slide the shoulder clip down.

Figure 2-5 Install shoulder clip
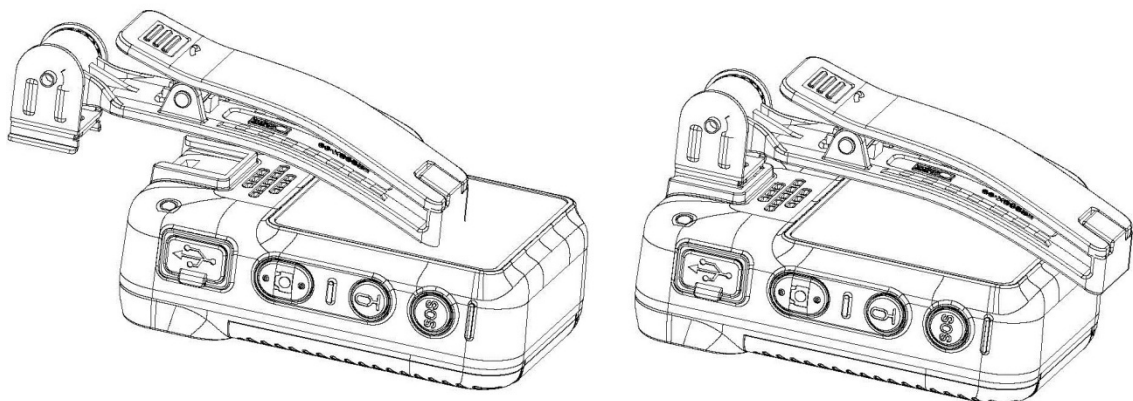
3 Basic Operations

3.1 Starting and Shutting Down

Press ⏻ on the right side to start, shut down, restart or let the Device sleep.

- When the Device is shut down, press and hold ⏻ to start the Device.
- When the Device is running, press and hold ⏻, and then tap **Power off** to shut down the Device.
- When Device is running, press and hold ⏻, and then tap **Restart** to restart the Device.
- When the Device is running, press and hold ⏻ for 10 s to shut down the Device forcibly.
- When the Device is running, press ⏻ to let the Device sleep; press again to activate the Device.

3.2 Initialization

Background Information

For the first-time use, set device login password and at least 3 security questions. If you forget the password, tap **Forgot Password**, and then answer the security questions to reset the login password.

- The password resetting function is only available for admin user.
- Password resetting will delete the pattern lock. You need to set it again after resetting the password.

Procedure

Step 1 When the Device is shut down, press and hold ⏻ to start the Device.
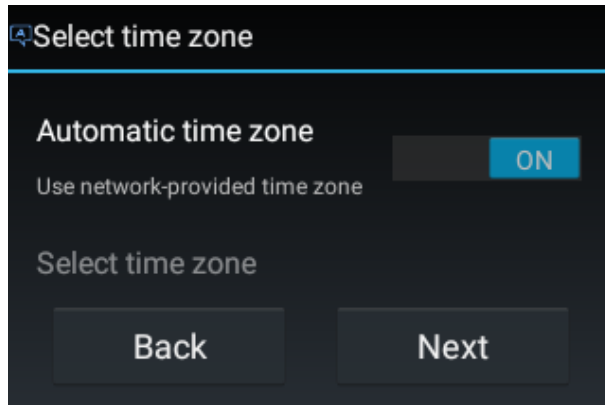
Step 2 Select a language.

Step 3 Select the checkbox of the software license agreement, and then tap **Next**.

For some devices, no software license agreement is found on the screen. You can tap **Next** directly.

Step 4 Select time zone.

Figure 3-1 Set time zone

> 📖
>
> Automatic time zone is not available on the model that does not support network connection.

Step 5   Enter the new password and then confirm.

Figure 3-2 Set password
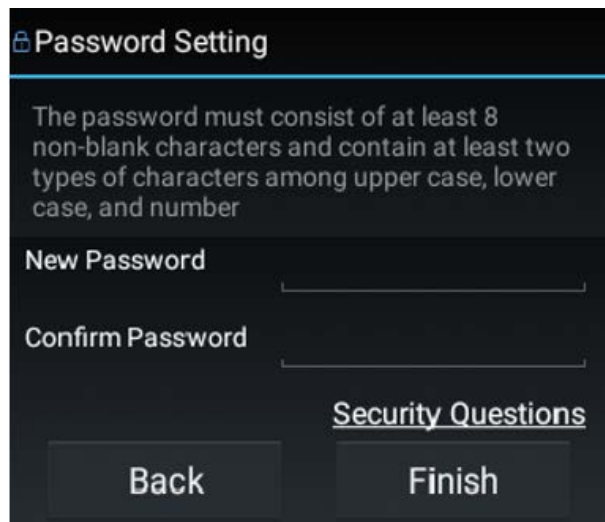
Step 6   Tap **Security Questions** to set security questions.

Figure 3-3 Select security question

Step 7   Select at least 3 security questions, and then tap **Next**.

Step 8   Enter the answers and then tap **Save**.

Step 9   On the **Password Setting** screen, tap **Finish**.

Step 10   Follow the on-screen instructions to learn gestures.

The Device is initialized successfully.
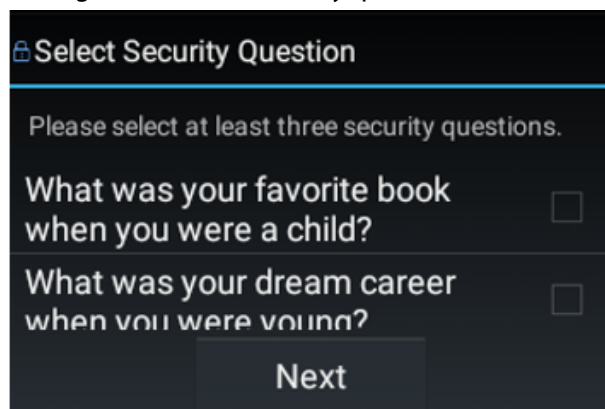
3.3 Home Screen

- The notification bar displays message, working status, and operator status. Swipe down to view time and date, and select the white light or IR light.
- Swipe left or right on the home screen to switch the screen.

3.4 User Management

3.4.1 Changing the Password
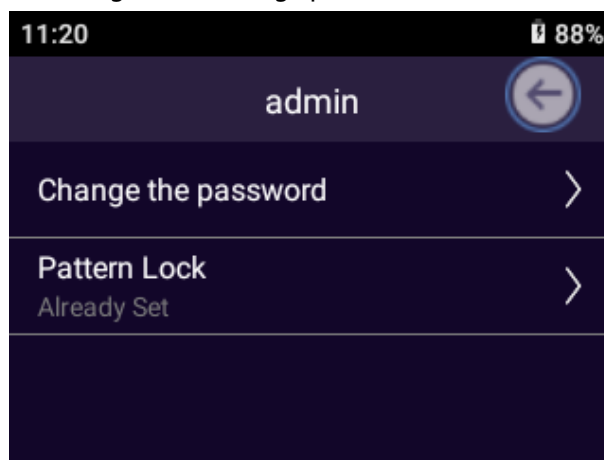
Background Information

We recommend you change the password regularly to enhance the device security.

Procedure

Step 1   On the home screen, tap ▦ .

Step 2   Select the account whose password you want to change, and then tap **Change the password**.

Figure 3-4 Change password

Step 3   Enter the old password, new password and confirm password.
The password must contain at least two character types (number, uppercase letters, and lowercase letters).

Step 4   Set the password validity period.

Step 5   Tap **OK**.

3.4.2 Setting the Pattern Lock
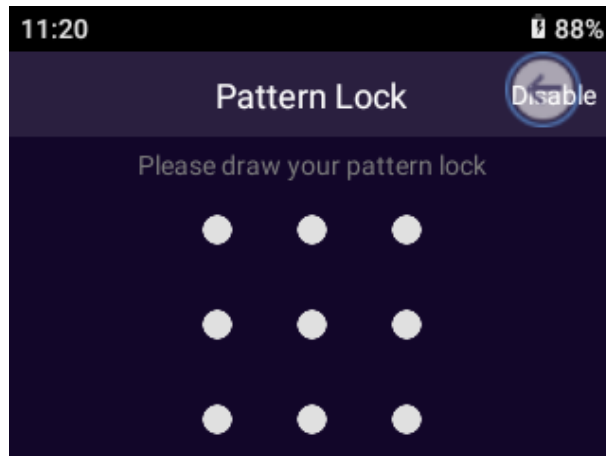
Procedure

Step 1   On the home screen, tap ▦ .

Step 2   Select an account, and then tap **Pattern Lock**.

Step 3   Enter the login password.

Step 4   Draw the pattern lock.

Figure 3-5 Draw the pattern lock

- A pattern lock must contain at least 4 points.
- If you have configured the pattern lock, you can tap **Disable** to disable the pattern lock.
- After you set the pattern lock, the pattern lock will be required on the login screen by default. If you have not set pattern lock, password is required on the login screen by default.

3.5 Configuring the Device

Before using the Device, configure recording parameters, camera parameters, network mode, and more.

The parameters might vary depending on the model you are using.

3.5.1 Network

On the home screen, tap 🔆 to go to the **Network** or **Location** screen.

$\square$
- For the model that does not support network connection, **Location** screen is displayed and you can only configure the location service.
- When the Device does not have a SIM card, the **Mobile Data** switch appears dimmed.

Figure 3-6 Network
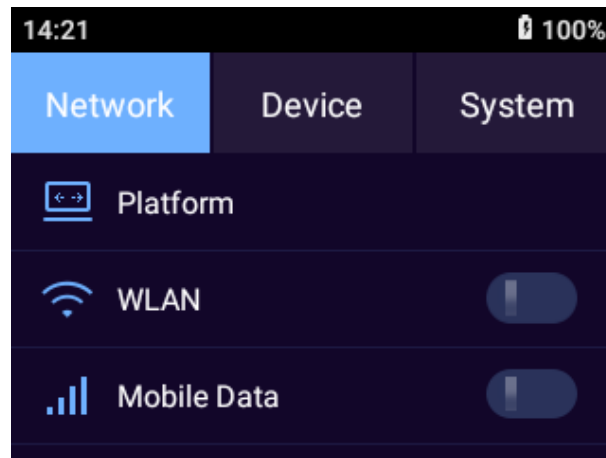
- Tap an icon to go to the corresponding screen for configuration.
- [switch icon] means that the function is disabled.
- [switch icon] means that the function is enabled.

3.5.1.1 Platform

You can add the Device to platform for remote management. You can configure platform connection, WLAN, location service and more.

$\square$

Private protocol is enabled, otherwise you cannot figure the parameters successfully.

3.5.1.1.1 Auto Register

Procedure

Step 1   On the home screen, select [icon] > **Network** > **Platform** > **Register**.

Step 2   Tap [switch icon] to enable the Auto Register function.
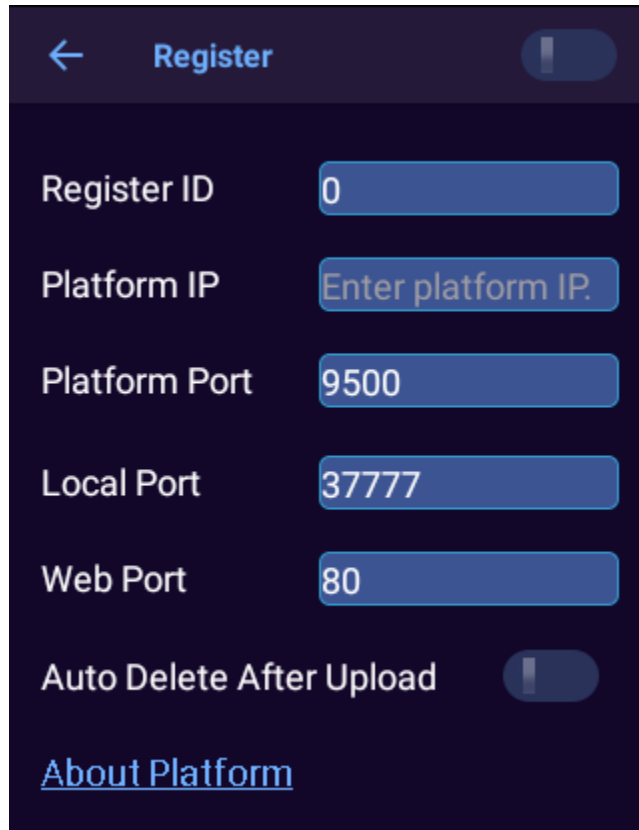
Step 3   Configure the parameters.

