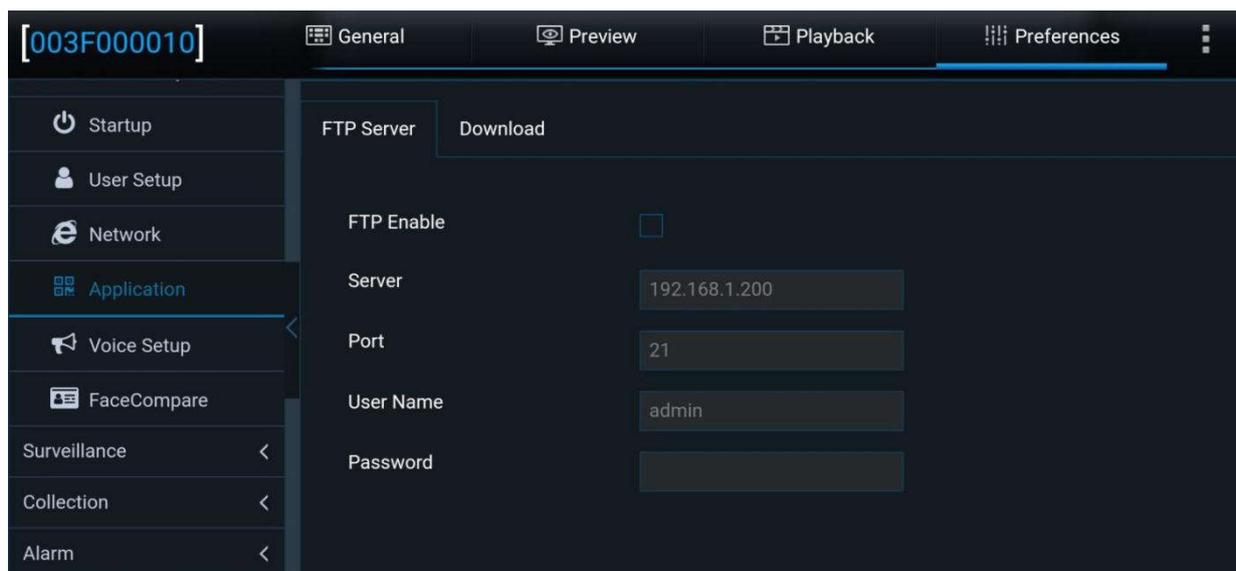


1. Server Type: is set to Communication Module.
2. Network Type: is set to Mix.
3. Dialing Parameter: allows setting the APN, which can be configured as VPN network parameters.
4. You can also configure information of the communication module.

2.6.6. Application

FTP Server:

The device allows connecting to an FTP server. After the IP address, port number, user name, and password of the established FTP service are configured, the device can connect to the FTP server to upload pictures or download files. Tap **Preferences > Basic Setup > Application > FTP Server**, as shown in the following figure:

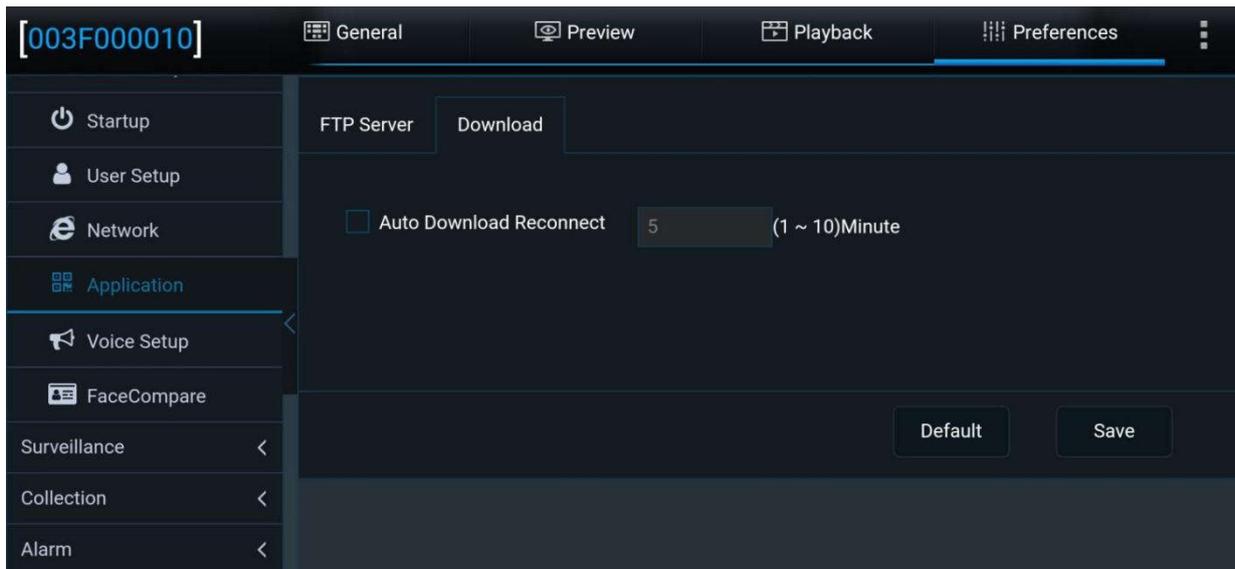


- **Auto Download Reconnect:** needs to be used with the CEIBA2 platform. The automatic download tasks created through the CEIBA2 are managed by the platform. Specifically, you can view the vehicles with downloads, networks (4G or Wi-Fi) used for the downloads, used Wi-Fi AP by each vehicle if the Wi-Fi network is used, and the maximum number of vehicles connected to

each AP for simultaneous downloads on the platform.

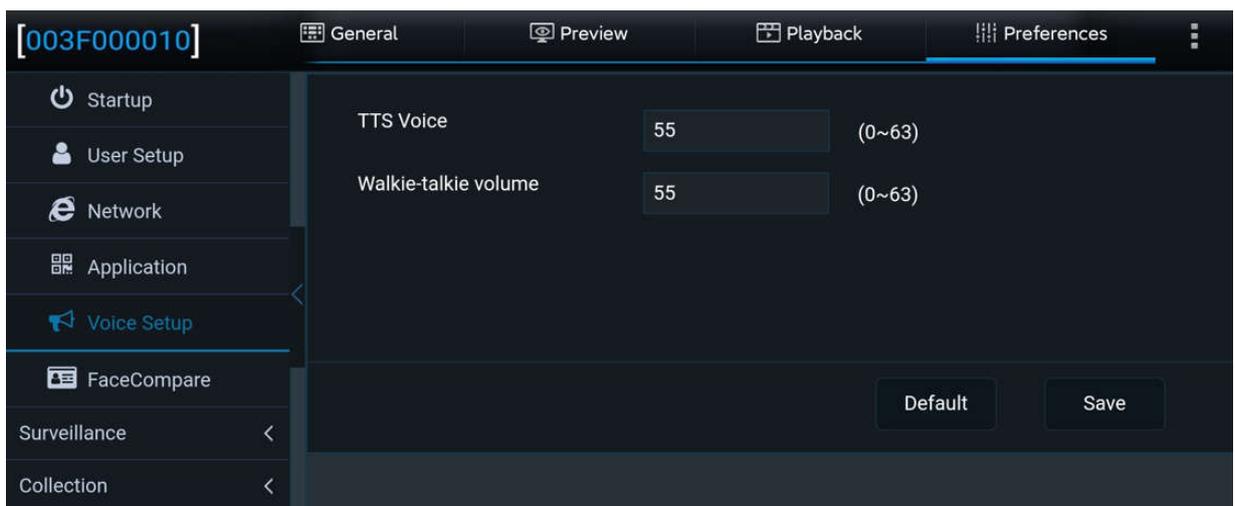
Auto Download Reconnect, that is, when the vehicle returns to the station and cannot connect to the service, it will restart and try to download again after entering the sleep mode for a while. When the download tasks are full, or the set AP reaches the upper limit, the platform will notify the device to enter sleep mode, and at the same time tell the device how long to sleep before restarting (that is, the sleep mode avoids wasting resources when queuing or waiting for the upgrade).

Tick to enable **Auto Download Reconnect** and set the re-connection time between 1 and 10 min, the default is 5 min.



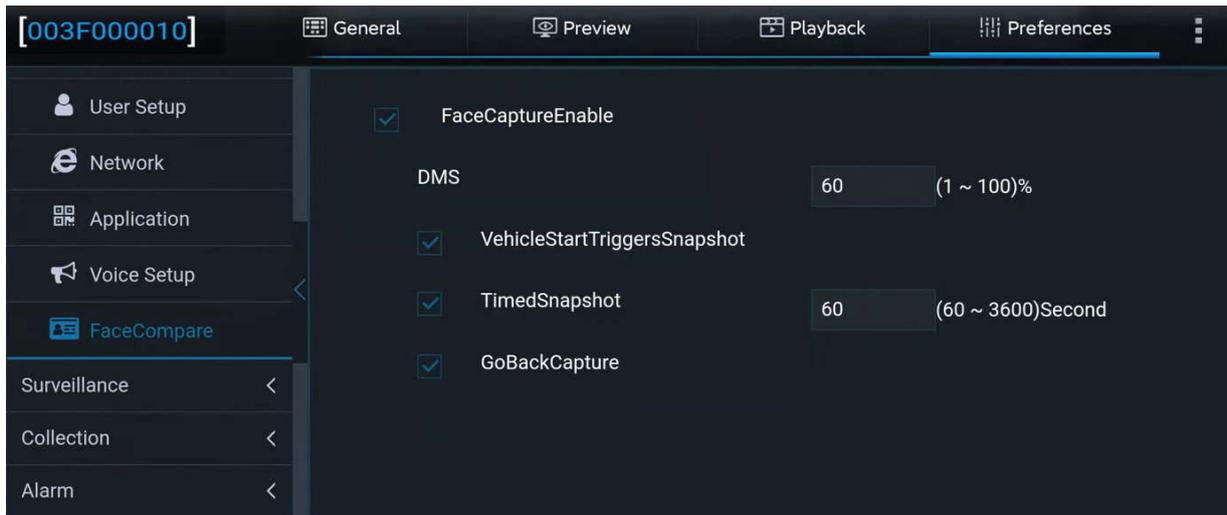
2.6.7. Voice Setup

Choose **Preferences > Basic Setup > Voice Setup** to manually configure the walkie-talkie volume and TTS voice. The range is 0 to 63, 55 by default. The screen is as follows:



2.6.8. Face Compare

Tap **Preferences > Basic Setup > Face Compare** to set the driver face comparison parameters. This function needs to be used with the FT Cloud platform. The screen is as follows:

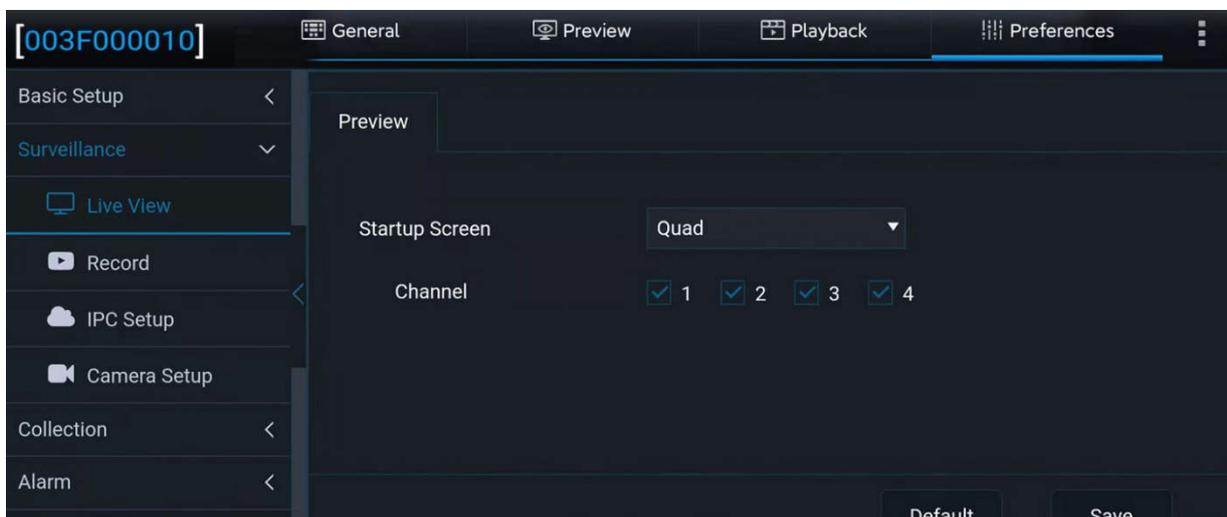


1. **FaceCaptureEnable:** enables face comparison after being selected.
2. **DSM:** allows you to set the threshold of the face comparison similarity. If the similarity is greater than or equal to the set threshold, the two faces are considered to be owned by the same driver.
3. Face capture method:
 - **VehicleStartTriggerSnapshot:** The device captures a snapshot when the ACC is turned on from the off status, and the vehicle is moving at a certain speed
 - **TimedSnapshot:** allows you to set the scheduled time to 60–3600 seconds, 300 seconds by default
 - **GoBackCapture:** The device captures a snapshot when the no driver alarm is triggered until the alarm is cleared

2.7. Surveillance

2.7.1 Preview

The preview setting screen is mainly used for the display form on the externally connected display, which supports single-screen and four-screen displays. The channel to be displayed can be selected in a single-screen display. Click **Preferences > Surveillance > Live View**, as shown in the following figure:

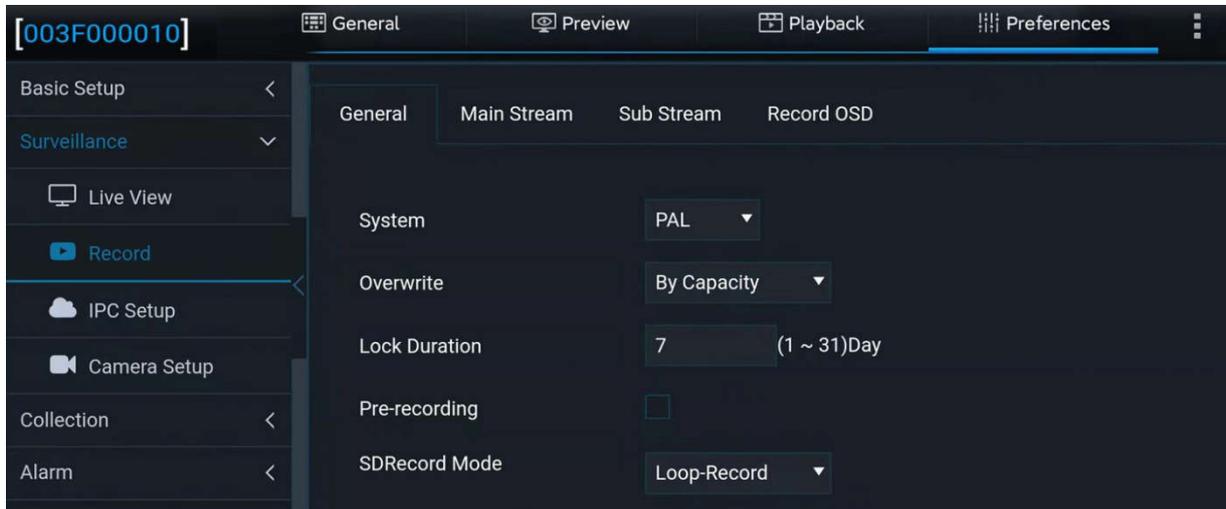


2.7.2. Recording

2.7.2.1 General Settings

In this module, you can specify the system mode, overwrite function, lock duration, pre-recording, SD record mode, and privacy channel configuration.

