

Security Radar

User Manual

Legal Information

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About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website (***https://www.hikvision.com/***).
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Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
FCC compliance: 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 equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.
FCC Conditions
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the RE Directive 2014/53/EU, the EMC Directive 2014/30/EU, LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: ***http://www.recyclethis.info*** .



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: ***http://www.recyclethis.info*** .



This product operates in a European non-harmonised frequency band.

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (B)/NMB-3(B) standards requirements.
This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1. this device may not cause interference, and
2. this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radioexempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.
Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.
This equipment should be installed and operated with a minimum distance 20cm between the radiator and your body.
Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps.

Battery Caution

- This equipment is not suitable for use in locations where children are likely to be present.
- CAUTION: Risk of explosion if the battery is replaced by an incorrect type.
- Improper replacement of the battery with an incorrect type may defeat a safeguard (for example, in the case of some lithium battery types).
- Do not dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- Do not leave the battery in an extremely high temperature surrounding environment, which may result in an explosion or the leakage of flammable liquid or gas.
- Do not subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.
- Dispose of used batteries according to the instructions.

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Chapter 1 Access to Client Software/Web Client

You can login the client software or the web client to configure the device's parameters. You can also configure the radar's network parameters, alarm, permission, system, and search logs via the client software.

Note

You should activate the device the first time it accesses to the network for safety reasons. For details, see ***Activate Device via Client Software*** ***Activate via SADP*** .

Access to Client Software

Download and install the iVMS-4200 client software. Register to the software. Enter **Device Management → Device → +Add** in the Maintenance and Management list to add the device. You can also search in the LAN and add the device in **Device Management → Device → Online Device**.

Note

- You should set the device port No. as 80, if you use iVMS-4200 Client Software to add a device.
- The activation user name and password are used for device login, registration, etc.

After the device is completely added, click to enter the device configuration page.

Access to Web Client

After the device is connected to the network, you can search the device IP address via the iVMS-4200 client software and the SADP software. Input the searched IP address in the address bar in the web page and press Enter. Use the activation user name and password to login. You can configure the device parameters in the web page.

Chapter 2 Activation

*I*n order to protect personal security and privacy and improve the network security level, you should activate the device the first time you connect the device to a network.

2.1 Activate Device via Client Software

Download and install the client software, search and activate device. You can manage the device by the client software after the device is activated.

Before You Start

Visit www.hikvision.com to gain the iVMS-4200 client software and install it.

Steps

1. Connect the device and PC with a network cable.
2. **Optional:** Click  and log in the Cloud account.

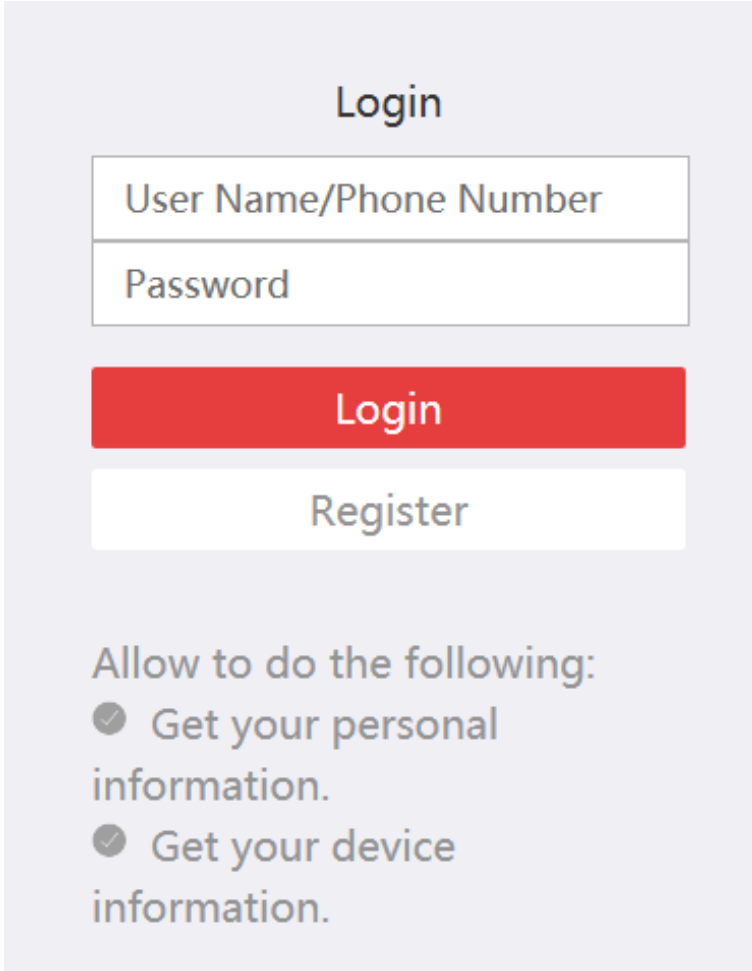


Figure 2-1 Log in Cloud Account

Note

- You should register an account for first login.
- After login, you can store the device in the cloud.

3. Run the client software, click **Device Management → Device → Online Device**. The device in the LAN will be displayed.
4. Select an inactive device. The inactive device's security level is **Inactive**.
5. Click **Activate** and set the device password.

Caution

- STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product.
- And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.
- The password cannot be the same as the user name or the reverse of the user name.

6. Click **OK**.

   The device's **Security Level** will update to**Active**.
7. Select the activated device, click and change the device IP address, subnet mask, gateway. Enter the activation password and click **OK**.
8. Check the activation devices and click **Add**.

2.2 Activate via SADP

Download and install the SADP tool, search and activate device.

Before You Start

Visit www.hikvision.com, search and gain SADP tool. Install the tool.

Steps

1. Connect the device and PC with a network cable.
2. Run the SADP tool and search the online device in the LAN.
3. Select a device where the activation status is **Inactive**.
4. Set the device activation password and confirm the password.

Caution

- STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.
- The password cannot be the same as the user name or the reverse of the user name.

5. Click **OK**.

   The device's **Security Level** will update to**Active**.
6. Select the activated device, change the device IP address, subnet mask, gateway. Enter the activation password and click **Modify**.

2.3 Activate Device via Web

Use web browser to activate the device.

Steps

1. Make sure your device and your PC connect to the same LAN.
2. If you connect the device with the PC directly, you need to change the IP address of your PC to the same subnet as the device.

   Note

   Device default IP: 129.168.1.64. The IP address of the PC can be set as any IP between 192.168.1.2 and 192.168.1.254 (except for 192.168.1.64). For example, you can set the PC's IP as 192.168.1.100.
3. Open a web browser and input ***192.168.1.64*** in the address bar to enter the activation page.
4. Set the device activation password and confirm the password.

   Caution

   STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.
5. Click **OK**.
6. Enter the device password.

Chapter 3 Network Settings

Set network parameters, port, address mapping, etc.

3.1 Network Parameters Settings

Set network parameters, port, HTTPS and address mapping.

Network Interface

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Network → Network Parameters → Network Interface** to enter the page.
You can manually enter the IP address or check **DHCP** to auto assign IP address. You can also set the preferred DNS server or Alternate DNS server. Click **Save**.

Port

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Network → Network Parameters → Port** to enter the page.
Set HTTP port, HTTPS port, SDK port, SADP port, and websocket port. Click **Save**.

HTTPS

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **ConfigurationNetwork → Network ParametersHTTPS** to enter the page.
View the detailed information of the certificate. You can also click **Delete** to delete the certificate.

Address Mapping

The 2 network interface of the device communicate with the switch (external port) and the array (internal port) respectively, and do not communicate with each other. After adding an address mapping, you can set the array information through the external port.
Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **ConfigurationNetwork → Network ParametersAddress Mapping** to enter the page.
You can add, edit, enable or delete address mapping rule.

Mapped IP

Internal radar module, that is, array's IP.

Mapped Port

Internal radar module, that is, array's port.

External Port

External control board, that is the device's port.

3.2 Data Connection

Enable ISUP.

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Network → Data Connection** to enter the page.

Check **Enable ISUP** and set the parameters. Upload binary image is reserved function.

Chapter 4 Radar Settings

You can add map, zones for the radar in the client software or web client.

4.1 Radar Settings in the Web

Edit maps, radars, zones and trigger lines in web.

Note

- Staying in the live view page for 2 hours without any operation will automatically log out.
- Staying in the Configuration page for 5 minutes without any operation will automatically log out.
- The Radar page in the web client cannot receive CID alarms and zone color changes.

4.1.1 Add Map via Web

You need to add a map to the radar in the web for subsequent configuration.

Steps

1. Enter the IP address of the radar in the web browser and log in. Click **Radar** to enter the page.
2. Click **Edit** to enter the editing mode. Click **Map Management → Add Map** to import the map.
3. Select a picture and click **OK**.

   Note

   The imported map must be less than 20 MB.
4. Ensure the map scale by **Edit Scale**.
   1) Click **Map Management → Edit Scale** to enter the page.
   2) Draw a straight line on the map.
   3) Enter the actual distance between the two points.

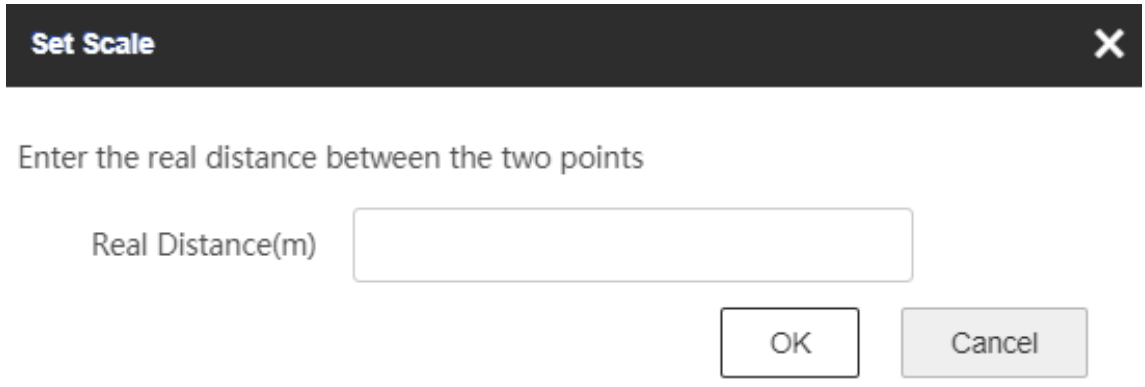


Figure 4-1 Set Scale

4) Click **OK**.

5. Ensure the map scale by **Longitude and Latitude Calibration**.

Note

When using latitude and longitude calibration, it is recommended to draw points on the map that confirm latitude and longitude in advance.

1) Click **Map Management → Longitude and Latitude Calibration** on the upper-right corner of the page.
2) Click **+Add Calibration Point** and click on the map to generate the first point. Fill in the latitude and longitude of this point, accurate to 6 decimal places.
3) Click **+Add Calibration Point** and click on the map to generate the second point. Fill in the latitude and longitude of this point, accurate to 6 decimal places.
4) Click **Save Calibration** in the top-right corner.
5) Configure the radar latitude and longitude and orientation. The radar orientation is the clockwise angle between the true north direction and the radar centerline. You can place your phone on the back of the radar and use the compass-functional App to get this angle.

6. Adjust the radar position. Drag the radar detection area to move the radar position. You can drag the icon on the arc side of the sector to adjust the detection direction.
7. Click **Finish** in the upper right corner of the map and the radar is fixed.
8. **Optional:** To arm or disarm the radar:
   - Click to arm the radar.
   - Click to disarm the radar.
9. **Optional:** The upper left corner of the map will show the radar's identification of the target.
   - is identified as human.
   - is identified as vehicles.
   - is identified as others.
10. **Optional:** Check **Show Number** in the upper left corner of the map. The radar will number the target that appeared on the radar detection area. The number is within 1 to 128. If all 128 numbers are used, the number will start from 1 again.
11. **Optional:** Click **...** on the top left corner of the map. You can view the current target details, including target number, speed, distance, etc.

4.1.2 Add Zones via Web

Before You Start

Disarm the radar before adding a zone.

Steps

Note

Up to 16 zones can be added.

1. Enter the IP address of the radar and log in. Click **Radar** to enter the page.

2. Click **Edit** to enter the editing mode.
3. **Optional:** Enable **Enable Auxiliary** in the upper left corner of the map. The target track will appear on the radar detection area. You can draw a zone with reference to the track. The track cleared when disabled.
4. **Optional:** Enable **Enable Number** in the upper left corner of the map. The radar will number the target that appeared on the radar detection area. The number is within 1 to 128. If all 128 numbers are used, the number will start from 1 again.
5. Click **Draw Zone Manually → Draw Zone** , and drag the mouse to draw a zone on the radar detection area. You can also click **Draw Zone Manually → Quick Zone** to draw a quick zone.

   Quick Zone

   After clicking, a zone with a side length of 1/5 of the detection distance will be generated.

Note

- Zones can overlap, the priority of the effective overlapping zone is: Disabled Zone>Warning Zone>Early Warning Zone. That is, Early Warning Zone can contain Warning Zone and Disabled Zone, and Warning Zone can contain Disabled Zone.
- You can zoom in/out to adjust the size of the displayed radar area.

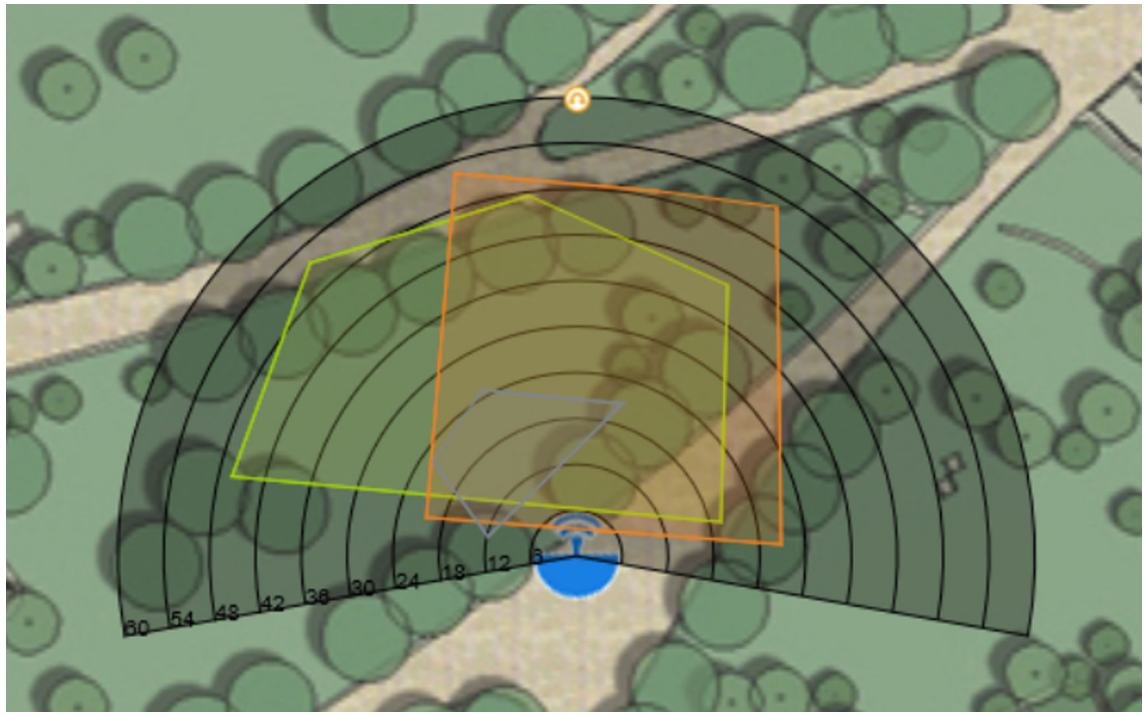


Figure 4-2 Overlap Zones

Note

The actual radar detecting area varies according to different radar model.

6. Right-click to complete drawing, and the system will pop up a window. Enter the zone name, and select **Early Warning Zone**, **Warning Zone**, or **Disabled Zone** as the zone type.

Note

- Early Warning Zone: The early warning zone will identify target that has potential risks in advance and trigger alarm, but will not store alarm track. The early warning zone is green.
- Warning Zone: The warning zone will identify the targets entering the area and trigger alarm. The warning zone is orange.
- Disabled Zone: The disabled zone will block the target track into the area. rm. The disabled zone is gray.

7. Click **OK**.
8. **Optional:** Hover on the zone area under the non-editing mode, or click the zone under the editing mode, the zone side length and name will be displayed.
9. **Optional:** Edit or delete the zone.
   1) Double-click the zone under the editing mode to enter the zone editing mode.
   2) Put the cursor on the edge of the zone and it will change to a cross, click to add a marker.

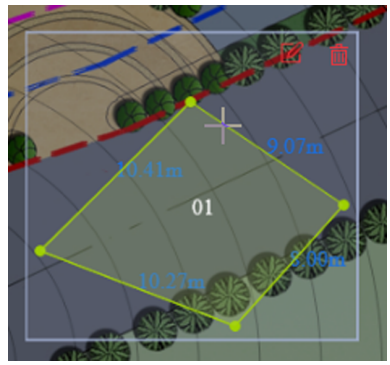


Figure 4-3 Add a Marker

   3) Drag the marker to change the shape of the zone.

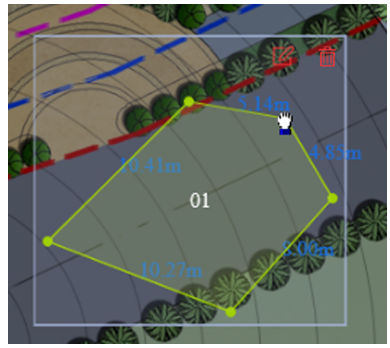


Figure 4-4 Drag a Marker

   4) Hold to move the zone.

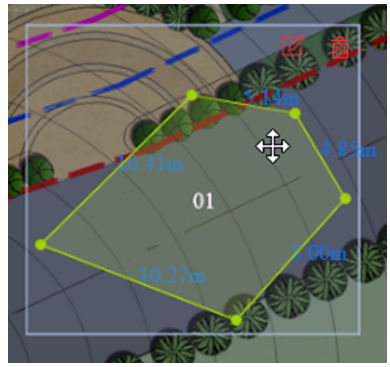


Figure 4-5 Move the Zone

5) Click outside the zone to exit the zone editing mode.