Figure 3-7 Register

Table 3-1 Register parameters

Parameter	Description
Register ID	Enter an ID for registration. Make sure that the same ID is used when you add the Device to the platform.
Platform IP	Enter the IP address of the platform server.
Platform Port	Enter the ARS (Active Register Server) port number of the platform.
Local Port	Enter the registration port of the Device. By default, the port is 37777.
Web Port	Enter the registration port of the platform server.
Auto Delete After Upload	Enable the Device to automatically delete the files that have been uploaded to the platform.

Step 4   Tap **OK**.

3.5.1.1.2 ONVIF

Background Information

When a remote device is connecting with the Device through ONVIF protocol, use the verified ONVIF account.

Procedure

Step 1   On the home screen, select 🔅 > **Network** > **Platform** > **Onvif**.

Step 2   Tap ▮ to enable the ONVIF function.

Step 3   Tap **Add User**.

Step 4   Enter username and password, and then confirm the password.

Step 5   Tap **OK**.

3.5.1.1.3 RTSP

Procedure

Step 1   On the home screen, select ☀ > **Network** > **Platform** > **RTSP**.

Step 2   Tap ▭ to enable RTSP over TLS encryption.

Step 3   On the pop-up window, tap **OK**.

Step 4   Enter the RTSP port and then tap **OK**.

Figure 3-8 RTSP
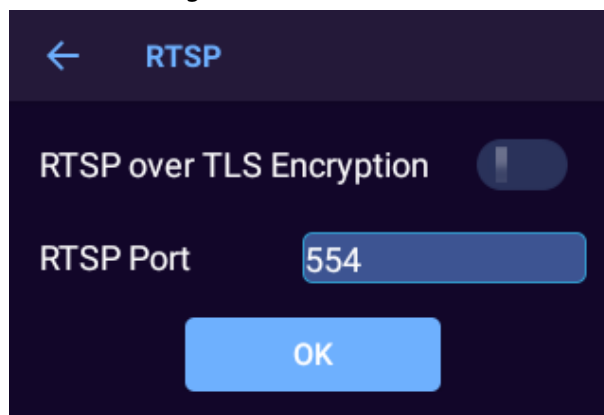
3.5.1.2 WLAN

Background Information

When WLAN is turned on, you can search for or add WLAN networks.

Procedure
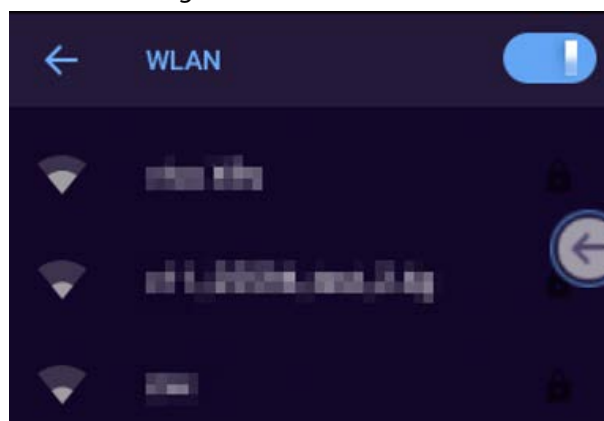
Step 1   On the home screen, select ☀ > **Network** > **WLAN**.

Step 2   Tap ▭ to enable the WLAN function.

Step 3   Select the Wi-Fi that you want to connect to, and then enter the password.
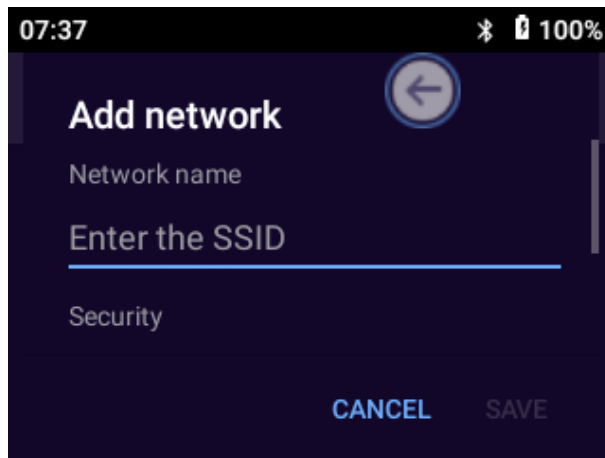
Figure 3-9 WLAN

3.5.1.2.1 Adding Network

Procedure

Step 1　On the **Wi-Fi** screen, tap **Add network**.

Figure 3-10 Adding network

Step 2　Configure the parameters.

Table 3-2 Adding network description

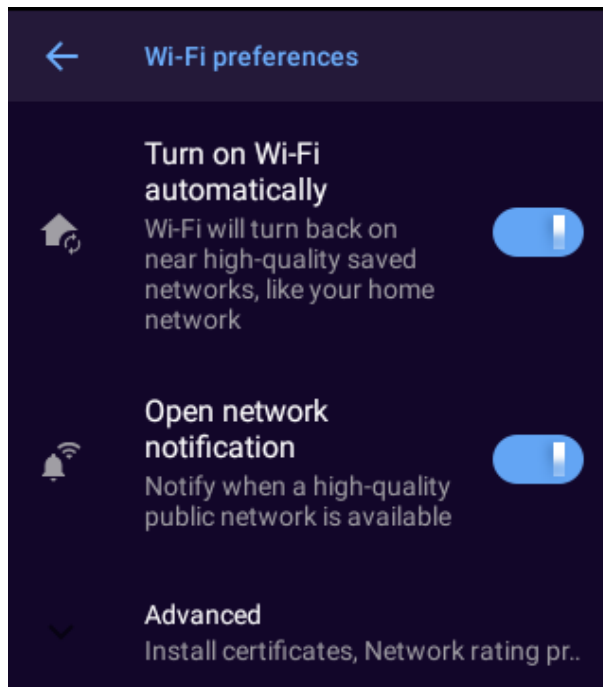| Parameter		Description
Network name		Enter the router SSID (the name of the WLAN) that needs to be connected.
Security		Set security settings. ● If you select **None,** you do not need to enter a password to log in to the WLAN. ● If you select a different type, you need to enter a password or certificate.
Advanced Options	Metered	Select **Detect automatically**, **Treat as metered** and **Treat as unmetered**.
	Proxy	● **None**: Do not need proxy. ● **Manual**: Set the proxy server parameters manually. ● **Proxy Auto-Config**: The Device will automatically set proxy server parameters.

	IP settings	● **DHCP**: The Device automatically searches for WLAN IP.
		● **Static**: You need to manually configure the **IP address**, **Gateway**, **Network prefix length**, **DNS 1**, and **DNS 2**.
		  ◇ IP address must be on the same segment as the router.
		  ◇ Other parameters must be consistent with those on the router.

	Hidden network	Select **Yes** if you want to hide the current Wi-Fi.

Step 3　Tap **SAVE**.

3.5.1.2.2 Configuring Wi-Fi Preferences

Procedure

Step 1   On the **Wi-Fi** screen, tap **Wi-Fi preferences**.

Figure 3-11 Wi-Fi preferences

Step 2   Configure the parameters.

Table 3-3 Parameters of Wi-Fi preferences

Parameter		Description
Turn on Wi-Fi automatically		Automatically enables Wi-Fi when the Device is on a saved high-quality Wi-Fi network. 📖 To use the function, you need to enable the location service. For details, see "3.5.1.4 Positioning".
Open network notification		Sends notifications when a high-quality public network is available.
Advanced	Install certificates	After upload the security certificate to your device, tap **Install certificates** to select and install the certificate.
	Wi-Fi Direct	Transfers files over Wi-Fi.
	MAC address	Displays the MAC address and IP address of the network adapter.
	IP address	

3.5.1.2.3 Managing Saved Networks

Procedure

Step 1   On the **Wi-Fi** screen, tap **Saved networks**.

Step 2   You can view the networks that were connected or added.

Step 3   (Optional) Select a network, and then tap **Forget** to remove the network.

3.5.1.3 Mobile Data

The Device can connect to network through mobile data.

Procedure

Step 1   On the home screen, select ⚙ > **Network** > **Mobile Data**.

Step 2   Tap ⬜ to enable **Mobile Data**.

Step 3   Configure the parameters.
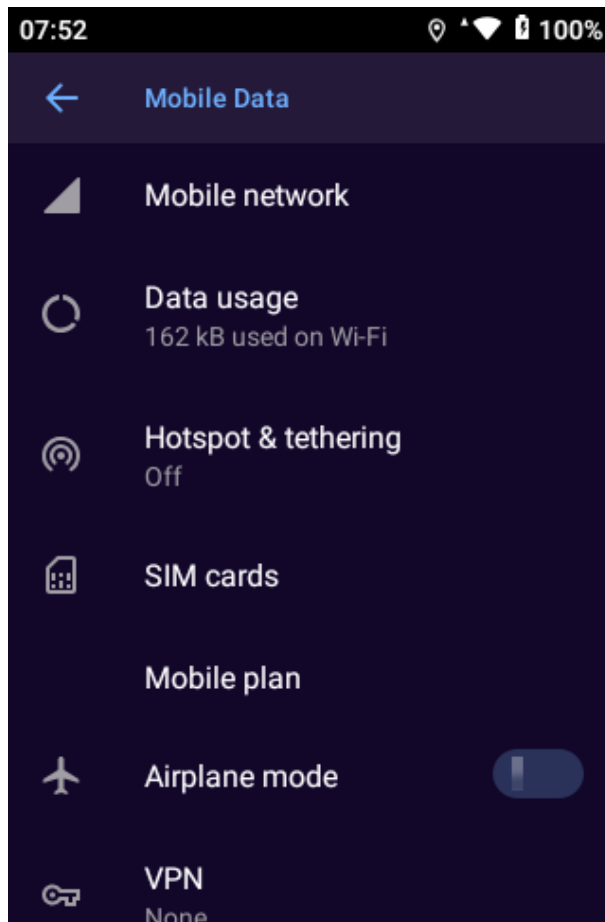
Figure 3-12 Mobile data

Table 3-4 Mobile data description

Parameter		Description
Mobile network	Mobile data	Enable mobile network.
	Roaming	Enable the Device to connect to the mobile network service while roaming.
	User Controlled PLMN	Define the preferred order of the PLMN.
	Preferred network type	Configure the preferred network mode.
	Network	Enable the Device to select the network operator automatically.
	Access Point Names	APN determines how the Device accesses the network.
Data usage		Check data usage.

Parameter		Description
Hotspot and & tethering	Wi-Fi hotspot	Share Internet connection or content with other devices. The hotspot can be accessed by entering a password.
	USB tethering	Share your mobile Internet connection over USB.
	Bluetooth tethering	Share your mobile Internet connection through Bluetooth.
SIM cards		After inserting SIM cards, select preferred SIM card for cellular data, calls, and SMS messages.
Airplane mode		In airplane mode, cellular, Wi-Fi, and Bluetooth functions are disabled.
VPN		Add the appropriate VPN as needed.

3.5.1.4 Positioning

You can enable the satellite-based positioning service for the Device. After connecting the Device to the platform and enabling track record in **Network** >**Location Service**, the Device reports its location information to the platform.

Procedure

Step 1   On the home screen, select 　 > **Network** > **Location Service**.

Step 2   Tap 　 to enable the location service.

Step 3   Configure the parameters.

