HIKVISION

Security Radar

User Manual

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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.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠ **Danger**	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
⚠ **Caution**	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
ℹ **Note**	Provides additional information to emphasize or supplement important points of the main text.

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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.

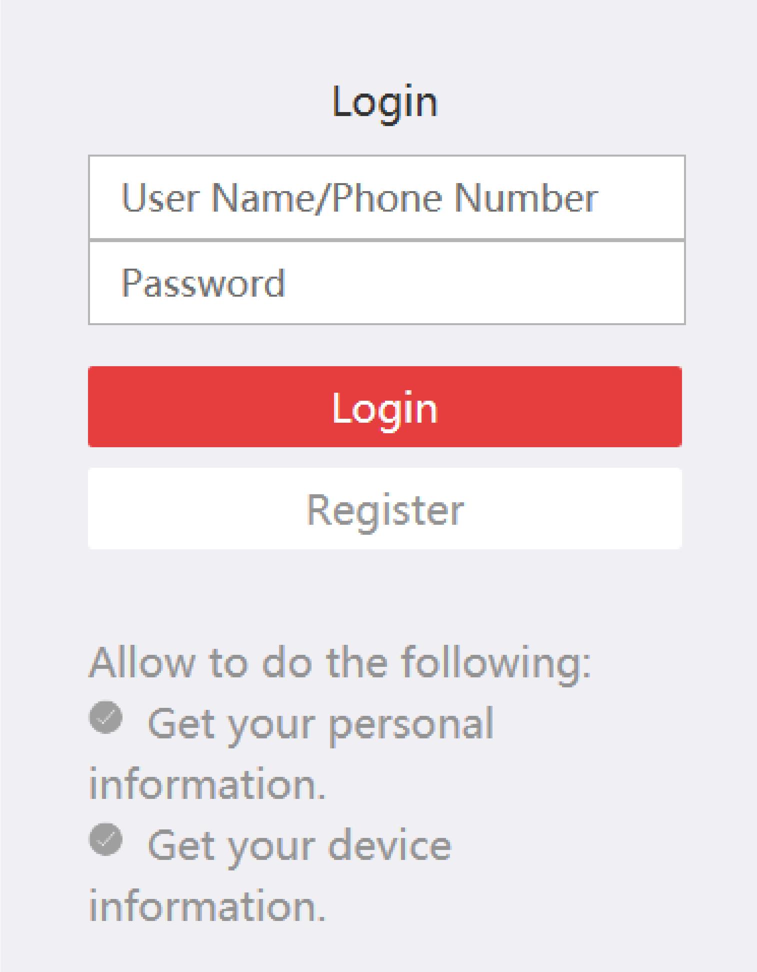
2.1 Activate Device via Client Software

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 Not Log... and log in the Cloud account.


Login

User Name/Phone Number

Password

Login

Register

Allow to do the following:

✓ Get your personal information.

✓ Get your device information.

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.

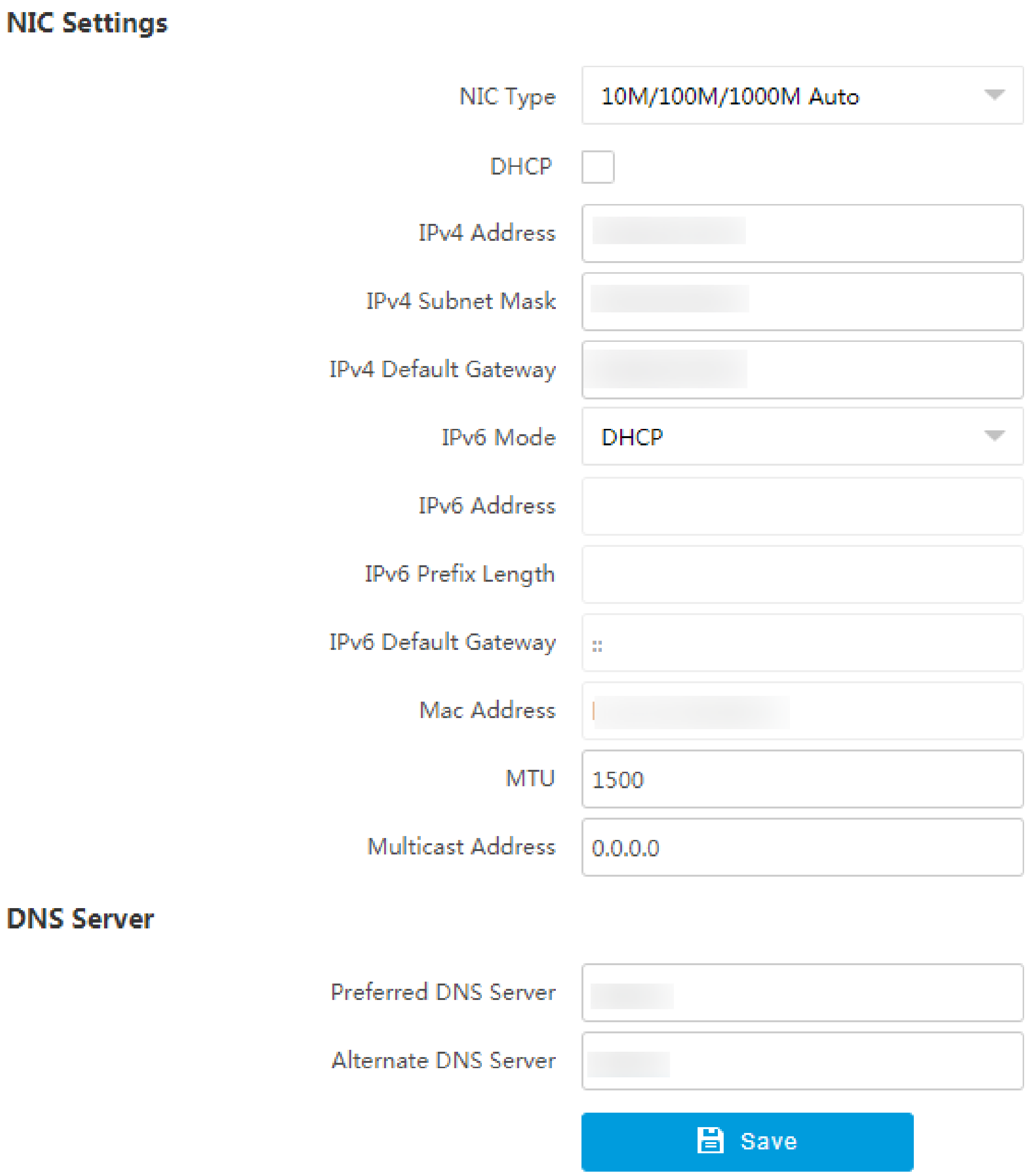
3.1 Network Parameters Settings

3.1.1 Set IP Address

IP address must be properly configured before you operate the device over network. IPv4 and IPv6 are both supported. Both versions can be configured simultaneously without conflicting to each other.

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. Go to **Configuration → Network → Network Parameters → Network Interface** .



NIC Settings

NIC Type: 10M/100M/1000M Auto

DHCP: ☐

IPv4 Address: [redacted]

IPv4 Subnet Mask: [redacted]

IPv4 Default Gateway: [redacted]

IPv6 Mode: DHCP

IPv6 Address:

IPv6 Prefix Length:

IPv6 Default Gateway: ::

Mac Address: [redacted]

MTU: 1500

Multicast Address: 0.0.0.0

DNS Server

Preferred DNS Server: [redacted]

Alternate DNS Server: [redacted]

Figure 3-1 Set IP Address

2. Set network parameters.

   NIC Type

   Select a NIC (Network Interface Card) type according to your network condition.

   IPv4

   Two modes are available.

   DHCP

The device automatically gets the IP parameters from the network if you check **DHCP**. The device IP address is changed after enabling the function. You can use SADP to get the device IP address.

Note

The network that the device is connected to should support DHCP (Dynamic Host Configuration Protocol).

Manual

You can set the device IP parameters manually. Enter **IPv4 Address**, **IPv4 Subnet Mask**, and **IPv4 Default Gateway**.

IPv6

Three IPv6 modes are available.

Route Advertisement

The IPv6 address is generated by combining the route advertisement and the device Mac address.

Note

Route advertisement mode requires the support from the router that the device is connected to.

DHCP

The IPv6 address is assigned by the server, router, or gateway.

Manual

Enter **IPv6 Address**, **IPv6 Subnet Mask**, and **IPv6 Default Gateway**. Consult the network administrator for required information.

MTU

It stands for maximum transmission unit. It is the size of the largest protocol data unit that can be communicated in a single network layer transaction.

The valid value range of MTU is 1280 to 1500.

Multicast Address

Multicast is group communication where data transmission is addressed to a group of destination devices simultaneously. After setting the IP address of the multicast host, you can send the source data efficiently to multiple receivers.