Tap **Preferences > Surveillance > Record > General**, as shown in the following figure:



1. **System:** PAL and NTSC are available.

Note: This setting must be consistent with the video source system.

2. **Overwrite:** You can select By Capacity, By Day, or Never.

Note: Locked recording is overwritten only after its locking duration expires.

By Capacity is selected by default. In this case:

- 1) The SD card is overwritten by capacity. When the SD card storage space is less than 2 GB, overwriting starts, with files of 128 MB deleted each time.
- 2) The deletion proceeds by channel number and deletes 250 MB files from each channel in one deletion. If one channel has a section less than 100 MB, the system moves to the next channel with longer duration.

By Day:

- 1) Files are overwritten by configured days, which range from 1 day to 31 days.
- 2) If 1 day is configured, the recording is saved for 1 day. If 31 days are configured, the recording is overwritten after having being saved for 31 days.
- 3) 31-day storage duration is only possible when the disk has sufficient space. If you have set a 31-day duration but the recording is only available for 7 days, earlier recordings will be overwritten immediately after the SD card is full.

Never: Overwriting is not enabled for main stream recording, mirror stream, sub-stream, and alarm stream. Recording stops after the memory is full.

3. **Lock Duration:**

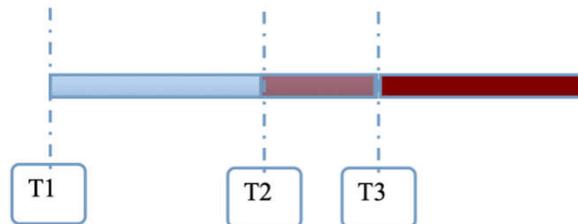
Specifies the day(s) that locked recordings are retained. This setting prevents them from being deleted earlier than expected. It is set to 7 days by default.

For details about how to lock recording, see Section 2.9.

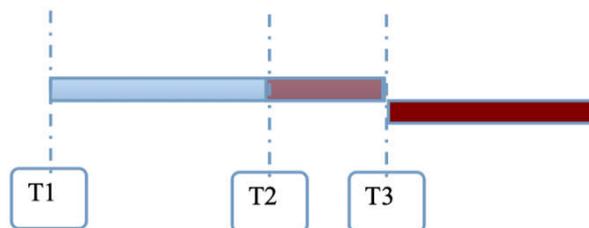
4. **Pre-recording**

In alarm recording, recording files generated before alarm triggering are extracted for event analysis. The parameter value ranges from 1 to 60 minutes and is defaulted to 15 minutes.

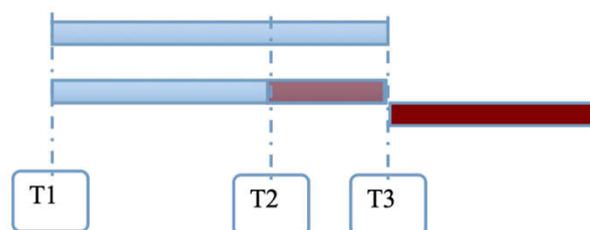
- 1) In normal video recording, when an alarm is triggered, earlier recording data with a duration indicated by this parameter is extracted and marked as alarm recording as well. As shown in the figure below, T1-T3 is a normal recording. After an alarm is generated at T3, T3, and later period, as well as the duration between T2 and T3, are marked as alarm recording.



- 2) If there is no recording ongoing and the pre-recording function is enabled, the device establishes a pre-recording stream segment upon startup. When an alarm is triggered at T3, the recording generated between T2 and T3 in the pre-recording stream segment is marked as alarm recording.



- 3) When non-alarm recording proves to be I-frame recording: After startup, two stream segments are established, one is I-frame stream segment and the other is pre-recording stream segment. When an alarm is triggered, the recording between T2 and T3 in the pre-recording stream segment is marked as alarm recording.



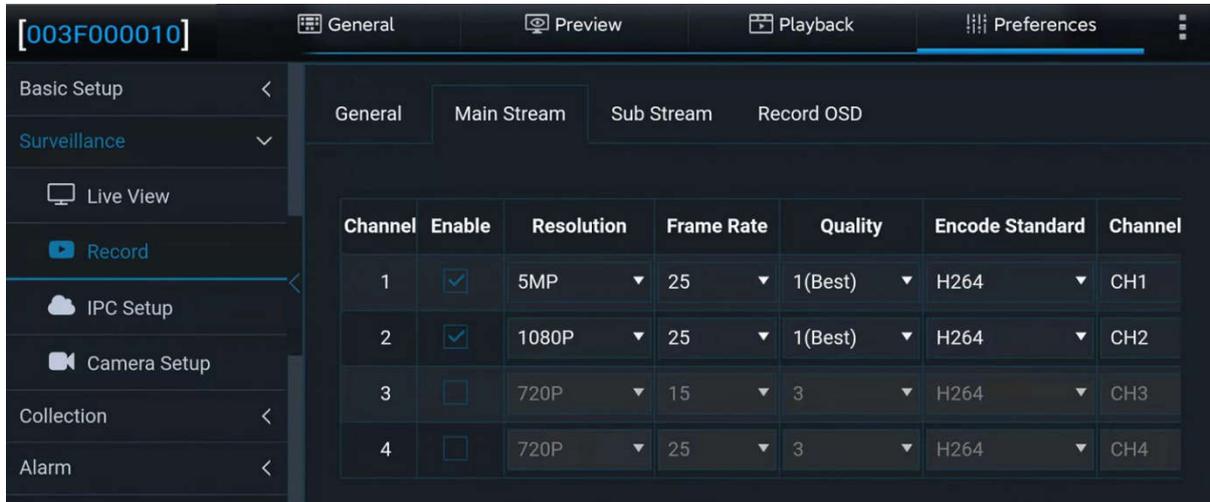
5. **TF Record Mode:** specifies the recording mode of the secondary TF card. It can be set to Sub-Record, Mirror Record, Alarm Record Backup, or Loop Recording.
 - **Sub-Record:** stores sub stream recordings in the SD card.
 - **Mirror Record:** uses main stream parameters, and its data includes video data, log information, and black box data. If the channel of main stream video is disabled, mirror recording does not apply to this channel.
 - **Alarm Record Backup:** stores recording data only when an alarm is

triggered.

- **Loop Record:** is the loop recording for dual TF card.

2.7.2.2 Main Stream Setting

On this screen, you can set the recording mode, video parameters, and audio parameters for each channel. Tap **Preferences** > **Surveillance** > **Record** > **Main Stream**, as shown in the following figure:



Note: The recording mode can be configured for channels individually.

Once recording mode is selected, it applies to both sub-stream and mirror recording.

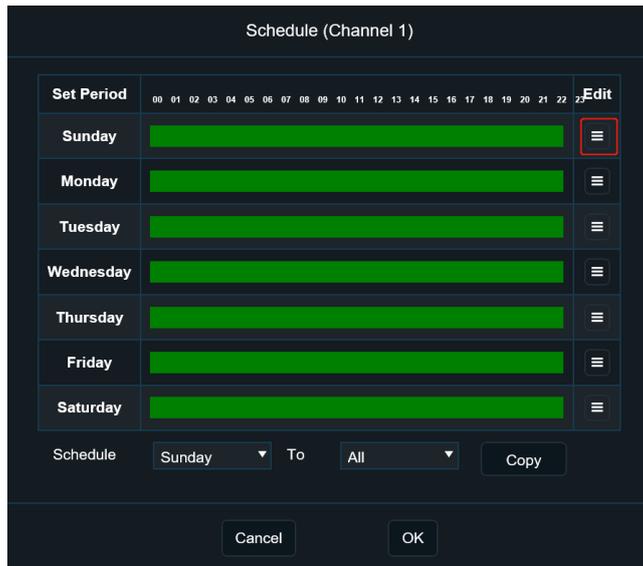
1. **Enable:** Main stream recording is enabled after this option is selected.
2. **Resolution:** The value is CIF, WCIF, HD1, WHD1, D1, WD1, 720P, 960P, or 1080P for an analog camera and is 720P or 1080P for a digital camera.

Note: Resolution of the ADAS channel (channel 1) of AD Plus2.0 can be up to 5MP

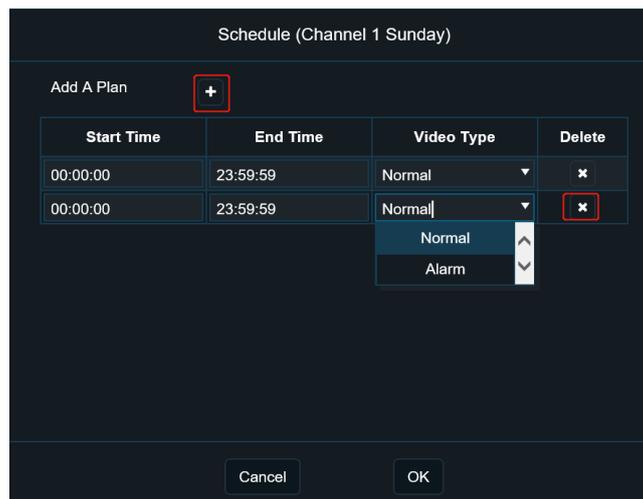
3. **Frame Rate:** specifies the recording frame rate, or the number of frames played per second. It ranges from 1 to 25 for a PAL camera and 1 to 30 for an NTSC camera.
4. **Quality:** specifies the recording quality. The value ranges from 1 to 8. The smaller the value, the better the quality. 1 indicates the best quality.
5. **Encode Standard:** can be set to H264 or H265, and the default value is H264.
6. **Channel Name:** Customizable
7. **Record Mode:** Available values are **Startup**, **Schedule**, and **Alarm**.

- **Startup:** If a Micro SD card is present and recording is enabled, the device keeps recording upon startup.
- **Alarm:** Recording is triggered by device alarms. For details about how to set alarm recording, see Section 2.9. Alternatively, you can enable pre-recording before alarm triggering.

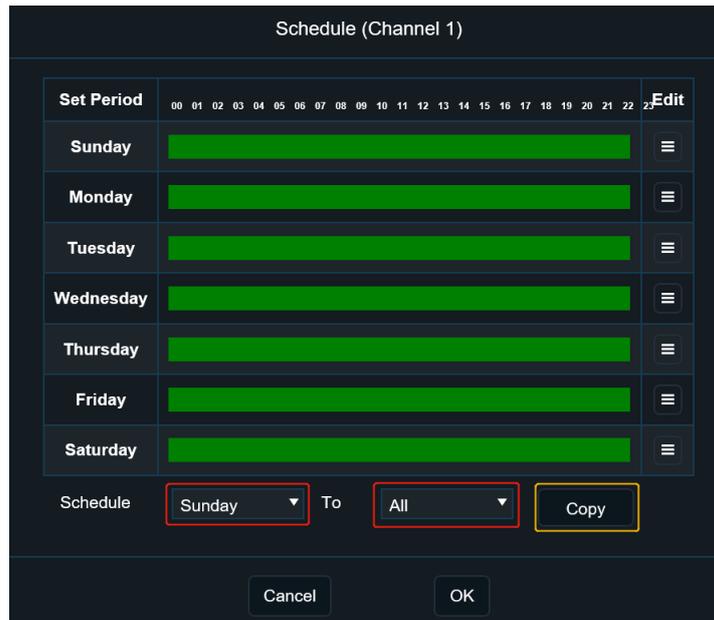
- **Schedule:** Recording is performed as scheduled. Tap  on the right of **Schedule** to navigate to the screen shown below. Tap  corresponding to a specific day to add a recording plan.



To add a scheduled recording plan, tap  on the screen shown below. To delete this plan, tap  on the right of the plan. Select **Normal** or **Alarm** under the **Video Type** area to define the recording.



After setting the scheduled recording plan, tap **OK** to return to the previous step. Apply the well-defined scheduled plan to other dates by tapping **Copy**, as shown in the following figure:



8. Audio

Note: Separate audio recording is not supported.

Audio: Whether to record audio during video recording. You can select **Always Audio** or **No Audio**.

- 1) **Always Audio:** The video is always accompanied by audio.
- 2) **No Audio:** The video is not accompanied by audio.

9. **Alarm Quality:** specifies the quality of alarm recording. The smaller the value, the better the quality.

10. **Encode Mode:** VBR or CBR optional

11. **Audio Coding Format:** You can choose G711A, G711U, ADPCM, and G726, and it's ADPCM by default.

2.7.2.3 Sub-Stream Setting

On this screen, you can set the sub stream video and audio recording parameters for each channel.

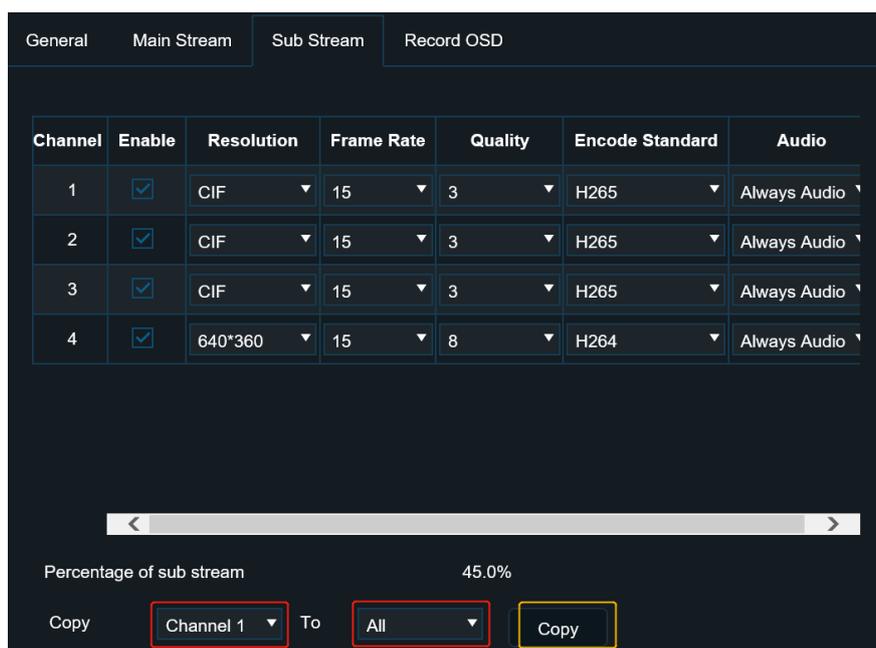
Note: The sub stream video recording can be enabled only when the sub stream video recording is selected in the recording mode, and a TF card is installed in the second slot.