Note

- To delete a zone, click in the zone editing mode.
- To edit the zone name and the zone type, click in the zone editing mode.

10. **Optional:** Click **...** in the upper-left corner of the page to view details of the target.

4.1.3 Add Trigger Line via Web

You can draw trigger line for the radar's zone and set the trigger line's direction.

Before You Start

Disarm the radar before adding a trigger line.

Steps

1. Enter the IP address of the radar and log in. Click **Radar** to enter the page.
2. Click **Edit** to enter the editing mode.
3. Click **Draw Trigger Line**. You can draw trigger line or dual-trigger line. You can also click **Quick Single Line** or **Quick Double Line** to draw quick lines.

   Quick Single Line

   After clicking, a trigger line with the length of 1/5 of the detection distance will be generated.

   Quick Double Line

   After clicking, a dual-trigger line with the length of 1/5 of the detection distance will be generated. The distance between 2 trigger lines is 2 m. You can drag the trigger line to any position.

Note

- Drawing a dual-trigger line that is too tortuous will cause a failure.
- The alarm can be triggered by crossing the trigger line according to the trigger line rule; the alarm can be triggered only after crossing double lines of dual-trigger line according to the trigger line rule.

4. Draw a trigger line.
   1) Click on the radar detection area to draw a trigger line. Right-click when the drawing is finished.
   2) Select **Left -> Right**, **Left <- Right** or **Left <-> Right** in the pop-up window.
   3) Enter the distance between two lines. (Only for Dual-trigger Line)

Note

- Direction determination: Set the starting point as the center of the circle, the trigger line is clockwise to the right, and counterclockwise to the left.
- Up to 4 trigger lines can be drawn. (1 dual-trigger line is equal to 2 trigger lines)
- Trigger line rule: A single arrow **->** indicates that the target triggers an alarm when it crosses the trigger line in the direction of the arrow; a double arrow **<->** indicates that the target triggers an alarm when it crosses the trigger line in any direction.
- The trigger line cannot cross each other.

5. Click **OK** to complete the drawing.
6. **Optional:** Double click on the trigger line to enter the trigger line editing mode.
   - **Add a Marker**: Put the cursor on the edge of the zone and it will change to a cross, click to add a marker.

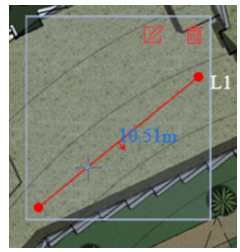


Figure 4-6 Add a Marker

   - **Drag a Marker**: Drag a marker on the trigger line to move it.

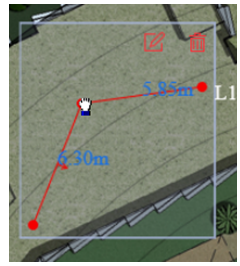


Figure 4-7 Drag a Marker

- **Move the Trigger Line**: Hold the editing area to move the trigger line.

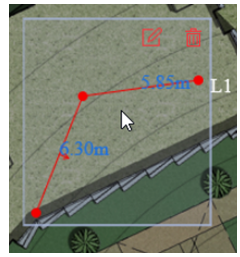


Figure 4-8 Move the Trigger Line

- **Edit**: Click . Edit the trigger line name, trigger line rule and distance (only for Dual-trigger Line).
- **Delete**: Click to delete the trigger line.

4.2 Radar Settings in the Client Software

Edit radar parameters in the client software.

4.2.1 Add Map via Client Software

You should add a map of the detection area in the E-map module to make sure the radar's installation position and the real geographic position match with each other.

Steps

1. Click **E-map** in the client software to enter the radar page.
2. Select the group of the radar.
3. Click **Add Map** and select a map.

Note

Supported picture formats: jpg/png/bmp/jpeg.

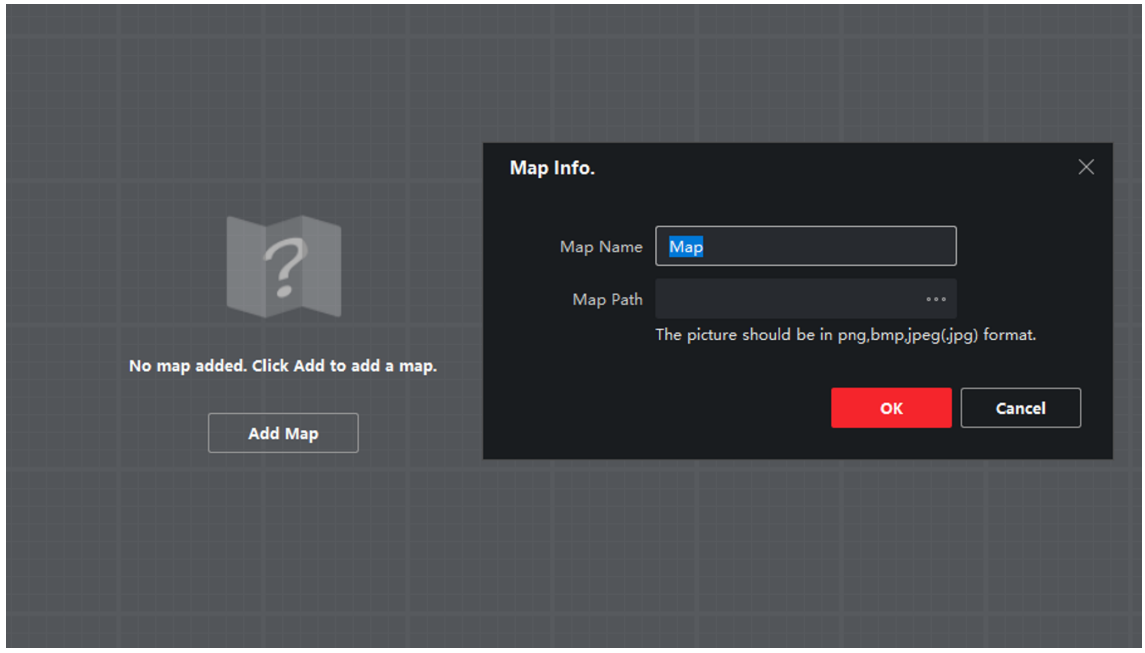


Figure 4-9 Add a Map

4. Click **OK**.
5. Click **Map CalibrationLongitudeLatitude Calibration** or **Map CalibrationEdit Scale** to ensure the map scale.
6. **Optional:** Ensure the map scale by **LongitudeLatitude Calibration**.

Note

- You should calibrate the latitude and longitude of the radar on the web side first. Refers to the specific calibration steps in ***Add Map via Web*** .
- When using latitude and longitude calibration, it is recommended to draw points on the map that confirm latitude and longitude in advance.

1) Click **Map Calibration → LongitudeLatitude Calibration** on the upper-right corner of the page.
2) Click **+Add Calibration Point** and click on the map to generate the first point. Fill in the latitude and longitude of this point, accurate to 6 decimal places. Click **Save** in the lower-right corner of the pop-up window.
3) Click **+Add Calibration Point** and click on the map to generate the second point. Fill in the latitude and longitude of this point, accurate to 6 decimal places. Click **Save** in the lower-right corner of the pop-up window.
4) Click **Save** in the top-right corner.
5) Drag the radar into the map, and if the latitude and longitude calibration has been performed on the web, the radar will automatically go to its position. If it is not calibrated, an error will be displayed.

7. **Optional:** Ensure the map scale by **Edit Scale**.
   1) Click **Map Calibration → Edit Scale** on the upper-right corner of the page.

2) Draw a straight line on the map.
3) Enter the actual distance between the two points.

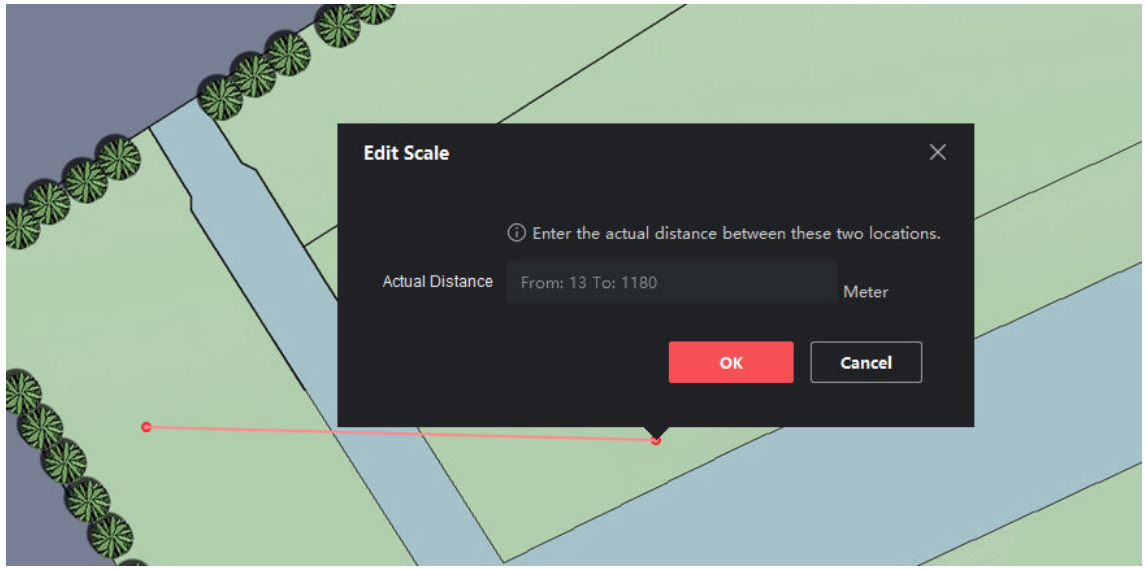


Figure 4-10 Edit Scale

4) Click **Save**.

8. **Optional:** Edit map settings.
   - Click **Update Map → Delete Map** on the upper-right corner of the page to delete the map. The added hot spots (radar for instance) and hot regions will be deleted as well.
   - Click **Update Map → Edit Map** on the upper-right corner of the page to change the map.

4.2.2 Add the Radar to the Map

After adding the map, you need to add a radar to the map.

Before You Start

- Make sure that you have added the radar (when adding the device, check **Import to Group** to the client software, as well as the map.
- Multiple radars need to be added to the same group before they can be added to the same map.

Steps

1. On the E-map page, click **Edit** in the upper right corner of the map to enter the editing mode.
2. Expand the device group in the left list, and then drag the radar onto the map.

Note

The actual radar detecting area varies according to different radar model.

3. Adjust the radar position. Drag the radar icon to make the radar detection area cover the required filed. You can rotate the sector with the icon on the arc side of the sector.

Note

You can drag the red slider in the lower right corner on the map to adjust the range of displayed map, and click **+/-** to adjust the size of displayed map. Click to reset the map.

4. **Optional:** Click to delete radar or click to edit radar parameters.

Menu	Description
Hot Spot Name	Radar Name
Heat Spot Color	Color of radar name
Heat Spot Icon	The default icon cannot be changed
Apply to Other Radar Hot Spots	After checking, the changes will be synchronized to other radars.

5. Click **Finish** in the upper right corner of the map to exit the editing mode, and the radar is fixed.
6. **Optional:** After exiting the editing mode, click the radar icon and a menu appears above the radar icon.



Figure 4-11 Radar Menu

Menu	Description
Arm	Open the arming mode of the radar detection area.

Note

If there is a target in the warning zone when arming, a prompt will appear: There are targets in the zone, enable mandatory arming?, and click **OK** to arm.

Disarm	Close the arming mode of the radar detection area.
Event	Search and play back alarm events.

Note

For details, see ***View Alarm Information*** .

7. **Optional:** After exiting the editing mode, click **Arm/Disarm → Arm all Radars** or **Arm/Disarm → Disarm all Radars** in the upper right corner of the map to arm/disarm all radars on the map.
8. **Optional:** In editing mode, you can make map calibration.
   1) Click **Edit** to enter the editing mode.
   2) Click **Radar Settings → Map Calibration**.

3) Ask 2 calibration staffs to move into the radar detection area. Select their tracks on the detection area. Calibrator staffs stop at the calibration points and the system will generate 2 markers at the terminal of tracks. Click **OK** on the pop-up window to confirm the track or click **Delete** and select a new track.

Note

The actual radar detecting area varies according to different radar model.



Figure 4-12 Confirm Terminals

4) Click on the map to confirm the actual locations of marker 1 and marker 2.

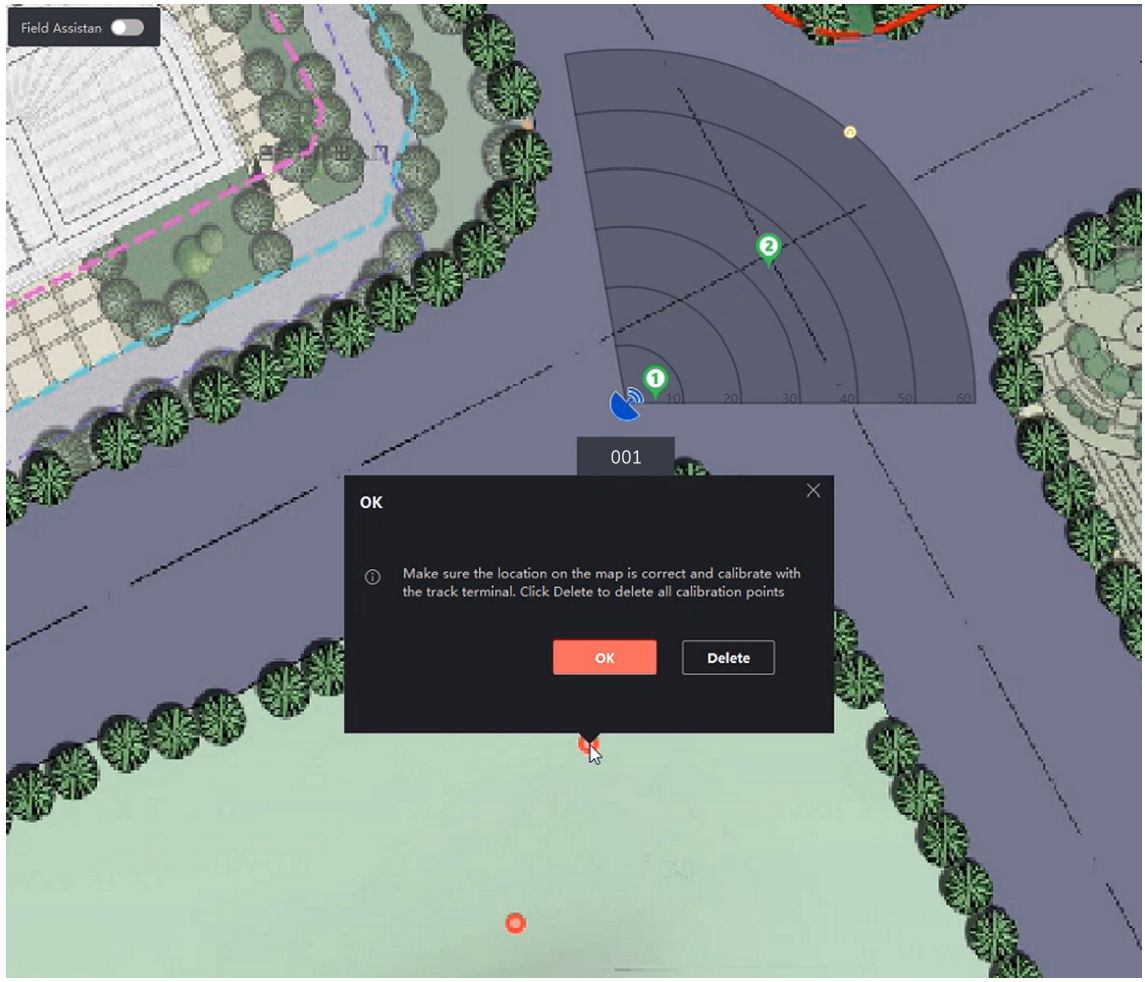


Figure 4-13 Confirm Actual Locations

5) Click **OK** on pop-up window. The system will automatically match the markers to the actual locations. Click **Delete** to delete all calibration points. Click **OK** and the system will automatically match the markers to the actual position on the map.



Figure 4-14 Finish Map Calibration

6) Click **Radar Settings → End Map Calibration**.

4.2.3 Add Radar Zone via Client Software

Before You Start

You need to disarm the radar before the operation. Click **Finish** in the E-map page to exit the editing mode. Click on the radar icon and select **Disarm** to disarm the radar.

Steps

1. In the client software, click **E-map**.

2. Click **Edit** to enter the editing mode.

3. **Optional:** Enable **Field Assistan** in the upper left corner of the map. The target track will appear on the radar detection area. You can draw a zone with reference to the track. The track cleared when disabled.
4. In the E-map page, click **Radar Settings → Draw Zone Manually**. Drag to draw a zone on the radar detection area. You can also click **Draw Zone Manually → Quick Zone** to draw a quick zone.

   Quick Zone

   After clicking, a zone with a side length of 1/5 of the detection distance will be generated.

Note

- Adding zones is a batch operation. If you only add zones to one radar, you need to right-click on the remaining radar detection zones and click **Cancel**.
- Zones can overlap, the priority of the effective overlapping zone is: Disabled Zone>Warning Zone>Early Warning Zone. That is, Early Warning Zone can contain Warning Zone and Disabled Zone, and Warning Zone can contain Disabled Zone.
- You can click +/- to zoom in/out the displayed radar area. Make sure the drawn detection area is cover the acture detection area.