DNS

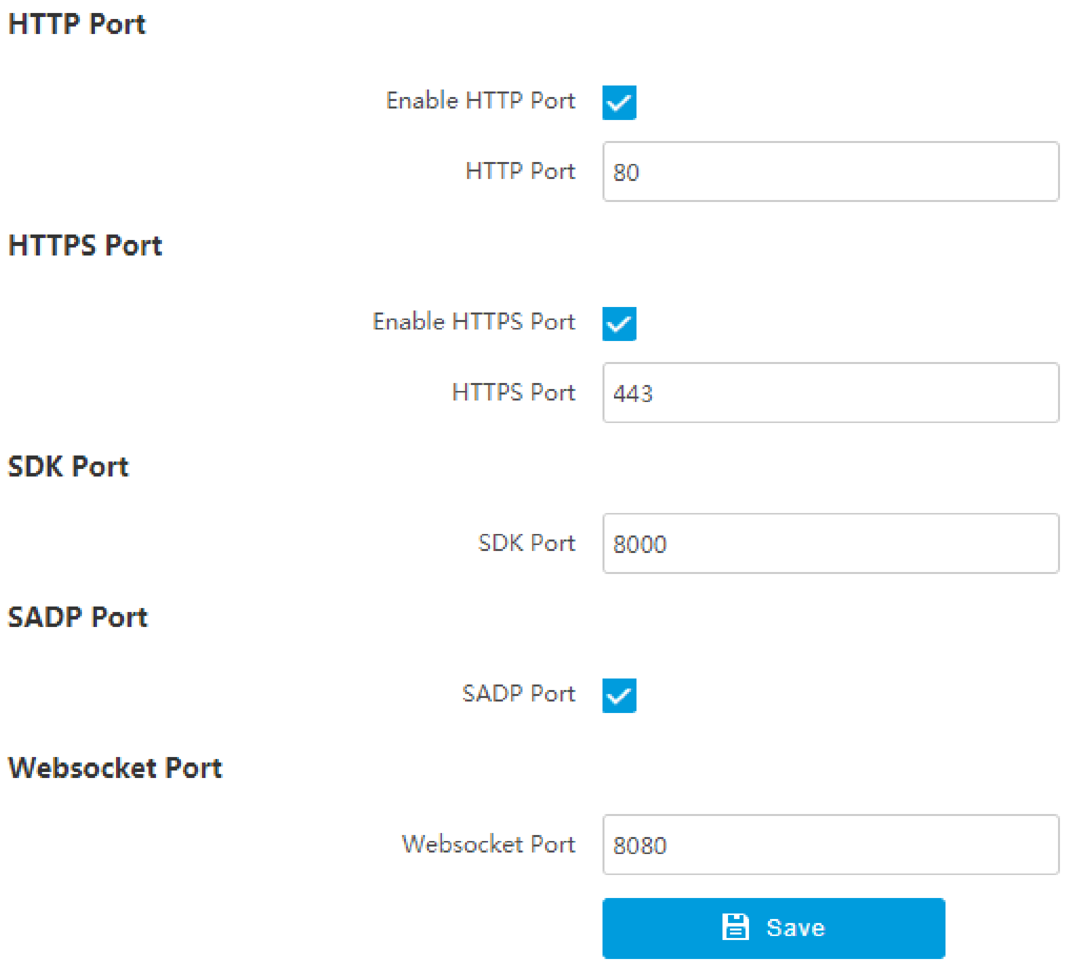
It stands for domain name server. It is required if you need to visit the device with domain name. And it is also required for some applications (e.g., sending email). Set **Preferred DNS Server** and **Alternate DNS Server** properly if needed.

3. Click **Save**.

3.1.2 Set Port

The device port can be modified when the device cannot access the network due to port conflicts.

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. Go to **Configuration → Network → Network Parameters → Port** .



HTTP Port

Enable HTTP Port ☑

HTTP Port: 80

HTTPS Port

Enable HTTPS Port ☑

HTTPS Port: 443

SDK Port

SDK Port: 8000

SADP Port

SADP Port ☑

Websocket Port

Websocket Port: 8080

Figure 3-2 Set Port

HTTP Port

It refers to the port through which the browser accesses the device. For example, when the **HTTP Port** is modified to 81, you need to enter ***http://192.168.1.64:81*** in the browser for login.

HTTPS Port

It refers to the port through which the browser accesses the device, but certificate verification is needed.

SDK Port

It refers to the port through which the client adds the device.

SADP Port

It refers to the port through which the SADP software searches the device.

Websocket Port

It refers to the port that the device uses to access via the web browser. It ranges from 2 to 65534.

Note

- After editing the port, access to the device via the new port.
- Reboot the device to bring the new settings into effect.
- The supported ports vary with different models. The actual device prevails.

3.1.3 Set HTTPS

Install Authorized Certificate

If the demand for external access security is high, you can create and install authorized certificate via HTTPS protocol to ensure the data transmission security.

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. Go to **Configuration → Network → Network Parameters → HTTPS** .
2. Select **Create certificate request first and continue the installation**.
3. Click **Create**.
4. Follow the prompt to enter **Country/Region**, **Domain/IP**, **Validity**, and other parameters.
5. Click **Download** to download the certificate request and submit it to the trusted authority for signature.
6. Import certificate to the device.
   - Select **Signed certificate is available, start the installation directly**. Click **Browse** and **Install** to import the certificate to the device.
   - Select **Create the certificate request first and continue the installation**. Click **Browse** and **Install** to import the certificate to the device.
7. Click **Save**.

Create and Install Self-signed Certificate

HTTPS is a network protocol that enables encrypted transmission and identity authentication, which improves the security of remote access.

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. Go to **Configuration → Network → Network Parameters → HTTPS** .
2. Select **Create Self-signed Certificate**.
3. Click **Create**.
4. Follow the prompt to enter **Country/Region**, **Domain/IP**, **Validity**, and other parameters.
5. Click **OK**.

Result

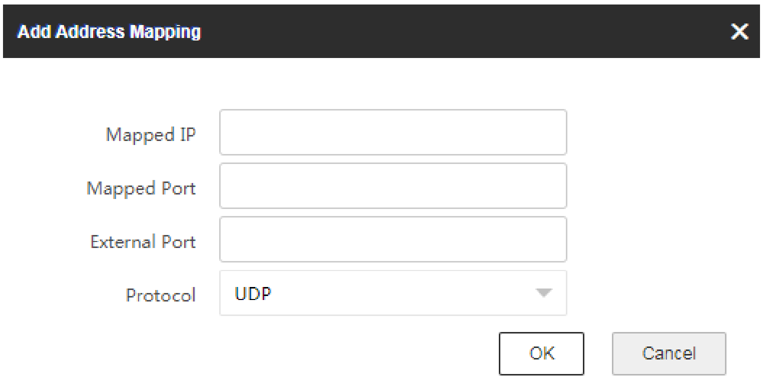
The device will install the self-signed certificate by default.

3.1.4 Set Address Mapping

The 2 network interfaces 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.

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. Go to **Configuration → Network → Network Parameters → Address Mapping** .
2. Click **Add Mapping Rule**.



Add Address Mapping

Mapped IP

Mapped Port

External Port

Protocol: UDP

Figure 3-3 Add Address Mapping

3. Set the parameters, and click **OK**.

   Mapped IP

   The IP address of the internal radar module (array).

   Mapped Port

   The port of the internal radar module (array).

External Port

The port of the external control board (the device).

Protocol

Select the network transmission protocol according to the actual needs. **TCP** ensures complete delivery of streaming data and better video quality, but the real-time transmission will be affected. **UDP** provides real-time audio and video streams.

4. Slide to enable the added address mapping.
5. **Optional:** The other operations.

Edit address mapping	Click ✎ to edit the address mapping information.
Delete address mapping	Click 🗑 to delete the single address mapping. Or check the address mappings to be deleted, and click **Delete** to delete them.

3.2 Data Connection

3.2.1 Connect to ISUP Platform

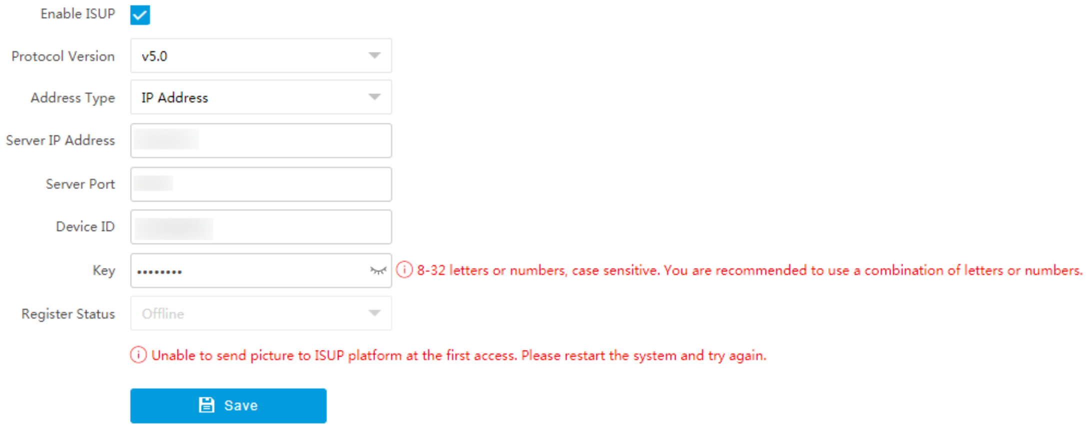
ISUP is a platform access protocol. The device can be remotely accessed via this platform.