$\boxed{\square}$

For the model that does not support network connection, you cannot configure the mode, location source, refresh interval, track record, track upload and upload GPS Coordinate System.
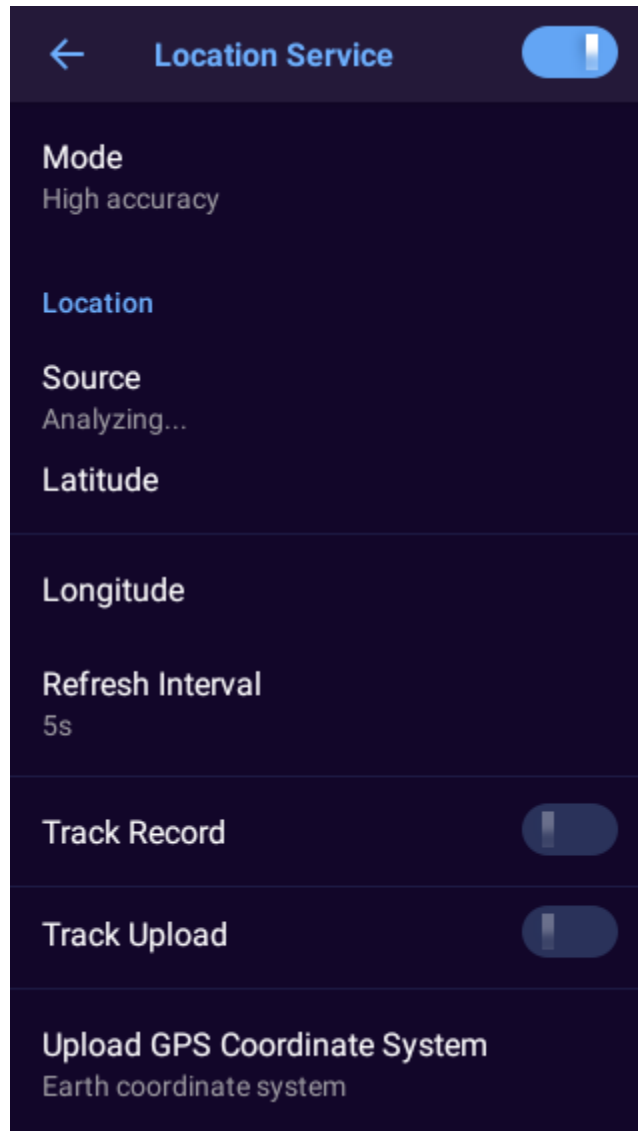
Figure 3-13 Location service

Table 3-5 Positioning description

Parameter	Description
Mode	- Configure device positioning mode. **High accuracy**: Locate through satellite, Wi-Fi, Bluetooth, or mobile network. **Battery saving**: Locate through Wi-Fi, Bluetooth, or mobile network. **Device only**: Locate through satellite.
Location	Displays the current location source, latitude, and longitude.
Refresh Interval	Select the interval at which the Device reports location information to the platform.
Track Record	Enable the Device to keep track of its historical locations.

Parameter	Description
Track Upload	Enable the Device to automatically delete the files that have been uploaded to the platform.
Upload GPS Coordinate System	Select the GPS Coordinate System from **Earth coordinate system** or **Mars coordinate system**. The selected coordinate system must be the same with the coordinate system on the platform.

3.5.1.5 Bluetooth

When Bluetooth is enabled, a nearby device will be able to detect the Device, and then you can receive and share files through Bluetooth.
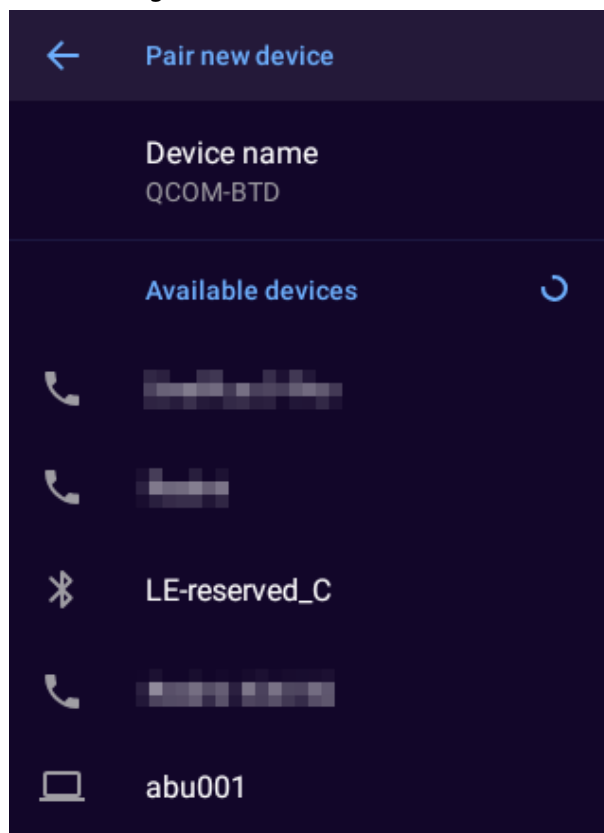
Procedure

Step 1   On the home screen, select ☼ > **Network** > **Bluetooth**.

Step 2   Tap 🔘 to enable Bluetooth.

Step 3   Tap **Pair new device**.

Step 4   Select the Bluetooth device to pair with, and then tap **Pair**.

After confirmation on both devices, pairing is successful.

Figure 3-14 Bluetooth

Related Operations

- To rename the Device, tap **Device Name**.
- To connect with devices that had been paired, tap **Previously connected devices** and then tap the device. The Device will connect with the previously paired device automatically.
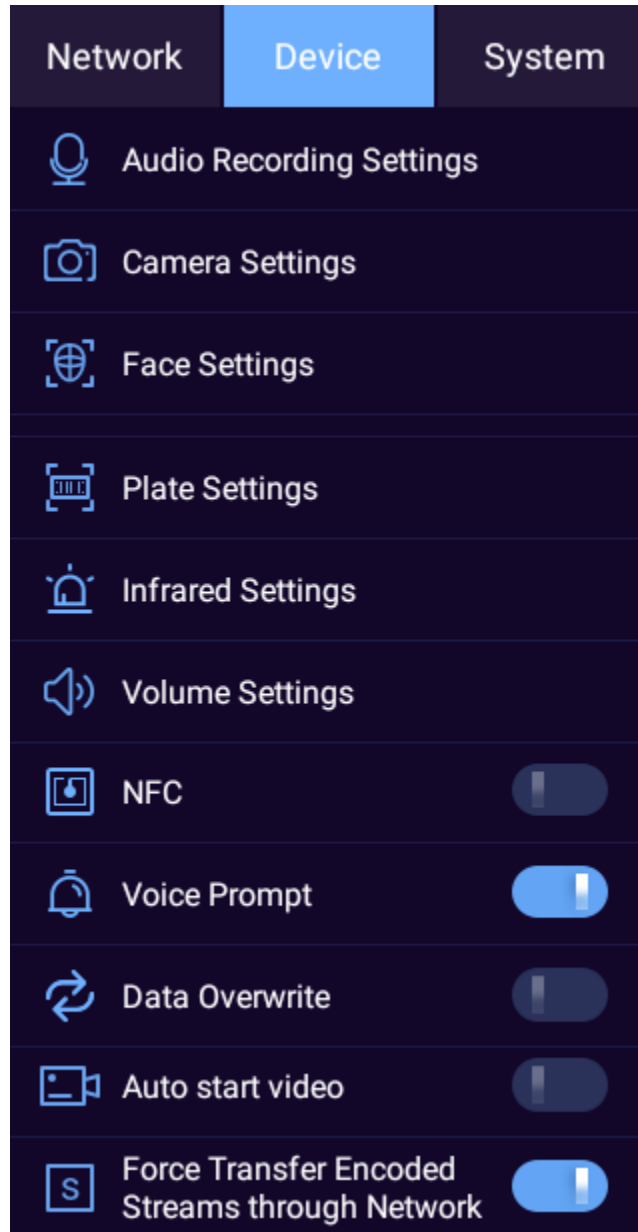
3.5.2 Device

On the home screen, tap ⚙, and then tap the **Device** tab to configure audio recording settings, camera settings, and more.

📖

The NFC function is not available on the model that does not support network connection.

Figure 3-15 Device

3.5.2.1 Audio Recording Settings

Select **Device** > **Audio Recording Settings** to configure audio recording parameters.
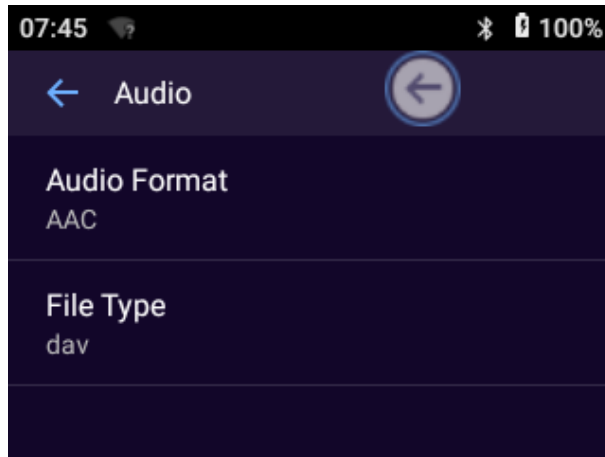
Figure 3-16 Audio recording

Table 3-6 Audio recording parameter description

Parameter	Description
Audio Format	Select an audio format from **G.711A** and **AAC**.
File Type	- If the **Audio Format** is **AAC**, both dav (default) and aac are available - If the **Audio Format** is **G.711A**, only dav is available.

3.5.2.2 Camera Settings

Select **Device** > **Camera Settings** to configure camera settings.

The camera parameters might differ depending on the model you are using.
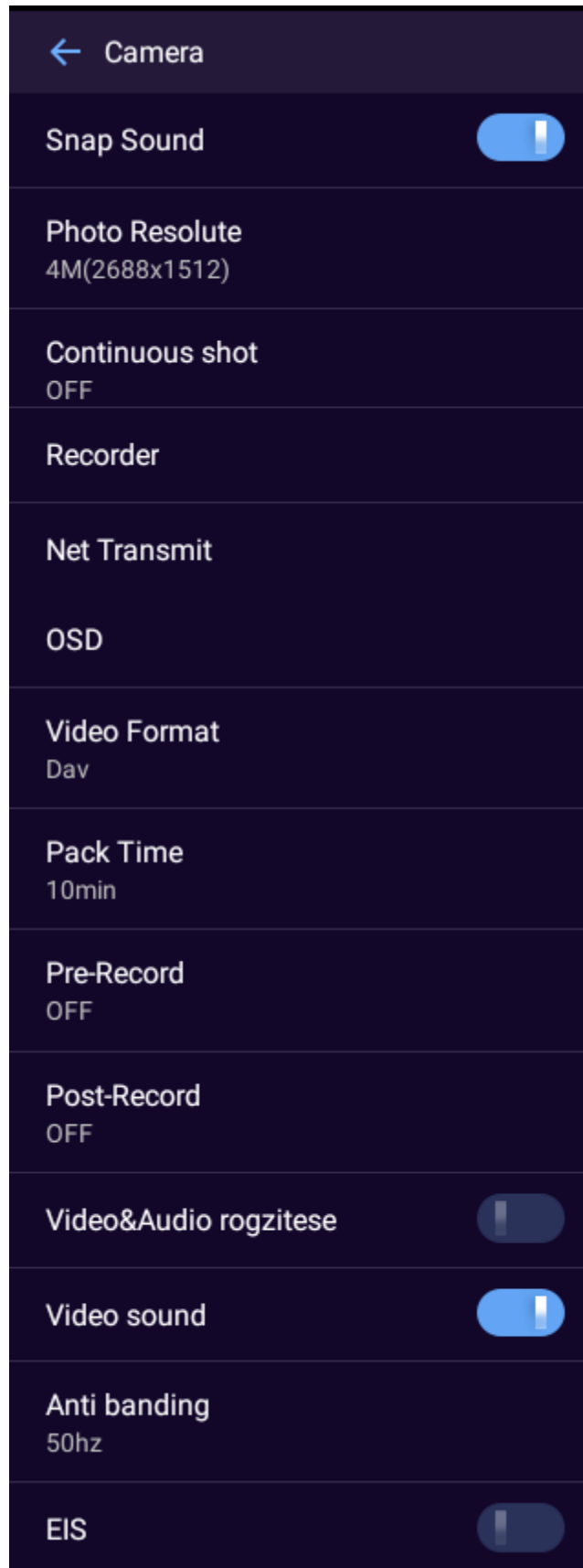
Figure 3-17 Camera settings

Table 3-7 Camera settings description

Parameter		Description	
Snap Sound		Turn on or off the sound for shooting.	
Resolution		Configure image size.	
Continuous shot		Configure the number of continuous shooting.	
Video Recording Encoding Settings	Video Encoding	Configure the encoding type of video.	
	Resolution	Configure the video resolution. The higher the resolution, the higher the video quality, but meanwhile the more the storage space consumption.	
	Bit Rate	Configure the bit rate of video.	
Network Encoding Settings	Network Self-adaptation	Enable network adaptation so that the device can adjust the video quality automatically according to the actual situation.	
	Video Encoding	Configure the encoding type of video for network transmission.	**Network Encoding Settings** is not available on the model that does not support network connection.
	Resolution	Configure the video resolution for network transmission. The higher the resolution, the higher the video quality, but the more network bandwidth consumption..	
	Frame Rate	Configure the frame rate of video for network transmission. The higher the frame rate, the smoother the video.	
	Bit Rate	Configure the bit rate of video for network transmission. The options available are different depending on the selected resolution and frame rate.	
Overlay		Configure whether to display device ID, police ID, time information, GPS information, and custom information on the live video image.	
Video Format		Select the video format from MP4 or dav.	
Pack Time		Configure the interval at which the recorded video is saved as a file. ● To avoid small files, the packaging time will fluctuate. For example, when you select 30 min, if the start time of recording is 10:26, the stop time will be 11:00; if the start time of recording is 10:14, the stop time will be 10:30. ● A single recorded video file cannot exceed 2 GB in size and is automatically repackaged if beyond the limit.	
Pre-Record		Configure the pre-record time. For example, if you select 15 s, the 15 s video prior to recording will be saved automatically.	