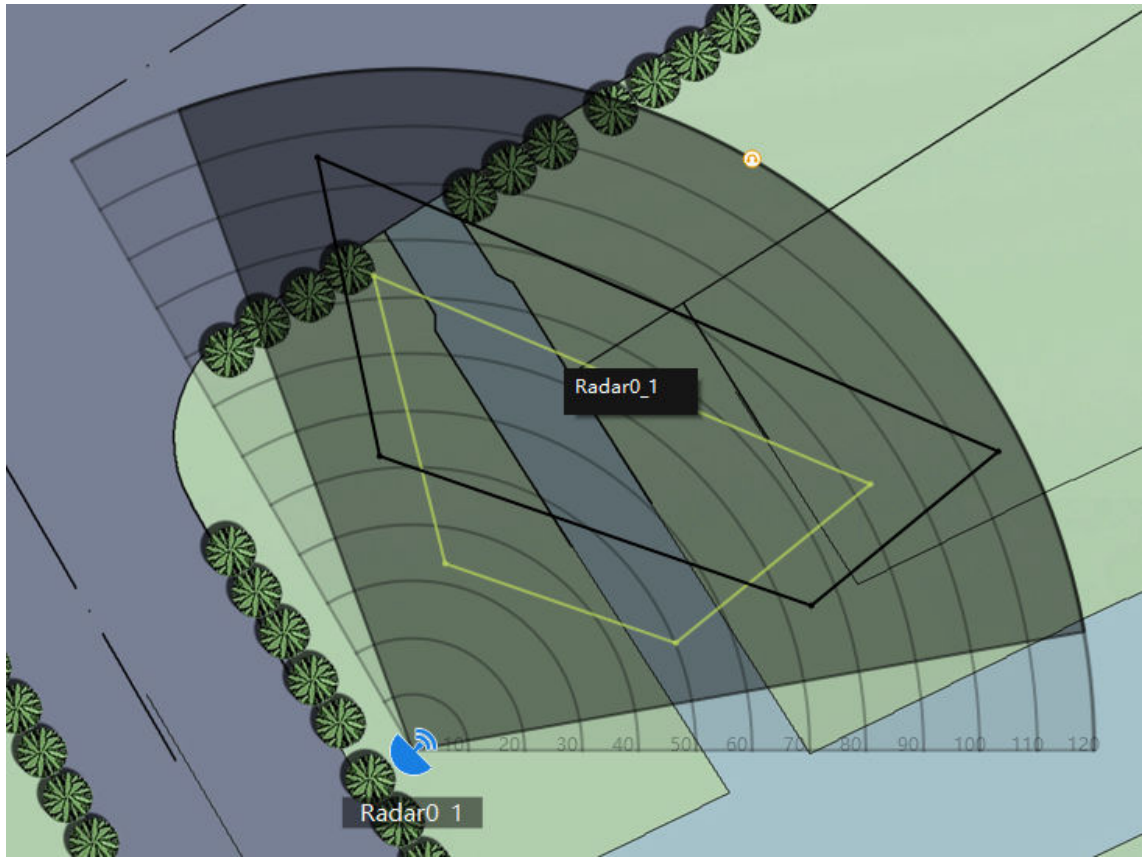


Figure 4-15 Overlap Zones

Note

The actual radar detection area varies according to different radar model.

5. Right-click to complete drawing, and the system will pop up a window. Enter the zone name, and select **Early Warning Zone**, **Warning Zone**, or **Disabled Zone** as the zone type.

Note

- Early Warning Zone: The early warning zone will identify target that has potential risks in advance and trigger alarm, but will not store alarm track. The early warning zone is green.
- Warning Zone: The warning zone will identify the targets entering the area and trigger alarm. The warning zone is orange.
- Disabled Zone: The disabled zone will block the target track into the area. rm. The disabled zone is gray.

6. Click **OK**.
7. **Optional:** Edit or delete the zone.

1) Double-click the zone to enter the zone editing mode.

2) Put the cursor on the edge of the zone and it will change to a cross, click to add a marker.



Figure 4-16 Add a Marker

3) Drag the marker to change the shape of the zone.

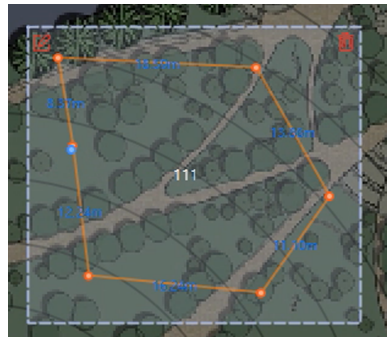


Figure 4-17 Drag a Marker

4) Hold to move the zone.

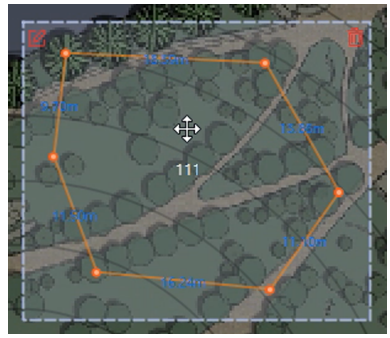


Figure 4-18 Move the Zone

5) Right-click outside the zone to exit the zone editing mode.

Note

To delete a zone, click in the top-right corner under the zone editing mode.

4.2.4 Add Trigger Line via Client Software

You can draw trigger line for the radar's zone and set the trigger line's direction.

Before You Start

The radar is added to the map. Click **Finish** in the E-map page to exit the editing mode. Click on the radar and select **Disarm** to disarm the radar.

Steps

1. On the E-map page, click **Edit** in the upper right corner of the map to enter the editing mode.
2. Click **Radar Settings → Draw Trigger Line**. You can draw trigger line or dual-trigger line. You can also click **Draw Quick Trigger Line** to draw quick single line or quick double line.

   Quick Single Line

   After clicking, a trigger line with the length of 1/5 of the detection distance will be generated.

   Quick Double Line

   After clicking, a dual-trigger line with the length of 1/5 of the detection distance will be generated. The distance between 2 trigger lines is 2 m. You can drag the trigger line to any position.

   Note

   - You can draw trigger line for all radars on the map.
   - Drawing a dual-trigger line that is too tortuous will cause a failure.
   - The alarm can be triggered by crossing the trigger line according to the trigger line rule; the alarm can be triggered only after crossing double lines of dual-trigger line according to the trigger line rule.

3. Draw a trigger line.

1) Click on the radar detection area to draw a trigger line.
2) Select **Left -> Right**, **Left <- Right** or **Left <-> Right** in the pop-up window.
3) Enter the distance between two lines. (Only for Dual-trigger Line)

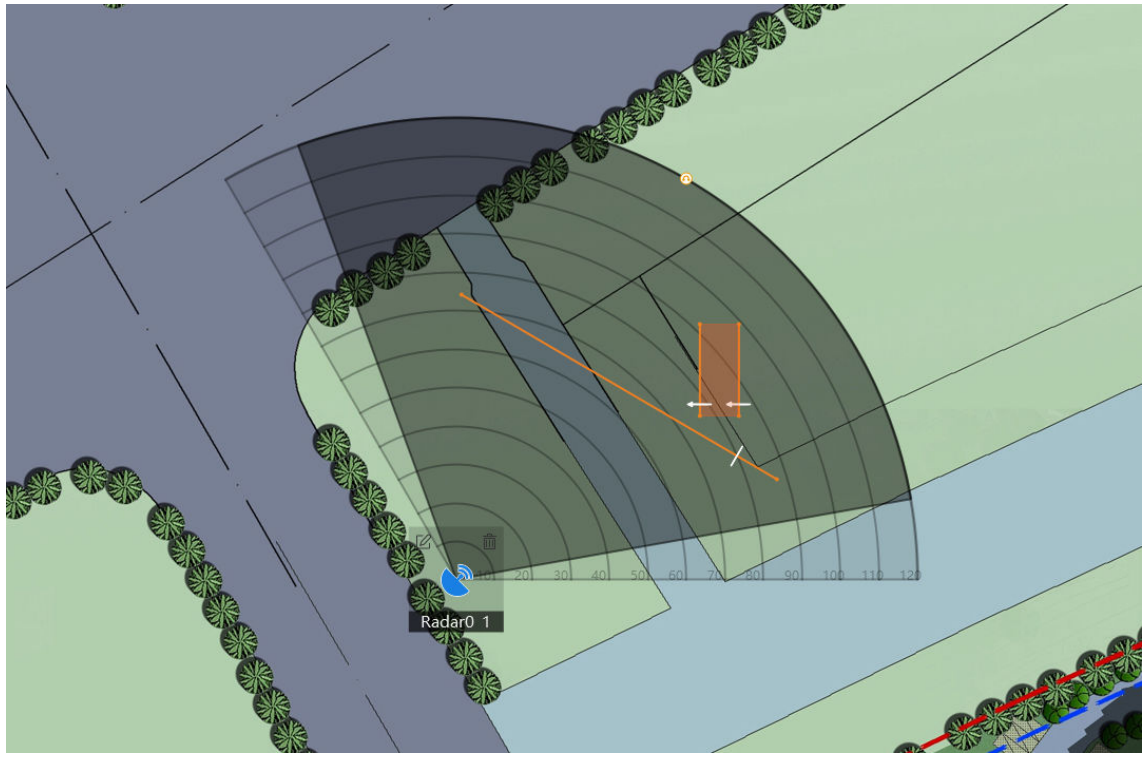


Figure 4-19 Draw a Trigger Line

Note

The actual radar detection area varies according to different radar model.

Note

- Direction determination: Set the starting point as the center of the circle, the trigger line is clockwise to the right, and counterclockwise to the left.
- Up to 4 trigger lines can be drawn. (1 dual-trigger line is equal to 2 trigger lines)
- Up to 1 dual-trigger line can be drawn.
- Trigger line rule: A single arrow **->** indicates that the target triggers an alarm when it crosses the trigger line in the direction of the arrow; a double arrow **<->** indicates that the target triggers an alarm when it crosses the trigger line in any direction.
- The trigger line cannot cross each other.

4. Click **OK** to complete the drawing.
5. **Optional:** Double click on the trigger line to enter the trigger line editing mode.
   - **Add a Marker**: Put the cursor on the edge of the zone and it will change to a cross, click to add a marker.

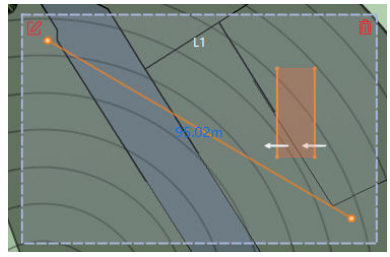


Figure 4-20 Add a Marker

- **Drag a Marker**: Drag a marker on the trigger line to move it.

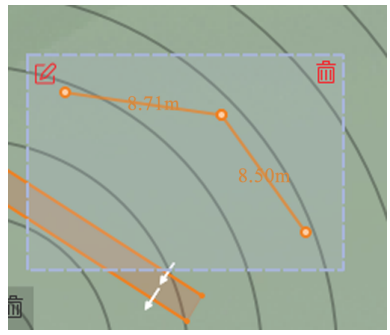


Figure 4-21 Drag a Marker

- **Move the Trigger Line**: Hold the editing area to move the trigger line.

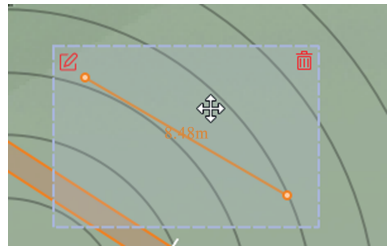


Figure 4-22 Move the Trigger Line

- **Edit**: tap to enter the page. Edit the trigger line name, trigger line rule and distance (only for Dual-trigger Line).
- **Delete**: tap to delete the trigger line.

4.2.5 Other Auxiliary Functions

Live View

In E-map page, click **Finish** to exit the editing mode. Click **Live View** and the live view window will appear on the bottom of the page. Drag the camera in the left list to the live view window and you can view the video in real time.

Speed Dome Field of View

Note

Before using this function, you need to confirm that the speed dome has been calibrated and the speed dome has an linked zone.

In E-map page, click **Finish** to exit the editing mode. Click **Display → Camera FOV**.
After enabled, you can see the target tracked by the currently linked speed dome.

OSD

In E-map page, click **Finish** to exit the editing mode. Click **Display → Display OSD**.
After enabled, the speed, distance, target type, and target similarity will be displayed on the live view page.
After disabled, all information will note be displayed on the live view page except the radar number.

Chapter 5 Linked Camera

5.1 Set Speed Dome Initial Position

Set the initial position of the speed dome to ensure the tracking accuracy.

Steps

1. Select a reference object about 50 m away from the speed dome. On the reference object, select a reference point whose altitude is the same as the speed dome's.
2. Enter the IP address of the speed dome in the web browser to enter the web client.

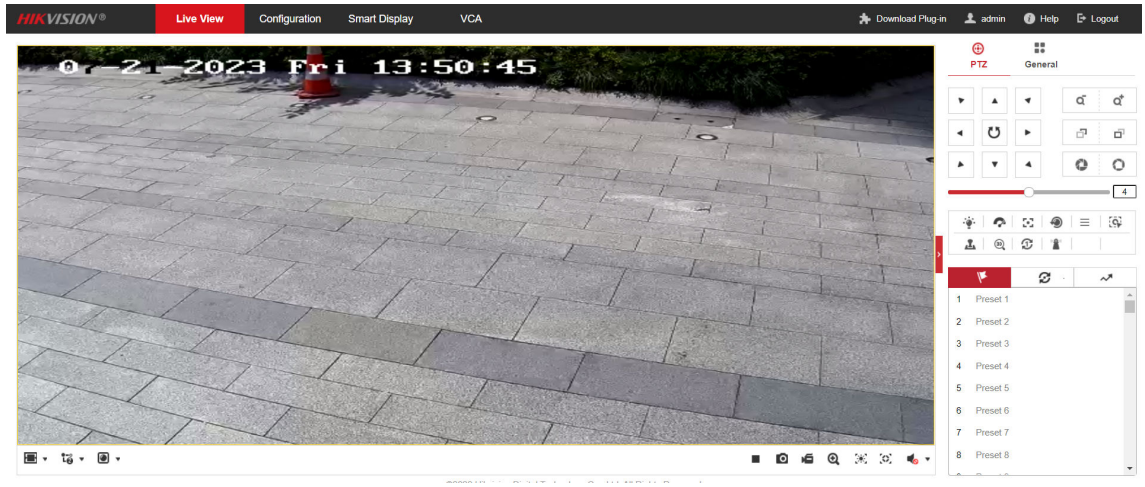


Figure 5-1 Camera live View Page

3. Adjust the PTZ buttons to make sure that the reference point is displayed in the live view window. Click to zoom in the reference point to the largest and click to enable 3D location. Click the reference point and the point will be in the middle of the frame.

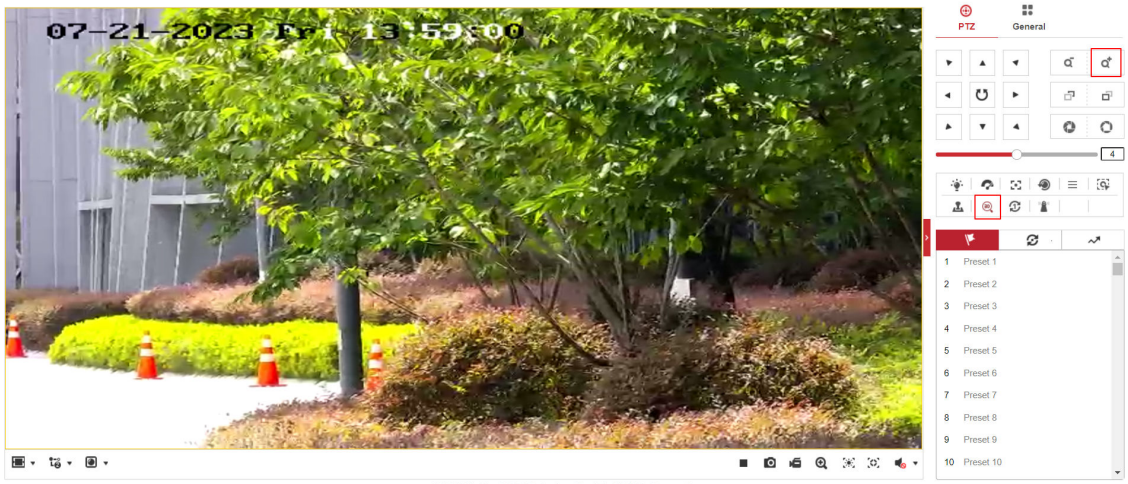


Figure 5-2 Reference Point Position

Note

- If the speed dome is installed tilted, you may find the reference point is above the center of the frame or it is outside the frame when you adjust the camera PTZ. In this case, you should adjust the maximum elevation angle of the speed dome. For detail adjustment method, please refer to ***How to Solve the Problem that No Reference Point is on the Frame While Setting the Speed Dome Initial Position?***
- If the maximum elevation angle of the speed dome is adjusted, the reference point needs to be adjusted to the center of the frame again.
- **PTZ**: Short for pan/tilt/zoom, which means move to up/down, left/right, and zoom.

4. In the camera's web configuration page, click **Configuration → PTZ → Initial Position**. Click **Set** to set the initial position.

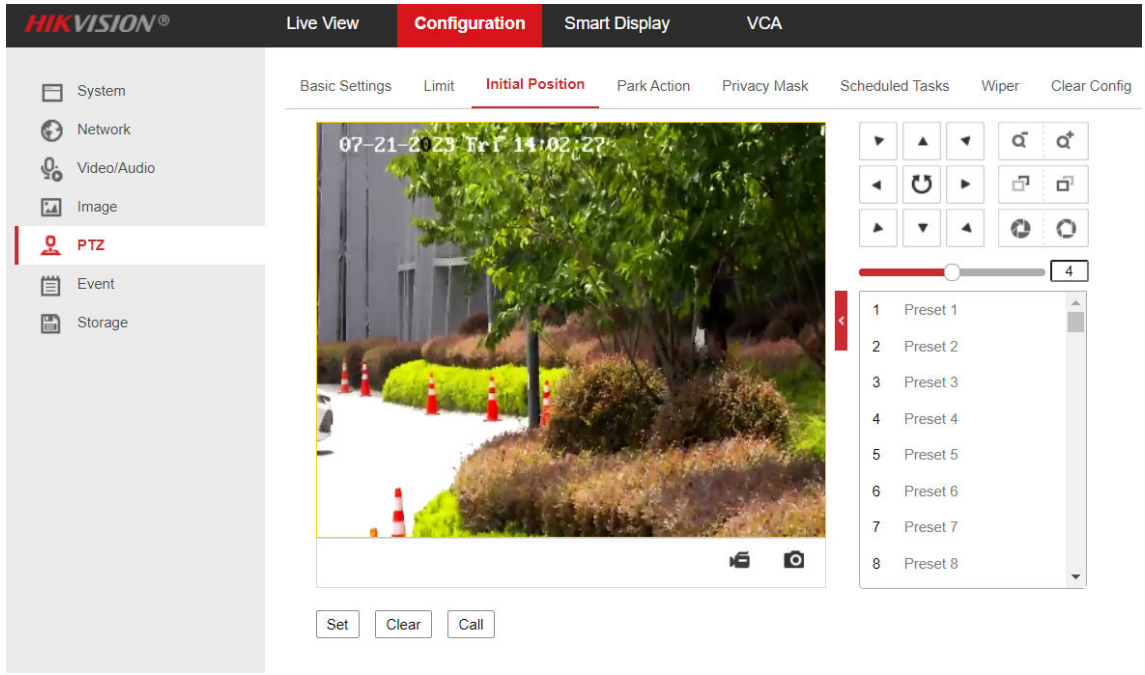


Figure 5-3 Set Initial Position

5.2 Link the Camera to the Radar

Before You Start

You should disarm the radar before link a camera.