Before You Start

- Create the device ID on ISUP platform.
- Ensure the device can communicate with the platform normally.

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. Go to **Configuration → Network → Data Connection → ISUP** .
2. Check **Enable ISUP**.



Enable ISUP ☑
Protocol Version: v5.0
Address Type: IP Address
Server IP Address
Server Port
Device ID
Key: ••••••••
ⓘ 8-32 letters or numbers, case sensitive. You are recommended to use a combination of letters or numbers.
Register Status: Offline
ⓘ Unable to send picture to ISUP platform at the first access. Please restart the system and try again.

Figure 3-4 Connect to ISUP Platform

3. Select **Protocol Version**.
4. Select **Address Type**.
5. Enter **Sever IP Address/Server Domain Name**, **Server Port**, and **Device ID**.

Note

The device ID should be the same with the one created via the platform.

6. Enter **Key**.
7. Click **Save**.
8. **Optional:** View **Register Status**.

Note

After the device is added successfully on the ISUP platform, the registration status will show online. Refer to the platform user manual for details.

3.2.2 Connect to OTAP Platform

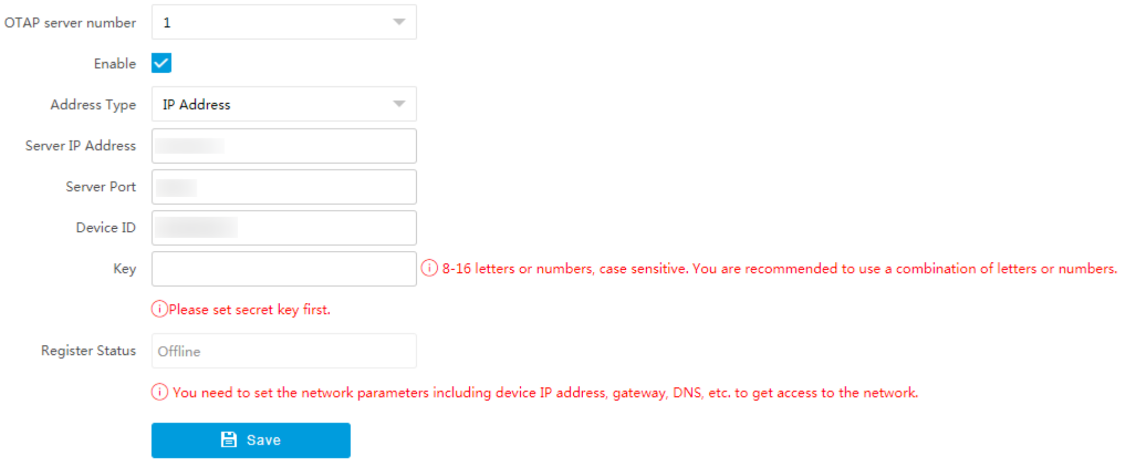
The device can be accessed to the maintenance platform via OTAP protocol, in order to search and acquire device information.

Before You Start

- Ensure the device can communicate with the platform normally.
- Disable the other platforms conflicted with OTAP.

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. Go to **Configuration → Network → Data Connection → OTAP** .
2. Check **Enable**.



OTAP server number	1
Enable	☑
Address Type	IP Address
Server IP Address	[redacted]
Server Port	[redacted]
Device ID	[redacted]
Key	ⓘ 8-16 letters or numbers, case sensitive. You are recommended to use a combination of letters or numbers. ⓘPlease set secret key first.
Register Status	Offline ⓘ You need to set the network parameters including device IP address, gateway, DNS, etc. to get access to the network.

Figure 3-5 Connect to OTAP

3. Set corresponding parameters.

Note

The device ID should be the same with the added one on the OTAP platform.

4. Click **Save**.

What to do next

When the registration status is online, you can add or manage the device via the platform software. Refer to its corresponding manual for details.

Chapter 4 Radar Settings

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

4.1 Radar Settings via Web Browser

Edit maps, radars, zones, and trigger lines via web browser.

Note

- You will be automatically logged out if you stay in the live view page for 2 hours without any operation.
- You will be automatically logged out if you stay in the configuration page for 5 minutes without any operation.

4.1.1 Add Map via Web Browser

You need to add a map to the radar via the web browser 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. Select **Add Map** from the dropdown list.

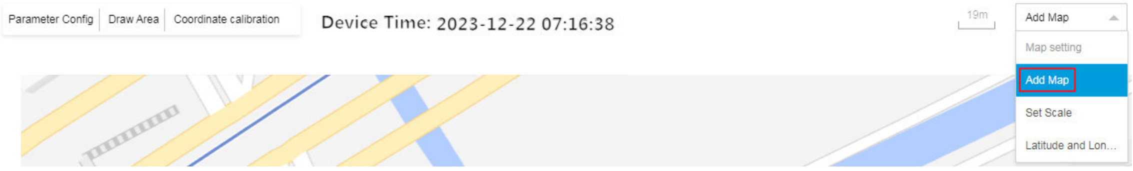

Device Time: 2023-12-22 07:16:38

Figure 4-1 Entrance to Add Map

3. Select a map to import, and click **OK**.

Note

The imported map should be less than 20 MB.

4. Set the map scale.
   1) Select **Set Scale** from the dropdown list.

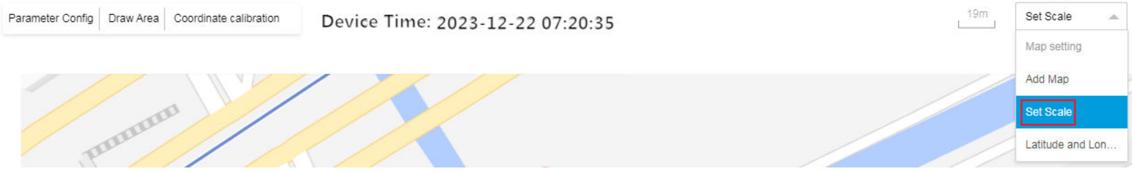
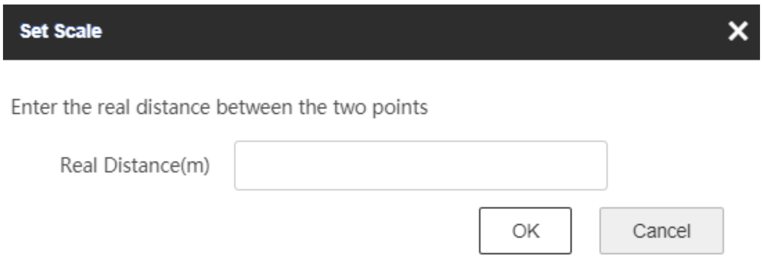

Device Time: 2023-12-22 07:20:35

Figure 4-2 Entrance to Set Map Scale

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



Enter the real distance between the two points

Figure 4-3 Set Map Scale

4) Click **OK**.

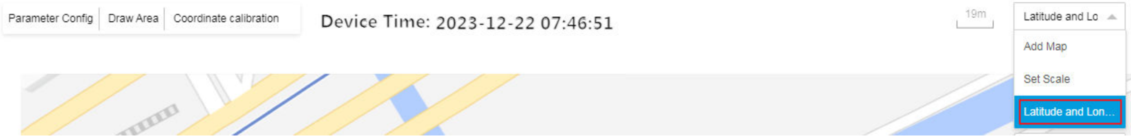
5. Set the radar longitude and latitude calibration.

Note

When using latitude and longitude calibration, it is recommended to draw points whose latitudes and longitudes are confirmed on the map in advance.

---

1) Select **Set Scale** from the dropdown list.



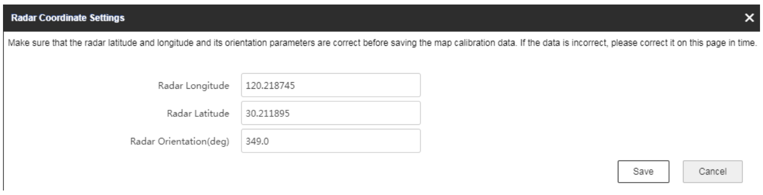
Device Time: 2023-12-22 07:46:51

Figure 4-4 Entrance for Longitude and Latitude Calibration

2) Click **+ Add Calibration Point** and click on the map to generate the first point. Enter 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. Enter the latitude and longitude of this point, accurate to 6 decimal places.
4) Click **Save Calibration** on the top right corner.
5) Enter the radar latitude and longitude and orientation in the popup window.