Parameter	Description
Post-Record	Configure the post-record time. For example, if you select 15 s, 15 s video after the recording ends will be saved automatically.
Record Video & Audio	After you enable this function: ● When the Device is recording video, press 🎤, or tap 🔵 on the home screen and then tap 🎤 to start recording audio at the same time. ● When the Device is recording audio, press 📷, or tap ⚫ on the home screen and then tap 🔴 to start recording video at the same time.
Video sound	Enable it to acquire sound when the Device is recording a video.
Anti banding	Avoids flashing lines of the target during video recording. ● 50 Hz (AC frequency in China). ● 60 Hz (AC frequency in countries such as Japan and United States).
EIS	Enable the function to reduce the effect from vibration and shaking on video quality. 📖 The smart functions (face setting and vehicle recognition) and electronic image stabilization cannot be enabled at the same time. Might differ depends on actual devices.

3.5.2.3 Face Settings

Select **Device** > **Face Settings**, and then tap 🔘 next to **Face Detection**to enable the function.

📖
- The smart functions (face setting and vehicle recognition) and electronic image stabilization cannot be enabled at the same time.
- The face setting and vehicle recognition of some products cannot be enabled at the same time. Might differ depends on actual devices.

3.5.2.4 Plate Settings

Select **Device** > **Plate Settings**, and then tap 🔘 next to **ANPR**to enable the function.

- The smart functions (face setting and vehicle recognition) and electronic image stabilization cannot be enabled at the same time.
- The face setting and vehicle recognition of some products cannot be enabled at the same time. Might differ depends on actual devices.
- Tap ▭ after **Vibrate** to enable the vibration reminder function after detected a license plate.

3.5.2.5 Infrared Settings

Turn on infrared mode as needed.

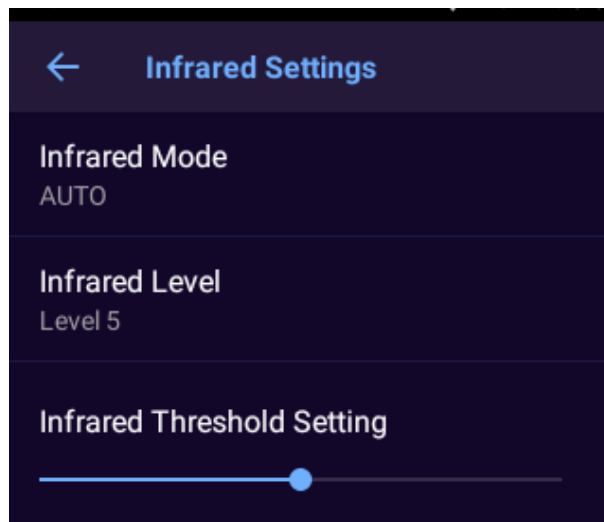Select **Device** > **Infrared Settings**.

Figure 3-18 Infrared settings

Table 3-8 Infrared settings

Parameter	Description
Infrared Mode	Night vision mode. Select the mode from **AUTO**, **OPEN**, and **CLOSE**. **CLOSE** is selected by default.
Infrared Level	Configure the brightness of the infrared light. You can set the level to Level 1, Level 2, Level 3, Level 4, Level 5, and Level 6, and it is Level 5 by default.
Infrared Threshold Setting	In the **AUTO** mode, the higher the value is, the easier the infrared mode will switch.

3.5.2.6 Volume

Background Information

You can configure media and notification volume, enable or disable other sounds and vibrations.

Procedure

Step 1   Select **Device** > **Volume**, and then drag the slider to adjust the media and notification volume.

- Media volume involves video and audio playback.

- Notification volume includes key tones, capture success sound, and more.
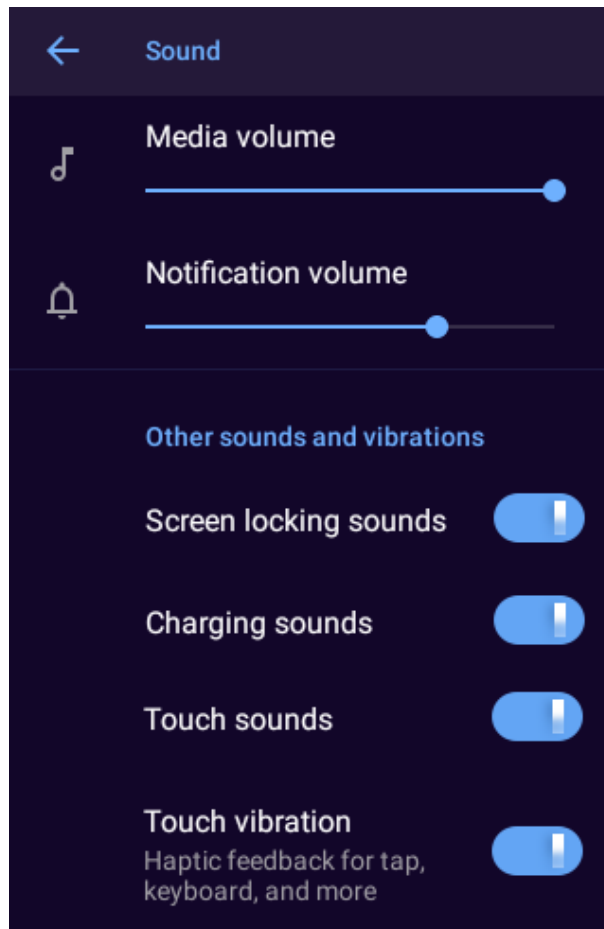
Step 2   Tap ![toggle] to enable other sounds and vibrations, including screen locking sounds, charging sounds, touch sounds, and touch vibration.

Figure 3-19 Adjust volume

3.5.2.7 NFC

Select **Device** > **NFC**, and then enable **NFC**. The Device exchanges data with other nearby devices.

- The NFC function is not available on the model that does not support network connection.
- The NFC can read data from TypeA and TypeB.
- Before using NFC, install third-party software that supports NFC. If there is no third-party software, there will be a sound prompt when the card is close to the Device.

3.5.2.8 Voice Prompt

Select **Device** > **Voice Prompt**to enable or disable voice prompt.

3.5.2.9 Data Overwrite

Select **Device** > **Data Overwrite**, and then enter the password of the admin account to enable or disable data overwriting. After the function is enabled, the oldest non-key files will be overwritten when the storage space is used up.

3.5.2.10 Auto Start Video

Select **Device** > **Auto start video**, and then tap [image] to enable the function. Enter the admin password and then tap **OK**. The device will start video recording automatically after system starts up.

3.5.2.11 Force Transfer Encoded Streams through Network

Select **Device** > **Force Transfer Encoded Streams through Network**, tap [image] to enable the function, and the tap **OK** to restart the device. When configured the transfer encoded streams through network on the device, the platform will record the video with the configured streams. For the detailed information, see "3.5.2.2 Camera Settings".

3.5.3 System

When the over temperature protection is triggered, the Device will notify prompt you to handle the temperature anomaly to avoid slow screen response, system failure or data exception.
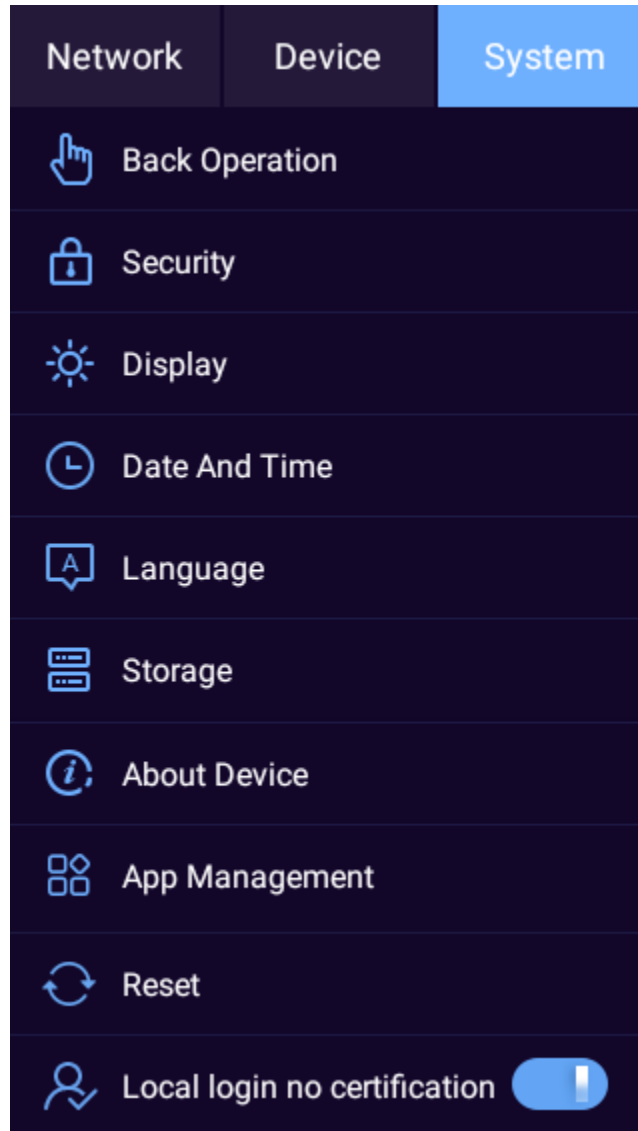
On the main screen, tap [icon], and then select **System**. You can configure security, display, date and time, language, and more.

Figure 3-20 System

3.5.3.1 Back Operation

You can select a mode for back operation.

Select **System** > **Back Operation**, and then select a mode from **Gesture** and **Floating Button**.

3.5.3.2 Security

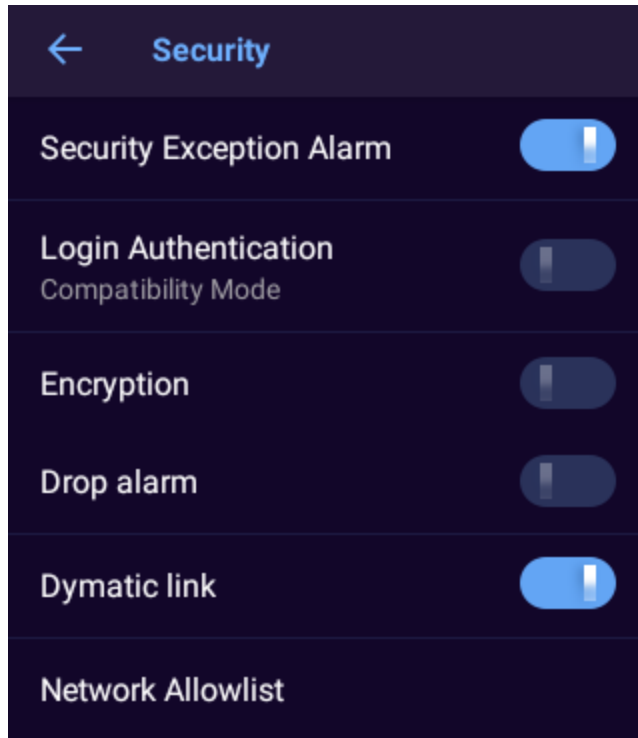You can allow apps from unknown sources to be installed.