Choose **Preferences > Surveillance > Record > Sub Stream**, as shown in the following figure:



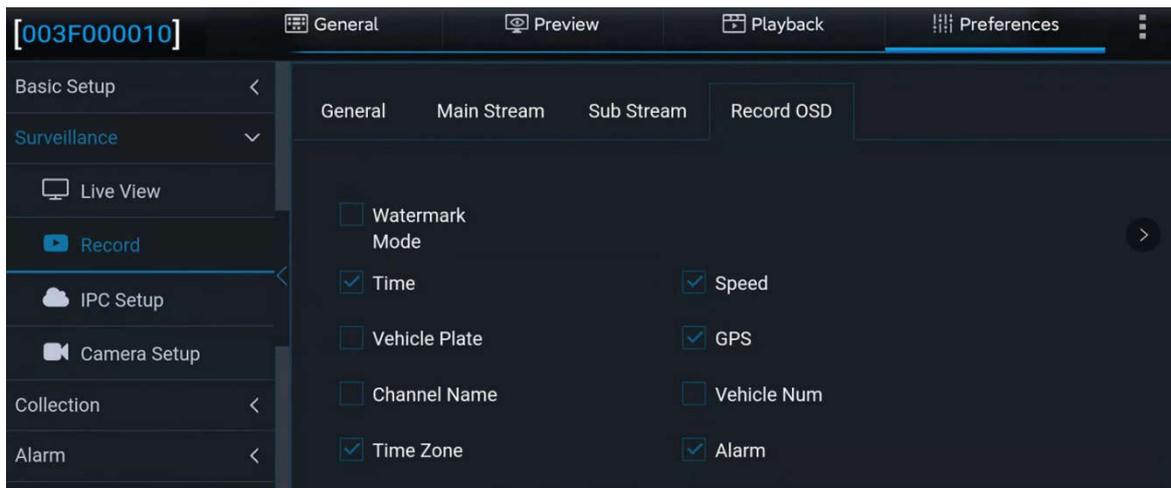
1. **Enable:** Sub-stream recording is enabled for a specific channel after this option is selected.
2. **Resolution:** The value is CIF, HD1, or D1 for an analog camera and is QCGA/640*360 for a digital camera.
3. **Frame Rate:** specifies the recording frame rate, or the number of frames played per second. It ranges from 1 to 25 for a PAL camera and 1 to 30 for an NTSC camera. It is 15 for sub stream by default.
4. **Quality:** specifies the recording quality. The value ranges from 1 to 8. The smaller the value, the better the quality. 1 indicates the best quality.
5. **Encode Standard:** can be set to H264 or H265, and the default value is H264.
6. **Audio:** Whether to record audio during video recording. You can select **Always Audio** or **No Audio**.

Tap **Copy** to apply the sub-stream setting parameters of a channel to other channels, as shown in the following figure:



2.7.2.4 Video Recording OSD Superimposition

Tap **Preferences > Surveillance > Record > Record OSD**. The video recording superimposition setting screen is displayed, as shown in the following figure:



Video OSD superimposition allows you to superimpose selected information on the recording and is different from OSD superimposition in live view preview.

Other settings are the same as those for live view preview and are not described here.

In addition, in order to provide better OSD overlay capability and effect of the video on the platform, especially to overlay the processing information of AI, this screen is added with the video watermark mode function, and when the function is checked, it can overlay the watermarking information onto videos of the analog channel.

2.7.3. IPC Setting

Tap **Preferences > Surveillance > IPC Setup** to configure settings of a connected IPC, as shown in the following figure:



Search:

1. Onvif: You can enable IPCs external to the channels and search and allocate channels for them. In addition, the IP address of the IPCs can be modified.
2. N9M: Streamax IPCs are plug-and-play and need no configuration.

Setup:

1. Configure AI-capable cameras:

- 1) Normal: normal recording, algorithm recognition
- 2) Calibration: The camera is calibrated during installation. Algorithm recognition-based alarming is not supported in this mode.

2.7.4. Camera Setting

In this module, you can flip, mirror, and rotate the cameras in all channels. Tap **Preferences > Surveillance > Camera Setup**, as shown in the following figure:



On the lower left corner of the screen, select the target channel to set the rotating angle of the camera in this channel, and enable or disable mirroring and flipping for the camera.

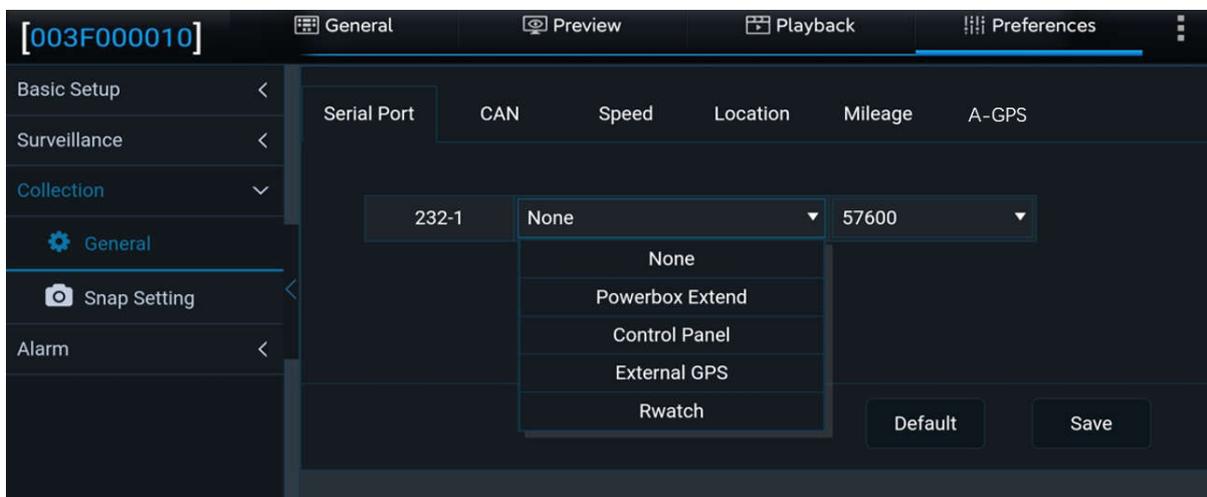
2.8. Data Collection

In this module, you can set serial port, CAN, speed, location, and milestone parameters.

2.8.1. General Setting

On the General screen, you can set parameters related to the serial port, CAN, speed, location, mileage, and A-GPS.

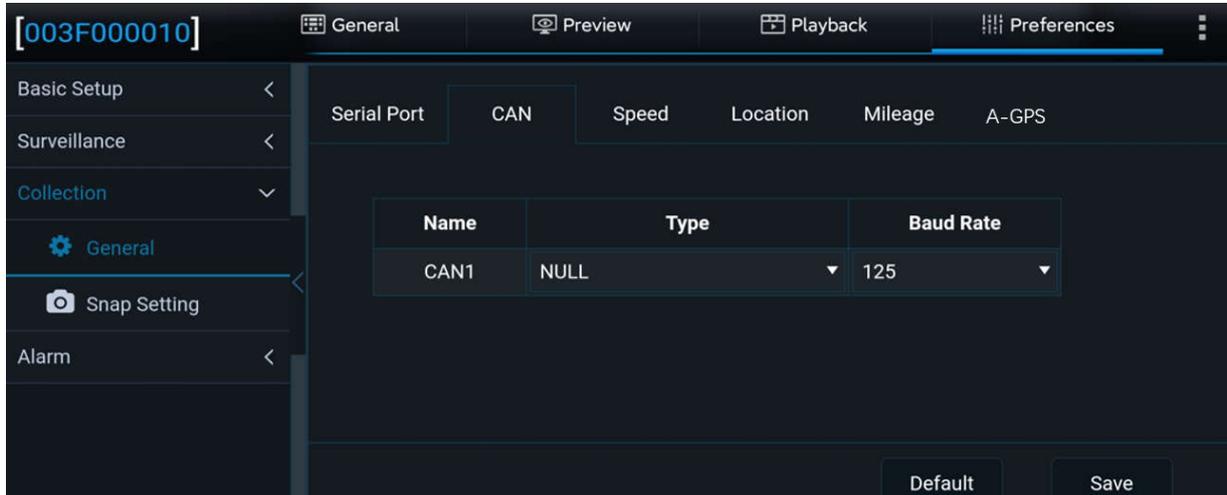
Tap **Preferences > Collection > General > Serial Port**. The **Serial Port** setting screen is displayed.



Serial Port: Select the peripheral you want to connect. The baud rate is filled by the corresponding value automatically. If the baud rate is incorrect, modify it manually.

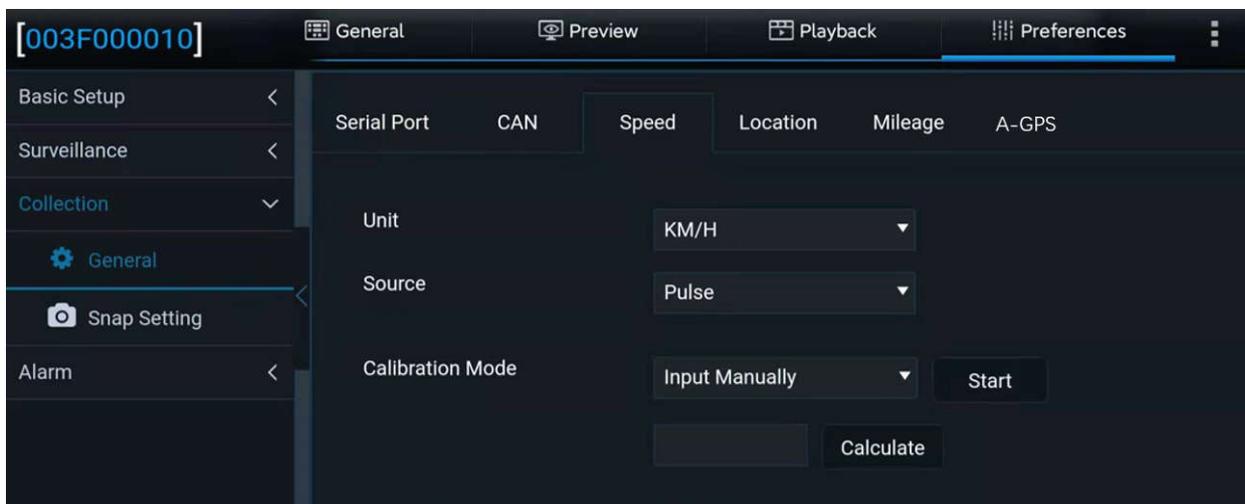
Note: If the AD Plus2.0 is connected to an R-Watch, the usage of 232-1 serial port must be set to Rwatch on this screen.

Tap **Preferences > Collection > General > CAN**. The **CAN** setting screen is displayed as follows:



On this screen, you can configure the function type and Baud rate of the CAN to be accessed.

Tap **Preferences > Collection > General > Speed**. The **Speed** setting screen is displayed as follows:



1. **Unit:** Set the unit of vehicle speed, unit: km/h or MPH.
2. **Source:** Select Satellite, Pulse, OBD, or Mix.
 - When **Satellite** or **OBD** is selected, the screen is shown as below:

Serial Port CAN **Speed** Location Mileage A-GPS

Unit: KM/H

Source: OBD

Default Save

➤ When **Pulse** is selected, the screen is shown as below:

Serial Port CAN **Speed** Location Mileage A-GPS

Unit: KM/H

Source: Pulse

Calibration Mode: Input Manually Start

Calculate

Pulse Ratio: 36000 Per KM

Where

3. Calibration Mode: Select Input Manually or Input Automatically.

➤ When **Input Automatically** is selected, tap **Correct** to proceed with the calibration.