Radar Orientation

The radar orientation is the clockwise angle between the true north direction and the radar center line. You can place your mobile phone on the back of the radar and use the application with compass function to get this angle.



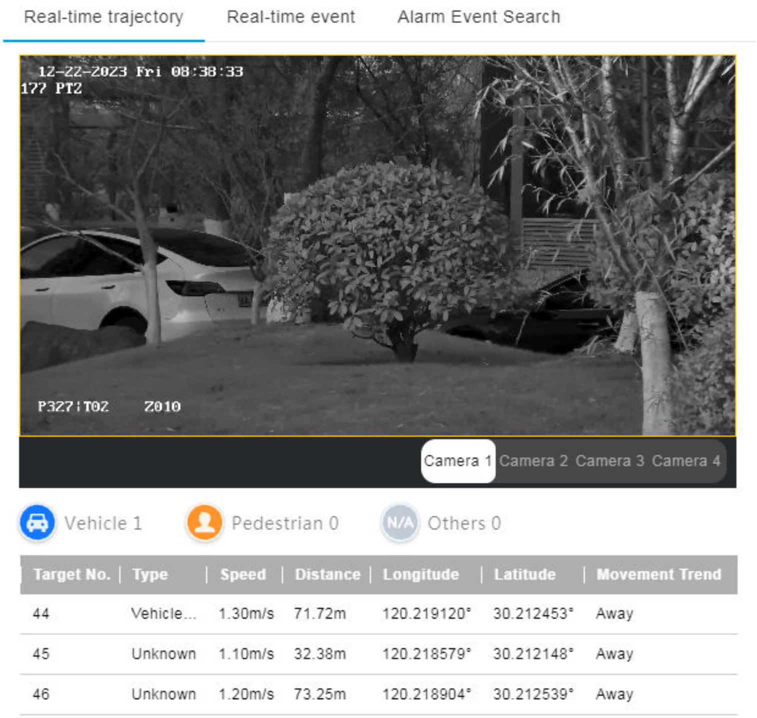
Make sure that the radar latitude and longitude and its orientation parameters are correct before saving the map calibration data. If the data is incorrect, please correct it on this page in time.

Radar Longitude 120.218745
Radar Latitude 30.211895
Radar Orientation(deg) 349.0

Figure 4-5 Radar Coordinate Settings

6) Click **Exit Calibration**.

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. **Optional:** To arm or disarm the radar:
   - Click **Radar Arm** to arm the radar.
   - Click **Radar Disarm** to disarm the radar.
8. **Optional:** Enable **Display Number**. The radar will number the targets appearing on the radar detection area. The targets will be numbered from 1 to 128 in sequence. If all 128 numbers are used, the number will start from 1 again.
9. Click **Real-time trajectory** and select the camera to view the live view image and the recognized target information.



Target No.	Type	Speed	Distance	Longitude	Latitude	Movement Trend
44	Vehicle...	1.30m/s	71.72m	120.219120°	30.212453°	Away
45	Unknown	1.10m/s	32.38m	120.218579°	30.212148°	Away
46	Unknown	1.20m/s	73.25m	120.218904°	30.212539°	Away

Figure 4-6 Real-Time Trajectory

4.1.2 Add Zone via Web Browser

Before You Start

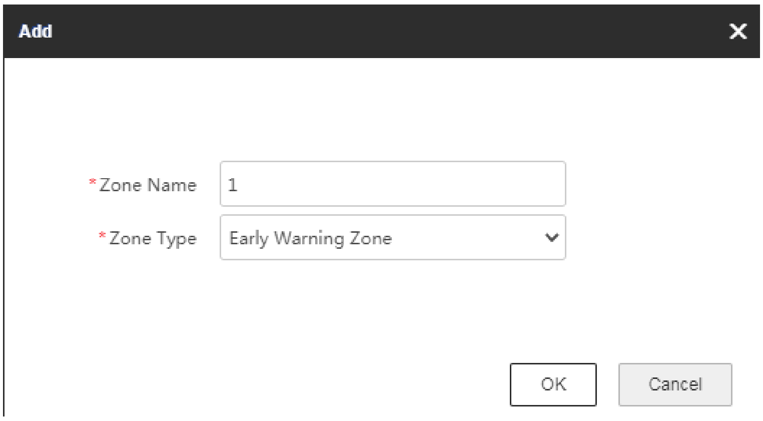
Disarm the radar before adding a zone.

Steps

Note

Up to 16 zones can be added.

1. Enter the IP address of the radar in the web browser and log in. Click **Radar** to enter the page.
2. **Optional:** Enable auxiliary. The target track will appear on the radar detection area. You can draw a zone with reference to the track. The track will be cleared after the function is disabled.
3. **Optional:** Enable **Display Number**. The radar will number the targets appearing on the radar detection area. The targets will be numbered from 1 to 128 in sequence. If all 128 numbers are used, the number will start from 1 again.
4. Draw zones.
   1) Click **Start Drawing**.
   2) Click **Draw Area → Draw Zone** on the upper left corner of the page.
   3) Select **Zone Settings** as **Draw Zone**.
   4) Click the mouse left button to draw the zone in the radar detection area and click the right button to end drawing.
   5) Set **Zone Name** and **Zone Type** in the popup window.



*Zone Name: 1
*Zone Type: Early Warning Zone

Figure 4-7 Add Zone

Early Warning Zone

The early warning zone will identify targets that have potential risks in advance and trigger alarm, but will not store alarm track. It is marked green on the map.

Warning Zone

The warning zone will identify the targets entering the area and trigger alarm. It is marked orange on the map.

Disabled Zone

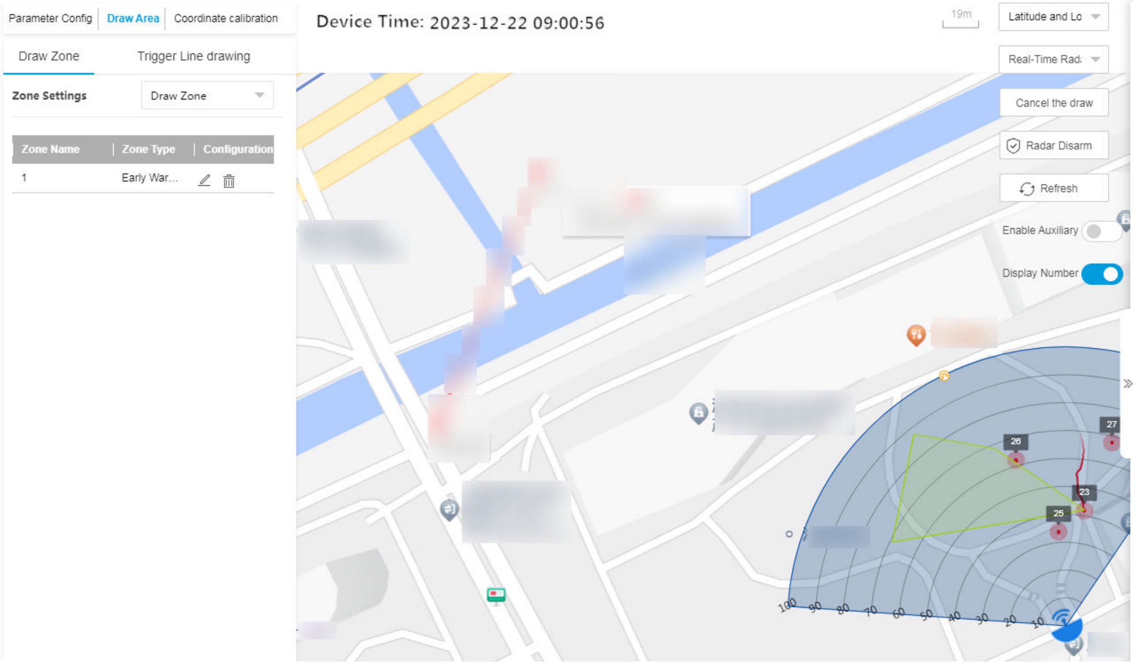
The disabled zone will block the tracks of the targets entering into the zone. It is marked gray on the map.

Note

- The drawn zones can overlap. The priority of the effective overlapping zone is: Disabled Zone > Warning Zone > Early Warning Zone. That is, early warning zones can contain warning zones and disabled zones, and warning zones can contain disabled zones.
- You can zoom in/out to adjust the size of the displayed radar area.
- The actual radar detection area varies different radar models.

6) **Optional:** Select **Zone Settings** as **Quick Zone**. Click the mouse left button to generate a rectangle zone with the side length 1/5 of the detection distance automatically. You can drag the zone to adjust its position. Click the mouse right button and **Add Zone** window will pop up automatically. Set the zone name and type.

The added zones will display on the map.



Zone Settings: Draw Zone

Zone Name	Zone Type	Configuration
1	Early War...	

Figure 4-8 Draw Zone

Note

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.

5. **Optional:** Add a marker to the zone and edit the zone shape.

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.