Security exception alarm, encryption, drop alarm, dynamic link, and network allowlist are not available on the model that does not support network connection.

Procedure

Step 1   Select **System** > **Security**.

Figure 3-21 Security

Step 2   Configure the parameters.

Table 3-9 Security parameters

Parameter	Description
Security Exception Alarm	Displays alarm information when an exception occurs.
Login Authentication	Configure login mode. We recommend you turn on security mode to avoid security risks.
Encryption	Enable encryption for the pairing devices. Make sure that the pairing devices or software supports video decryption.
Drop alarm	When **Drop alarm** is enabled, the Device triggers an alarm message when dropping from 30 cm or higher, the indicator light flashes red and the Device starts recording a video which is marked as an important file automatically.
Dynamic link	Enable it to set an independent link for each request. It is used during live view video, voice talk and playback.
Network Allowlist	To allow access of only trusted IPs, MACs and ports, enable **Network Allowlist** and then add the trusted IPs, MACs and ports.

3.5.3.3 Display

Select **System** > **Display** to adjust the screen brightness and device hibernation time.
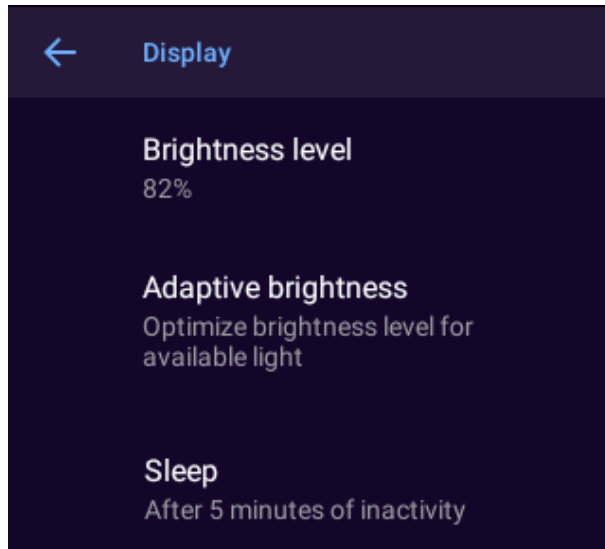
Figure 3-22 Display

Table 3-10 Display parameters

Parameter	Description
Brightness level	Adjust the screen brightness.
Adaptive brightness	Automatically adjusts the screen brightness according to the environment and activity.
Sleep	Configure the hibernation time. The Device automatically hibernates after the predefined time of inactivity.

3.5.3.4 Date and Time

Select **System** > **Date And Time** to configure date and time settings.

Table 3-11 Date and time parameters

Parameter	Description
Date and time	Sync device time with the network or platform. 📖 ● To sync with the network time, ensure that the Device is connected to the network, such as a 4G or Wi-Fi. ● To sync with platform time, ensure that the Device is connected to the platform. ● The Device can also sync time through MPT Manager. ● **Automatic date & time** is not available on the model that does not support network connection.
Select time zone	Select the time zone. 📖 **Automatic time zone** is not available on the model that does not support network connection.
Clock Striking	When **Clock Striking** is enabled, the Device strikes the hour.

3.5.3.5 Language

Select **System** > **Language** to configure device language.

Figure 3-23 Configure language
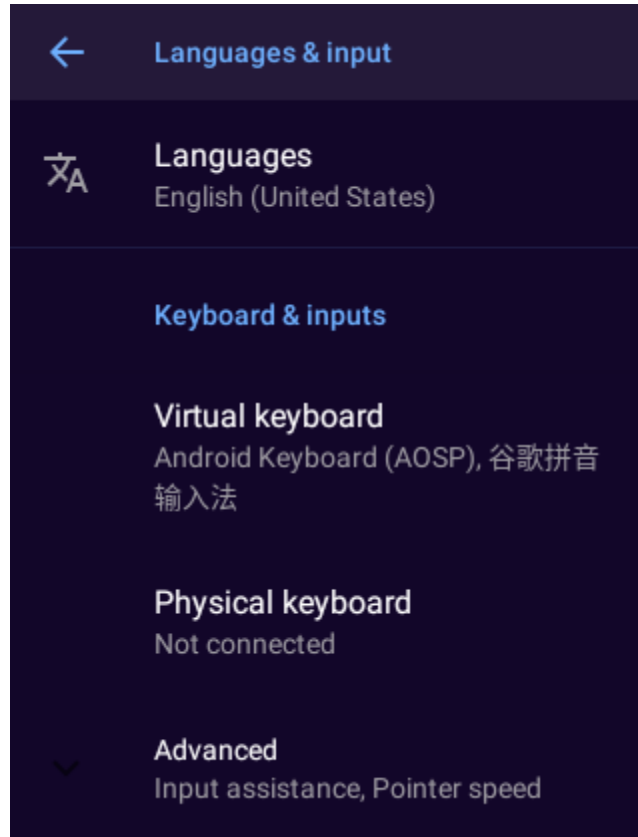
3.5.3.6 Storage

Select **System** > **Storage** to view the used and total storage space.

📖

If you want to use an SD card, make sure to format it to FAT32 first. After you insert an SD card, the Device will display the used and total storage space of the SD card. If the format is wrong, you can format the card.

3.5.3.7 About Device

Select **System** > **About Device** to view device information such as device name, serial number, and Android version

3.5.3.8 App Management

3.5.3.8.1 Viewing App Information

Select **System** > **App Management** > **App info**, enter the password, and then you can view the information on the apps.

3.5.3.8.2 Configuring the Startup App

Select **System** > **App Management** > **Power On**, enter the password, and then you can set the startup app that runs automatically after the system starts up.

- Tap **Clear All** to remove all the startup settings.
- You can set only one startup app.
- Only the admin account has the permission to set the startup app.

3.5.3.8.3 Installing Platform Apps

Install the platforms apps that have been configured in advance.

You cannot install platform apps on the model that does not support network connection.

Procedure

Step 1   Select **System** > **App Management** > **Platform app installation**.

Step 2   Select a pre-configured platform apk file.

The apk files are configured before the Device leaves the factory. Contact the technical support to get other apk files.

Step 3   Follow the on-screen instructions to install the app. The installed app will appear on the home screen.

3.5.3.9 Reset

Restore the Device to default settings.

- Restoring default settings will clear all data stored on your device, including system and app data and settings. The Device still retains certain parameters, including audio, video, picture data, and the serial number. You can select whether to clear video, audio and image data in the internal storage and micro SD card. Proceed with caution.
- Only the admin account has the permission to reset the Device.

Procedure

Step 1   Select **System** > **Reset**.

Step 2   (Optional) Select **Clear video, audio and image data**.

Step 3   Tap **RESET DEVICE** and then tap **ERASE EVERYTHING**.

Step 4   Enter the password, and then tap **OK**.

Figure 3-24 Reset
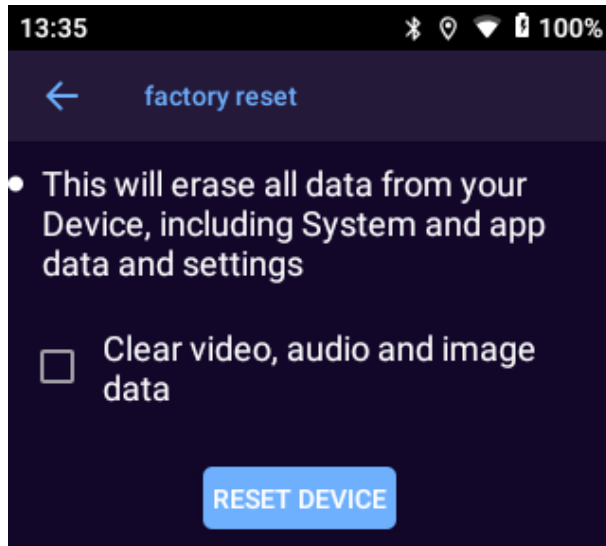
3.5.3.10 Local login without certification

Select **System** > **Local login no certification**. Tap [ ] and then enter the password to enable the function. You do not need to enter the password for unlock the device or after device restarts up. The other related operation still needs to enter the password.
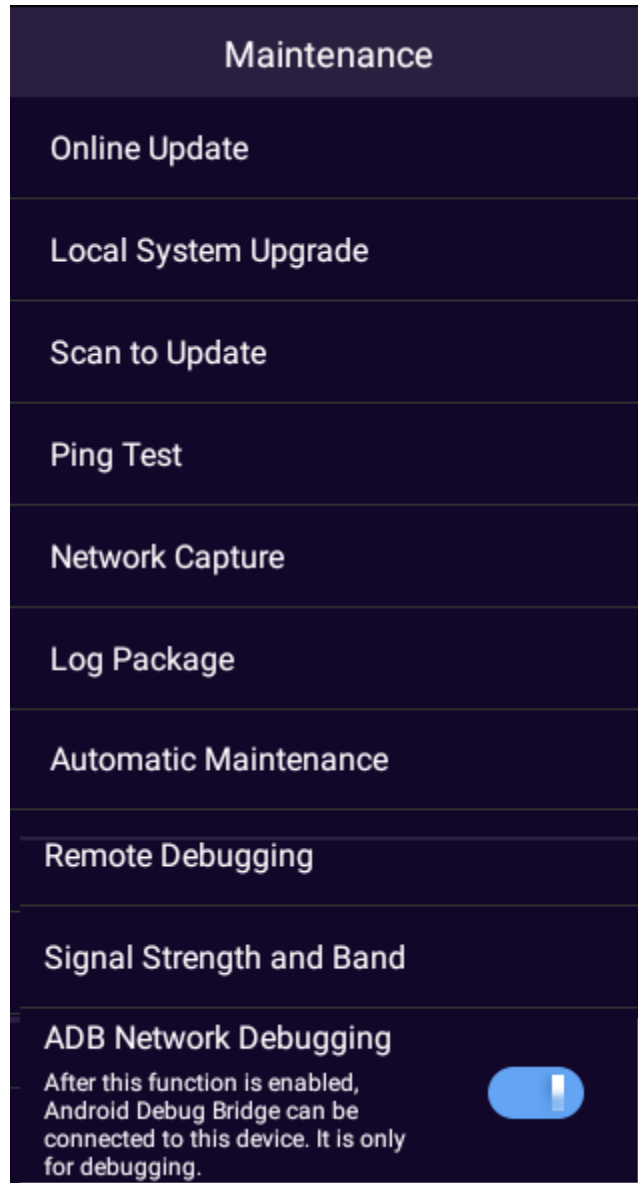
3.6 System Maintenance

On the home screen, tap **Maintenance** and then you can perform maintenance operations such as system update, and ping test.

Online update, ping test, scan to update, network capture, log package, remote debugging and ADB network debugging are not available on the model that does not support network connection.

Figure 3-25 Maintenance

3.6.1 Online Update

When the device is connected to the internet, it can be updated online. Before updated, you need to check whether there is the latest version. The version check can be done automatically or manually.

Procedure

Step 1   On the home screen, select **Maintenance** > **Online Update**.

Step 2   Check the version.

- Auto check: Tap [   ] to enable the **Auto check** function.
- Manual check: Tap **Manual check** to check whether there is the latest version.

Step 3   Tap to update the system.

If the page shows "You are using the latest version", you do not need to update the system.

3.6.2 Local System Upgrade

You can update the system on the local device. For details, see "4.2 Updating on Local Device".

3.6.3 Scan to Update

Background Information

You can scan the QR code to get the update file and then update the system.

Procedure

Step 1 On the home screen, select **Maintenance** > **Scan to Update**.