Unit: KM/H

Source: Pulse

Calibration Mode: Automatic Correct Correct

Pulse Ratio: 36000 Per KM

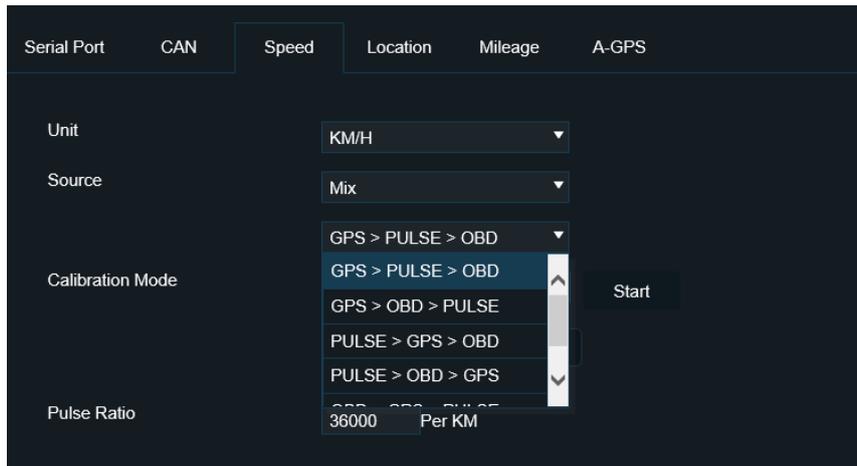
➤ Select Input Manually:

Calibration Mode: Input Manually Start

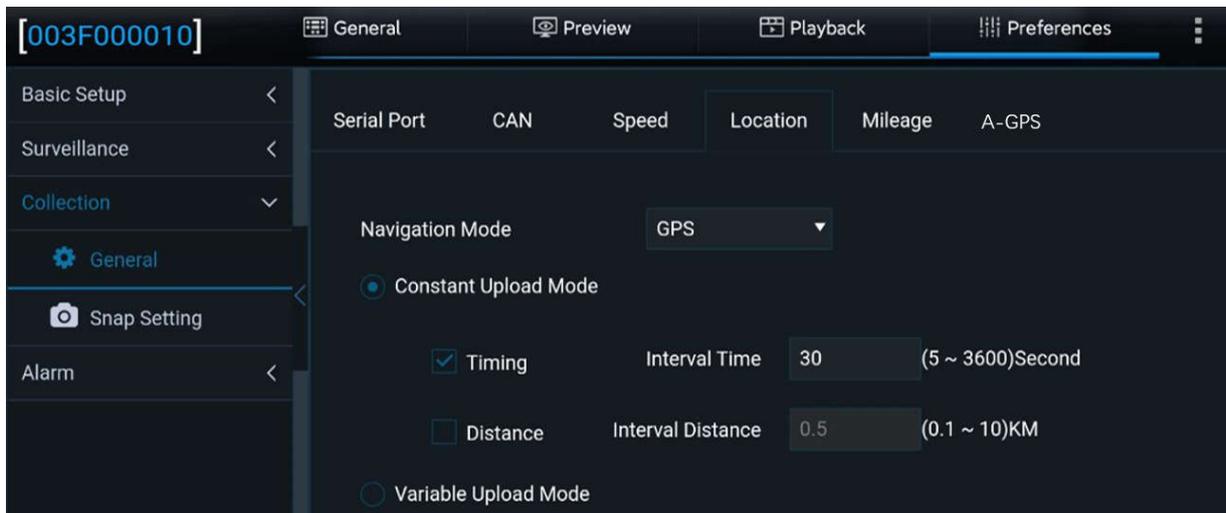
0 Calculate

- 1) You need to input manually the initial mileage of the odometer and the system will calculate it accordingly;
- 2) Click Start; (MCU will automatically record the number of pulses)
- 3) When you click to end learning, you record the driving mileage of the odometer again to calculate the mileage difference;
- 4) Then you input the mileage difference and click Calculate, and the pulse coefficient will automatically display the calculation result; (the calculation result unit is consistent with the speed unit)

When you select Mix for speed source, you can set its priority. There are 6 priorities in total. The figure is shown as follows:



- 4 Click **Preferences > Collection > General > Location** to enter the GPS Report Strategy setting screen. You can select different modes to upload GPS signals according to market demands.



Based on ACC status, the GPS upload mode includes constant upload, variable upload, and sleep upload.

ACC status	Constant upload	Variable upload
ACC ON	1. Timing : The constant upload time can be modified. Value range: 5-3600s. Default value: 10s 2. Distance : The interval for constant upload can be modified. Value range: 0.1-10 km 3. Timing and Distance can be selected at the same time.	See the detailed description. Note that you can only choose constant upload or variable upload.
ACC OFF	Sleep upload	

1. Description to variable uploads:
 First, variable uploads are defined by two parameters, **Moving Start** and **Moving Stop**.
 Second,
 The definition of moving start: When the vehicle speed is higher than a value

for a specified time period, the vehicle is considered as having started. The default speed is 30 km/h and the default time is 60s.

The definition of moving stop: When the vehicle speed is lower than a value for a specified time period, the vehicle is considered as having stopped. The default speed is 20 km/h and the default time is 5 minutes.

Upload mode:

- When the vehicle status changes from **Moving Stop** to **Moving Start**:

Timing: The time can be modified and the default value is 60s.

Distance: The interval can be modified and the default value is 0.1 km.

- When the vehicle status changes from **Moving Start** to **Moving Stop**:

Timing: The time can be modified and the default value is 60s.

There will be multiple uploads if the vehicle running angle changes significantly: The angle can be set by the user. By default, a piece of GPS data is reported when the vehicle angle is 45°.

3. ACC status is uploaded alongside with GPS data.
4. For details about the sleep upload function, see description in Section 2.6.3 On/Off.

GPS command: in order to ensure that the original GPS data can be obtained for analysis when the inertial navigation GPS goes wrong, the GPS original data acquisition command is added. Choose **Positioning > GPS Command**, and Enter "log gpgsv" in the command input box; then, click **send** and **save** to enable the GPS raw data recording. At this time, the data is recorded in the black box of the device, which can be obtained locally on the device or remotely on the platform, and you can obtain GPS data for analysis after analyzing the recorded data. The GPS original data recorded in the black box includes RMC, GGA, GSA, GSV, and GPATT. The screen is as follows:



After the "log gpgsv" command is sent at the same time, the general information display interface of "Veyes" displays the satellite positioning signals received by the device. By choosing **General > Positioning Information**, you can view the number of satellites and the corresponding satellite signal quality.

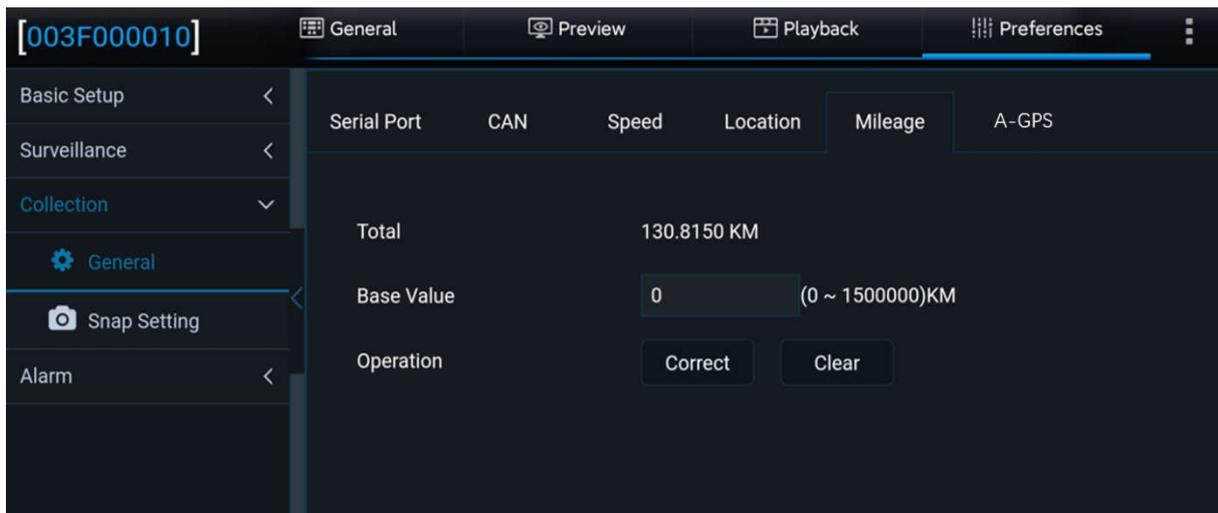
If you want to manually turn off the GPS original data recording, you can choose to turn off the GPS command enabling or enter "unlog gpgsv" in the command box;

then, click **send** and **save** to stop recording the GPS original data into the black box.

In addition, when the device detects that the GPS signal quality is poor, it makes prompts via the LED light on the front panel of the device. At this time, the LED light indicating GPS on the front panel flashes repeatedly (at intervals of 1s), and it stops flashing when the positioning signal is recovered.



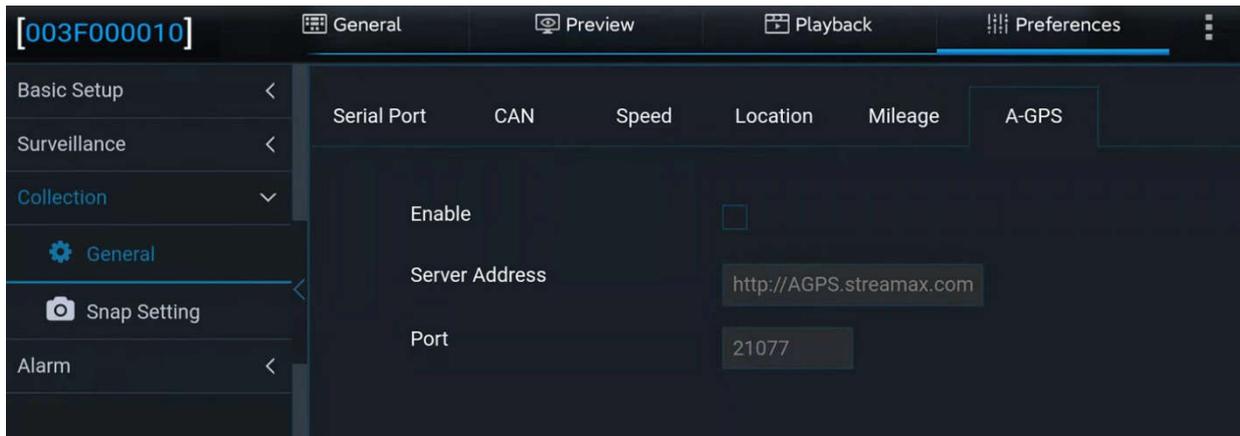
- 1) **Choose Preferences > Collection > General > Mileage.** The screen for setting the **Mileage** is displayed. On this screen, you can specify the Base Value, and correct or clear the mileage data, as shown in the following figure:



- 2) **Choose Preferences > Collection > General > A-GPS.** The screen for setting the **A-GPS** is displayed.

In a strong signal environment, the autonomous GNSS receiver can cold start positioning in about 30 seconds; however, in a weak signal environment (such as under an elevated road, on a tree-lined path, between urban high-rise buildings, just out of a tunnel, just out of an underground garage, etc.), receivers without external assistance are slow to acquire satellites, and they have difficulty in acquiring a text from satellites; therefore, it will take a long time to locate, or even impossible to locate. The AGNSS (AGPS) service can provide the receiver with auxiliary information necessary for positioning, such as text, rough position, and time. Whether in a strong signal or weak signal environment, the information can significantly shorten the time of first positioning time to achieve fast startup and fast positioning.

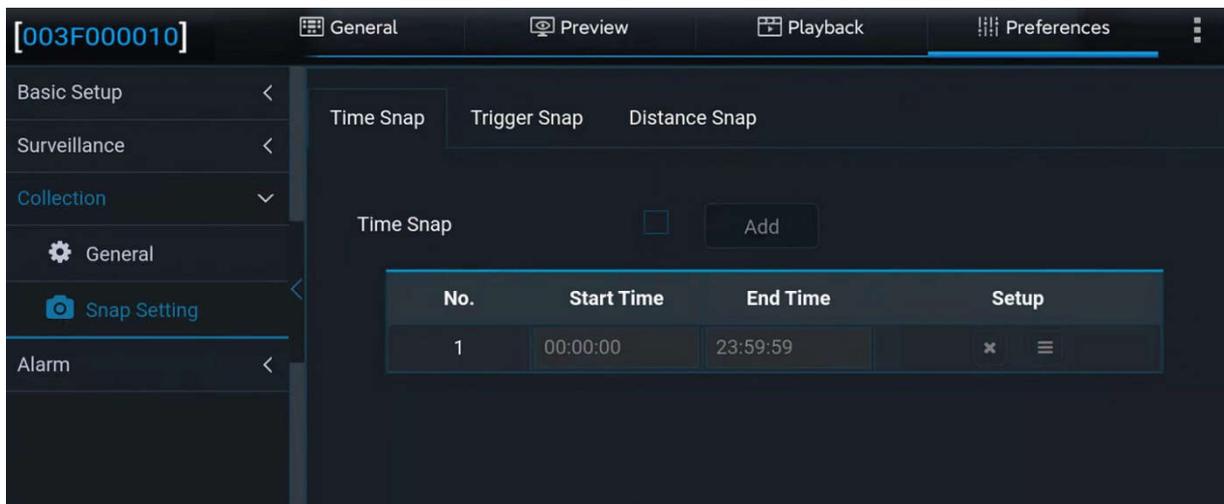
When in use, the AGPS proxy server regularly obtains all ephemeris data from various chip manufacturers and stores the data on the server. The device connects to the proxy server through the default IP/domain name and port of the proxy server (parameters can be modified manually). After the device is started, check whether the AGPS auxiliary information file expires (different chip files have different due time). If it expires, request the AGPS proxy server to obtain the latest ephemeris data, and download it to the local by overwriting. If the data can not be obtained, keep trying.



2.8.2. Capture Setting

2.8.2.1 Timed Capture

A time period can be specified to enable the device to capture images automatically. Tap **Preferences > Collection > Snap Setting > Time Snap**. The **Time Snap** screen is displayed, as shown in the following figure:



Select **Enable** to enable timed capture and tap **Add** to add a period for this function.

Start Time/End Time:

- 1) Set a time period, during which timed capture is enabled.
- 2) The period must be within a day.
- 3) A maximum of 8-time segments can be specified for timed capture.
- 4) You can add, edit, or modify the time periods.

Capture parameters can be specified for each time period independently. Tap the icon to enter the **Snap Link Set** screen, as shown in the following figure: 

Snap Link Set (Time Snap 1)

Channel	Snap Enable	Resolution	Quality	Upload Type	Snap Numbers (1~3)Pcs	Interval (5~7200) Second
1	<input checked="" type="checkbox"/>	D1	1(Best)	Setup	1	5
2	<input type="checkbox"/>	D1	1(Best)	Setup	1	5
3	<input type="checkbox"/>	D1	1(Best)	Setup	1	5
4	<input type="checkbox"/>	720P	1(Best)	Setup	1	5

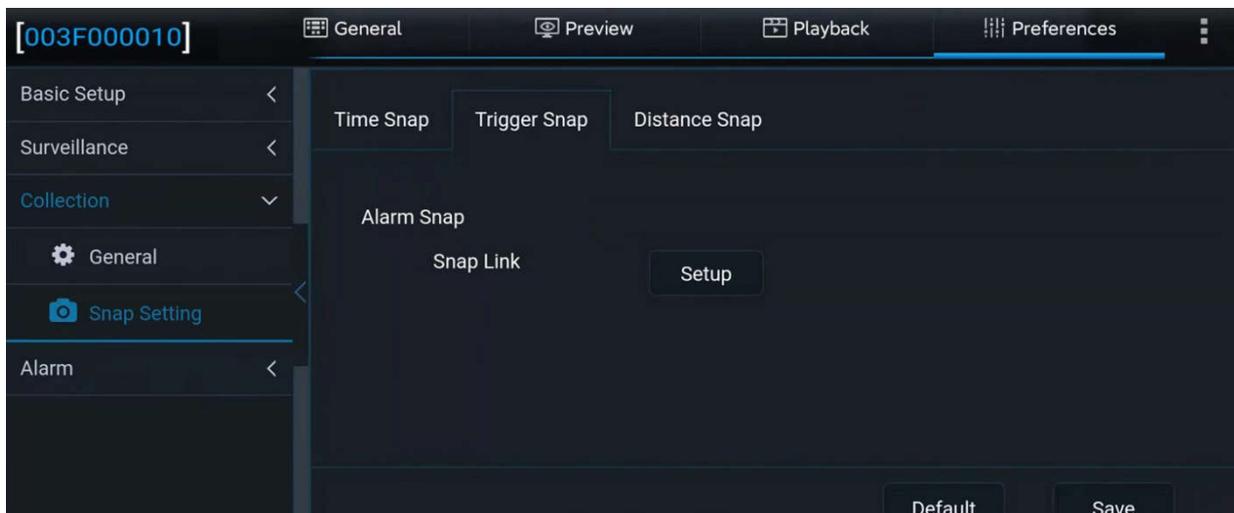
Copy Channel 1 To All Copy

Cancel OK

- 1) **Channel:** Select the camera channel for capture.
- 2) **Snap Enable:** Select to enable timed capture for this channel.
- 3) **Resolution:** Select the capture resolution.
- 4) **Quality:** Select from 1 to 8. Value **1 (Best)** indicates the best image quality.
- 5) **Upload method:** supporting FTP upload and HTTP upload. Captured pictures can be automatically uploaded through FTP. See Section 2.6.6 for details on FTP settings. When HTTP capture is selected, the captured pictures are uploaded to the specified platform in HTTP mode. The HTTP parameter is empty by default, and the HTTP address is issued through the platform.
- 6) **Snap Numbers:** Set it to **1, 2, or 3**.
- 7) **Interval:** specifies the interval between each capture, unit: s
- 8) **Copy:** Well-defined parameters can be applied to other channels by this button.