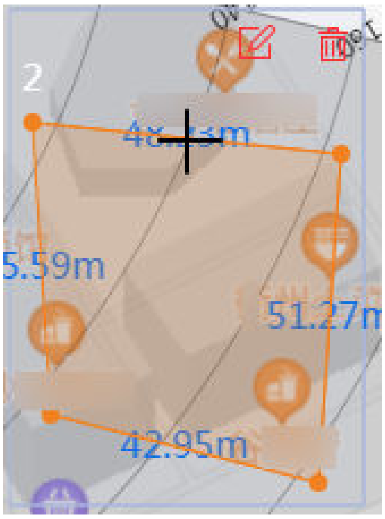


Figure 4-9 Add a Marker

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

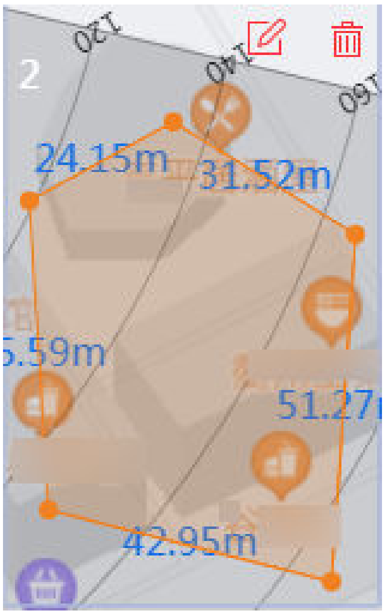


Figure 4-10 Drag a Marker

4) Hold to move the zone.

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

6. **Optional:** Edit the zone information or delete the zone.

Edit zone information	• In the zone list of **Draw Area → Draw Zone** , click ✎ to edit the zone information. • In editing mode, double click the drawn area on the map, and click ✎ to edit the zone information.

Delete zone	• In the zone list of **Draw Area → Draw Zone** , click 🗑 to delete the zone. • In editing mode, double click the drawn area on the map, and click 🗑 to delete the zone.

4.1.3 Add Trigger Line via Web Browser

You can draw trigger lines for the radar zones and set the directions of trigger lines.

Before You Start

Disarm the radar before adding a trigger line.

Steps

1. Enter the IP address of the radar in the web browser and log in. Click **Radar** to enter the page.
2. Draw a trigger line.
   1) Click **Start Drawing**.
   2) Click **Draw Area → Trigger Line Drawing** on the upper left corner of the page.
   3) Select **Trigger Line Config**.

      Draw Trigger Line

      To draw a single trigger line.

      Draw Dual-trigger Line

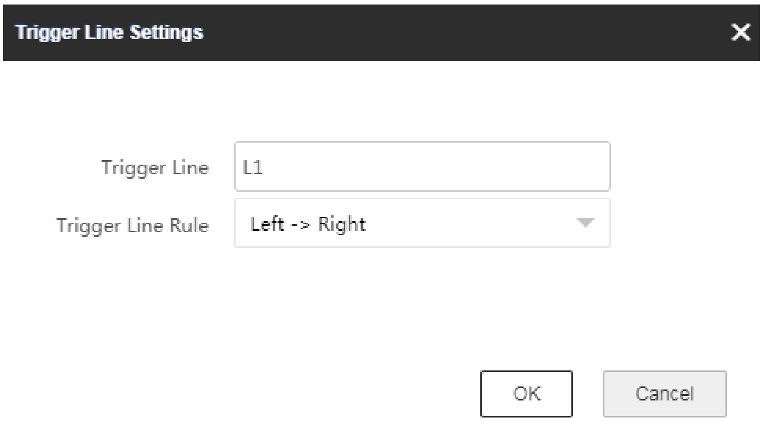
      To draw two trigger lines simultaneously.

      Quick Trigger Line

      Click the mouse left button to generate a trigger line with the length 1/5 of the detection distance automatically. You can drag the line to adjust its position.

      Quick Dual-trigger Line

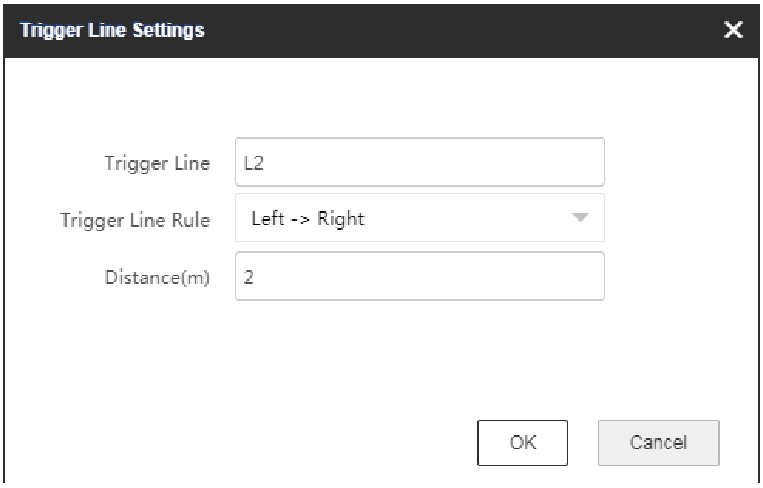
      Click the mouse left button to generate 2 trigger lines with the length 1/5 of the detection distance automatically. The distance between 2 trigger lines is 2 m. You can drag the lines to adjust their positions.
   4) Click the mouse left button to draw the trigger line(s) in the radar detection area and click the right button to end drawing.
   5) Set **Trigger Line** name, **Trigger Line Rule**, and **Distance** in the popup window.



Trigger Line: L1

Trigger Line Rule: Left -> Right

Figure 4-11 Set Trigger Line (Single Line)



Trigger Line: L2

Trigger Line Rule: Left -> Right

Distance(m): 2

Figure 4-12 Set Trigger Line (Dual Lines)

Trigger Line Rule

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.

Trigger line rule: A single arrow **->** indicates that the target will trigger an alarm when it crosses the trigger line in the direction of the arrow. A double arrow **<->** indicates that the target will trigger an alarm when it crosses the trigger line in any direction.

Distance

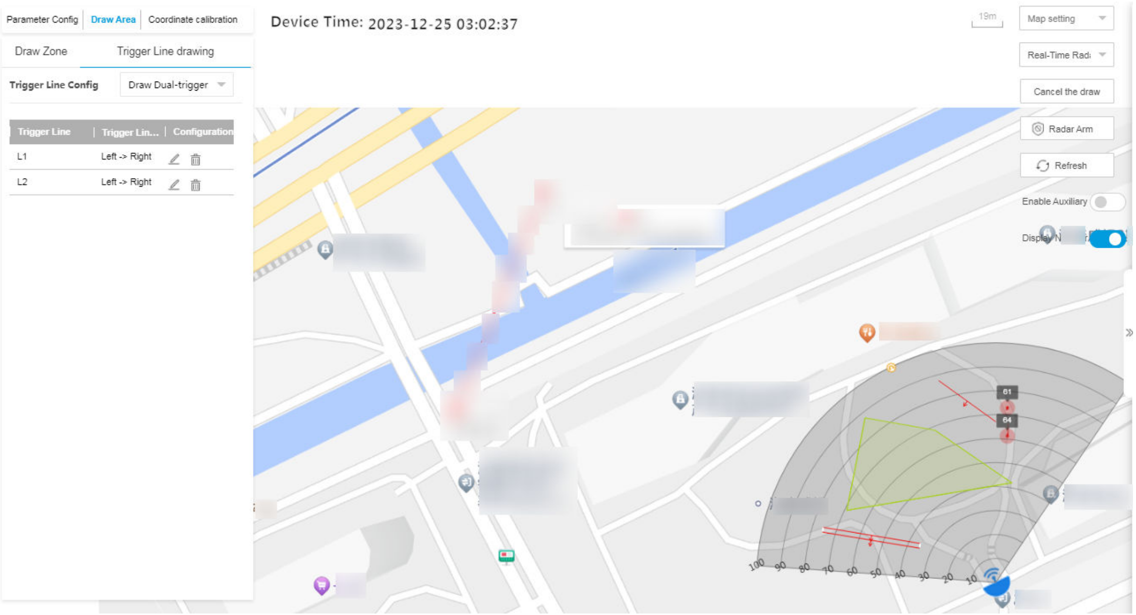
The distance between 2 trigger lines. It is only available for dual lines.

Note

- Up to 4 trigger lines can be drawn. (1 dual-trigger line is equal to 2 trigger lines).
- The trigger lines cannot cross with each other.

- 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 single trigger line rule. The alarm can be triggered only after crossing 2 lines of dual-trigger lines according to the trigger line rule.

The added trigger lines will display on the map.



Device Time: 2023-12-25 03:02:37

Trigger Line Config: Draw Dual-trigger

Trigger Line	Trigger Lin...	Configuration
L1	Left -> Right	
L2	Left -> Right	

Figure 4-13 Draw Trigger Line

Note

Hover on the trigger line under the non-editing mode, or click the line under the editing mode, the line length will be displayed.