Step 2 Scan the QR code that corresponds to the update file.

Step 3 Tap **Download** to download the update file.

Figure 3-26 Update file
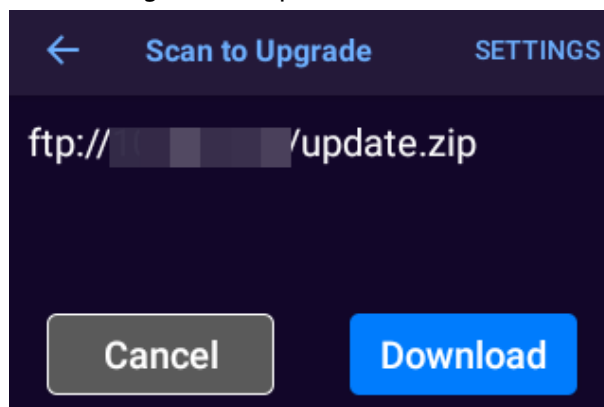
Anonymous login is enabled by default. You can tap **SETTINGS** on the upper-right corner of the **Scan to Update** screen, disable anonymous login and then configure the FTP username and password.

Figure 3-27 Enter password
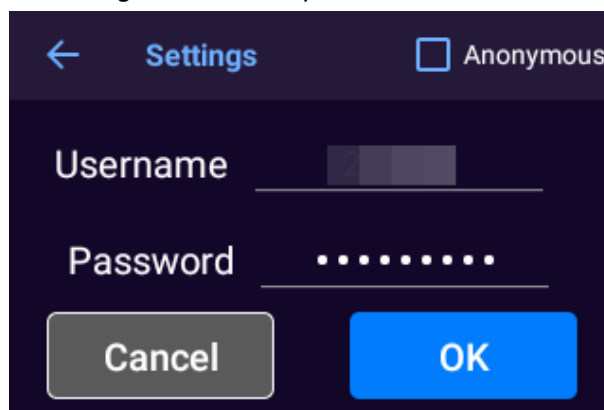
Step 4 After the download is complete, tap **OK** to update immediately.

You can also use the update file to update the system later. For details, see "4.2 Updating

on Local Device".

📖

The Device suspends the download process when network breaks down and resumes downloading when network is recovered.

3.6.4 Ping Test

You can test the network connection.

On the home screen, select **Maintenance** > **PING test**, enter the target IP address, and then tap **START**.

Figure 3-28 Ping test
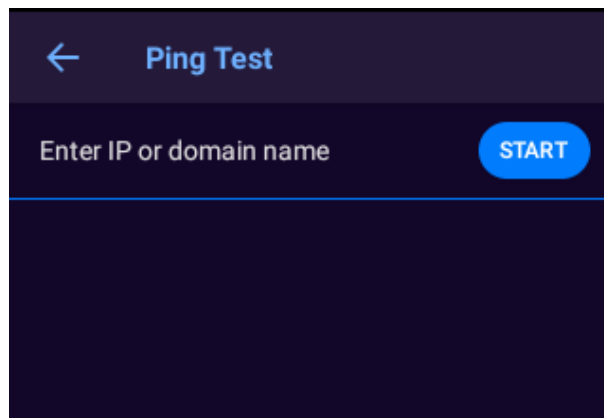
3.6.5 Network Capture

You can capture data packets and share them through Bluetooth. The packets help to diagnose and solve network problems.

Prerequisites

To share captured packet, you need to turn on Bluetooth. For details, see "3.5.1.5 Bluetooth".

Procedure

Step 1　On the home screen, select **Maintenance** > **Network Capture**.

Step 2　Tap **Capture** to capture data packets.

Step 3　Tap **StopCap**.

Step 4　Tap **SHARE** to send the captured packet to a Bluetooth device.

Figure 3-29 Network capture

3.6.6 Log Package

The logs record the information on the system operation, through which you can identify some abnormal operations. You can package the logs and share them through Bluetooth.

Prerequisites

To share log package, you need to turn on Bluetooth. For details, see "3.5.1.5 Bluetooth".

Procedure

Step 1   On the home screen, select **Maintenance** > **Log Package**.

Step 2   Tap **Package** to compress logs into one package.

Step 3   Tap **SHARE** to send the log package to a Bluetooth device.

Figure 3-30 Network capture
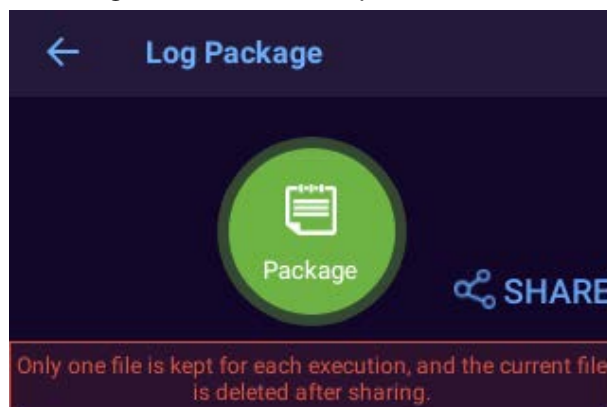
3.6.7 Automatic Maintenance

On the home screen, select **Maintenance** > **Automatic Maintenance**, and then you can configure

the restart frequency and time.

📖

If the Device is recording audio or video at the defined restart time, restart will not happen until one hour later. If the Device is still recording one hour later than the defined restart time, restart will be postponed another hour. If the Device is still recording audio or video at that time, the Device will be scheduled to restart at the predefined time next day.

Figure 3-31 Automatic maintenance
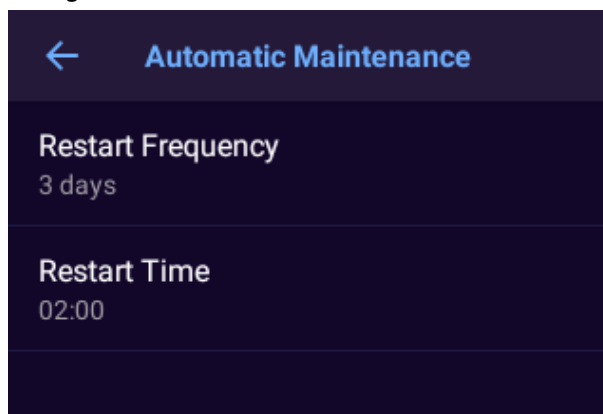
3.6.8 Remote Debugging

Though configuring the parameters such as server address, port and more, you can debug the device remotely. You can get the network capture and log on the platform.
On the home screen, select **Maintenance** > **Remote Debugging**, configure the parameters and then tap **START**.

3.6.9 Signal Strength and Band

Check the signal and band of SIM card.
On the home screen, select **Maintenance** > **Signal Strength and Band**, the network information, signal intensity and band of SIM card will be displayed automatically.

3.6.10 ADB Network Debugging

On the home screen, select **Maintenance** > **ADB Network Debugging**, and then tap 　. After the device connects to the network, you can debug the device through ADB network.

3.7 Audio Recording

3.7.1 Recording Audio

Press 　 on any screen to record audio, or tap 　 on the home screen, and then tap 　.

Figure 3-32 Record audio
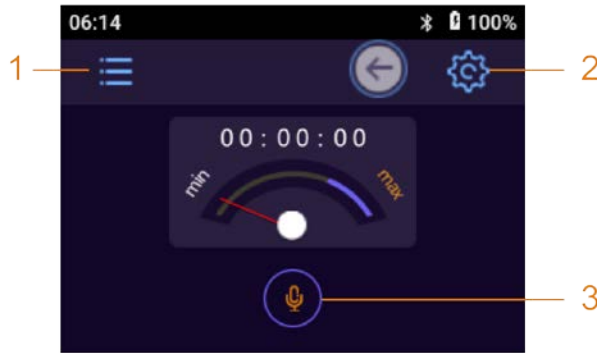
Table 3-12 Audio recording functions

No.	Function
1	Tap the icon and then enter password to view and manage audio files.
2	Tap the icon to set audio format and file format. ● Audio format: AAC and G.711A. ● File type: dav and aac. 📖 During recording audio process, icon 1 and 2 are hidden.
3	Tap the icon to start recording audio. Tap 🔲 to stop. System prompts "Stop recording audio".

3.7.2 One Press to Record Audio

When the Device is sleeping, press (🎙) to start recording audio. Press (🎙) again to stop.

3.8 Video Recording

3.8.1 Recording Video

● To start recording, tap 📷 on the home screen, tap 🔴 to start recording video, and then tap 🔴 to stop recording.

● Press ⬚ to start recording video, and press ⬚ again to stop recording.

Figure 3-33 Record video
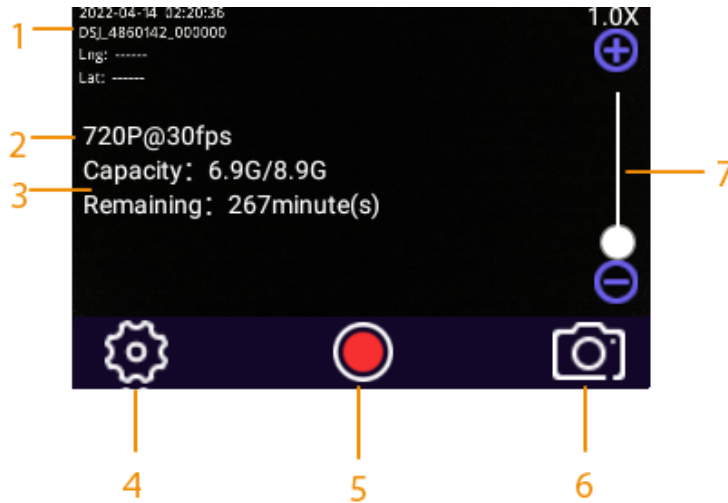
Table 3-13 Video recording functions

No.	Description
1	Date, time, serial number, police officer number, GPS information, and custom information. 📖 • To show GPS information, make sure that location service and GPS display are enabled. Select ⚙ > **Network** > **Location** or ⚙ > **Location** > **Location Service** to enable positioning; select ⚙ > **Device** > **Camera Settings** > **Overlay** > **GPS OSD** to enable GPS display. • Supports to configure the custom OSD information on local, and then enable custom information display in ⚙ > **Device** > **Camera Settings** > **Overlay**.
2	Video quality. 📖 Shows picture resolution when the Device is in capturing mode.
3	Remaining capacity/total capacity, and remaining recording time. 📖 • The remaining recording time varies with video quality. • Shows the remaining capacity/total capacity in capturing mode, and the remaining number of pictures that you can take.
4	Camera settings. For details, see "3.5.2.2 Camera Settings".
5	• When the Device is in recording mode, tap 🔴 to start recording video and then tap 🔴 to stop. • When the Device is in capturing mode, tap ⚪ to take a picture.
6	Tap to switch between recording mode and capturing mode.
7	Tap the screen to display the zoom bar. The bar can be zoomed at 1.0 to 8.0 times by dragging the zoom bar.

3.8.2 One Press to Record a Video

When the Device is sleeping, press to start recording video. The Device prompts "Start recording video" and the login screen is displayed with a recording icon in the notification bar.

Press again to stop recording video, and you can hear a sound prompt "Stop recording video".

If the device you are using has a recording button on the back, you can press the button to start recording a video.

3.8.3 Focusing

On the live view screen, tap the screen, and then a focus bar appears. Drag the focus bar to zoom in or out the image at X1.0 to X8.0.

3.8.4 Marking Important Videos

Press and hold during recording, and a yellow mark★ will appear on the top of the screen, which means the video is marked as an important file. Tap to view files. The important files are marked with★, and their names end with _IMP.

3.9 Pictures

3.9.1 Taking a Picture

On the live view screen, press or tap . The working indicator light flashes and system prompts success.

3.9.2 One Press to Take a Picture

When the Device is sleeping, press to take a picture. If you have configured continuous shot, you can press once to take the defined number of pictures.

3.10 Smart Operation

Intelligent detection is to extract key information through image processing and analysis, and compare with the per-set detection rules. The device supports face detection and ANPR.

3.10.1 Face Detection

When the face image is detected in the face detection area, the detection result will be show on the

right side of the screen and a record be kept in file management.