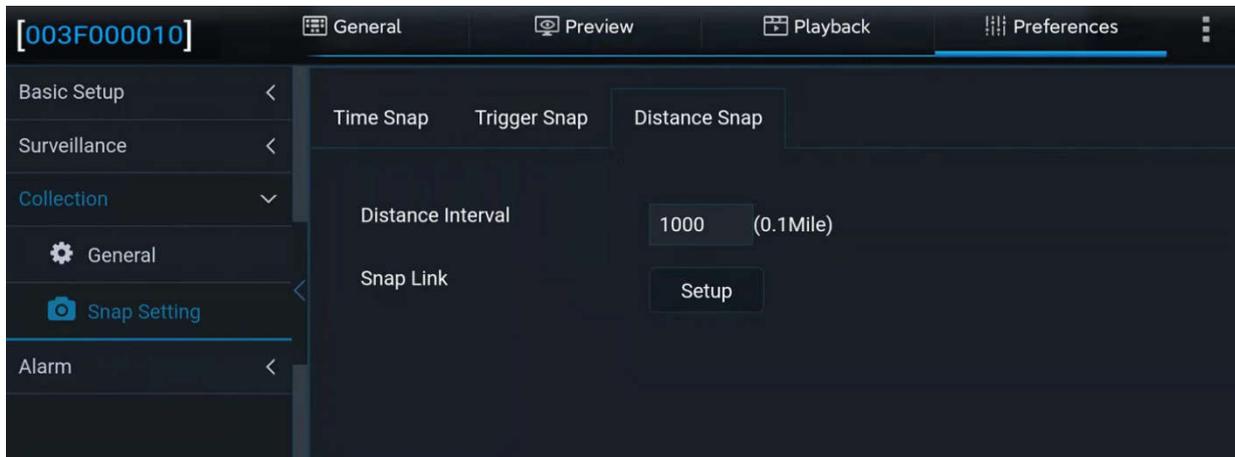
2.8.2.2 Capture at Alarm

Alarm-linked capture is supported, that is, capture starts once an alarm is triggered. **Tap Preferences > Collection > Snap Setting > Trigger Snap**. The setting method is the same as that for timed capture and is not described here.



2.8.2.3 Fixed-range Capture

The fixed-distance capture is supported, that is, capturing pictures at a fixed distance and uploading them to the platform. **Click Preferences > Collection > Snap Setting > Distance Snap.** The fixed-distance capture is disabled by default, and the distance unit follows the system unit. The difference between the capture linkage setting method and the timed capturing is that the fixed-distance capture setting does not contain capturing time interval setting.

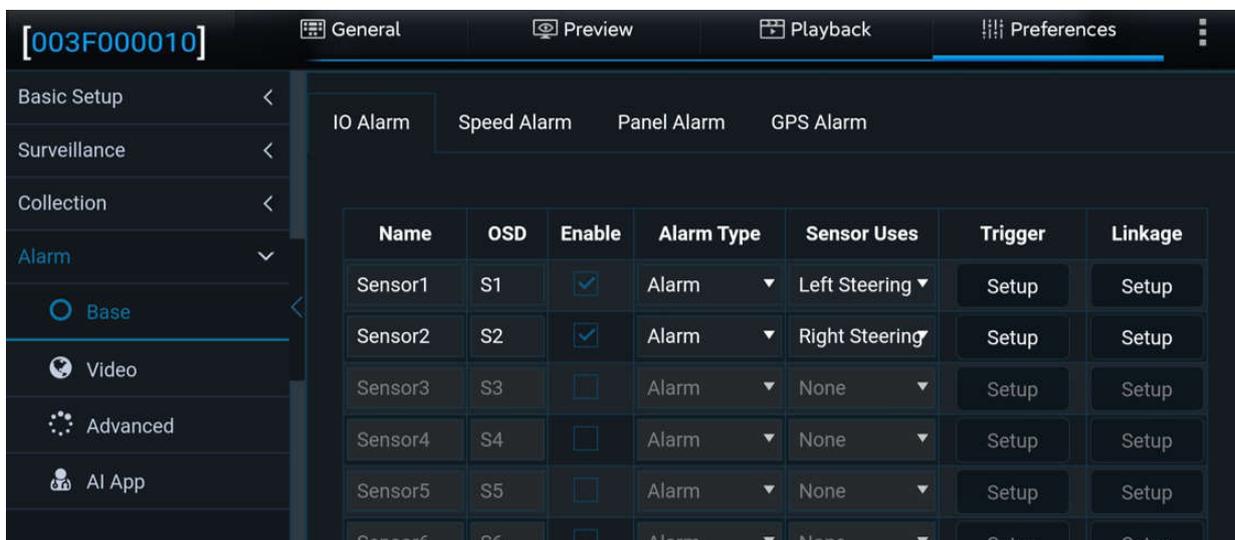


2.9. Alarm Setting

2.9.1. Base Alarm

On the **Base** screen, you can set **IO Alarm**, **Speed Alarm**, **Panel Alarm**, and **GPS Alarm**.

Tap **Preferences > Alarm > Base** to enter the screen shown below.

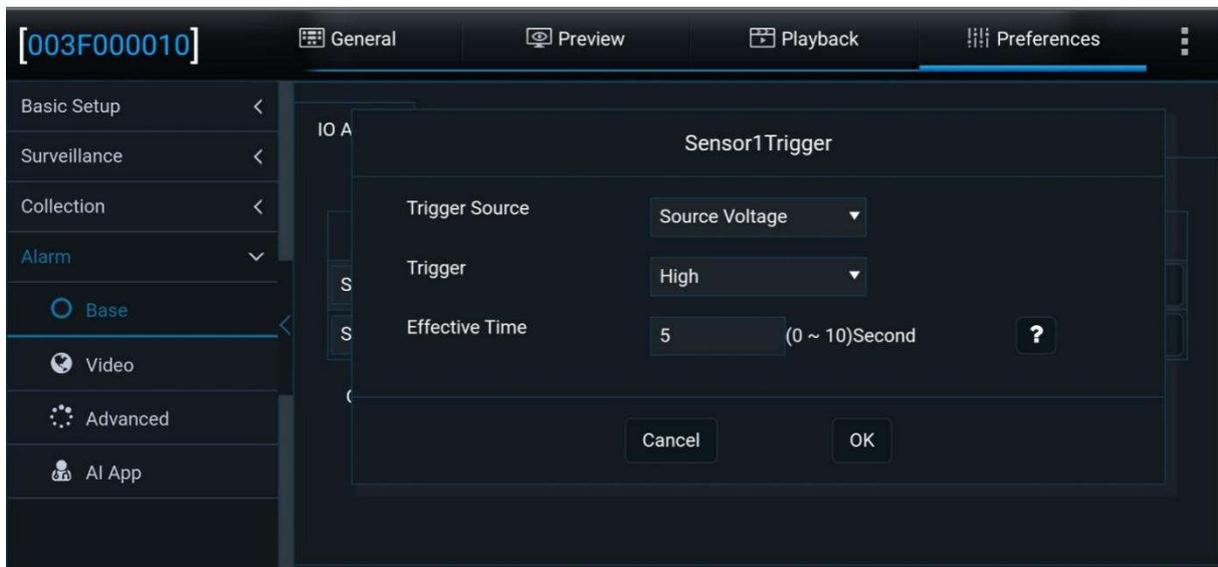


The AD Plus2.0 supports conventional power boxes. If the power is supplied using loose wires, 2 IO inputs are supported.

- IO Alarm screen:
 - No.:** can be set to Sensor1, Sensor2,..., Sensor8 (there will be 8 IO inputs only when the UPS power box is used);
 - OSD:** Customizable, tap to modify
 - Abbreviation:** can be set to the IO abbreviation configured in OSD

superimposition.

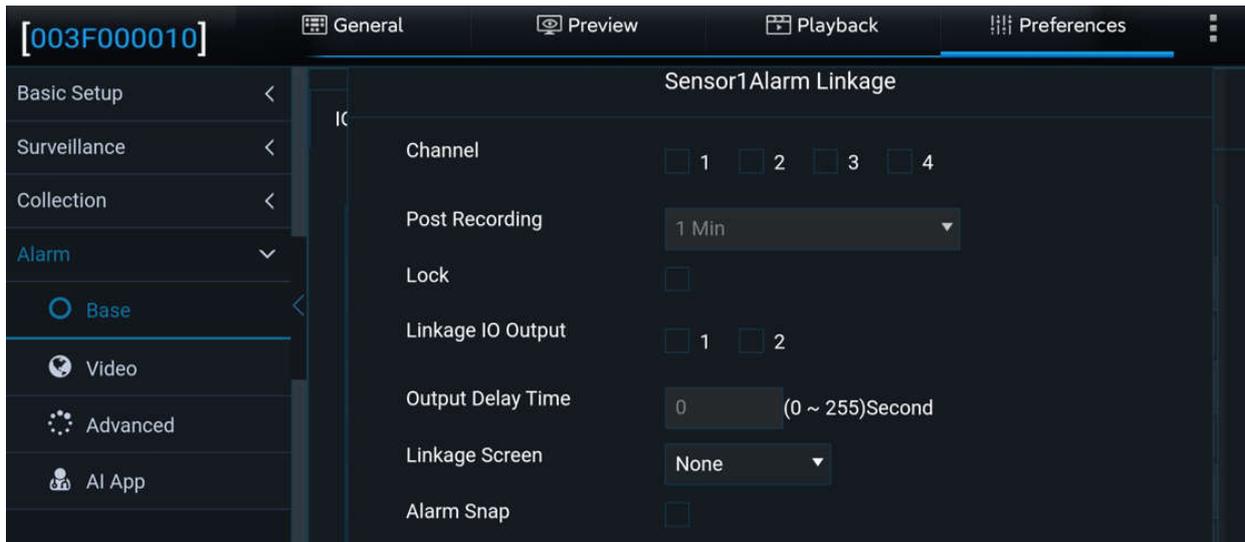
4. Alarm Type: Alarm or Event
 - When Alarm Type is Alarm:
 - 1) Alarms are superimposed on the preview and recording screen.
 - 2) Alarms are uploaded to the platform.
 - 3) Alarm logs are write-accessible.
 - When Alarm Type is Event:
 - 1) OSD superimposition does not apply.
 - 2) Alarms are not uploaded to the platform.
 - 3) Write an alarm log.
5. **Sensor Uses:** Set the purpose of the IO, which can be **Left Steering, Right Steering, Brake, and Privacy**.
6. **Trigger:** Tap **Setup** to enter the screen shown below:



- 1) **Trigger Source:** High/Low level or Pulse. High level by default.
- 2) **Effective Time:** a time period during which a cleared alarm is reported again. Alarms generated in this period are considered the same. Value range: 0-10s. Default value: 5s

Assume that a motion detection alarm is generated at 13:23:30 and is cleared at 13:23:50. If **Effective Time** is set to 10 seconds and the motion detection alarm is generated within 10 seconds, the two motion detection alarms are considered to be the same one. The alarm log records one alarm and alarm linkage stops only after subsequent motion detection is canceled.

7. **Linkage:** Set service functions to be linked with the alarm. Tap to enter the screen shown below.



- 1) **Channel:** specifies the recording channel after an alarm is generated. The recordings of selected channels will be marked as alarm recordings.
 - 2) **Post Recording:** specifies the duration, during which recording continues after an alarm is cleared. Value range: 1-30 minutes. Default value: **1 Min.**
 - 3) **Lock:** specifies whether to lock alarm recordings. If this option is selected, alarm recording will be locked once IO alarm is triggered. The recording is unlocked after the alarm is cleared.
 - 4) **Linkage IO output:** the IO output volume can be configured after the IO alarm is triggered. The IO output can be configured and used only when the UPS power box is used (conventional power boxes do not provide IO outputs). The duration for IO output can be configured, and the value range is 0 to 255 seconds.
 - 5) **Linkage Screen:** specifies the screen to be displayed in live view after an alarm is generated. By default, this parameter is set to None. You can also set it to Single or Quad screen display.
 - 6) **Alarm Snap:** specifies whether to capture images after an alarm is generated. If an FTP address has been configured, channel capture will be enabled after an IO alarm is generated, and captured images will be output via FTP. If alarm evidence uploads parameters have been configured on the platform, captured images can also be uploaded to the platform.
- **Speed Alarm:** allows you to enable the overspeed alarm function and set Alarm Type to Alarm or Event. On the **Overspeed Trigger** screen, specify **Preload Speed Difference**. A warning is generated if the difference between the vehicle speed and limited speed is smaller than the value of this parameter. An overspeed alarm is generated if the vehicle speed is greater than the limited speed. The voices are different for the two alarms. Other parameters can be set in the same way as for **IO Alarm**.