---

3. **Optional:** Add a marker to the trigger line and edit the trigger line shape.
   1) Double click the trigger line under the editing mode to enter the trigger line editing mode.
   2) Put the cursor on the trigger line and it will change to a cross. Click to add a marker.

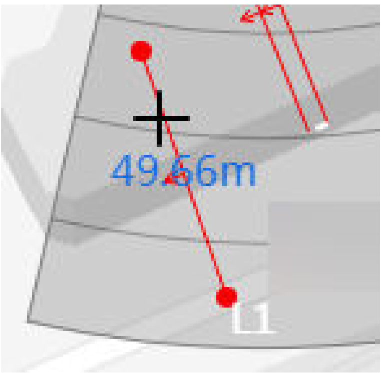


Figure 4-14 Add a Marker

3) Drag the marker to change the shape of the trigger line.

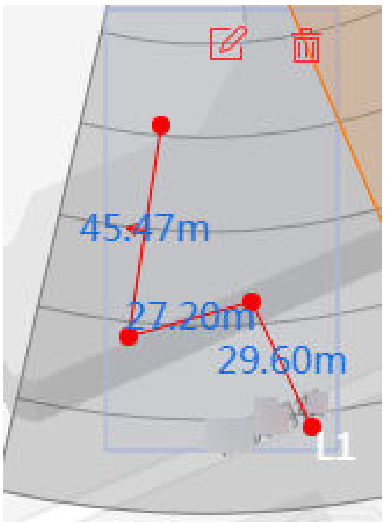


Figure 4-15 Drag a Marker

4) Hold to move the trigger line.
5) Click outside the trigger line to exit the trigger line editing mode.

4. **Optional:** Edit the trigger line information or delete the trigger line.

Edit trigger line information	• In the trigger line list of **Draw Area → Trigger Line Drawing** , click ✎ to edit the trigger line information. • In editing mode, double click the drawn trigger line on the map, and click ✎ to edit the trigger line information.
Delete zone	• In the trigger line list of **Draw Area → Trigger Line Drawing** , click 🗑 to delete the trigger line. • In editing mode, double click the drawn trigger line on the map, and 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

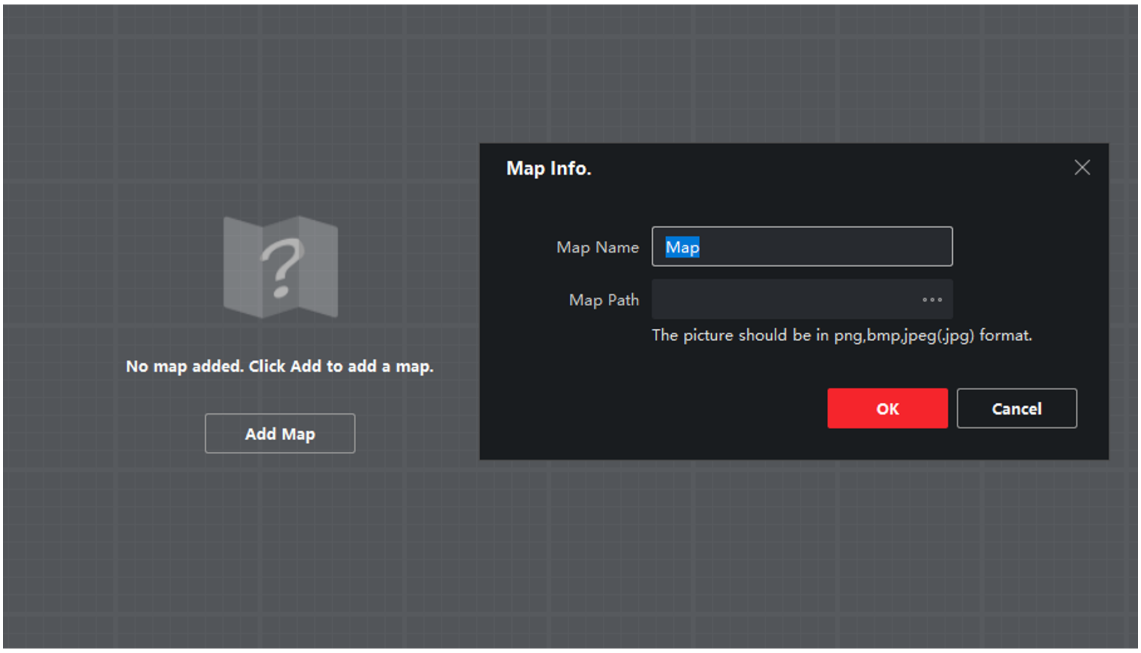
You should add a map of the detection area in the E-map module to make sure the radar's installation position and the real geographic position match with each other.

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.



No map added. Click Add to add a map.

Map Name: Map

Map Path

The picture should be in png,bmp,jpeg(.jpg) format.

Figure 4-16 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**.

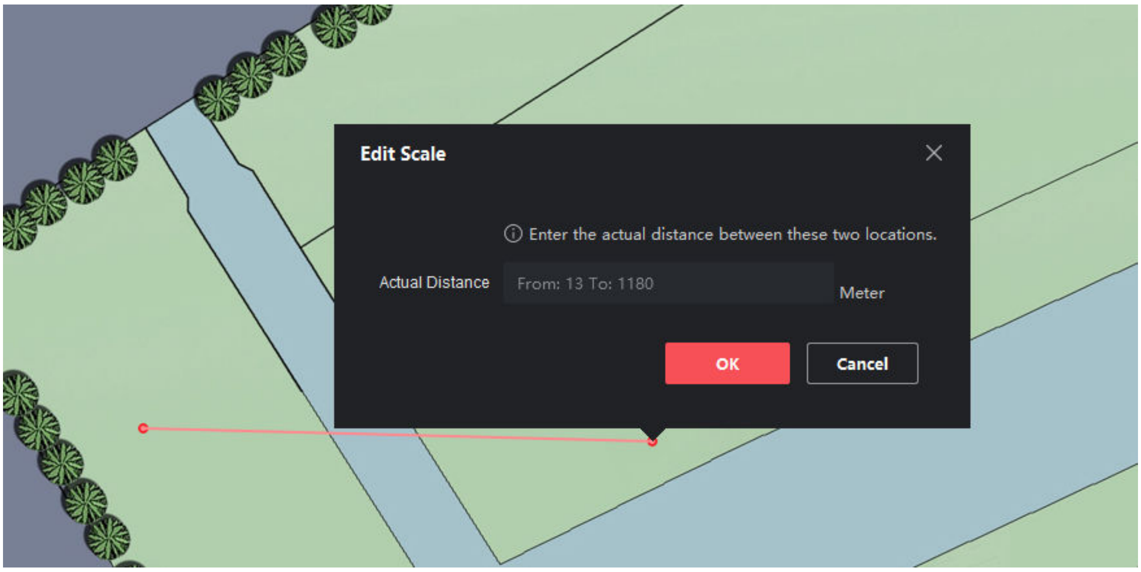
Note

- 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 Browser*** .
- 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.



Edit Scale

ⓘ Enter the actual distance between these two locations.

Actual Distance: From: 13 To: 1180 Meter

Figure 4-17 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.

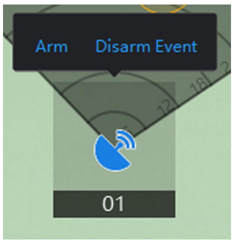


Figure 4-18 Radar Menu

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 ***Search Alarm Event*** .

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.