On the home screen, select **Camera**, and then put the face in the detection area. The detection result will be show on the right side of the screen.

- The face detection function is enabled. For the detailed information, see "3.5.2.3 Face Settings".
- Tap or to expand or show less the detection result.

3.10.2 ANPR

When the license plate is detected in the detection area, the detection result will be show on the right side of the screen and a record be kept in file management.

On the home screen, select **Camera**, and then put the license plate in the detection area. The detection result will be show on the right side of the screen.

- The ANPR function is enabled. For the detailed information, see "3.5.2.4 Plate Settings".
- When the **Vibrate** function is enabled, the device will vibrate when a license plate is detected.
- Tap or to expand or show less the detection result.

3.11 Files

You can view pictures, videos, and audio files saved in your device.

You cannot upload or edit the files on the model that does not support network connection.

3.11.1 Viewing Pictures
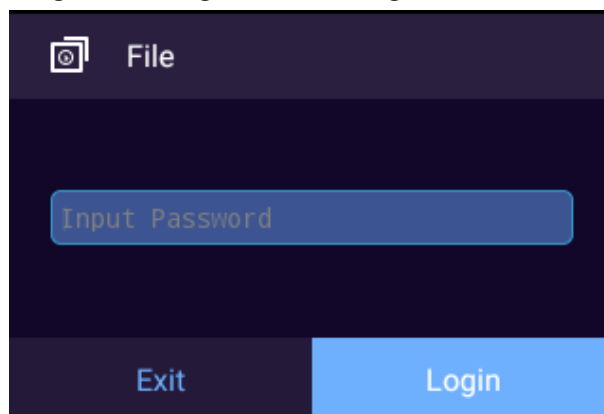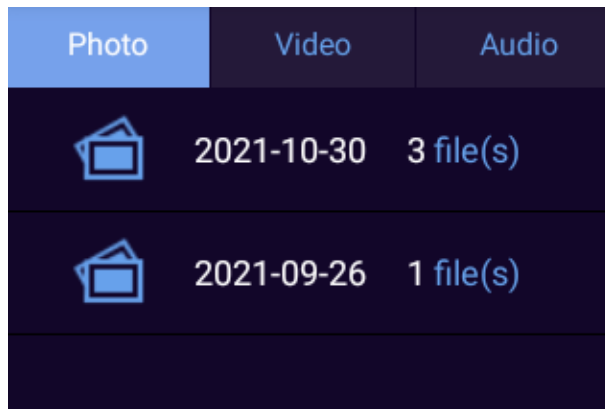
Procedure

Step 1 On the home screen, tap .

Figure 3-34 Login for file management

Step 2 Enter your login password, and then tap **Login**.

Figure 3-35 Files
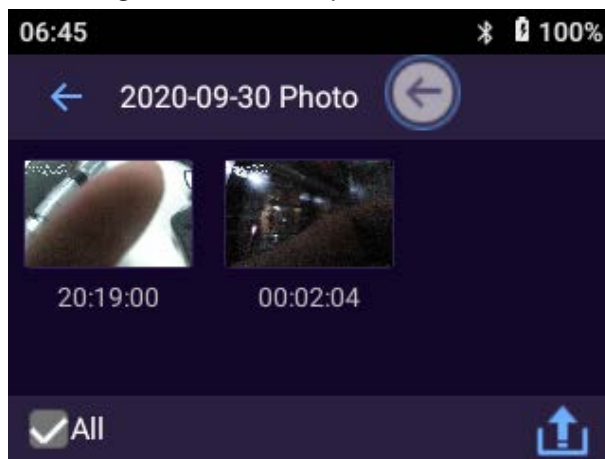

Step 3   Select a folder, and then tap a picture to play.

Automatically creates folders after the device is initialized.

Figure 3-36 Select a picture

- To select a picture, tap and hold it, and ☑ appears on the right-upper corner of the picture. ☑ means the picture has been selected.
- Tap ☑ All to select all the pictures in the current folder.
- Tap 🛈 to view details of the selected picture, such as file type, size, and resolution. Tap ☑ next to **Important** to mark the picture as an important file. Tap ☑ to cancel the mark.

Whether you are marking a file as an important file or canceling the mark, you need to tap **OK** to make the change effective.

Figure 3-37 Details

- Tap to upload the picture to the platform.

Step 4   Tap a picture.

Figure 3-38 View a picture

- When viewing a picture, swipe left or right on the screen to see the previous or next pictures.
- Use two finger to zoom in or out the picture.
- When floating button is used for back operation, tap to go back to the picture list; when gesture is used, swipe left or right from the screen edge instead.
- Tap to view picture details back operation.
- Tap to upload the picture to platform..

3.11.2 Playing Video

Procedure

Step 1   On the home screen, tap [icon].

Step 2   Enter your login password, and then tap **Login**.

Step 3   Tap the **Video** tab.

Step 4   Select a folder.

The folders are displayed in chronological order, and the newest folder is on the top of the list.

Step 5   Tap the video file to play.

Figure 3-39 Play video

- When viewing a video, swipe left or right on the screen to play the previous or next videos.
- Drag the progress bar to fast-forward or rewind.
- Tap [icon] to pause.
- Tap [icon] to adjust volume.
- When floating button is used for back operation, tap [icon] to go back to the video list; when gesture is used, swipe left or right from the screen edge instead.
- Tap [icon] to view video details.
- Tap [icon] to upload the current video to the platform.

3.11.3 Playing Audio

Procedure

Step 1   On the home screen, tap [icon].

Step 2   Enter your login password, and then tap **Login**.

Step 3   Tap the **Audio** tab.

Step 4   Select a folder.

The folders are displayed in chronological order, and the newest folder is on the top of the list.

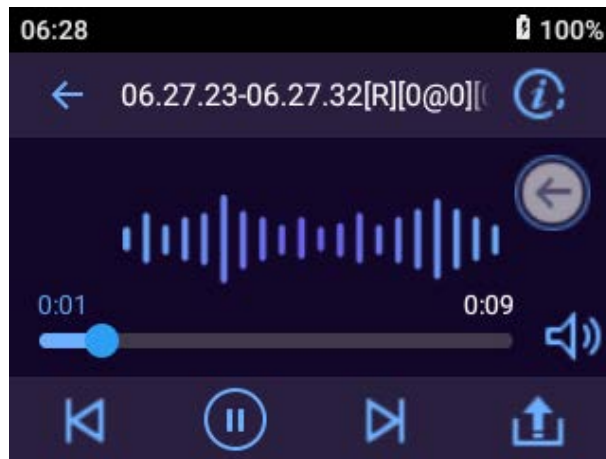Step 5   Tap the audio file to play.

Figure 3-40 Play audio

- Tap ◁ or ▷ to play the previous or next audio in the folder.
- Drag the progress bar to fast-forward or rewind.
- Tap ⏸ to pause.
- Tap 🔊 to adjust volume.
- When floating button is used for back operation, tap ← to go back to the audio list; when gesture is used, swipe left or right from the screen edge instead.
- Tap ⓘ to view audio details.
- Tap ⬆ to upload the current audio to the platform.

3.12 Switching between Video and Audio Recording

📖

With **Record Video&Audio** disabled by default in 🔆 > **Device** > **Camera Settings**, you can switch between video and audio recording with a simple press.

- When the Device is recording video, press 🔘, or tap 🔵 on the home screen and then tap 🎤 to stop recording video and start recording audio.
- When the Device is recording audio, press ▤, or tap 🔵 on the home screen and then tap 🔴 to stop recording audio and start recording video.

3.13 Recording Audio & Video at the Same Time

📖

Make sure that you have enabled Record Video&Audio in 🔆 > **Device** > **Camera Settings**.

- When the Device is recording video, press 🔘, or tap 🔵 on the home screen and then tap 🎤 to start recording audio at the same time.
- When the Device is recording audio, press ▤, or tap 🔵 on the home screen and then tap 🔴 to start recording video at the same time.

3.14 IR Light

IR light can be used to assist in shooting at night or with low illuminance.

Swipe down the notification bar, and then tap 🔦 to enable the IR light, and the icon turns to 🔦.

Tap 🔦. to turn off the IR light.

📖

The IR light cannot be enabled when the battery level is lower than 5%.

3.15 White Light

When shooting in dark, you can use white light to illuminate.

Swipe down the notification bar, and then tap 🔦 to enable the white light, and the icon turns to

🔦. Tap 🔦 to turn off the white light.

📖

The white light cannot be enabled when the battery level is lower than 5%.

3.16 Data Transmission

You can upload data from the Device to MPT Manager and data acquisition station.

📖

For the model that does not support network connection, data transmission to the platform is not available.

- Make sure that the **Private Protocol** is enabled.
- After starting the Device, use USB cable to connect the Device to the PC, start MPT Manager, enter password, and then confirm to download the data.
- Start the Device, and connect it to a legal data acquisition station through the USB cable. For the first-time use, you need to enter the password, and then the data on the Device can be uploaded to data acquisition station. If the device information is not displayed on the interface, unplug USB and plug it again.

4 System Update

You can update the system on MPT Manager or on the local device.

4.1 Updating on MPT Manager

Update the system on MPT Manager.

Procedure

Step 1   Install MPT Manager.

Follow the system prompts and click **Next** until the installation is complete.

Step 2   Start the Device, and then connect it to your computer through USB cable.
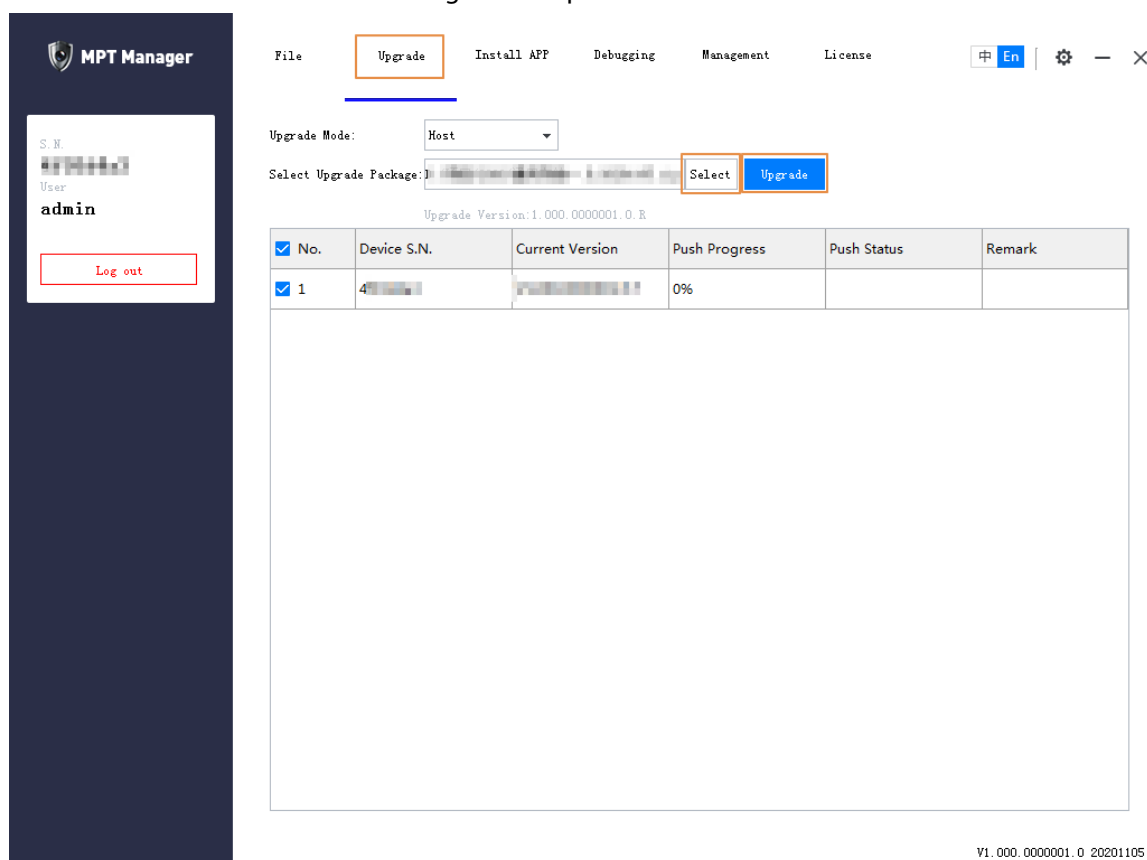
Step 3   Double-click   on the desktop, enter device password, and then click **OK**.