Overspeed Trigger

Preload Speed Difference	10	(0 ~ 200)KM/H
Speed	100	(1 ~ 200)KM/H
Duration Time	10	(0 ~ 255)Second

- Panel Alarm:** allows you to check the **Panic** Button to enable the panel alarm and set alarm linkage parameters. On the **Panic Trigger** screen, you can set the trigger time for pressing the button to trigger the panel alarm to 1–255s. Default value: 1s (now it cannot be modified). Other parameters can be set in the same way as for IO Alarm.

Panic Trigger

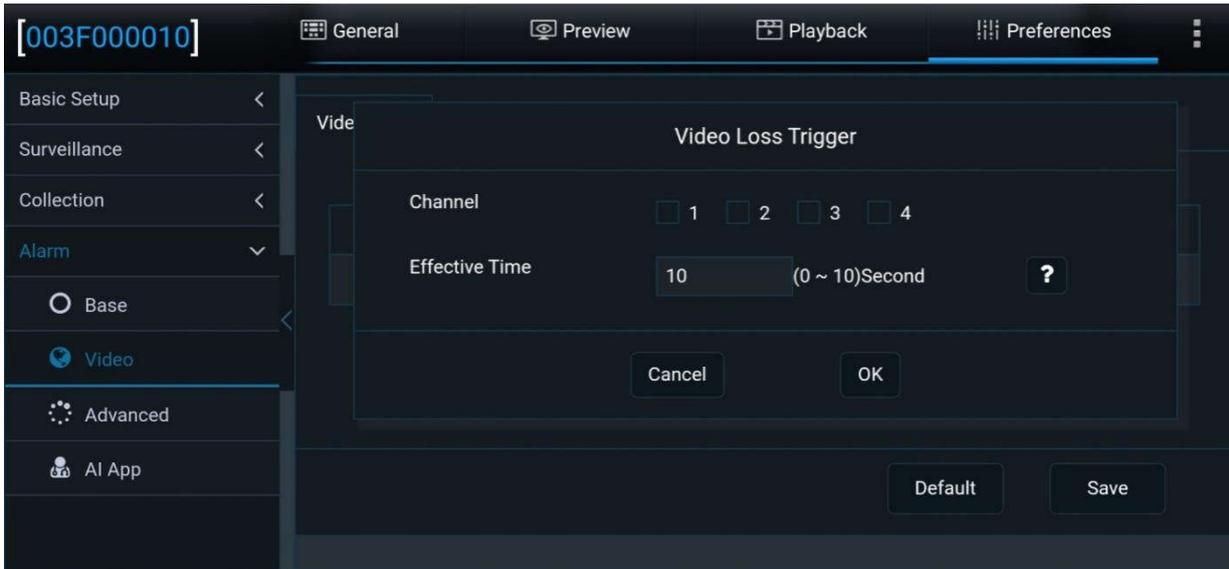
Any key	1	(1 ~ 255)Second
Effective Time	10	(0 ~ 10)Second ?

- GPS Alarm:** specifies alarms generated when GPS signals are lost. Parameters can be set in the same way as for **IO Alarm**.

2.9.2. Video

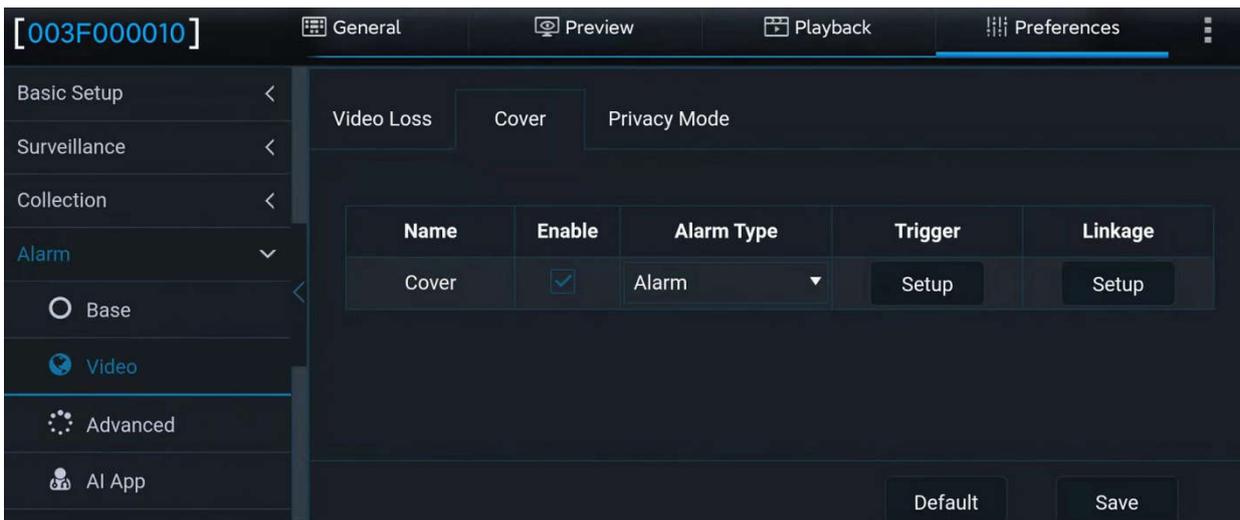
- Video Loss

On the **Video Loss** screen, you can set parameters for video loss alarms. **Choose Preferences > Alarm > Video > Video Loss** and tap **Setup** in the **Trigger** column. The **Video Loss Trigger** screen is displayed, as shown in the following figure: You can specify the channel for which video loss alarms are generated. Alarm linkage parameters can be set in the same way as for IO Alarm.



- Camera cover

You can configure parameters for the camera cover alarm in the Cover screen. Choose **Preferences > Alarm > Video > Cover**. The **Cover** screen is displayed, as shown in the following figure:



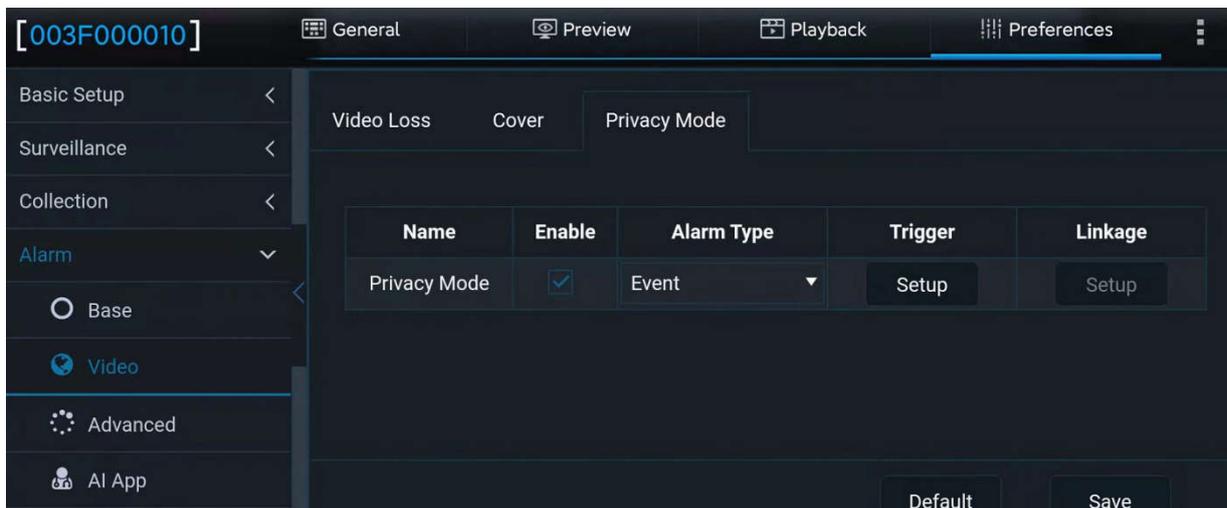
Tap Setup under Trigger to open the following screen. You can configure the channel, sensitivity, duration time, valid time, and speed threshold for the camera cover alarm. In the AI channel, the algorithms are used for detection. In the non-AI channel, the MDVR is used for judgment. Alarm linkage parameters can be set in the same way as for IO Alarm.

The camera cover alarm of the ADAS channel is triggered when the vehicle speed exceeds 10 km/h and the duration of covering lasts for 15s. The cover alarm of the DMS channel is triggered when the duration of covering lasts for 5s, and the speed exceeds the set speed value on the cover alarm screen. The cover alarm of the DSC channel is triggered when the duration of covering lasts for 6s, and the speed exceeds the set speed value on the cover alarm screen. The cover alarm of the BSD algorithm is triggered when the duration of covering lasts for 8 min and the speed exceeds 0. At present, the front top view BSD does not support the cover alarm.



- Privacy Mode

The privacy mode trigger and release mode can be set on the privacy mode setting screen. Click **Preferences > Alarm > Video > Privacy Mode**. The screen is displayed, as shown in the following figure:



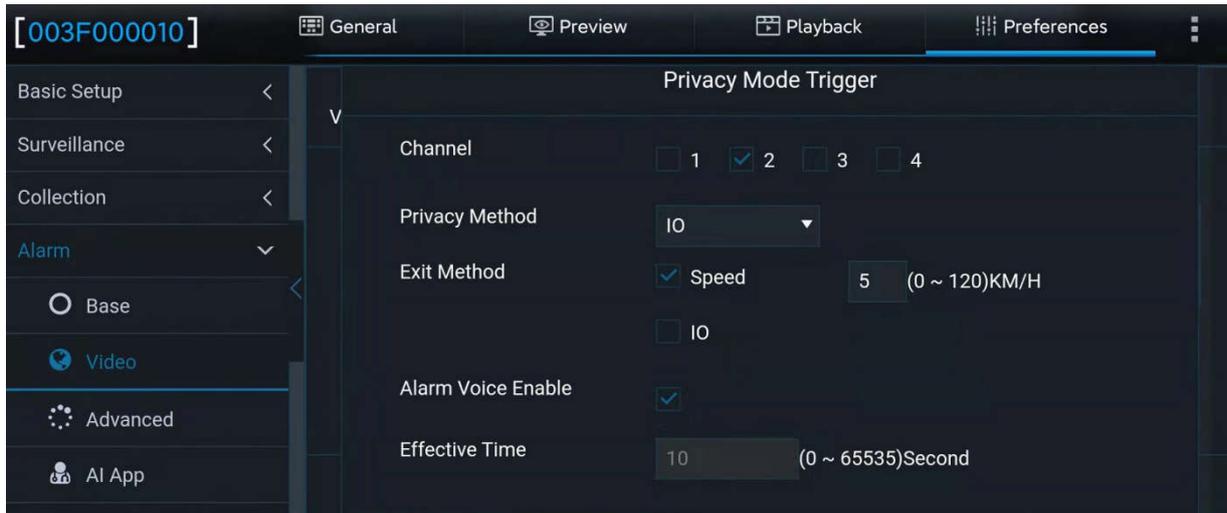
Click the **Settings** button to enter the following screen, where you can set the privacy channel, privacy mode trigger mode, privacy mode release mode, and privacy mode voice enabling.

Privacy channel: when the privacy mode of a channel is turned on, it means that the audio and video recording of this channel is turned off, and it is enabled after turned on;

Privacy mode trigger mode: by IO or ACC, which are optional. After the IO usage is configured, the IO can be triggered to realize privacy mode on/off. Refer to Section 2.9.1 for the specific setting method of IO. The ACC trigger mode means that the privacy mode (stopping audio and video recording) is turned on after the ACC is turned off for 10s.

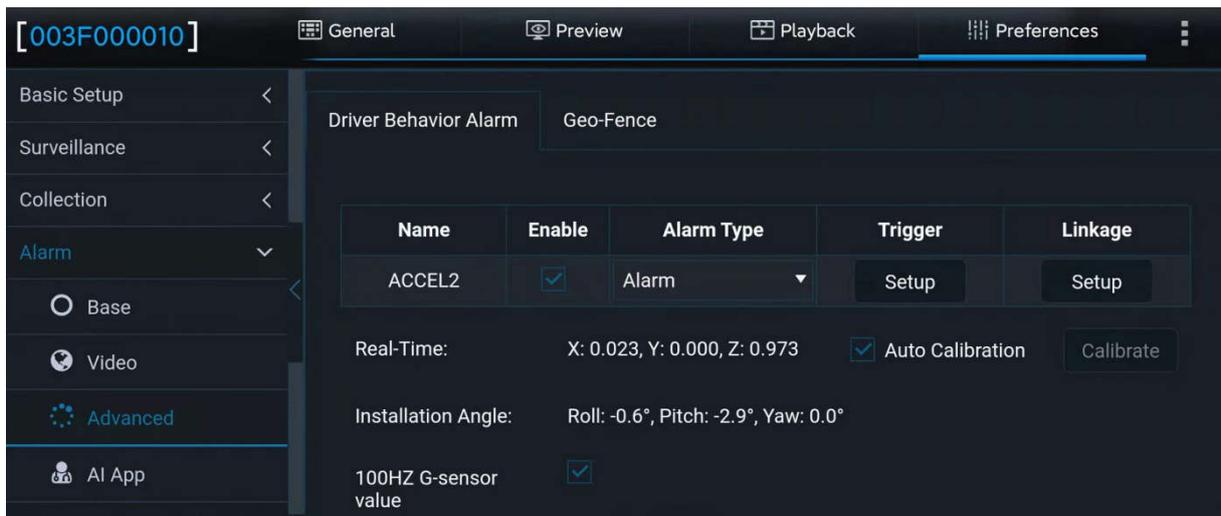
Privacy mode release method: there are two methods--by speed or by IO, and either of which must be selected. The setting and usage of IO are consistent with the trigger mode. As long as the IO is set, it can be used for triggering and releasing. Speed mode means that, when the privacy mode is enabled, the privacy mode can be released if the vehicle speed is greater than a certain value.

Privacy mode voice-enable: it refers to whether the broadcast voice is enabled when the privacy mode is triggered or touched. This enabling simultaneously controls the voice of privacy mode on/off, which can not be controlled separately.