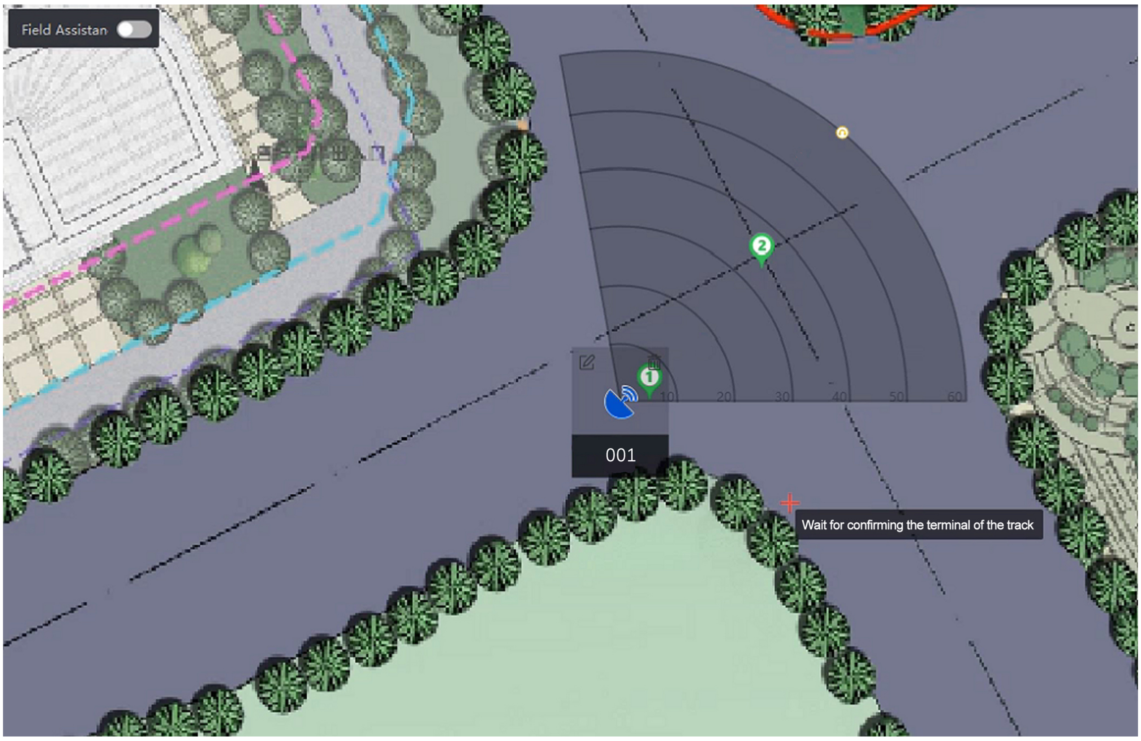
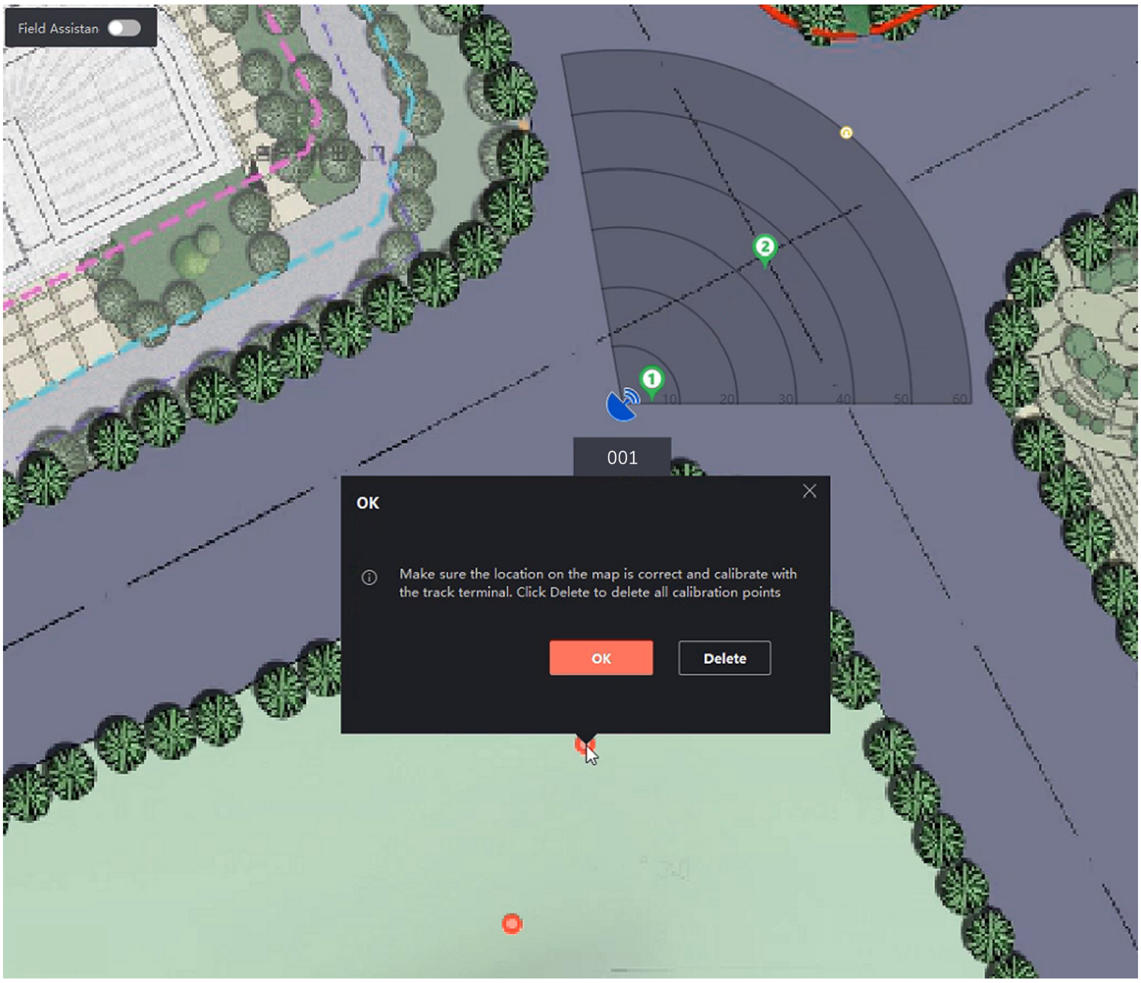


Figure 4-19 Confirm Terminals

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



Make sure the location on the map is correct and calibrate with the track terminal. Click Delete to delete all calibration points

Figure 4-20 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.

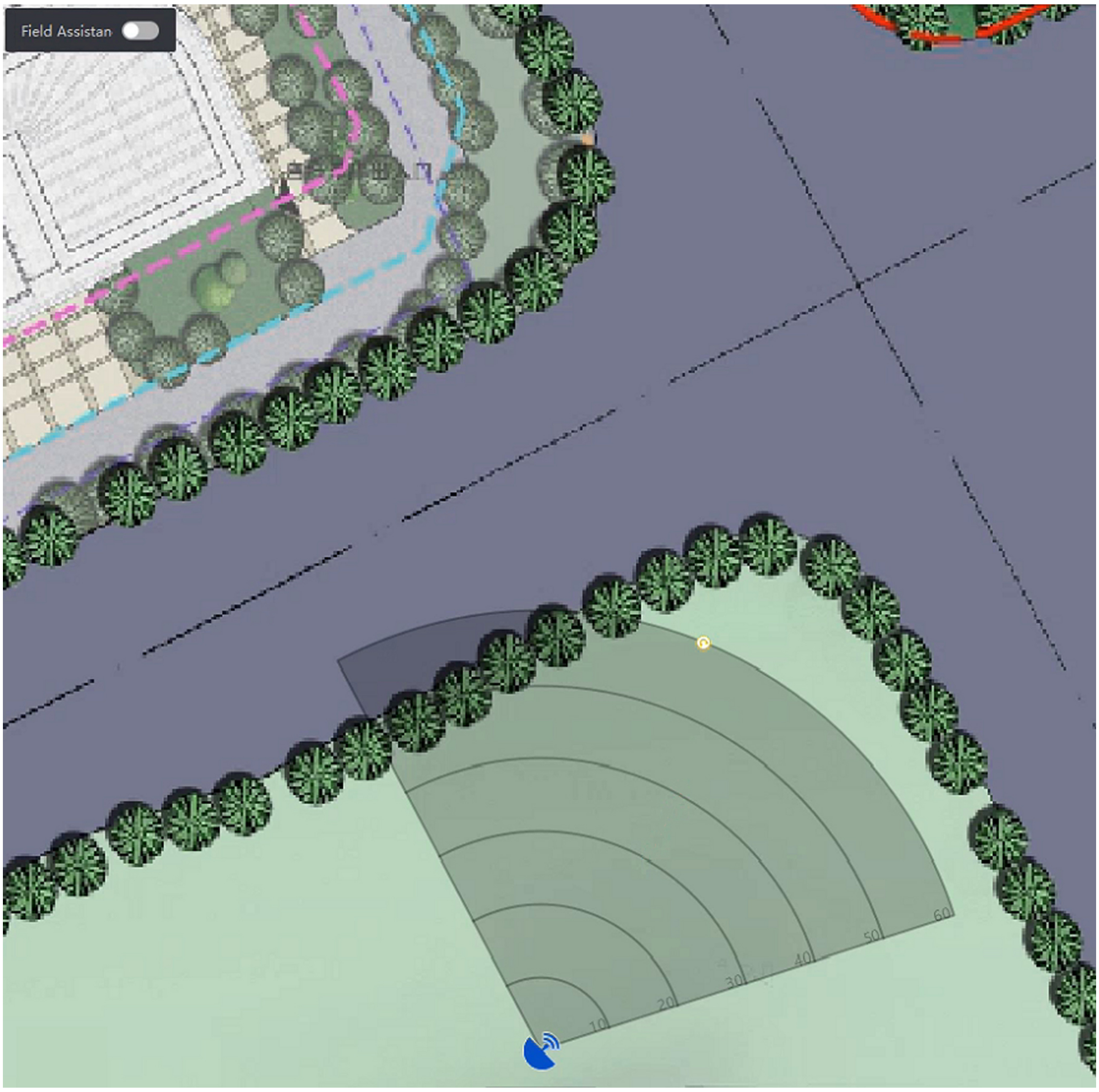


Figure 4-21 Finish Map Calibration

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.