After linked a camera, when there is an alarm of the camera, the linked zone and trigger line will trigger an alarm.

Steps

1. Enter IP address of the radar in a browser to enter the web client. Click **Configuration → Smart Rule Settings → Camera Linkage Settings**.
2. Add a camera.
   1) Click **+** in the camera IP list.
   2) Enter the IP address, port, user name, password of the camera, and select whether to link to NVR.

      Note

      To use the NVR for video storage, you can choose to link the NVR and configure the NVR parameters.

   3) Click **OK**.
3. Link zones and trigger lines to the camera.
   1) Select a camera in the camera list.
   2) Select zones and trigger lines in the Linkage Settings. Multiple choices are available.

3) Click **Save**.

Note

Up to 4 linked cameras can be enabled simultaneously on a single radar.

5.3 Calibrate Camera

Calibrate the linked camera to ensure the accuracy of camera tracking.

Before You Start

- You need to disarm the radar before the operation. Click **Finish** in the E-map page to exit the editing mode. Click on the radar icon and click **Disarm** to disarm the radar.
- You need to link the speed dome to the zone before calibration, and set the speed dome initial position. For details, see ***Link the Camera to the Radar*** . Make sure the camera is added to the client software.
- The installation height of the linked speed dome should to be more than 3 m.

Steps

1. Click **Device Management → Group**. Expand the radar group and select **Encoding Channels**.
2. Click **Import** and check the camera that need to calibrate.
3. Click **Import** to import the camera to the radar group.
4. Click **E-map** to enter the page, and click **Edit** to enter the editing mode.
5. Click **Radar Settings → Smart Linkage Settings** to enter the calibration page.
6. Select a radar in the drop-down list.
7. Click a live view window and select a camera in the **Linked Cameras** list. The live view window will show the camera live view.

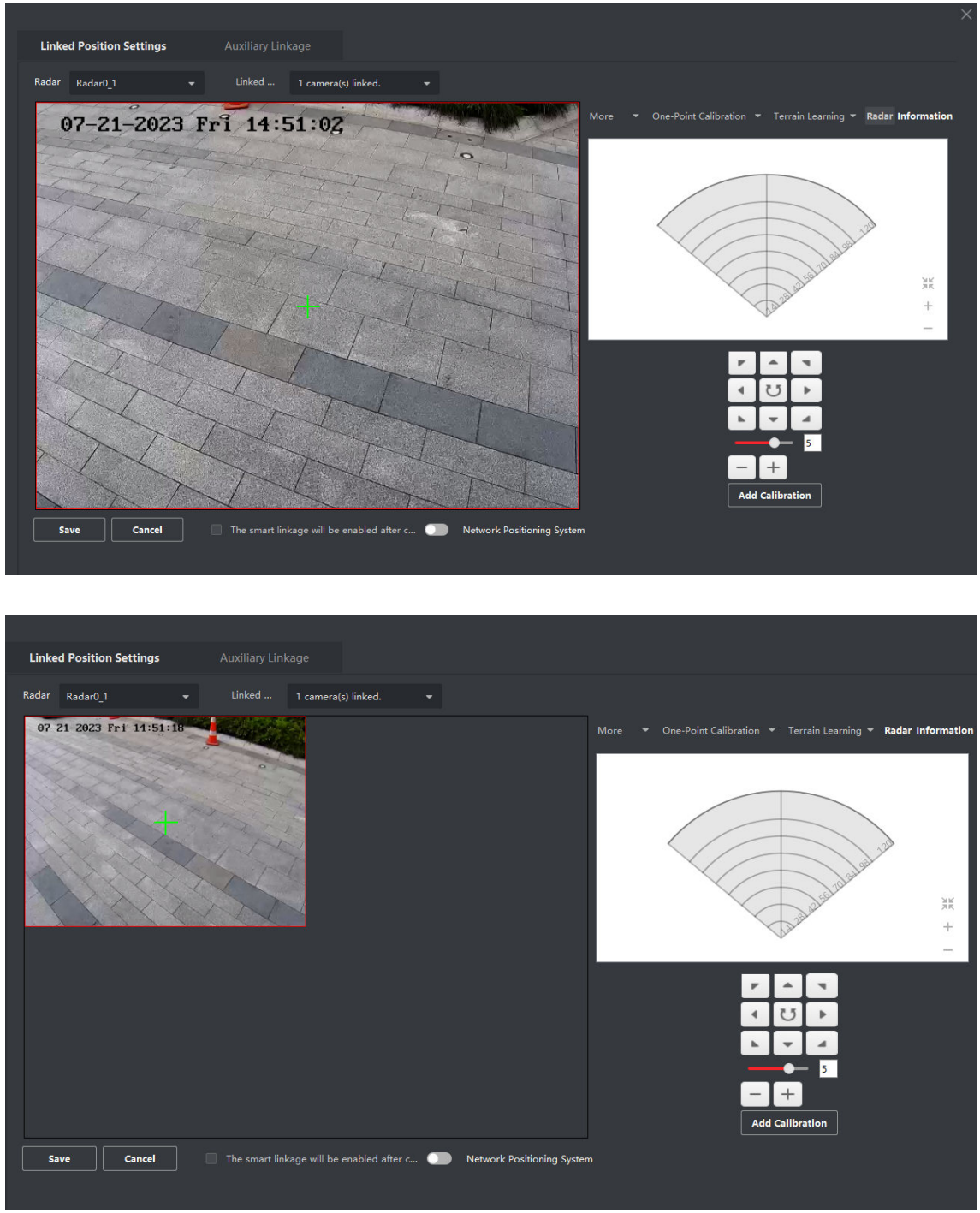


Figure 5-4 Camera Calibration Page

8. Select the live view window of the camera needs to be calibrated, and double click on it to maximum the window.

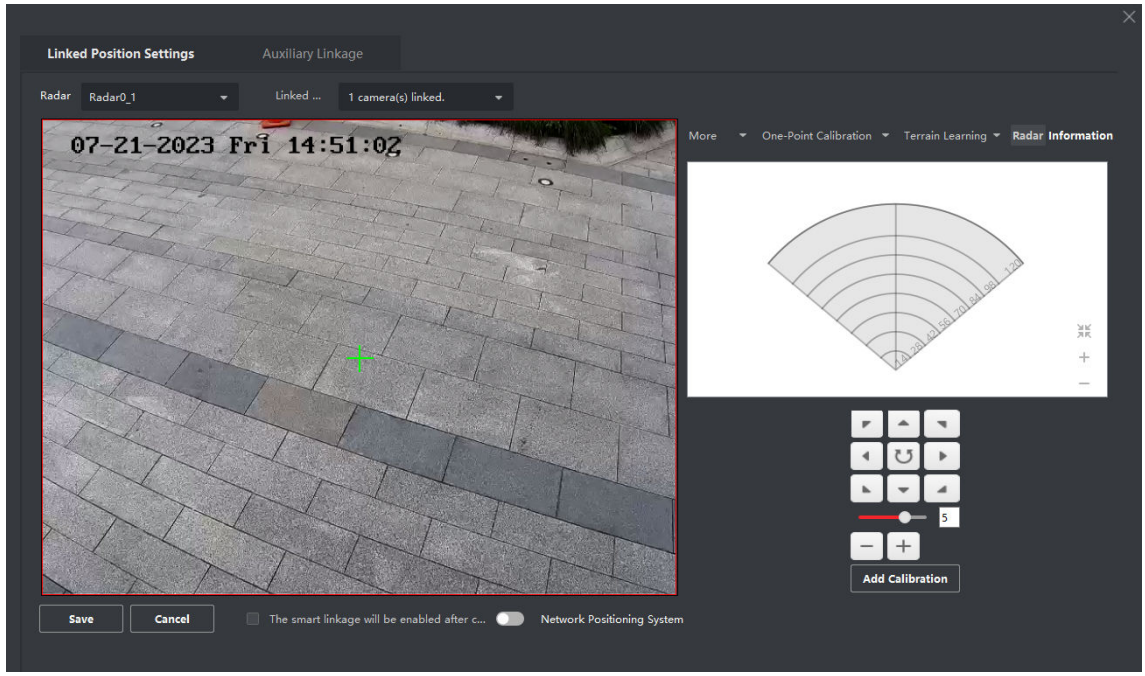


Figure 5-5 Select Camera

Note

You can use +, -, reset button, and mouse to adjust the radar detection area.

9. Select **One-Point Calibration** or **Multi-Point Calibration**.

Note

According to the relative installation position of the radar and the camera, it is necessary to select a schedule for the calibration point selection (One-Point Calibration or Multi-Point Calibration).

- One-Point Calibration: Applicable to the scene where the radar and the camera are installed on the same pole or the camera is installed within a radar-centered range of 2 m (regardless of the altitude difference between the camera and the radar).
- Multi-Point Calibration: The scene where is not applicable to the one-point calibration need to adopt the multi-point calibration method.



Figure 5-6 Installation Scene for One-Point Calibration



Figure 5-7 Installation Scene for Multi-Point Calibration

10. Calibrate the camera. According to the selected schedule, calibrate the camera by one-point calibration or multi-point calibration method.

5.3.1 One-Point Calibration

Before You Start

Arrange a staff (operation staff) to perform the calibration operation in the client software, and a staff (calibration staff) to cooperate with the calibration.

Steps

1. In calibration page, select **One-Point Calibration** as the calibration mode.
2. Select the track of calibration staff: Ask the calibration staff to move into the radar detection area. Compare the moving object in the live view window of the camera and the track in the radar field diagram, the operation staff needs to select the track of the calibration staff and click it. The color of the selected track will change from red to white.

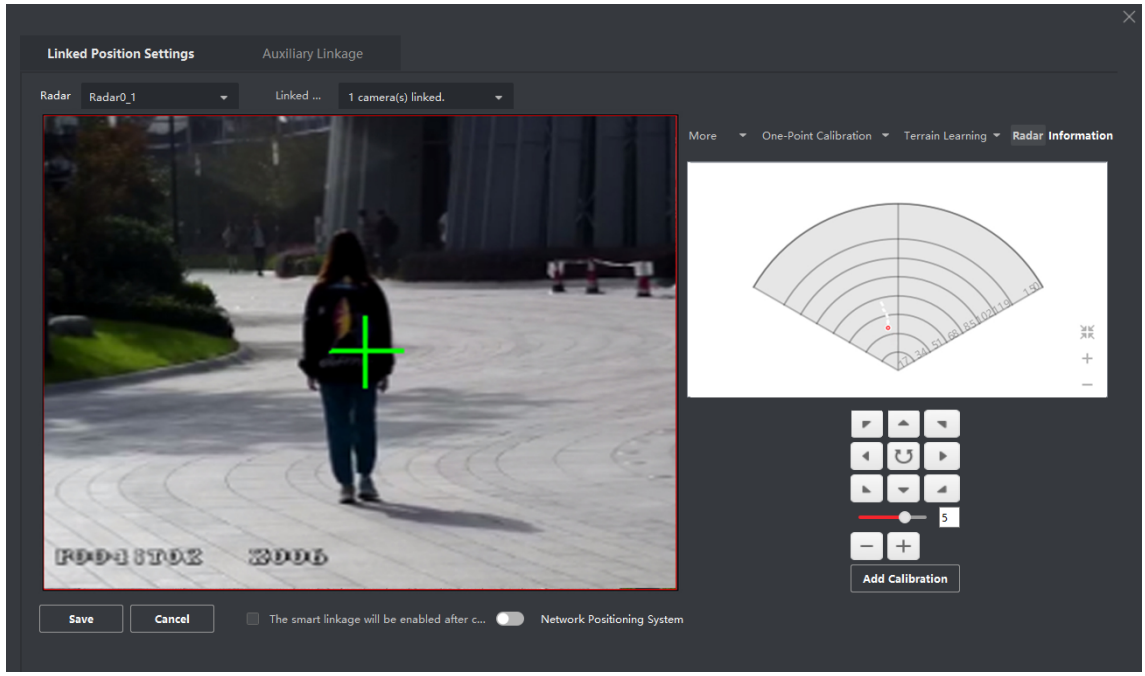


Figure 5-8 Select the Track

3. Ask the calibration staff to move to the calibration point within 20 to 40 m directly in front of the radar, and then stand at the calibration point.
4. Adjust the PTZ buttons in the live view window to get the PTZ position: Click **+** and **-** to adjust the altitude of the calibration staff to two-thirds of the altitude of the window, and click the direction buttons to align the central sign + with the calibration staff. For precise alignment, click on the center of the object and the screen will adjust automatically.
5. Click **Add Calibration** to add a calibration point. The PTZ position and the radar position of the calibration staff will be shown in the Information list. The option **The tracking will be enabled after completing the settings** will be checked automatically.

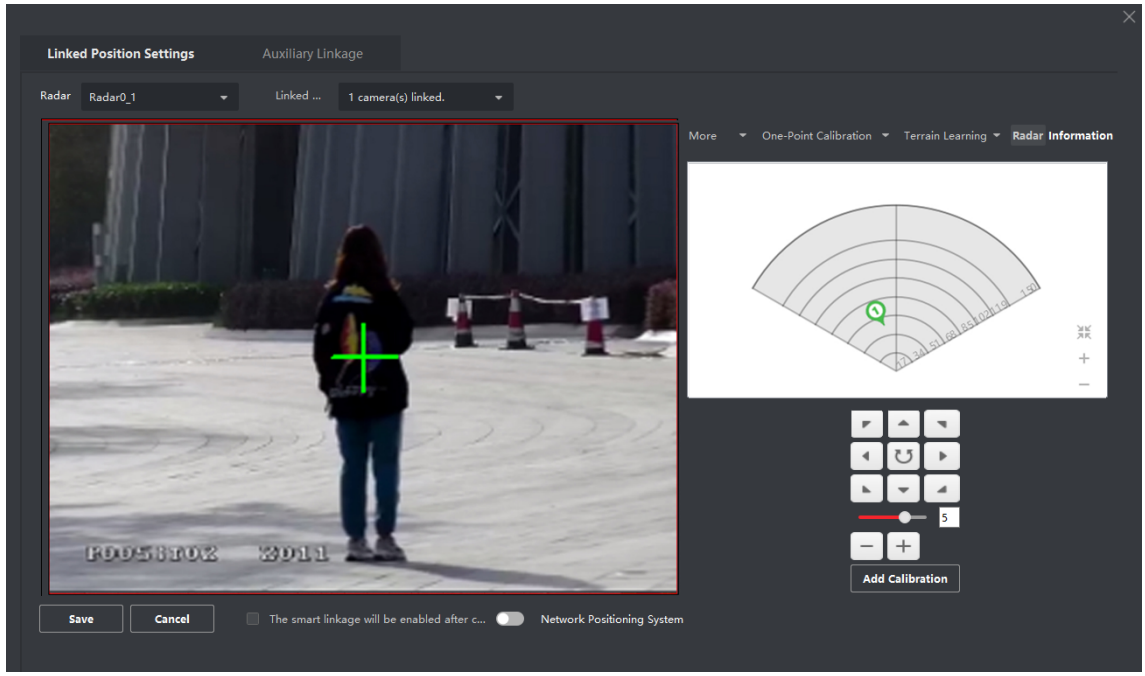


Figure 5-9 Add a Calibration

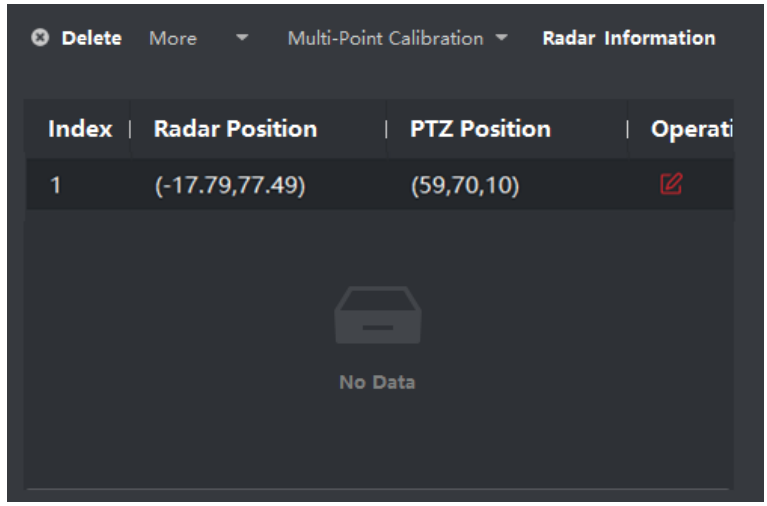


Figure 5-10 Information List

Note

You should enable **Network Poisoning System** if the camera is installed with PTZ.

6. Click **Save**.

5.3.2 Multi-point Calibration

Before You Start

Arrange a staff (operation staff) to perform the calibration operation in the client software, and a staff (calibration staff) to cooperate with the calibration.

Steps

1. In calibration page, select **Multi-point Calibration** as the calibration mode.
2. Select calibration points (equally distributed) on the center line of the radar detection field, you can refer to the following figure to select points.