2.9.3. Advanced

On this screen, you can set G-Sensor alarm and Geo-fence alarm parameters. Tap **Preferences > Alarm > Advanced**, as shown in the following figure:



On the **Driver Behavior Alarm** screen:

1. **ACCEL2** is the name of the driver behavior alarm algorithm. If **Enable** is selected for it, this algorithm is effective.
2. **Alarm Type** indicates the type of event triggered by intense driving behavior.
3. **Trigger** indicates the condition for triggering driving behavior alarms: The alarm can be triggered by **Harsh Braking**, **Hard Acceleration**, **Harsh Left Turn**, and **Harsh Right Turn**. Other parameters including **Offset** and **Speed** can be configured, as shown in the following figure:

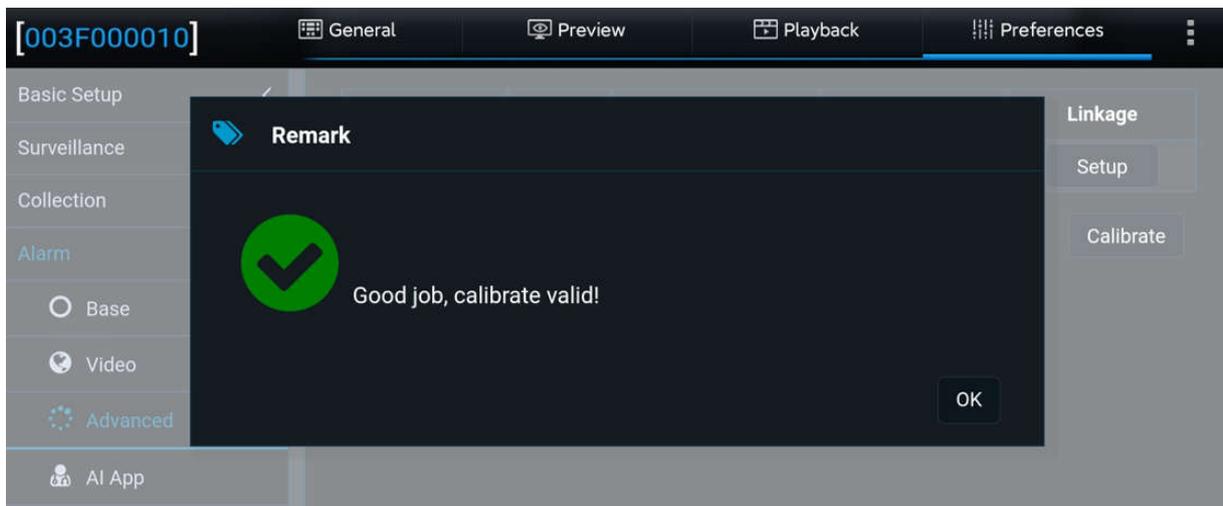
ACCEL2 Trigger						
Alarm Name	Enable	Offset		Speed		
Harsh Braking	<input checked="" type="checkbox"/>	0.5	(0.001 ~ 1)	20	~	50 (0~200)KM/H
Hard Acceleration	<input checked="" type="checkbox"/>	0.5	(0.001 ~ 1)	20	~	50 (0~200)KM/H
Harsh Left Turn	<input checked="" type="checkbox"/>	0.5	(0.001 ~ 1)	20	~	50 (0~200)KM/H
Harsh Right Turn	<input checked="" type="checkbox"/>	0.5	(0.001 ~ 1)	20	~	50 (0~200)KM/H
Shock	<input checked="" type="checkbox"/>	X: 1	(0.1 ~ 8)	Y: 1	(0.1 ~ 8)	Z: 2 (0.1 ~ 8)
Effective Time		10	(0 ~ 10)Second			

Shock: refers to collision detection. The G-Sensor is used to determine whether the collision occurs. The collision thresholds can be configured in this parameter.

- Linkage: specifies the service functions linked with the alarm that is triggered. The setting is the same as that for IO Alarm.
- The G-sensor can be calibrated either automatically or manually.

Manual calibration:

After the manual calibration is saved, the calibration is considered successful when the XYZ value at (0,0,1) is detected, and the successful calibration is recorded in the operation log. The calibration success log contains the following information: Gsensor calibration success status, time, and real-time values on the X, Y, and Z axes. The following screen will be displayed after the manual calibration is successful:



Automatic calibration:

The original logic is used. After the fifth calibration is completed, the deviation is less than ± 0.1 from the original values on the X, Y, and Z axes (0, 0, 1). The calibration success log contains the following information: G-Sensor calibration success status, time, and real-time values on the X, Y, and Z axes.

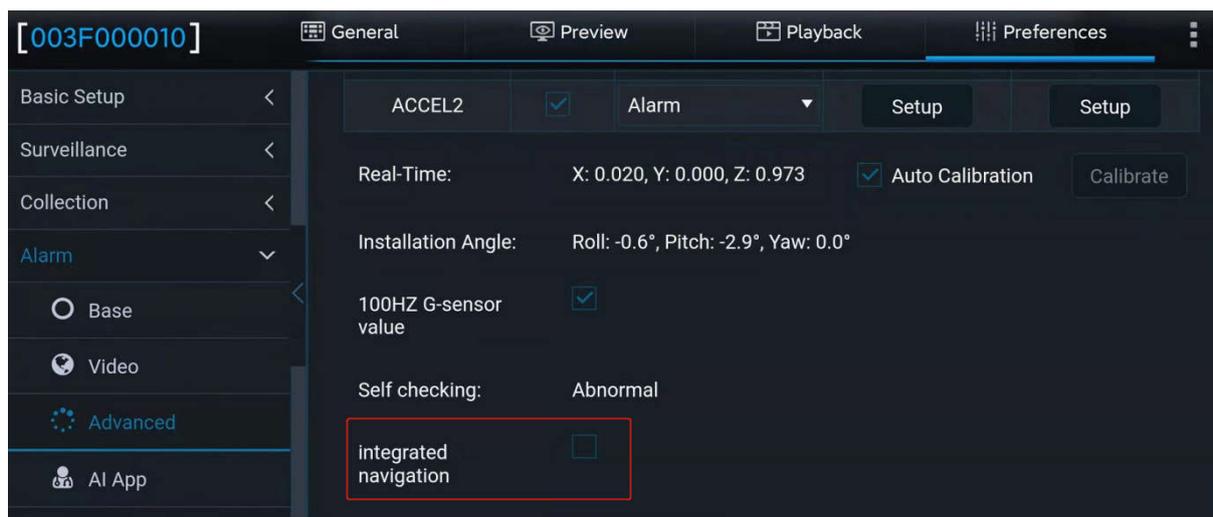
When the device enters the calibration process again and completes the calibration, the data is recorded again.

Calibration failure status judgment:

Manual calibration: After the manual calibration is saved, the detected values on the X, Y, and Z axes are not (0, 0, 1). As manual calibration forcibly sets the values to (0, 0, 1), there are almost no manual calibration failures.

Automatic calibration: Automatic calibration is a continuous process. Therefore, the calibration status abnormality, time, and real-time values on the X, Y, and Z axes are recorded when the deviation of values on the X, Y, and Z axes are detected to be within ± 0.1 from (0, 0, 1) for 5 consecutive times of calibration

6. Installation Angle specifies the angles of the installed device.
7. Pass-through of 100 Hz G-sensor data is supported. Select or deselect to enable or disable this function.
8. Integrated navigation: when the device is connected to the inertial navigation module that supports vehicle attitude detection, this enabling is displayed on the screen. Since the vehicle attitude output by the inertial navigation module is more accurate than the attitude events calculated by pure three-axis/six-axis, this function is used to determine sudden acceleration, sudden deceleration, sharp left/right turning, acceleration, deceleration, turning, and vibration events. When the function is enabled, the device can detect these events through inertial navigation. However, the accuracy cannot be guaranteed for now.



On the **Geo-Fence** screen, you can set the processing strategies for fence entry/exit and paths. This function must co-work with the CEIBA2 or FT Cloud platform.

2.9.4. AI Alarm

You can set AI alarm parameters by using the EasyCheck App. Tap **Preferences > Alarm > AI App** to enter the AI alarm setting screen. Supported AI alarms are shown below.

ADAS Alarm	LDW, FCW, HMW, and PCW
DMS/DSC Alarm	<p>Driver Fatigue, No driver, Handheld Devices, Smoking, Distraction, Yawn, Seatbelt, No Mask, and Infrared Block Alarm (the red bold letters indicate the currently supported alarm types)</p> <p>DSC functions supported in V1.3 include Handheld Devices and Seatbelt;</p> <p>DMS functions supported in V1.3 include Driver Fatigue, No driver, Handheld Devices, Smoking, Distraction, Yawn, Seatbelt, and No Mask.</p>

The parameter settings of all AI alarms share the same logic. The trigger conditions

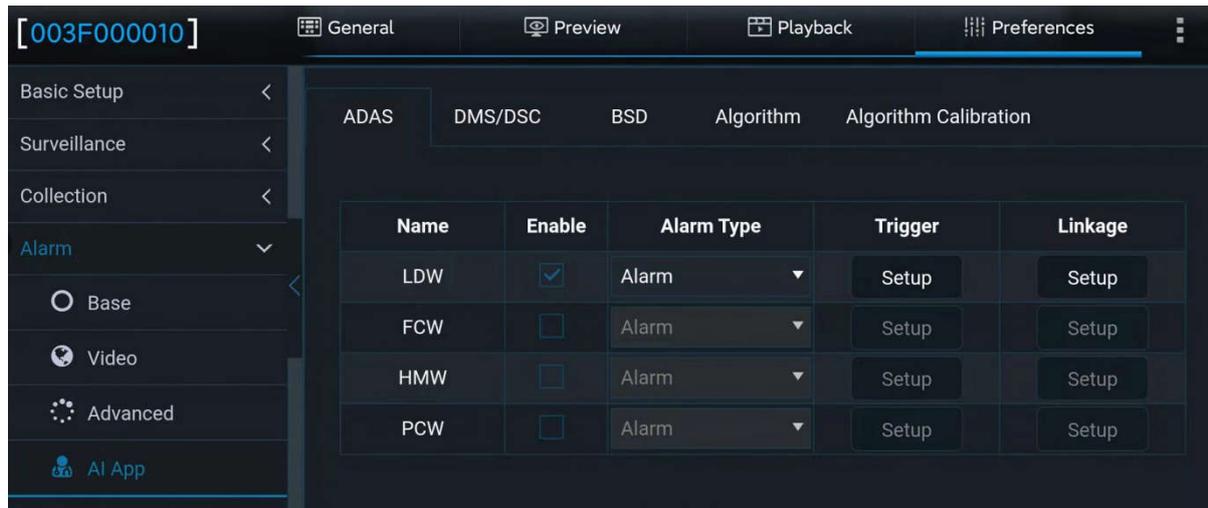
of each alarm include the following and can be set as required. Speed range, sensitivity, effective time (only one alarm is recorded when multiple alarms are triggered within this time range), and duration (duration the alarm persists). However, there are slight differences in the settable parameters of different alarms, as shown in the following table:

Alarm Main Type	Alarm Type	Settable Parameters				
		First-level and Second-level Speed Distinction	Sensitivity	Duration	Effective Time	Linkage
ADAS	LDW	Yes	Yes	None	Yes	Identical
	FCW	Yes	None	None	Yes	Identical
	HMW	Yes	Yes	Yes	Yes	Identical
	PCW	Yes	None	None	Yes	Identical
DMS/DSC	Driver Fatigue	Yes	Not adjustable	None	Yes	Identical
	No driver	None	Yes	None	Yes	Identical
	Handheld Devices	Yes	Yes	None	Yes	Identical
	Smoking	Yes	Yes	None	Yes	Identical
	Distraction	Yes	Yes	None	Yes	Identical
	Yawn	Yes	Yes	None	Yes	Identical
	Seatbelt	Yes	Yes	None	Yes	Identical
	No Mask	Yes	Yes	None	Yes	Identical
	Infrared Block Alarm	Yes	Yes	None	Yes	Identical
	BSD	Right blind spot detection	None	None	Yes	Yes
Left blind spot detection		None	None	Yes	Yes	Identical
Front blind area		None	None	None	Yes	Identical

Since the parameter settings for all AI alarms are basically the same, the following exemplifies how to set HMW alarm parameters. In addition, the No Driver alarm in LDW/DMS alarms under the ADAS alarm is used as an example to show the parameter setting differences between the LDW/DMS alarms and other alarms.

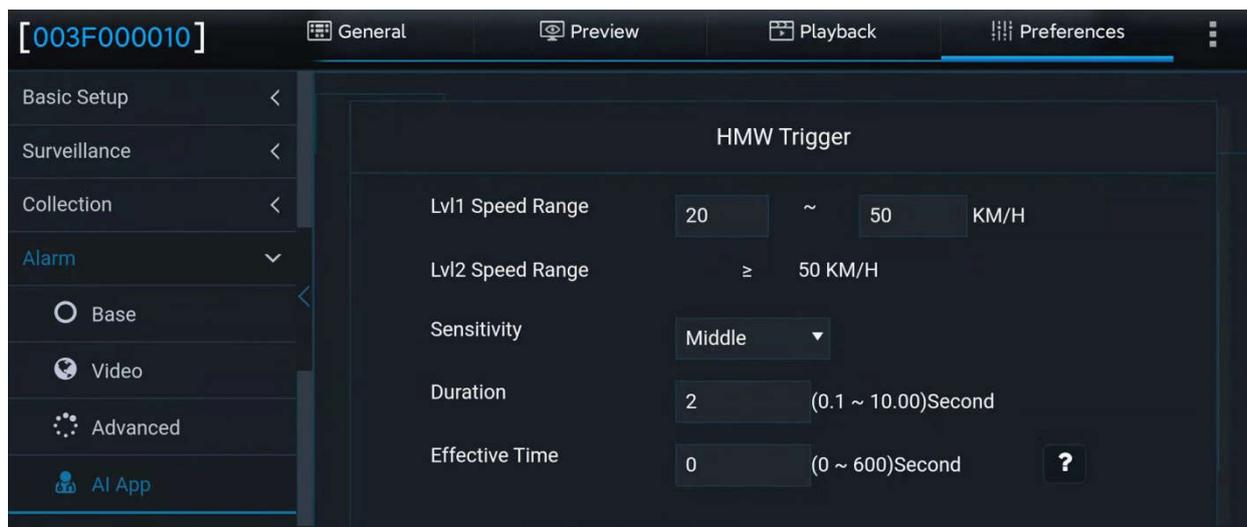
- HMW

Tap **Preferences** > **Alarm** > **AI App** > **ADAS**. Select Enable for HMW, as shown in the following figure:



Alarm Type: Select **Alarm** or **Event**. When **Event** is selected, generated alarms are not reported to the platform. For details about the difference, see Section 2.9.1 "Base Alarm."

Trigger: Tap **Setup** to set alarm triggering conditions, as shown in the following figure:



- **Lvl1 Speed Range:** specifies the speed range of level-1 alarms. The default value ranges from 20 to 50 km/h. When a level-1 alarm is triggered, MP3 voice is announced from the MDVR;
- **Lvl2 Speed Range:** specifies the speed range of level-2 alarms. The lower threshold of this parameter depends on the upper threshold of level-1 alarms. When the upper threshold of level-1 alarms is changed, the lower threshold of level-2 alarms changes accordingly. When a level-2 alarm is generated, the MDVR gives out a "beep" sound only.
- **Sensitivity:** specifies the sensitivity that an alarm is triggered. Optional values are Low, Middle, High, and Custom. Middle is selected by default. When Custom is selected, enter the target value. In the ADAS open alarm, sensitivity is configurable only for the HMW. The value range is 0.6 to 4 seconds (the time is the relative distance divided by the vehicle speed, and is not natural time). See the following figure.