Step 4   click the **Upgrade** tab.

Step 5   Select the update package, and then click **Upgrade**.

The push progress becomes 100% when the update package is successfully pushed to the Device.

Figure 4-1 Update

4.2 Updating on Local Device

On the home screen, select **Maintenance** > **Local System Upgrade**. The Device detects update package automatically. After local update package is detected, you can select the package to update the system.

5 Platform Operations

After connecting the Device to the platform, users with corresponding permissions can access and manage the Device on the platform.

📖

Platform operations are not available for the model that does not support network connection.

5.1 Adding the Device to the Platform

Add the Device to the platform for remote management. For details on platform operations, see the corresponding user's manual of the platform.

Prerequisites
- The Device and the platform are on the same network segment.
- If you want to add the device to the platform through registration, make sure to configure the registration settings on the Device. For details on registration settings, see "3.5.1.1.1 Auto Register".

Procedure

Step 1   Log in to the platform web manager.

Step 2   On the home page, select **Devices**, or if you have opened a tab, click ➕, and then select **Devices**.

Step 3   On the **Devices** page, click **Add**.

Figure 5-1 Add MPT (1)

Step 4   Configure the parameters.

Table 5-1 Parameters of adding the device

Parameter	Description
Add Type	• **Auto Register**: Register the Device using the registration ID. It is the most common method. • **IP Address**: Register the Device using its IP address.
Device Category	Select **Encoder**.
Registration	If you select **Auto Register** as **Add Type**, enter the registration ID of the Device. 📖 The registration ID must be the same as the one entered on the MPT device when registering the platform.
IP Address	If you select **IP Address** as **Add Type**, enter the IP address and port number of the Device. The port is 37777 by default.
Device Port	
User	Enter the username and password of the Device.
Password	
Organization Code	Select the organization that the Device belongs to. The default organization code is root. Y
Domain Name	Enter the domain that is accessed.

Step 5   Click **Add**.

Figure 5-2 Add MPT (2)

Step 6　Configure the device information.

Table 5-2 Parameters of device information

Parameter	Description
Device Name	Customize the device name.
Type	Select **MPT Series**.
Video Channel	The default value is 1.
Alarm Input Channel	The default value is 0.

Step 7　Click **OK**.

Step 8　Click ✎ of the added device, select **Basic Info**, and then get device SN information. Otherwise, you might fail to add the device.

5.2 Connecting to the Platform

Register the Device to the platform. For details, see "3.5.1.1.1 Auto Register".

6 SIM Card and Battery Installation

The product supports 5 VDC/2 A power recharge. When the battery power is low, recharge it in time.

- When the Device has the main battery, the interface displays main battery percentage.
- If you remove the main battery, the Device will shut down.
- After installing the main battery, start the Device manually.

📖

- Recharge the battery if the Device is not in use for a long time.
- The system triggers low battery alarm when the battery level is lower than 5%.
- The Device automatically shuts down when the power runs out.
- If the Device will not be used for a week or more, charge it to 60%, take the battery out of the Device, and store it in a clean, dry and ventilated room with ambient temperature of 20 ± 5 ℃.
- Charge the battery at least once every three months during storage.
- The battery is a consumable accessory. You are recommended to replace it after one year of use.

6.1 Installing SIM Card

Background Information

⚠

- For the model that does not support network connection, you cannot install the SIM card.
- SIM card and the peripheral accessories do not support hot swapping. The card becomes activated after the Device restarts.
- Shut down the Device before installing the SIM card; otherwise the Device might be damaged.

Procedure

Step 1   Remove the battery cover.
- For the model without a recording button on the back, move the slider on the back of the Device left, and then use your thumb to hold the groove on the lower-left corner of the Device to remove the battery cover.

Figure 6-1 Remove the battery cover (1)
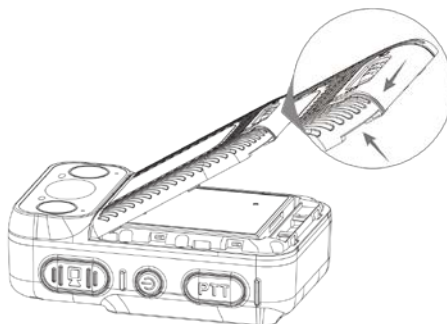
- For the model with a recording button on the back, loosen the screws on the back, and then use your thumb to hold the groove on the lower-left corner of the Device to remove the battery cover.

Figure 6-2 Remove the battery cover (2)
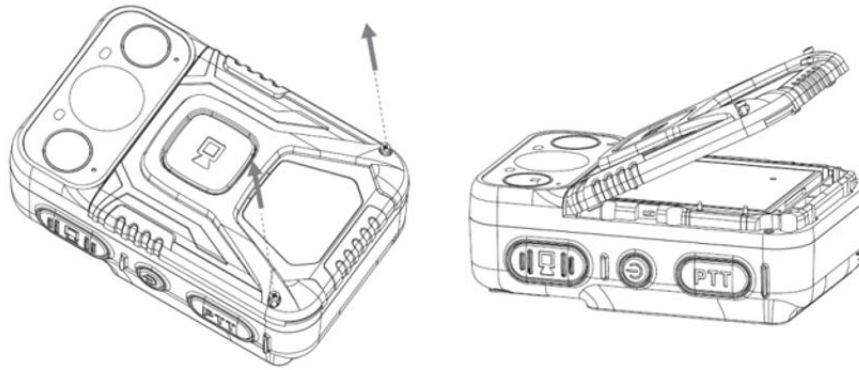
Step 2   Take out the main battery.

Figure 6-3 Take out main battery
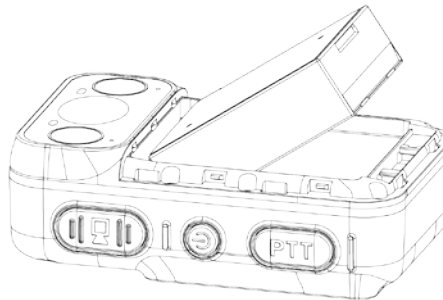
Step 3   Make sure that the metal side of the SIM card is facing down. Push the SIM card to the tray until SIM card is firm.

Figure 6-4 Install SIM card
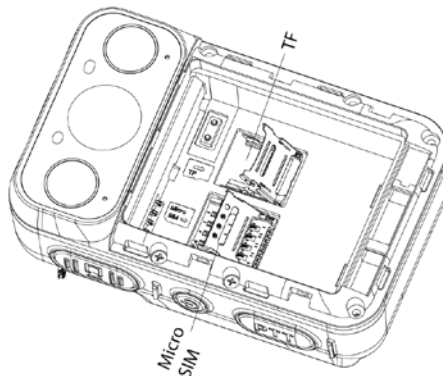
Step 4   Install the main battery.

Make sure that the SIM card installation is complete before installing the main battery in case the battery might jam the tray and result in tray damage.

Step 5   Install the battery cover.
- For the model without a recording button on the back, re-attach the battery cover, and then move the slider on the back of the Device right.
- For the model with a recording button on the back, re-attach the battery cover, and then tighten the screws on the back.

6.2 Replacing Main Battery

For details, see <u>Step1</u>, <u>Step2</u>, <u>Step4</u>, and <u>Step5</u> in "6.1 Installing SIM Card".

7 FAQ

1. **How can I add, delete user or change password?**
   - The operations might vary with the version and model. For details, see the corresponding user's manual.
   - Only the admin account has the permission to add user.
   - To change the password, go to ⚙ > **User management**, or tap 📕 on the home screen, depending on the version you are using.
   - Only the admin account has the permission to view and change the information of other users. Other users can only view the information and change the password of their own account.
2. **How can I restore the Device to factory settings or clear the password?**
   Factory resetting will clear all data stored in your device, including system and app data and settings. The Device still retains certain parameters, including audio, video, picture data, and the serial number. Only the admin account can reset the Device.
3. **Where can I configure VPN?**
   Go to ⚙ > **Network** > **Mobile Data** > **VPN**.
4. **Where can I configure APN?**
   Select ⚙ > **Network** > **Mobile Data** > **Mobile Network**, and then tap **Access Point Names**.
5. **How long can the battery last during normal use?**
   - With screen off, local recording turned on using the default settings, 4G used to acquire stream (main stream), and GPS enabled, the battery lasts 7–8 hours.
   - With screen on for half an hour, local recording turned on using the default settings, 4G used to acquire stream (main stream), GPS enabled, and voice talk used for half an hour, the battery runs out in 6–7 hours.
   - With screen on for half an hour, local recording turned on using the default settings, 4G used to acquire stream (main stream) for an hour, and GPS enabled, the battery life is 8–9 hours.

📖

The listed battery life is for reference only. The actual battery life might vary with the operating conditions, environment, battery usage and other factors.

Appendix 1 Cybersecurity Recommendations

Mandatory actions to be taken for basic device network security:

1. **Use Strong Passwords**

   Please refer to the following suggestions to set passwords:
   - The length should not be less than 8 characters.
   - Include at least two types of characters; character types include upper and lower case letters, numbers and symbols.
   - Do not contain the account name or the account name in reverse order.
   - Do not use continuous characters, such as 123, abc, etc.
   - Do not use overlapped characters, such as 111, aaa, etc.

2. **Update Firmware and Client Software in Time**
   - According to the standard procedure in Tech-industry, we recommend to keep your device (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes. When the device is connected to the public network, it is recommended to enable the"auto-check for updates" function to obtain timely information of firmware updates released by the manufacturer.
   - We suggest that you download and use the latest version of client software.

"Nice to have" recommendations to improve your device network security:

1. **Physical Protection**

   We suggest that you perform physical protection to device, especially storage devices. For example, place the device in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable device (such as USB flash disk, serial port), etc.

2. **Change Passwords Regularly**

   We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. **Set and Update Passwords Reset Information Timely**

   The device supports password reset function. Please set up related information for password reset in time, including the end user's mailbox and password protection questions. If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. **Enable Account Lock**

   The account lock feature is enabled by default, and we recommend you to keep it on to guarantee the account security. If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. **Change Default HTTP and Other Service Ports**

   We suggest you to change default HTTP and other service ports into any set of numbers between 1024–65535, reducing the risk of outsiders being able to guess which ports you are using.

6. **Enable HTTPS**

   We suggest you to enable HTTPS, so that you visit Web service through a secure communication channel.

7. **MAC Address Binding**

   We recommend you to bind the IP and MAC address of the gateway to the device, thus reducing

the risk of ARP spoofing.

8. **Assign Accounts and Privileges Reasonably**

   According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

9. **Disable Unnecessary Services and Choose Secure Modes**

   If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.

   If necessary, it is highly recommended that you use safe modes, including but not limited to the following services:

   - SNMP: Choose SNMP v3, and set up strong encryption passwords and authentication passwords.
   - SMTP: Choose TLS to access mailbox server.
   - FTP: Choose SFTP, and set up strong passwords.
   - AP hotspot: Choose WPA2-PSK encryption mode, and set up strong passwords.

10. **Audio and Video Encrypted Transmission**

    If your audio and video data contents are very important or sensitive, we recommend that you use encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.

    Reminder: encrypted transmission will cause some loss in transmission efficiency.

11. **Secure Auditing**

    - Check online users: we suggest that you check online users regularly to see if the device is logged in without authorization.
    - Check device log: By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

12. **Network Log**

    Due to the limited storage capacity of the device, the stored log is limited. If you need to save the log for a long time, it is recommended that you enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

13. **Construct a Safe Network Environment**

    In order to better ensure the safety of device and reduce potential cyber risks, we recommend:

    - Disable the port mapping function of the router to avoid direct access to the intranet devices from external network.
    - The network should be partitioned and isolated according to the actual network needs. If there are no communication requirements between two sub networks, it is suggested to use VLAN, network GAP and other technologies to partition the network, so as to achieve the network isolation effect.
    - Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private networks.
    - Enable IP/MAC address filtering function to limit the range of hosts allowed to access the device.