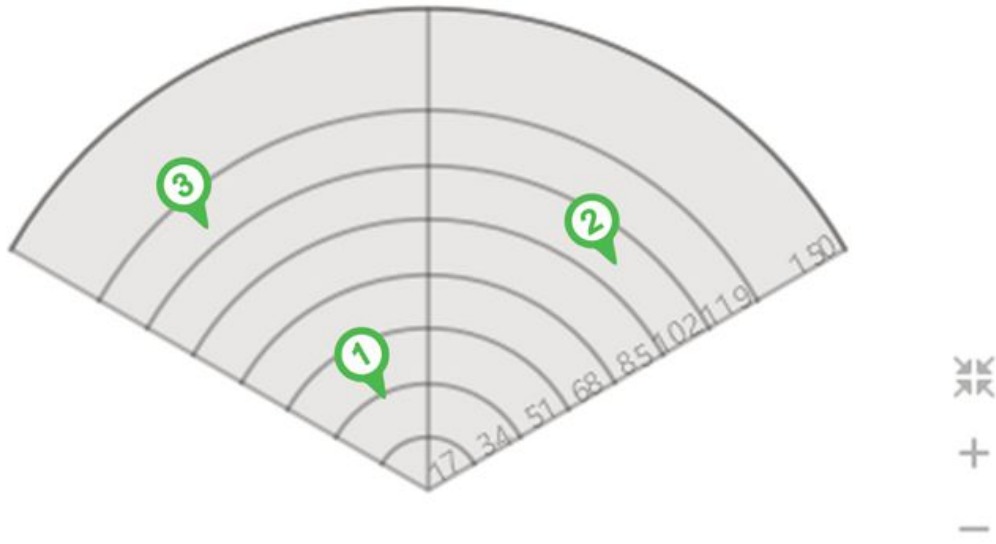


Figure 5-11 Multi-point Distribution Instance

Note

It is required to set 3 calibration points (equally distributed) when multi-point calibration.

3. According to the calibration points, ask the calibration staff to move to a calibration point. Refer to step 2 to step 5 in *One-Point Calibration* to calibrate the calibration point.
4. When the first calibration point is calibrated completely, let the calibration staff move to the next calibration point after the yellow track disappears. Refer to step 2 to step 5 in *One-Point Calibration* to calibrate the calibration point. Follow this process to complete all calibration point positioning in turn.

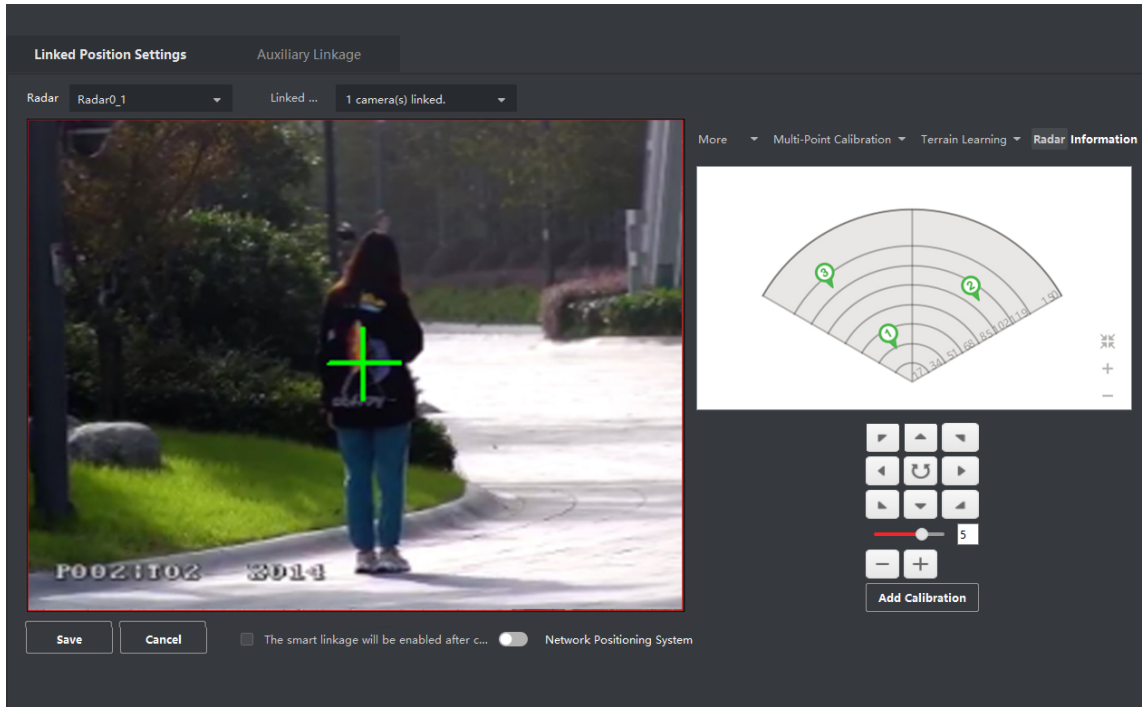


Figure 5-12 Multi-point Calibration Radar Page

Note

If you need to delete a calibration point, select the calibration point in the Information list, and click **Delete** .

5. After all calibration points is calibrated completely, click **Save**.

Note

- You can save the calibration information successfully if there are 3 calibration points, otherwise, you cannot save it. Up to 8 points can be calibrated. It is suggested that use 3 point to calibrate.
- You should enable **Network Poisoning System** if the camera is installed with PTZ.

5.3.3 GPS Calibration

GPS calibration needs to be configured in conjunction with one-point calibration. This calibration method can be used when the camera and radar are installed at a long distance.

Before You Start

- Record the latitude, longitude and orientation of the radar installation location.
- Record the latitude, longitude and orientation of the camera installation location.
- Complete one-point calibration. For one-point calibration, see ***One-Point Calibration*** .

Steps

1. On the calibration page, select the calibration mode as **One-Point Calibration** and complete one-point calibration.
2. Click **More** and click **Set Longitude and Latitude**.

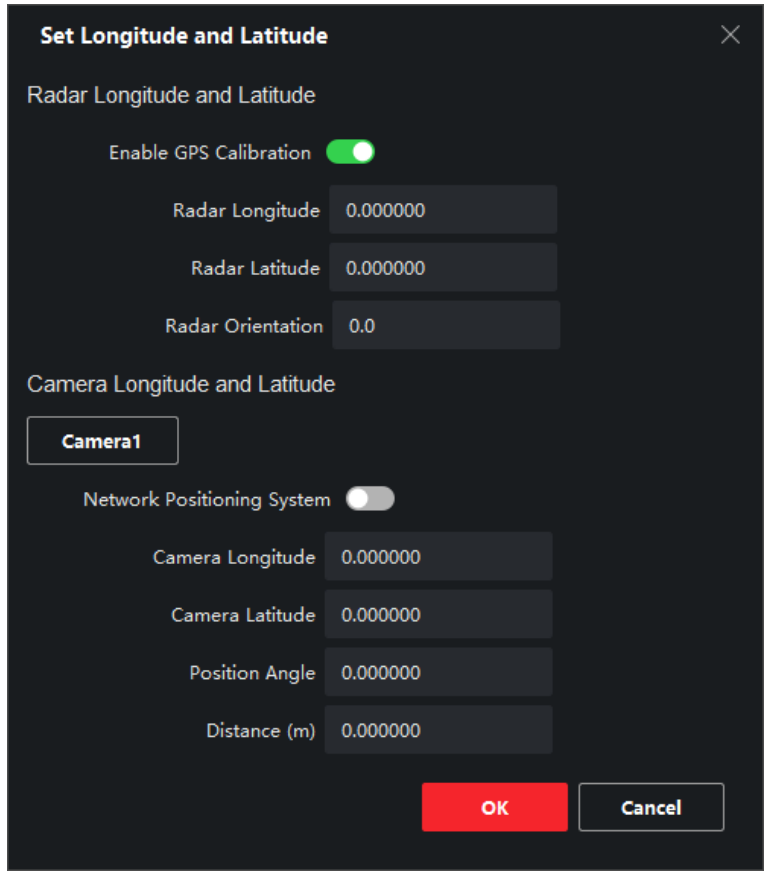


Figure 5-13 Set Longitude and Latitude

3. Slide **Enable GPS Calibration**.
4. Enter the radar longitude, latitude, and orientation.

   Radar Orientation

   The radar orientation is the clockwise angle between the true north direction and centerline.

   You can place your phone on the back of the radar and use the compass-functional App to get this angle.
5. Slide **Network Positioning System**.

Note

You should enable this function if the camera is installed by PTZ method. You should disable this function if the camera is installed by speed dome method.

6. Enter camera's longitude and latitude, azimuth, and distance.

   Camera Azimuth

After the camera confirms the zero azimuth, you can turn the lens until the radar is at the center cross of the frame, at which point the camera's P value is the azimuth of the camera.

Distance

The distance between the camera and the radar.

7. Click **OK**.

Note

After completing the calibration, make sure that **The smart linkage will be enabled after completing the settings** on the calibration page is checked, and th**PTZ Device** is set correctly (if the device supports it).

5.3.4 Calibration Compensation

Fine adjustment of PTZ position of the camera.

Before You Start

The camera is calibrated.

You can use this function to adjust the PTZ position of the camera.

Steps

1. In the calibration page, click **Calibration Compensation**.

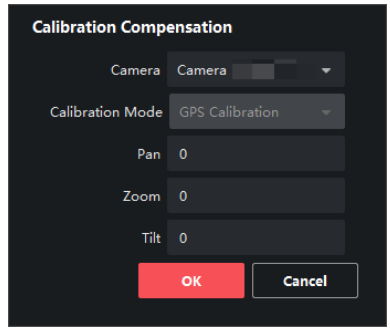


Figure 5-14 Calibration Compensation

2. Select a camera.
3. Select **GPS Calibration** or **PTZ Calibration**.

GPS Calibration

Compensate for the PTZ of the camera in GPS (latitude and longitude) calibration mode.

PTZ Calibration

Compensate for the PTZ of the camera in single-point calibration or multi-point calibration mode.

4. Set **Pan**, **Zoom**, and **Tilt**. The entered values will be added to the original PTZ values.

5.3.5 Terrain Learning

Terrain learning can improve the environmental adaptability of radar and linked cameras.

Before You Start
One-point calibration is completed.

Steps
1. On the calibration page, click **Terrain Learning → Start Terrain Learning**.
2. Select a track in the radar detection area.
3. lick + or - of the PTZ buttons in the live view window to adjust the target. Make sure the target is in the center of the live view page.
4. Click **Terrain Learning → Complete Terrain Learning**.

Note

You can start terrain learning for multiple times. The learning results will be cumulative.

5. Click **Terrain Learning → Clear Terrain Learning** to reset the function.

5.3.6 Auxiliary Linkage

When the environment has an impact on the target's track during the detection process (such as track incoherence, track jitter, etc.), this function can be enabled on the basis of configuring the zone to fix the PTZ value.

Steps
1. In the E-map page, Click **Radar Settings → Smart Linkage Settings → Auxiliary Linkage** .

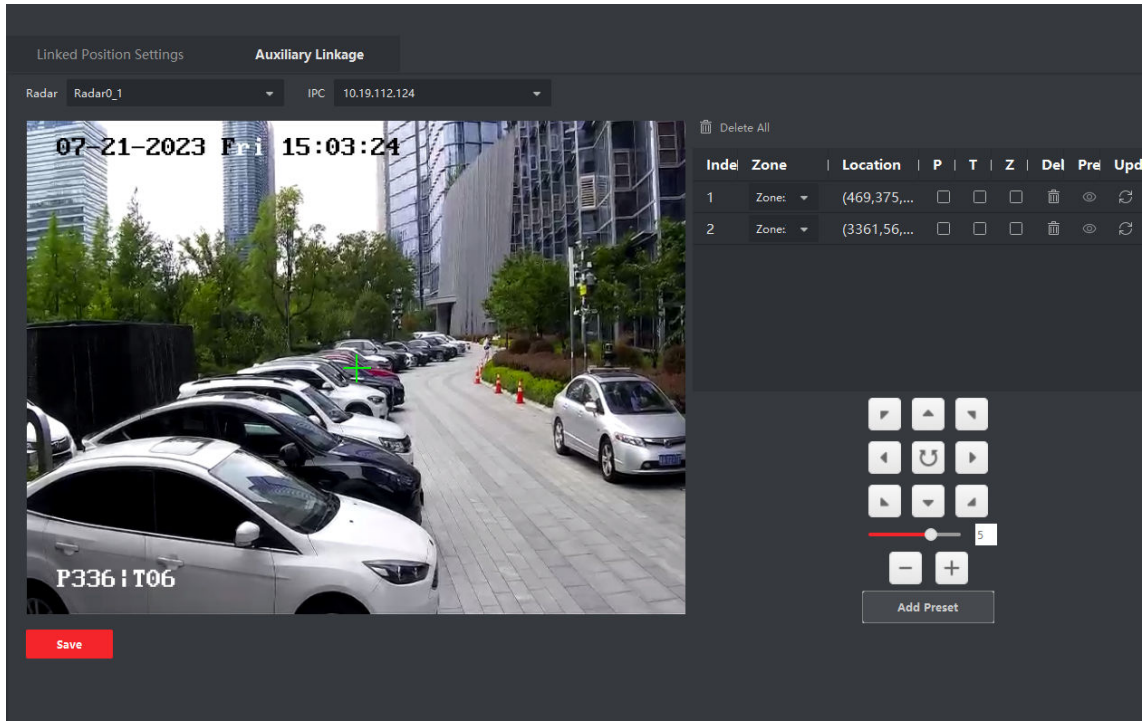


Figure 5-15 Auxiliary Linkage

2. Click **Add Preset**.
3. Select a radar and a linked camera in the drop-down list.
4. Select a zone from the list.
5. Use function buttons on the right to adjust the camera live view page center position (cross icon position) to the preset. You can also click on the live view page and the live view page will automatically adjust to the clicked center.

Operation	Description
Direction-control Button	Adjust the camera direction. Hold to move the camera direction continuously.
↻	Rotate the camera horizontally. Hold to continuously rotate the camera horizontally.
Bar	Adjust the rotation speed of the camera. 1 is the slowest and 7 is the fastest.
+/-	Zoom the live view page.

6. **Optional:** Edit preset.

Button	Description
PTZ	Fix the current P/T/Z value.
Delete	Delete preset.

Live View Rotate the camera to view the preset.

Update Updates the preset coordinate to the current camera coordinate.

Note

If calibration is not possible, you can select the zone and adjust the camera position, and fix the P, T, and Z values. When the zone triggers an alarm, the camera will automatically rotate to this location.

5.4 Set Park Function for Linked Camera

After enabling the radar park mode, the main radar will control the camera to return to the set watch point, when no target appears within 10 s in the radar detection area.

Before You Start

- Add the radar to the map.
- Link the camera to the radar, and add the camera to the client software.
- Calibrate the camera and enable camera tracking.
- You need to disarm the radar before the operation. Click **Finish** in the E-map page to exit the editing mode. Click on the radar icon and select **Disarm** to disarm the radar.

Note

Only camera with PTZ control supports the function.

Steps

1. In the client software, Enter the E-map page.
2. Click **Edit** to enter the editing mode. Click **Radar Settings → Set Parking Point**.

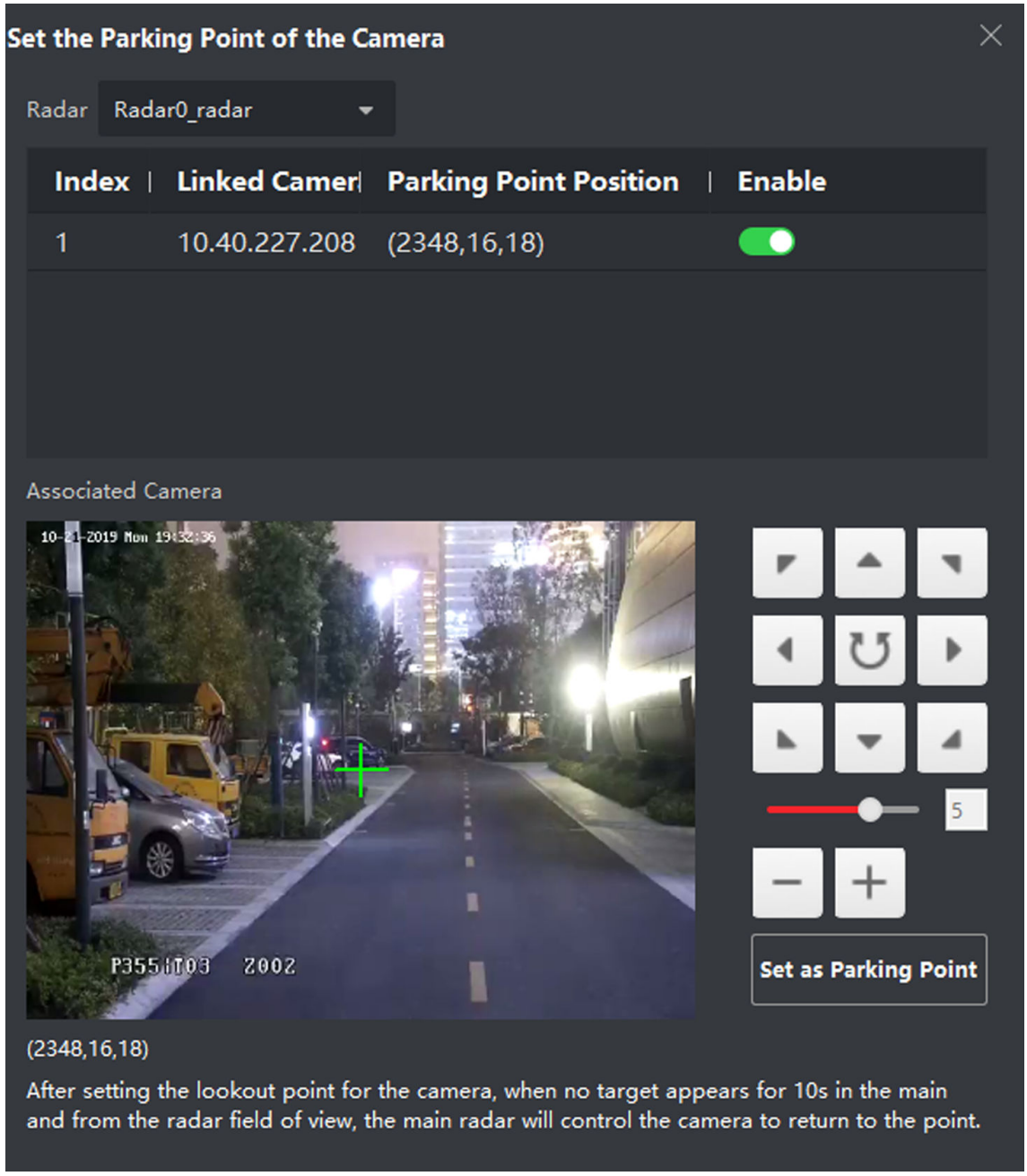


Figure 5-16 Set Camera Parking Point

3. Select a radar in the drop-down list.
4. Select a linked camera in the drop-down list.
5. Use function buttons on the right to adjust the camera live view page center position (cross icon position) to the watch point. You can also click on the screen and the live view page will automatically adjust to the clicked center.