HMW Trigger

Lvl1 Speed Range: 20 ~ 50 KM/H

Lvl2 Speed Range: ≥ 50 KM/H

Sensitivity: User-Defined 1 (0.6 ~ 4)Second

Duration: 2 (0.1 ~ 10.00)Second

Effective Time: 0 (0 ~ 600)Second ?

Cancel OK

- **Duration:** the duration of the headway monitoring warning (HMW) refers to a certain period of time that the conditions for HMW last for, and the alarm will not be generated until the certain period of time is reached. The setting range of the HMW duration is 0.10 ~ 10.00, and 2 can be a floating-point input. The default value is 2s.
- **Effective Time:** a time period during which a cleared alarm is reported again. Alarms generated in this period are considered the same. 0 ~ 600s is optional.

Linkage: Tap **Setup** to enter the screen shown below.

HMW Alarm Linkage

Channel: 1 2 3 4

Post Recording: 1 Min

Lock:

Linkage IO Output: 1 2

Output Delay Time: 0 (0 ~ 255)Second

Linkage Screen: None

Alarm Snap:

Output Delay Time: 0 (0 ~ 255)Second

Linkage Screen: None

Alarm Snap:

MP3 Voice:

R-Watch Voice:

Cancel OK

- 1) **Channel:** specifies the recording channel after an alarm is generated. The recordings of selected channels will be marked as alarm recordings.
- 2) **Post Recording:** specifies the duration that recording continues after an alarm

is cleared. Value range: 1-30 minutes. Default value: 1 Min.

- 3) **Lock:** specifies whether to lock alarm recordings. If this option is selected, alarm recording will be locked once LDW alarm is triggered. The recording is unlocked after the alarm is cleared.
 - 4) **Linkage IO output:** The IO output volume can be configured after the IO alarm is triggered. The IO output can be configured and used only when the UPS power box is used (conventional power boxes do not provide IO outputs). The duration for IO output can be configured, and the value range is 0 to 255 seconds. Note: AD Plus2.0 V1.1.0 does not support UPS power boxes.
 - 5) **Linkage Screen:** specifies the screen to be displayed in live view after an alarm is generated. By default, this parameter is set to None. You can also set it to Single or Quad screen display.
 - 6) **Alarm Snap:** specifies whether to capture images after an alarm is generated. If an FTP address has been configured, channel capture will be enabled after an IO alarm is generated, and captured images will be output via FTP. If alarm evidence uploads parameters have been configured on the platform, captured images can also be uploaded to the platform.
 - 7) **R-Watch Voice:** Select or deselect this option to enable or disable the R-Watch function. If this option is selected, R-Watch will play the beep alarm sound and display the icon when the AD Plus2.0 connects to an R-Watch peripheral and an alarm is triggered.
 - 8) **MP3 Voice:** Select or deselect this option to enable or disable the MP3 voice function. If this option is selected, the MDVR will play the MP3 alarm voice when an alarm is triggered.
- LDW

Tap **Preferences > Alarm > AI App > ADAS**. Enable LDW alarm. On the alarm triggering setting screen, tap **Setup** to configure alarm parameters, as shown in the following figure:

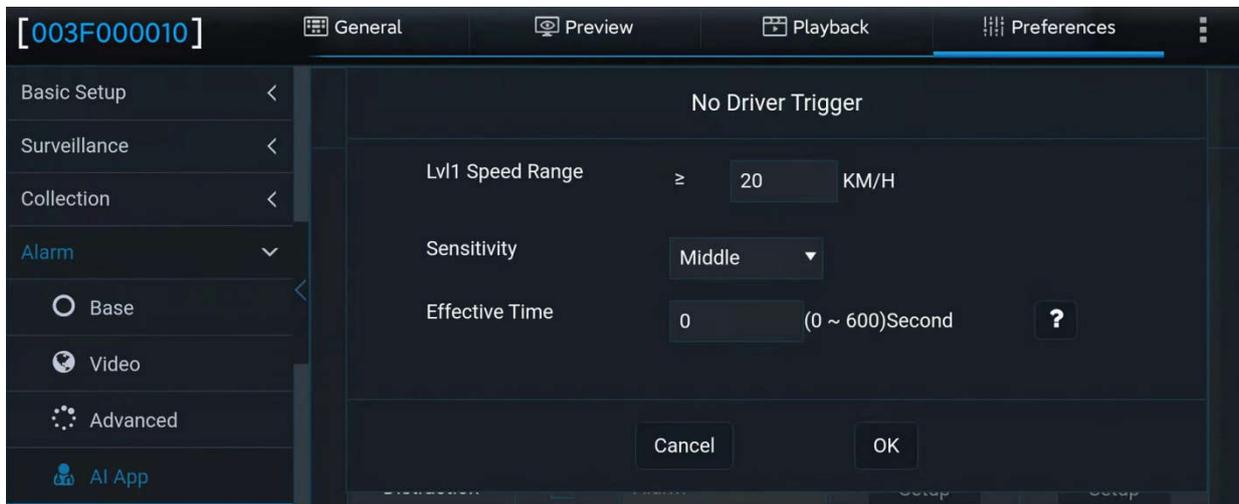
Comparing LDW alarm with HMW alarm, the setting screen has no duration and comparing FCW alarm with HMW alarm, the setting screen has no sensitivity and duration, with other setting parameters the same. Therefore, no more descriptions are provided here.

It should be noted that, in the version V1.3, the sensitivity of LDW can only be displayed and viewed but not set. For the requirement of setting, you need to send commands remotely through the platform to modify it.



- No Driver

Tap **Preferences** > **Alarm** > **AI App** > **DMS/DSC**. Enable No Driver alarm. On the alarm triggering setting screen, tap **Setup**, as shown in the following figure:



No Driver alarms have only one level. When a **No Driver** alarm is triggered, there is a voice prompt. The alarmed speed can be customized and is defaulted to 20 km/h. Other parameters are the same as those of HWM and are not described here.

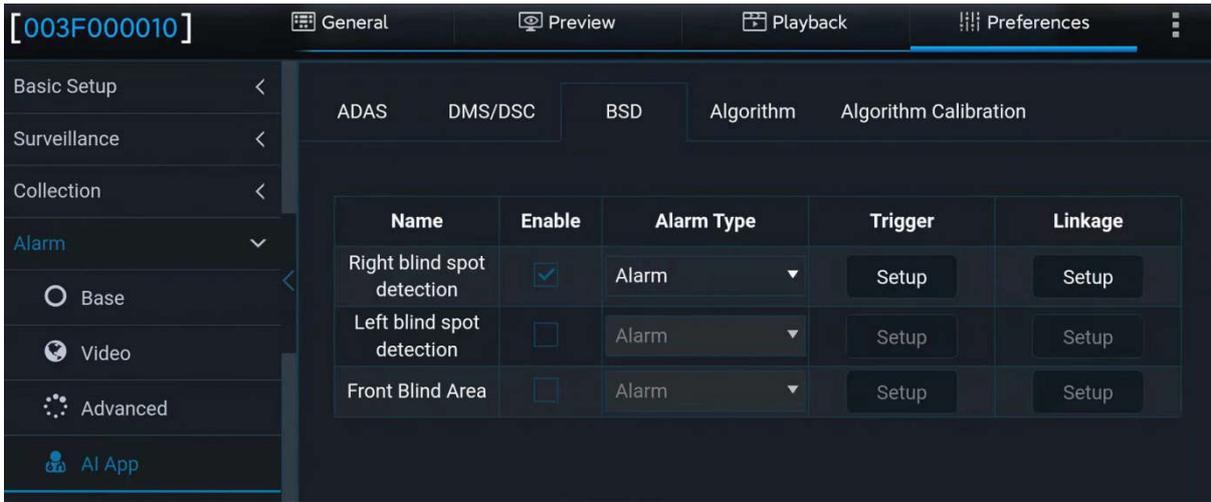
In the AI function, BSD alarm is supported. Choose **Preferences** > **Alarm** > **AI App** > **BSD**. The following screen is displayed, where you can set the relevant parameters of the BSD alarm. The BSD alarm does not distinguish Level I and Level II alarms by the speed range, but according to the distance between the pedestrian and the vehicle, as follows:

Level I alarm: 2 - 3 m distance from the vehicle body

Level II alarm: 1 - 2 m distance from the vehicle body

Level III alarm: 0 - 1 m distance from the vehicle body

Collision warning: 2 m in front of the vehicle body



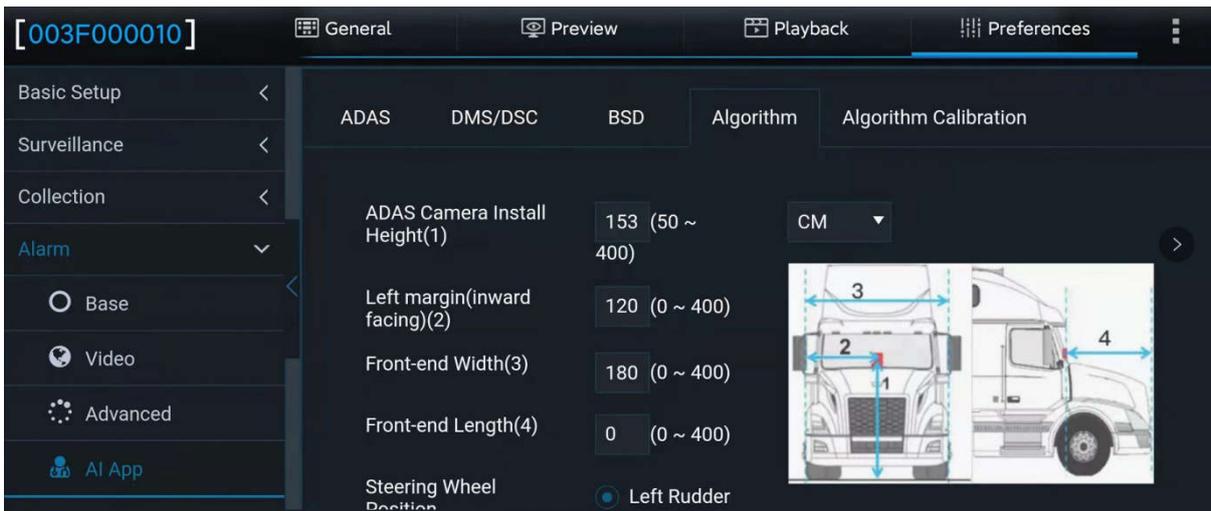
2.9.5. Algorithm Parameters

On the algorithm parameter setting screen of AI alarms, you can modify the ADAS calibration height, and enable or disable AI alarm voice prompt and the R-Watch function (if R-Watch is present).

Tap **Preferences > Alarm > AI App > Algorithm**, as shown in the following figure.

The unit of **ADAS Camera Install Height** can either be cm or inch. If cm is selected, the value range is 50 to 400 cm and the default value is 153 cm. If inch is selected, the value range is 20 to 157 inches and the default value is 59 inches.

In addition, the screen is added with DMS and DSC auto-calibration options, with the enabling enabled by default. After checking Enable, even if manual calibration is not performed, the device will automatically complete the calibration process during normal use.

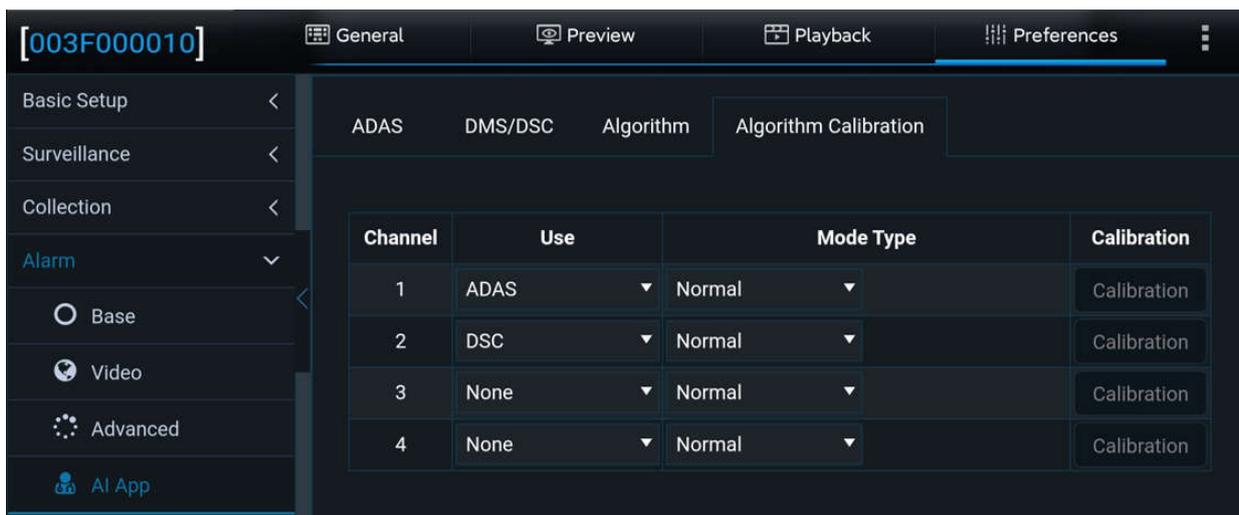




2.9.6. Algorithm Calibration

On the algorithm calibration screen of AI alarms, set the algorithms used by the camera channels.

Tap **Preferences > Alarm > AI App > Algorithm Calibration**, as shown in the following figure.



When the Road Facing Camera is used for advanced assistant driving, the usage of the 1-channel algorithm needs to be set to ADAS, and the mode type needs to be set to normal mode

When the Cabin Facing Camera is used for the intelligent cockpit, the 2-channel algorithm needs to be set to DSC, and the mode type needs to be set to normal mode

When the AHD port is connected to a 1-channel DMS camera and used for driving status detection, the 3-channel algorithm needs to be set to DMS, and the mode type needs to be set to normal mode

Note: In the current status, the AD Plus2.0 only supports simultaneous operations of two AI algorithms, that is, ADAS+DSC, ADAS+DMS (either DSC or DMS), or ADAS+BSD. Please be noted that currently, simultaneous operations of three algorithms are not supported.

FCC Statement:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the 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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.