Operation	Description

Direction-control Button	Adjust the camera direction. Hold to move the camera direction continuously.
↻	Rotate the camera horizontally. Hold to continuously rotate the camera horizontally.
Bar	Adjust the rotation speed of the camera. 1 is the slowest and 7 is the fastest.
+/-	Zoom the live view page.

6. Click **Set as Parking Point**. And the slider on the right of the linked camera will be enabled.

5.5 Link the Camera to the Zone

Steps

1. In the client software, click **E-map**, click **Device Management → Event Configuration → Alarm Event** to enter the page.
2. Select a zone in the left list.
3. Check an event in the right list.
4. Click **Edit Priority** and you can select the event priority.
5. Click **Edit Linkage** and you can check the linked action and camera.
6. Enable **PTZ Linkage**, select **Preset**, **Patrol** or **Track**.

Note

- Up to 4 cameras can be linked to the zone. Up to 50 cameras can be linked.
- For more details, see *User Manual of iVMS-4200 Client Software*.

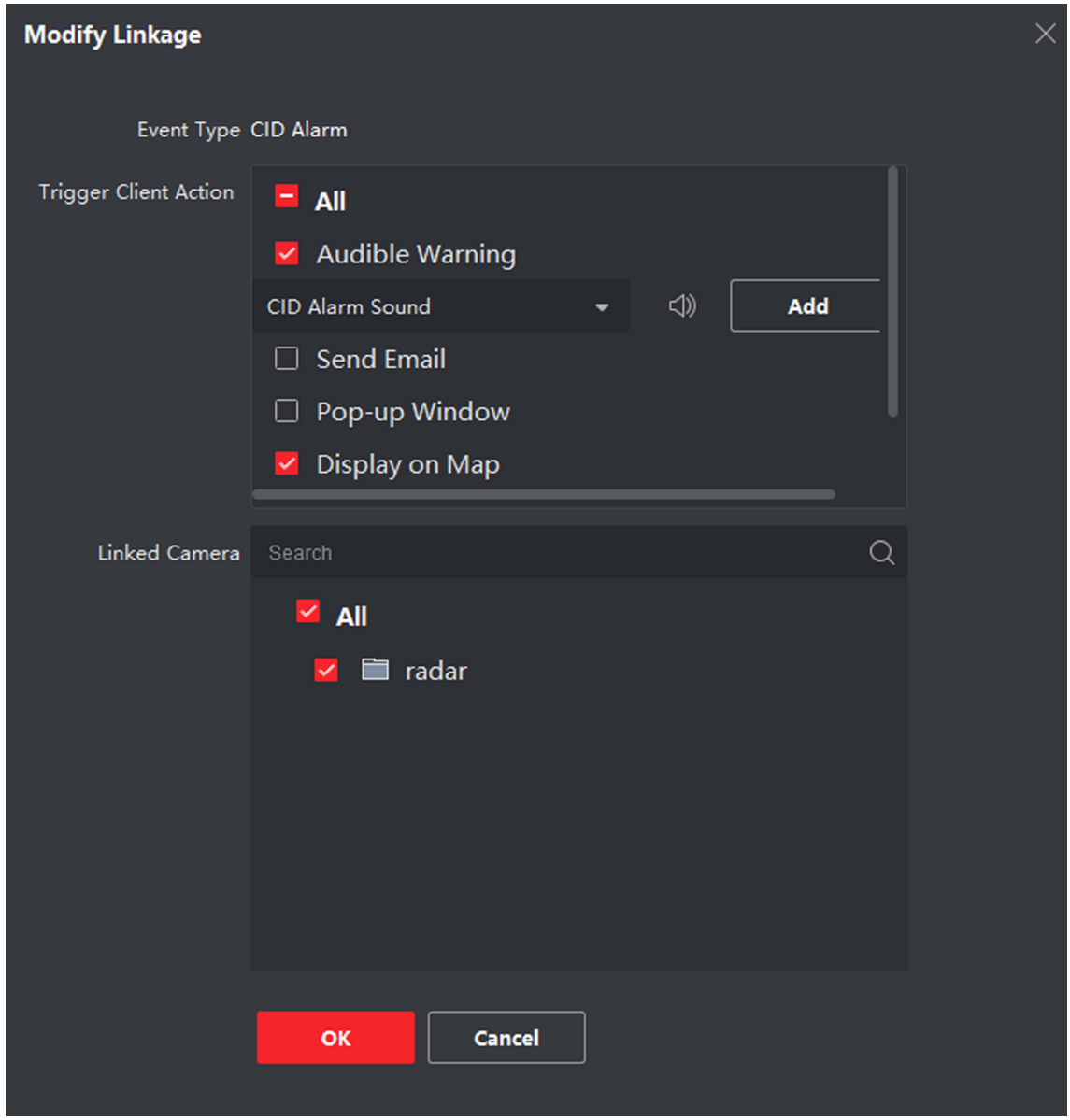


Figure 5-17 Link the Camera to the Zone

7. Click **OK**.

8. Optional: Check events, and click **Enable All** or **Disable All** to enable or disable the events.

5.6 Set Preset Point

When an alarm is triggered, the camera automatically rotate to a preset point. This function can be used without calibration.

Before You Start

A zone or trigger line is configured.

After setting the preset point, the camera will automatically rotate to the preset point when the trigger line or zone is triggered.

Steps

1. In the client software, click **E-map**.
2. In the upper-right corner of the page, click **Radar Configuration → Preset Point Settings** to enter the page.

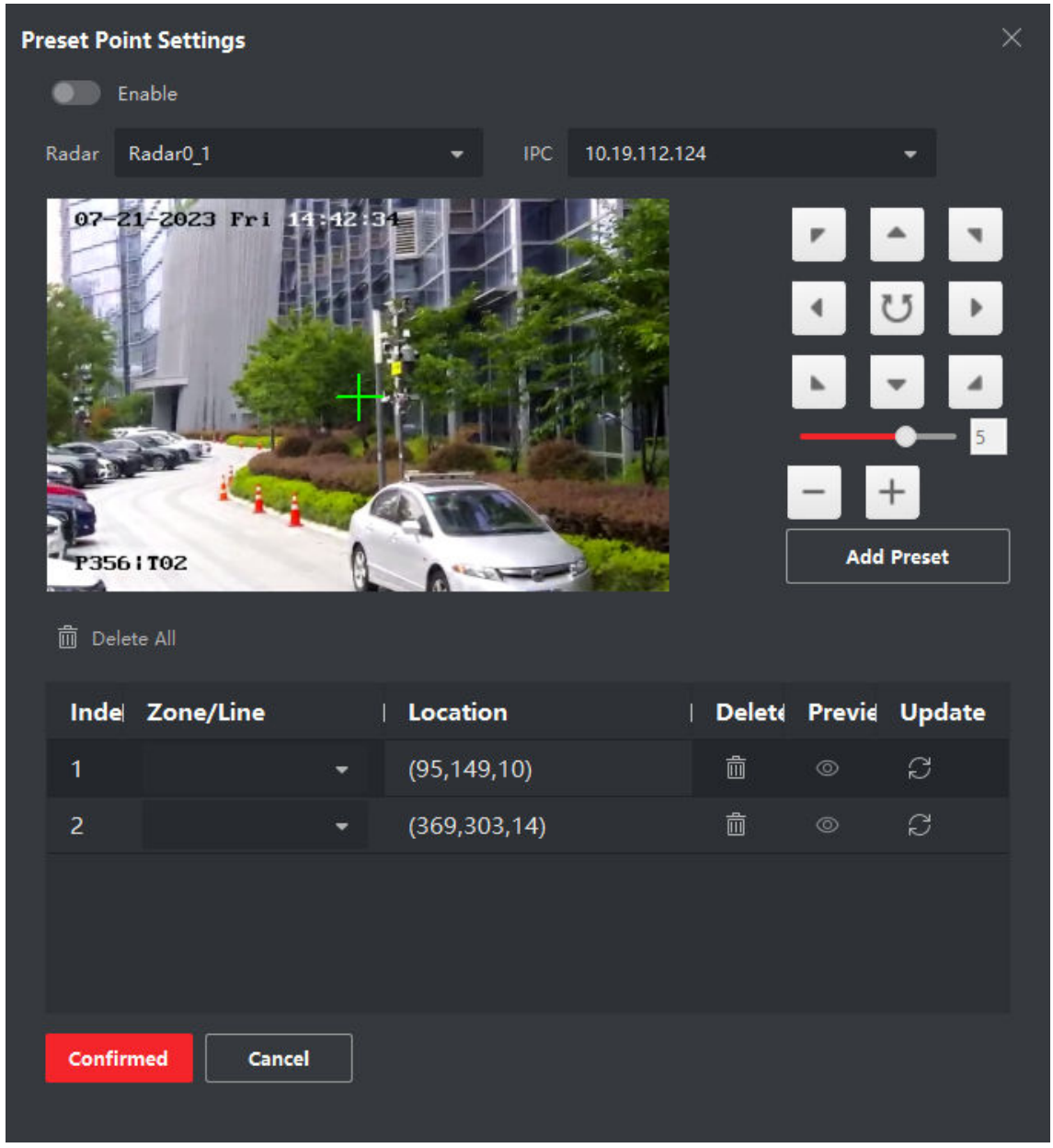


Figure 5-18 Preset Point Settings

3. Slide **Enable**.
4. Click **Add Preset**.
5. Select a radar and a linked camera in the drop-down list.
6. Select the trigger lines or zones in the list where you want to set a preset.
7. Use function buttons on the right to adjust the camera live view page center position (cross icon position) to the preset. You can also click on the live view page and the live view page will automatically adjust to the clicked center.

Operation	Description
Direction-control Button	Adjust the camera direction. Hold to move the camera direction continuously.
↻	Rotate the camera horizontally. Hold to continuously rotate the camera horizontally.
Bar	Adjust the rotation speed of the camera. 1 is the slowest and 7 is the fastest.
+/-	Zoom the live view page.

8. **Optional:** Edit preset.

Button	Description
Delete	Delete preset.
Live View	Rotate the camera to view the preset.
Update	Updates the preset coordinate to the current camera coordinate.

9. Click **Confirm**.

5.7 Pop-up Alarm Notification

Before You Start

- Link the camera to the zone.
- Add the camera, the NVR and the radar to the client software.
- You need to check **Pop-up Window** in the security control panel event page.

Steps

1. In the client software, click **E-map**.
2. Click ⌃ on the bottom of the page to show the alarm event list.
3. Click to enable alarm triggered pop-up image.
4. When the alarm is triggered, the client software will automatically pop up an alarm window.

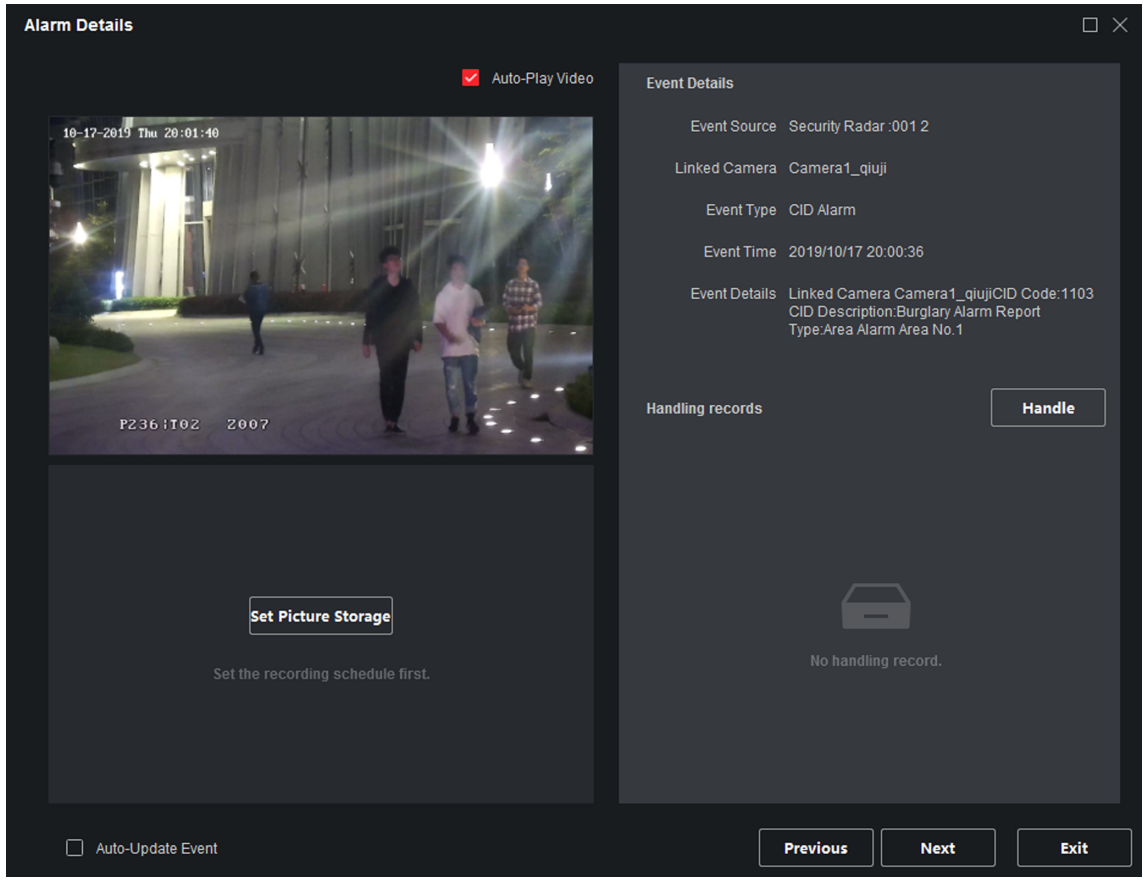


Figure 5-19 The Alarm Window

- Check **Auto-Update Event**, the window will automatically switch to the new alarm video and display the new alarm video in real time.
- Click **Previous** or **Next** to view unread alarm messages.
- Click **Exit** to exit the alarm window.

Note

- When the alarm window is not closed and the alarm is triggered again. You need to click **Next** to view the alarm triggered pop-up image.
- When the alarm window is closed and the alarm is triggered, an alarm triggered image will be pop up. If you do not clear the previous alarms, you can click **Previous**to view the alarm triggered pop-up image before.

5. **Optional:** Click to disable the alarm triggered pop-up window.

Note

For more details, see *User Manual of iVMS-4200 Client Software*.

Chapter 6 Record and Storage Settings

You can store videos by storage server or NVR. Select a kind of storage type according to actual needs.

6.1 Set Storage Schedule via Storage Server

If NVR or SD card are not used, you can enable the storage server.

Before You Start

Make sure your computer has already installed the **Storage Server** that should be selected as the component when installing client software. For details, see *User Manual of iVMS-4200 Client*.

Steps

1. In client software, click **Storage Schedule** to enter the page.
2. Select the camera in the camera list. Enable **Recording Schedule** and **Capture Schedule** in the storage on encoding device module.
3. Select a template in the drop-down list (**All-day Template**, **Weekday Template**, **Event Template**, etc.).
4. Click **Edit** or **Advanced Settings** to set the template.
5. Select a camera from the camera list, and select a storage server from the **Storage Server** drop-down list.
6. Enable **Recording Schedule** and set parameters.
7. Check the contents need to store in the storage on PC module.
8. Click **Save**.

Note

For more details, see *User Manual of iVMS-4200 Client SoftwareUser Manual of Guarding Vision Client Software*.

Result

After configuration, the camera will start recording according to the schedule, and save the recording videos in your PC.

6.2 Set Storage Schedule via NVR

After enabling NVR, the recording videos will stored in the NVR.

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser.
2. Click **Configuration → Smart Rule Settings → Camera Linkage Settings** .

Note

The NVR channel and the radar should be in the same gourp, or the playback function cannot be used.

3. Add NVR.
   - Add an NVR to an existing camera.

     Select an existing camera and click edit icon. Choose **Yes** in **Link to NVR?**. Enter NVR's IP address, port, and channel No. Click **OK**.
   - Add NVR when adding a camera.

     Click **+** in the camera IP list. Choose **Yes** in **Link to NVR?**. Enter NVR's IP address, port, and channel No. Click **OK**.

Result

The recording videos of the camera will be saved in the added NVR.

6.3 Format HDD

Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Storage → Storage Management** to enter the page.

Check an HDD and click **Format** on the upper-right corner of the page to format the HDD.

Auto-Initialize Redundant Storage

When exception occurred in the SD card, it will auto fomat before next rebooting.

Click**Save**.

Chapter 7 Smart Rule Settings

Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration** to enter the page.

7.1 Set Zone

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Alarm Module Parameters → Zone** to enter the page.
2. Select a zone and click . You can edit the zone name and the zone type.



Figure 7-1 Set Zone Parameters

3. Click **OK**.

7.2 Set Alarm Output

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Alarm Module Parameters → Relay** to enter the page.
2. Select an relay, and click . Edit the relay name and output time.

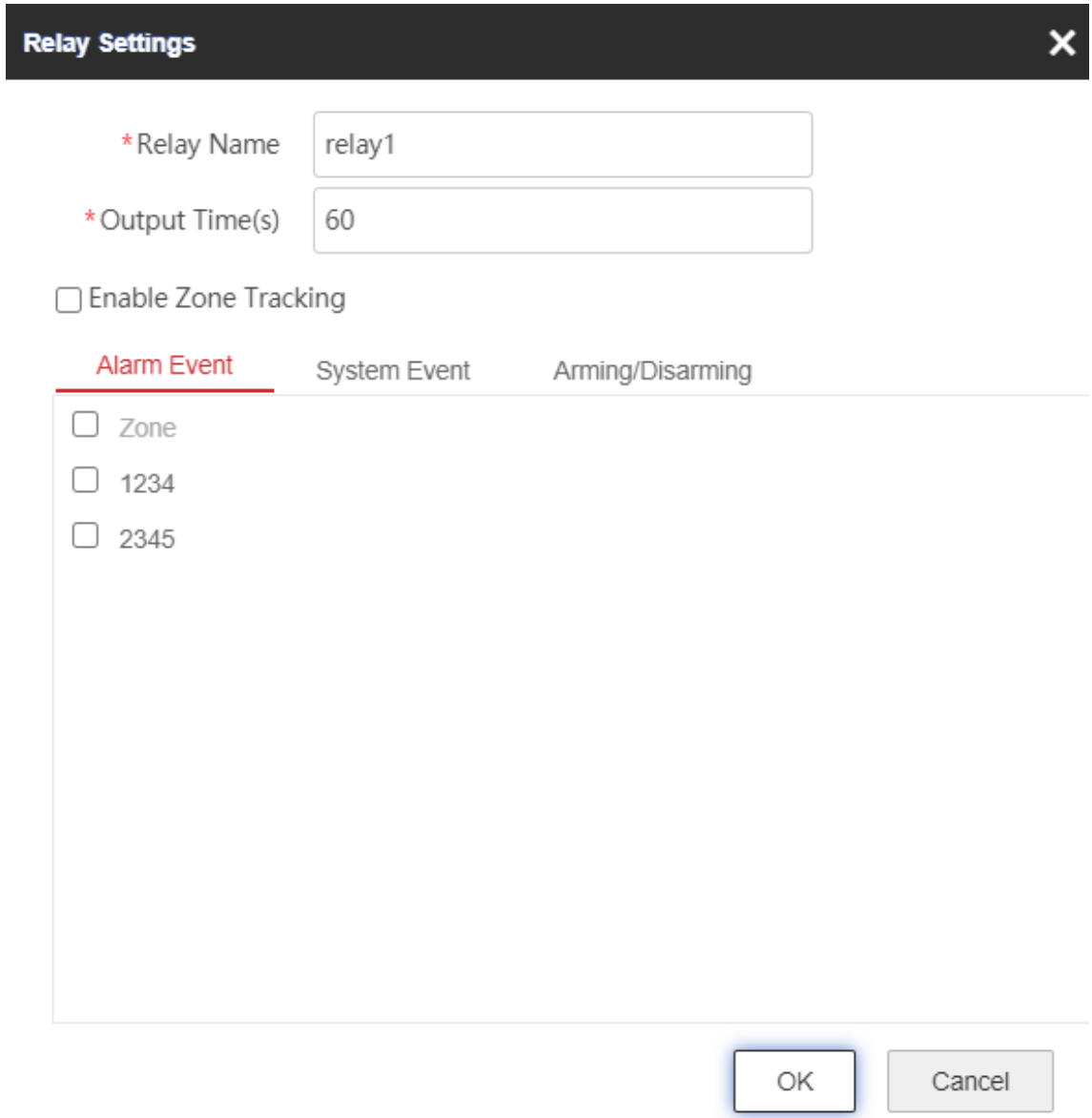


Figure 7-2 Set Relay Parameters

3. Set alarm output related parameters. Link the relay with zone and trigger line, alarm event, system event, and arming/disarming operation.
4. **Optional:** Check **Enable Zone Tracking**. When enabled, after the relay-linked zone is triggered by an alarm, the relay will remain open until the target exits the zone or the alarm is manually closed.

Note

After the zone tracking is turned on, if only the zone is selected in the alarm event, the relay output time is based on the time when the alarm triggered in the zone.

5. Click **OK**.

7.3 Set Target Tracking Strategy

Steps

1. In the **Configuration** page, click**Smart Rule Settings → Target Tracking Strategy** to enter the page.
2. Select a target tracking strategy in the drop-down list.

   Time Priority

   The target that enters the warning zone first is recorded until the target disappears, and then switches to the next target that triggers the alarm.

   Range Priority

   Record the target that has the shortest distance away from the radar.

   Multi-Target Auto Switch

   Switch the target automatically when there are multiple targets in the zone. You should set the switch Interval, and the switching order is from the smallest to the largest target number.

   Target Trigger Priority

   You need to set **Min. Tracking Time of New Target(s)** and **Polling Time(s)**.

   Automatically track the latest target and track the next new target after the set minimum tracking time ends. If there is no new target, the tracking target is switched according to the polling time according to the logic of automatic multi-target switching. The switching order is from the smallest to the largest target number.
3. Select a target tracking method in the drop-down list.

   Camera serial number

   Select the camera that linked with the radar.

   Target Tracking Method

   Controlled by Radar: Target tracking is controlled entirely by the radar by sending PTZ to the camera.

   Guided by Radar: After the radar detects the target, it controls the camera to the designated position, and then the camera automatically tracks the target according to the video screen. After that, the radar no longer controls the camera tracking, and the camera automatically tracks the target in the live video.

   Some cameras do not support the radar guidance function, and a pop-up window will display "The camera does not support radar guidance." during configuration.
4. Click **Save**.

7.4 Set Video Tracking Switch

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Smart Rule Settings → Video Tracking Switch Settings** to enter the page.
2. Check **Enable Mandatory Tracking**.
3. Set mandatory tracking time.

   Note

   Click the target in the radar detection area, the camera will mandatory track the target.
4. Click **Save**.

7.5 Camera Calibration

The all-in-one mounting plate mounted radar can calibrate according to this section. The camera enabled video content analysis can enable target tracking correction.

Before You Start

- The radar has linked a camera.
- The radar and the camera are installed with an all-in-one mounting plate.
- You should enable the video content analysis before enable target tracking correction.

Steps

1. Click **Configuration → Radar Settings → Radar Calibration → Integrated Installation Calibration**.
2. Select a camera No.
3. Enter installation height of the radar. The installation height is the vertical height of the camera to the measured surface.
4. Face the camera to the ruler, enlarge the screen, enable 3D positioning and click the center line of the ruler, and the center of the live view page will be automatically adjusted. Click **Get** to get the P value of scale plate center line.

   PTZ Installation

   For cameras installed with PTZ, you should check this option when calibrating.
5. Click**Save**.
6. Click **Target Tracking Correction**.
7. Select the camera where video content analysis is enabled and slide to enable **Target Tracking Auto-Correction**.

   Target Tracking Auto-Correction

   When enabled, the target will be in the best position in the video live view page. The camera automatically adjusts the lens to center the target. When the function is enabled, the device

will continue to adapt to the terrain in the live view page according to each judgment to achieve the best effect.

Sensitivity Auto-Correction

The higher the sensitivity, the faster the adjustment, but the less accurate.

Save Auto-Correction Data

Disabled by default. When enabled, the auto-corrected debug data and video data will be packaged and stored to the SD card.

8. Click**Save**.

7.6 Set Arming/Disarming Schedule

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Smart Rule Settings → Arming/Disarming Schedule** to enter the page.

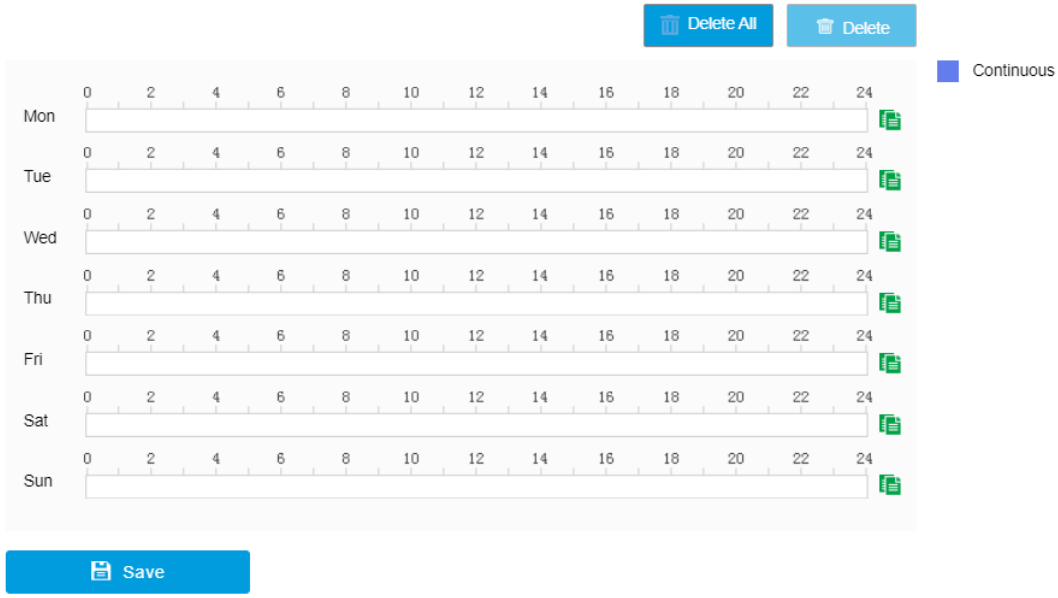


Figure 7-3 Set Arming/Disarming Schedule

2. Drag the mouse to draw the period bar on the time table, or click the period bar and enter the start and end time.

Note

You can set 2 arming/disarming periods each day.

3. Click**Save**to save.
4. **Optional:** Click **Delete** to delete a selected period. Click **Delete All** to delete all periods in the time table.

7.7 Set Motion Speed

Steps

1. Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Smart Rule Settings → Motion Speed** to enter the page.
2. Check **Motion Speed**.
3. Enter **Min. Speed Threshold(m/s)** and **Max. Speed Threshold(m/s)**.

   Note

   After enabled, only the target that move in set speed threshold will trigger the alarm.
4. Click **Save**.
5. Click **Overstay Alarm**.
6. Check **Enable Overstay Alarm**.
7. Set overstay alarm time.

   Note

   After enabled, targets that stay longer than the overstay time will trigger an alarm.
8. Click **Save**.

7.8 Alarm Input Settings

Steps

1. Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Smart Rule Settings → Alarm Input Settings** to enter the page.

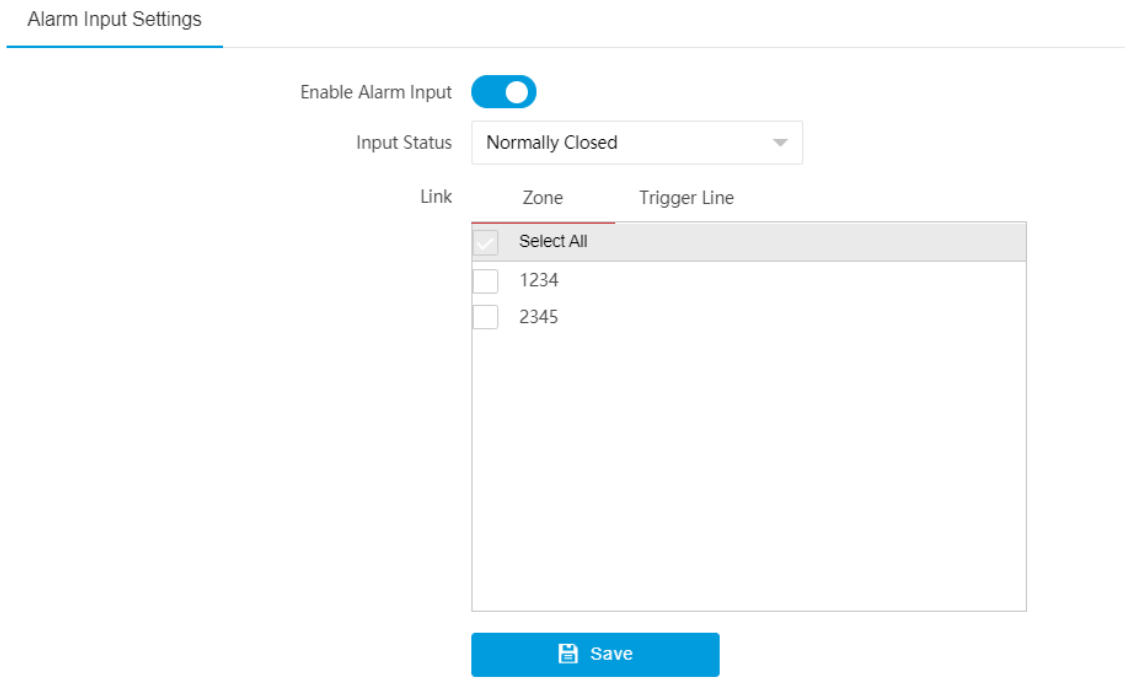


Figure 7-4 Alarm Input Settings

2. Slide **Enable Alarm Input**.
3. Select a **Input Status**.
4. Check zones and trigger line to be linked.

Note

After enabled, when there is an alarm input, the linked zone and trigger line will trigger an alarm.

5. Click **Save**.

7.9 Video Content Analysis

Smart analysis of the detection targets.

Before You Start

- Link and calibrate the camera (speed dome or PTZ). If the camera is a box camera, calibration is not required.
- Link the camera to the zone.
- Make sure the camera supports this function.

After video analysis is enabled, the similarity will be displayed when the target is detected. (The corresponding option should be selected.)

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Smart Rule Settings → Video Content Analysis** to enter the page.

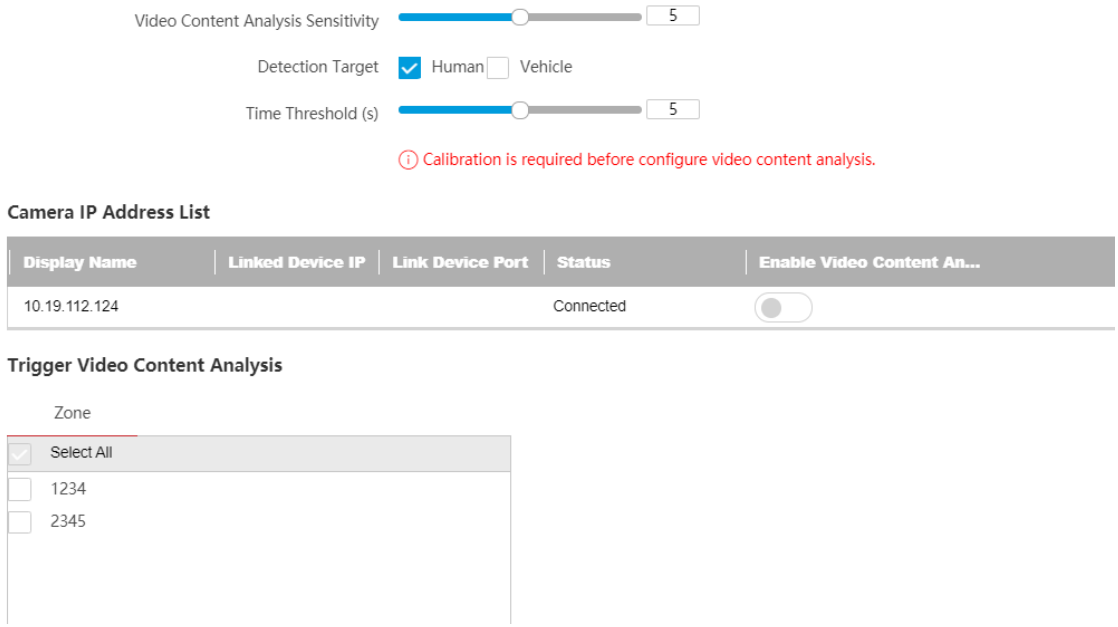


Figure 7-5 Video Content Analysis

2. Slide to set the video content analysis sensitivity and time thresholds.

   Video Content Analysis

   The sensitivity of detecting targets.

   Time Threshold (s)

   Radar analysis time, after which the target will be judged as other.

3. Check a detect target.
4. In the camera IP address list, enable the device that needs to use video content analysis.

   Note

   Only one video content analysis channel is supported.

5. Check the zones and trigger lines that will trigger the video content analysis.
6. Click**Save**.
7. Click **Smart Analysis Time Schedule** and draw the time period for device video content analysis.

   Note

   Outside the configured video content analysis's time schedule, alarm will be triggered according to the logic that does not enable the video content analysis, that is, all targets that trigger the zones will be alarmed.

7.10 Capture Settings

Capture pictures when an alarm is triggered.

Note

- You should calibrate the radar first.
- In **Configuration → Smart Rule Settings → Target Tracking Strategy**, configure the target tracking strategy as **Target Trigger Priority**.

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Smart Rule Settings → Capture Settings**. Enable **Alarm-Linked Capture**.

Set captured pictures' format, resolution, quality, interval, and number.

Note

- When you want to capture multiple pictures for a single target, you can set **Interval** for every two pictures.
- Total Capture Time = Interval × (Captured Number - 1) The total capture time is recommended to be less th**Min. Tracking Time of New Target(s)** (**Smart Rule Settings → Target Tracking Strategy**), otherwise when the radar switches targets, if pictures are not completely captured, the capture will be stopped and only the captured pictures will be uploaded.

Chapter 8 Set Radar Advanced Function

8.1 Target Detection Settings

Depending on different radar modules and models, the configuration parameters in expert mode are different. Configure them as needed.

Steps

1. Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Radar Settings → Target Detection Settings** to enter the page.
2. Select a scene mode.

Open Mode

There are no large objects in the radar detection area.

Shrub Mode

There are shrubs and other objects that are likely to swing in the radar detection area. The shrub mode can also used to decrease the interference of rainstorm.

Expert Mode

Frame Sensitivity

Detect track's continuity, that is, how many frames the target needs to detect continuously before it is reported. The higher the sensitivity, the easier it is to detect the target.

Swing Sensitivity

It is mainly used to filter false alarms caused by weeds and trees shaking. The target that swings a certain distance within the configured frame number will be detected by the radar, and the higher the sensitivity, the easier it is to detect a target with a small shaking amplitude.

Signal Sensitivity

It is the threshold for target detection. The higher the sensitivity, the smaller the threshold and the easier it is to detect the target. When the ambient noise is large, the sensitivity can be reduced to reduce the interference received by the radar.

Speed Sensitivity

Used to filter out false alarms generated by low-speed targets. The higher the sensitivity, the easier it is to detect low-speed targets.

Suggestion: Empty Scene 8 to 9; low-speed targets such as a small number of shrubs 7; Large area of trees 5 to 6, river scene, high wind 1 to 4.

Anti-interference Sensitivity

It is used when there is overlap in radar through-beam or multi-radar detection areas. 0 means disabled. The greater the sensitivity, the stronger the anti-interference ability.

Dwell Time(s)

If the target stands still after being detected, it will disappear after the set dwell time.

Debugging Mode

After it is enabled, the number of targets detected by the radar, target speed, position and other information will be superimposed into the stream, which is mainly used for device debugging and maintenance.

3. Click **Save**.
4. **Optional:** Click **Restore Default** to restore the configuration to the default.

8.2 Set Frequency Range

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Smart Rule Settings → Frequency Range Settings** to enter the page.

The radar supports multiple frequency bands, you can select one according to needs. Click **Save**.

Note

- When multiple radars cover the same area, co-frequency interference can be reduced by setting different frequency bands.
- Try to avoid overlapping radar detection areas.

8.3 Set Panorama Tracking

If the radar need multiple-radar linkage, you can arrange multiple radars for linkage detection and configure the radar main-sub relationship.

Before You Start

There are at least 2 online radars.

Steps

1. Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Smart Rule Settings → Panorama Tracking Settings** to enter the page.
2. Set the radar type and parameters.
   - If the current radar is set as main radar, you can add, edit, delete the sub radar, and set the sub radar priority.
   - If the current radar is set as sub radar, you need to set the main radar IP address.

Note

You need to ensure that the port No. set for the sub radar is the same as the main radar.

Result

When the target is appear on the radar, the target information to be tracked is sent to the main radar, and the main radar arranges linked cameras to track the target according to the set radar priority.

8.4 Array Settings

Set the communication parameters between the radar module and the main board. After the communication parameters are configured, the radar module and the main board can communicate properly.

Note

Parts of the products support reading the parameters only.

Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Smart Rule Settings → Array Settings** to enter the page.

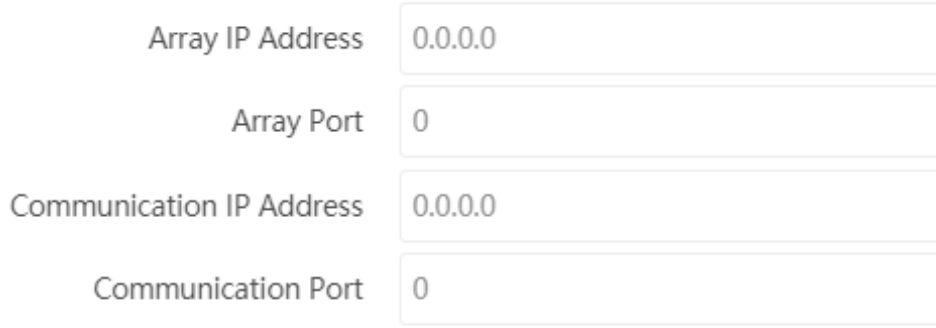


Figure 8-1 Array Settings

Enter **Array IP Address**, **Array Port**, **Communication IP Address**, and **Communication Port**.

Chapter 9 Detection Display Settings

9.1 Set Detection Angle and Range

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Detection Display Settings → Detection Angle and Range** to enter the page.
2. Slide the bar to set the radar angle, radar rotation angle and set the detection range.

   Note

   The system should perform terrain learning again after you edit the angle or the rotation angle.
3. Click **Save**.

9.2 Track Settings

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Detection Display Settings → Track Settings** to enter the page.

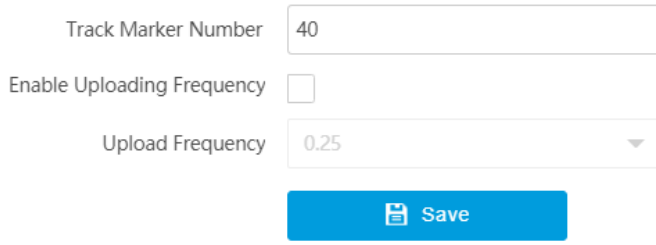


Figure 9-1 Track Settings

2. Enter **Track Marker Number**. Edit the track marker number to control the track length. The default is 40.
3. Check **Enable Uploading Frequency**. If enabled, the upload frequency should be configured.
4. Click**Save**.

9.3 Radar Calibration Settings

Configure the radar latitude and longitude and orientation.

Steps

1. Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → Detection Display Settings → Radar Coordinate Settings** to enter the page.
2. Configure the radar **Longitude(deg)** and **Latitude(deg)**, and **Radar Orientation(deg)**.

Note

- The radar orientation is the clockwise angle between the true north direction and the radar centerline. You can place your phone on the back of the radar and use the compass-functional App to get this angle.
- The radar coordinates are related to the actual installation of the radar, please fill in truthfully.

3. Click**Save**.

Chapter 10 View Alarm Information

The device supports alarm information query and alarm event playback.

Before You Start

Record and storage settings are required before searching and playing back alarm events. For details, see *Set Record and Storage Settings.*

Steps

1. In the client software, click **E-map**.
2. Click **Finish** to exit the editing mode.
3. Click on the radar icon that needs to view, and click **Event**.
4. Select the date, and then click **Search**. Double-click an alarm event in the result list. The windows of radar track playback screen and video playback of the selected alarm event will pop up.

Note

The actual radar detecting area varies according to different radar model.

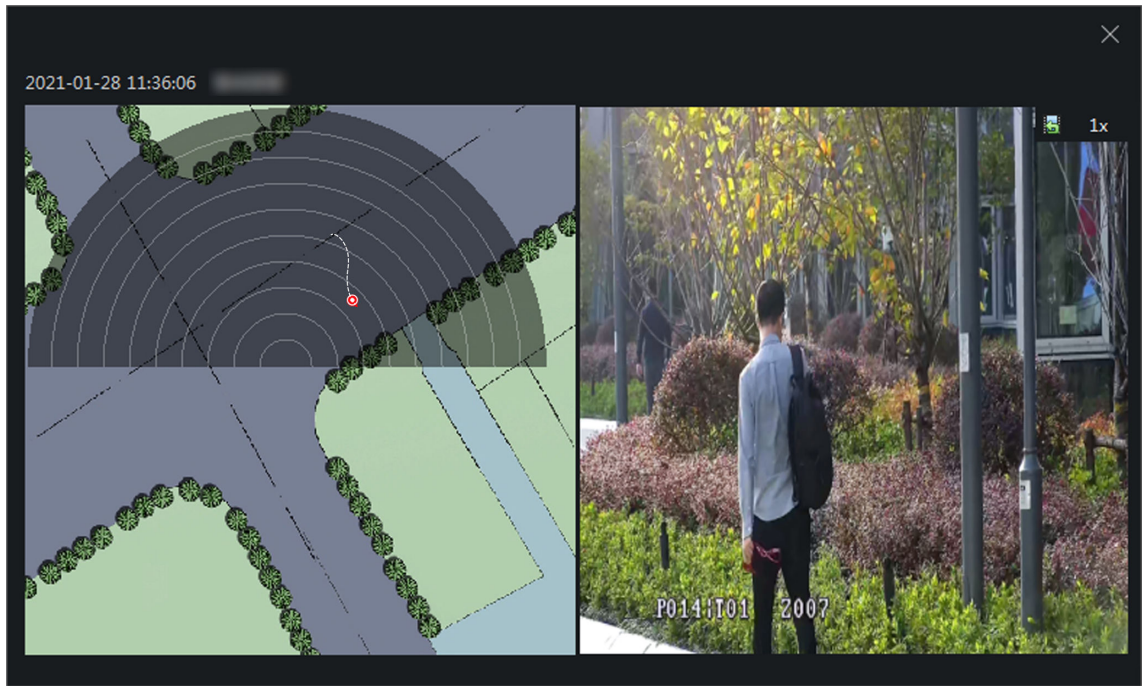


Figure 10-1 Live View and Playback of Alarm

Chapter 11 System Configuration

11.1 System Settings

View the device information, device status, set time synchronization, and so on.

Basic Information

Select the radar in the client software and click ⚙, or enter the IP address of the radar in the address bar of the web browser. Tap **Configuration → System → System Settings → Basic Information** to enter the page.
You can edit **Device Name** and **Device No.**. View the device's model, serial No., version, etc.

Device Status

Select the radar in the client software and click ⚙, or enter the IP address of the radar in the address bar of the web browser. Tap **Configuration → System → System Settings → Device Status** to enter the page.
You can view the device status, including device IP address, CPU usage, used memory, available memory, etc.

Time Settings

Select the radar in the client software and click ⚙, or enter the IP address of the radar in the address bar of the web browser. Tap **Configuration → System → System Settings → Time Settings** to enter the page.
Select a Sync mode.

NTP Synchronization

After settings the server IP, the system's time will be synchronized with the server's.

Manual Synchronization

Enter the time manually or check **Sync. with computer time** to synchronize time manually.

No

The device automatically calculates the time and does not synchronize.

All

Reserved. The synchronization attached to other protocols will automatically take effect.

DST

Select the radar in the client software and click ⚙, or enter the IP address of the radar in the address bar of the web browser. Tap **Configuration → System → System Settings → DST** to enter the page.
You can enable the DST function, set the DST start time, end time, bias. Click **Save**.

11.2 System Maintenance

You can reboot the device, restore default settings, import/export configuration file, or upgrade the device remotely.

System Maintenance

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Tap **Configuration → System → Upgrade & Maintenance** to enter the page.

Reboot

Click **Reboot** to reboot the device.

Restore

Click **Restore** to restore all parameters except for admin user information, wired network, Wi-Fi network, detector information, and peripheral information to default ones.

Restore Factory Settings

Click **Restore Factory Settings** to restore all parameters to the factory settings.

Data Export

Click **Export** and you can export the device configuration parameters, debug file, diagnosis information to the PC. Exporting parameters requires a password for file encryption.

Upgrade

Click **Browse** and select an upgrade file from the PC and click **Upgrade** to upgrade the device remotely.

Caution

Do not power off or refresh the page when the device is upgrading. The device will reboot automatically after upgrading is completed.

Data Import

Click **Browse** to select a configuration file from the PC and click **Import** to import configuration parameters to the device. Importing configuration file requires entering the password set at the time of exporting.

Caution

The device that imports the configuration file needs to match the model and version of the device from which the configuration file is exported.

Search Log

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Tap **Configuration → System → Maintenance → Log Search** to enter the page.
Select log type and time, and click **Search** to get the log list.

11.3 Security Management

Security Service

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → System → Security → Security Service** to enter the page.

Software

Enable User Lock

After a user enters an incorrect password for more than 5 times when logging in, the account will be locked.

SSH Service

If enabled, you should set the SSH port.

Timeout Logout

Slide **Enable Timeout Logout for Static Page**. if there is no operation in the configured Max. timeout value, the account will log out automatically.

Password Validity Period

Configure the validity period of the radar password to **Permanent** or**Daily**, if you select **Daily**, you can set **Password Expiry Time (Day)**. After the set number of days, the password expires and you need to reset the password.

Security Settings

Select the radar and click ⚙ in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Configuration → System → Security → Security Settings** to enter the page.
Select RTSP authentication.

11.4 Manage User

The radar product support one admin account and it cannot be deleted.

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **ConfigurationSystem → User Management** to enter the page.
2. Click **Add** to add operator or user. Set user name, password, and permission. Enter the admin password to add the new user.
3. Click to exit the user information, including change password and permission range.
4. **Optional:** Change **Password Level** to limit user password strength.

Appendix A. Indicator Description

The indicator status description of the radar:

Table A-1 Indicator Description

Indicator	Radar Status
Solid Green	Radar Powered on
Solid Red	Zone Alarm Occurred
Flashing Red and Green	Radar Network Disconnection/Radar Sensor Exception When formatting, the red and green LED flashes for 6 times, indicating that the formatting was successful.

Appendix B. FAQ

B.1 Why Is It Required to Remove Reflective Objects from the Radar Area?

When there are reflective objects in the radar application scene, such as flat glass or large-area metal objects, the radar will produce multipath effects, that is, the people reflect the signal from the radar to the large-area metal objects or flat glasses, and the large-area metal objects or flat glasses reflect the signal again to the receiving end of the radar, thus there will be a false alarm. Since the glasses are flat and the reflection is concentrated, there may be a false alarm when there are glasses in the radar scene. The higher the sensitivity, the more probability to trigger a false alarm.

B.2 How to Solve the Problem that the Radar is not Shown in the Device List on the Radar Page?

When the radar is adding failed or the radar's port is incorrect, you cannot find the radar in the device list.

You should delete the radar and add it to the client software again.

Note

The radar's port is 80.

B.3 How to Solve the Problem that No Reference Point is on the Frame While Setting the Speed Dome Initial Position?

If the speed dome is tilted, it may cause that the reference point is above the center of the frame or outside the frame while setting the speed dome initial position. In this case, you should adjust the maximum elevation angle of the speed dome as follows.

Steps

1. Enter the IP address of the speed dome in the web browser to enter the web client.
2. Click to expand the PTZ list on the Live View page, and then click to enter the main menu of the speed dome.

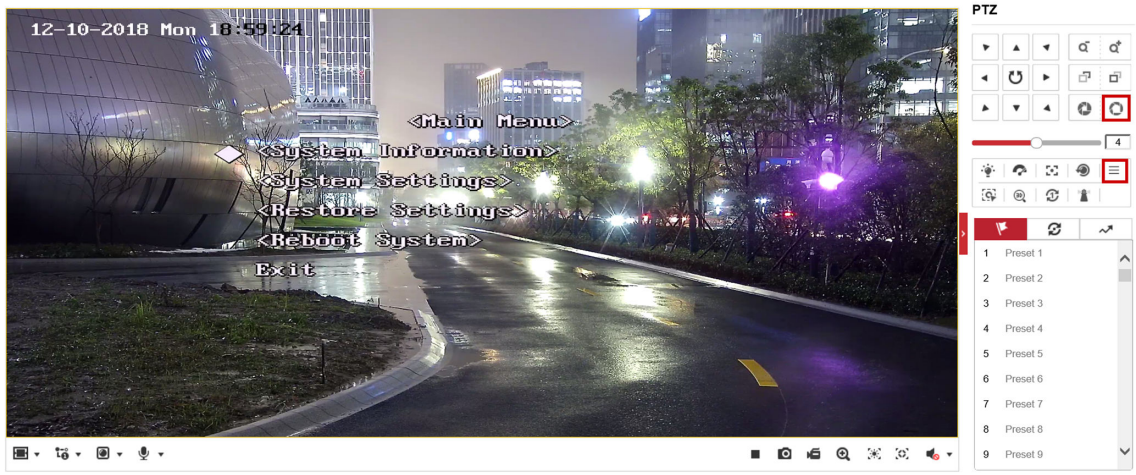


Figure B-1 The Main Menu of Speed Dome

Note

You can adjust the cursor for menu selection by clicking the up and down direction keys in the PTZ list, and click to enter the selected item.

3. Adjust the cursor to **System Settings** in the main menu and click . And then adjust the cursor to Motion and click to enter the page.



Figure B-2 Motion

4. Adjust the cursor to **Next Page** in the sport mode menu and click . And then adjust the cursor to **Max Ele Angle (DEG)** and click to enter the page.

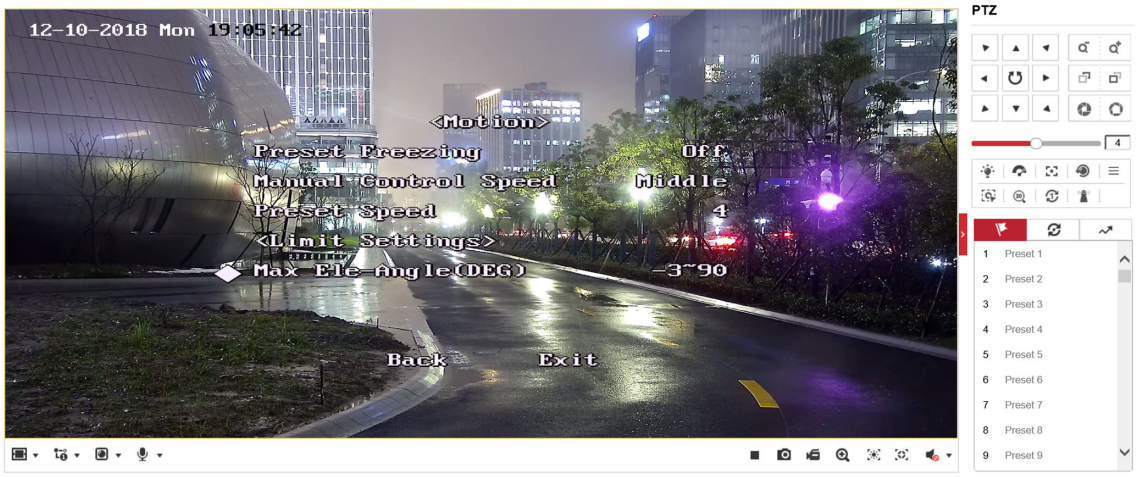


Figure B-3 Maximum Elevation Angle Adjustment

5. Click up and down direction keys in the PTZ list to adjust the maximum elevation angle, and then you need to click to save the settings.
6. Adjust the cursor to **Exit** to exit the menu.

Note

You need to reset the speed dome initial position after the maximum elevation angle adjustment.

B.4 What Makes a Failed Arming?

The following two conditions will make a failed arming:

- In the E-Map page, click **Finish** to exit the editing mode. If there is a moving target in the warning zone when you click **Arm Radar → Arm All Radars** to arm radars, it is impossible to enable mandatory arming, resulting in failed arming.
- The current status of radar is offline.

B.5 How to Raise the Precision of Camera Tracking?

- Check if the speed dome initial position is set, if not, please set the speed dome initial position.
- Check if the calibration points are correct. Pay attention to the situation that the target is intercepted when calibrating. If the calibration points are error, please calibrate again.
- Check if the calibration positions is equally distributed when you set the multi-point calibration.
- Do not move the speed dome manually after the calibration. If the speed dome is manually moved, please reset the initial position of the speed dome and then calibrate again.

B.6 How to View the Completed Calibration Points?

Before You Start

Camera calibration was performed and calibration points were successfully saved.

Steps

1. In the client software, click **E-map** to enter the map page, click **Edit** in the upper right corner to enter the editing mode.
2. Click **Radar Settings → Smart Linkage Settings** to enter the calibration page.
3. Select a radar in the drop-down list.
4. Click **Information** to view the calibration inforamtion.

B.7 What Should I Do if the Communication Failure is Displayed When Configuring the Frequency?

If "Radar module communication failed" is displayed when saving the settings, click **Save** for several times until the settings is successful.


See Far, Go Further