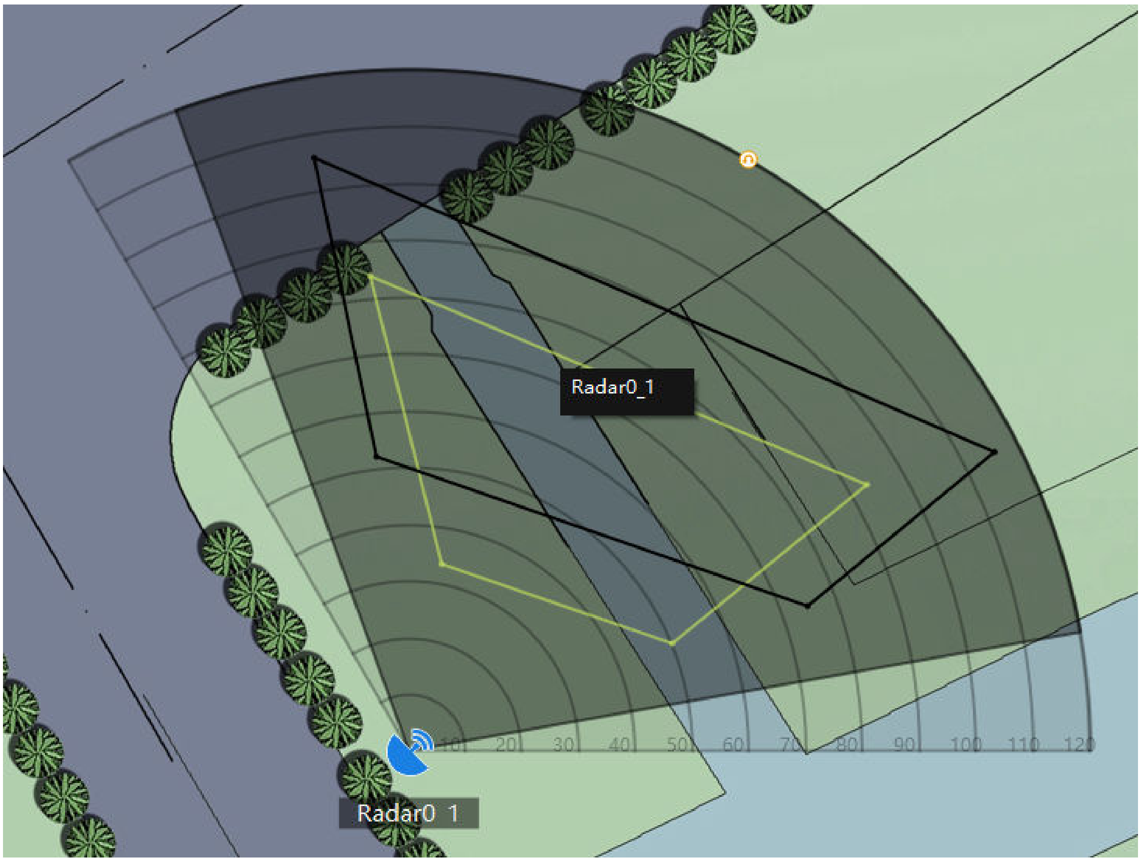


Figure 4-22 Overlap Zones

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.

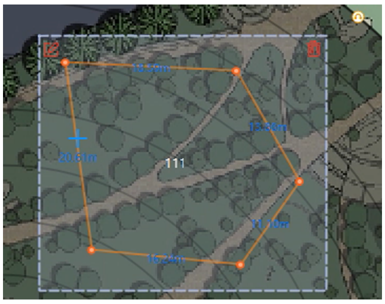


Figure 4-23 Add a Marker

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

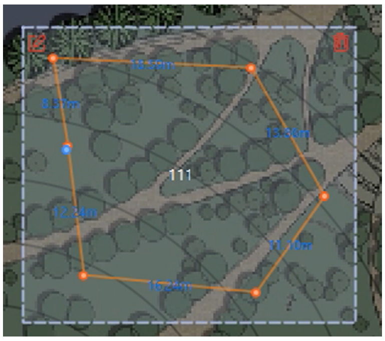


Figure 4-24 Drag a Marker

4) Hold to move the zone.

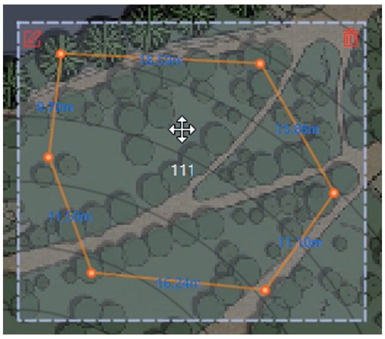


Figure 4-25 Move the Zone

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)

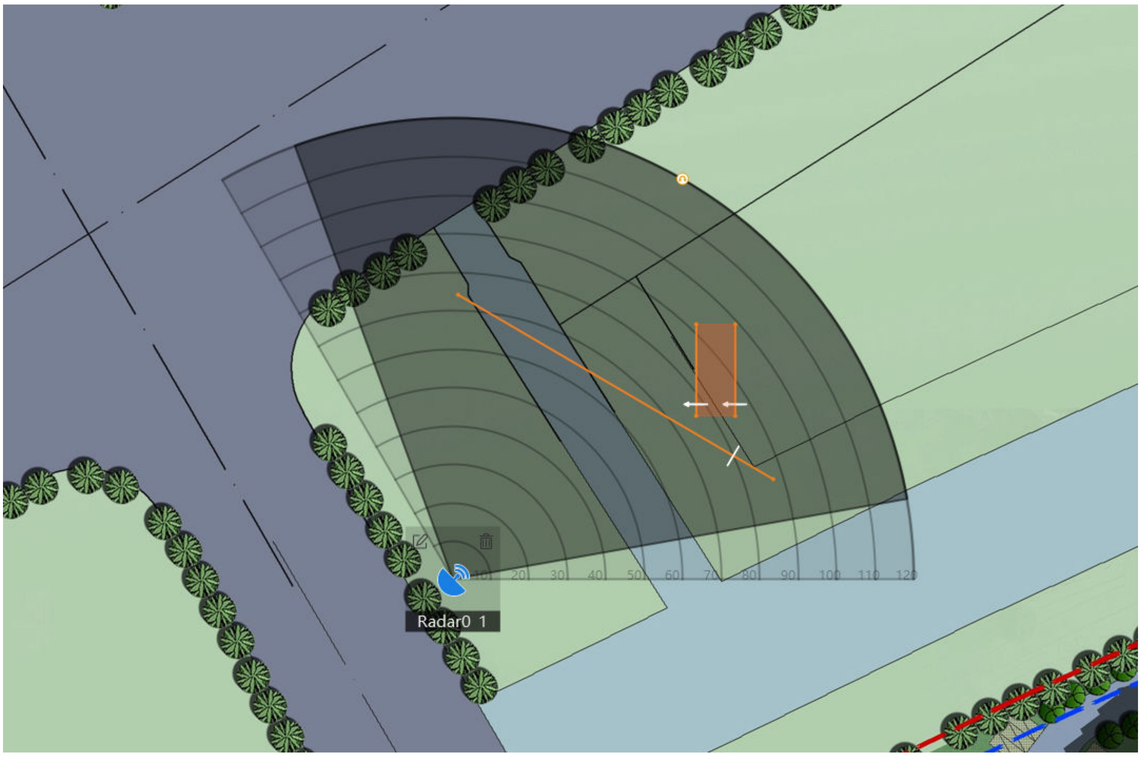


Figure 4-26 Draw a Trigger Line

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.

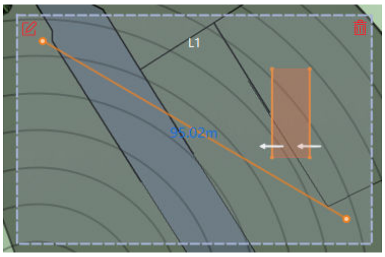


Figure 4-27 Add a Marker

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

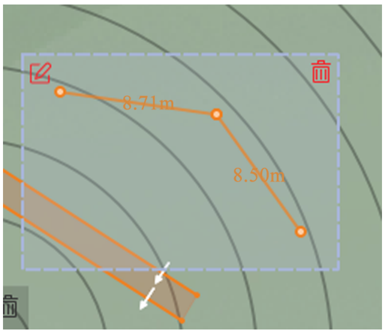


Figure 4-28 Drag a Marker

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

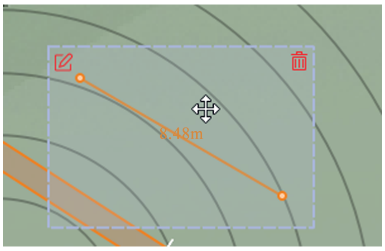


Figure 4-29 Move the Trigger Line

- **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 Camera Linkage

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.

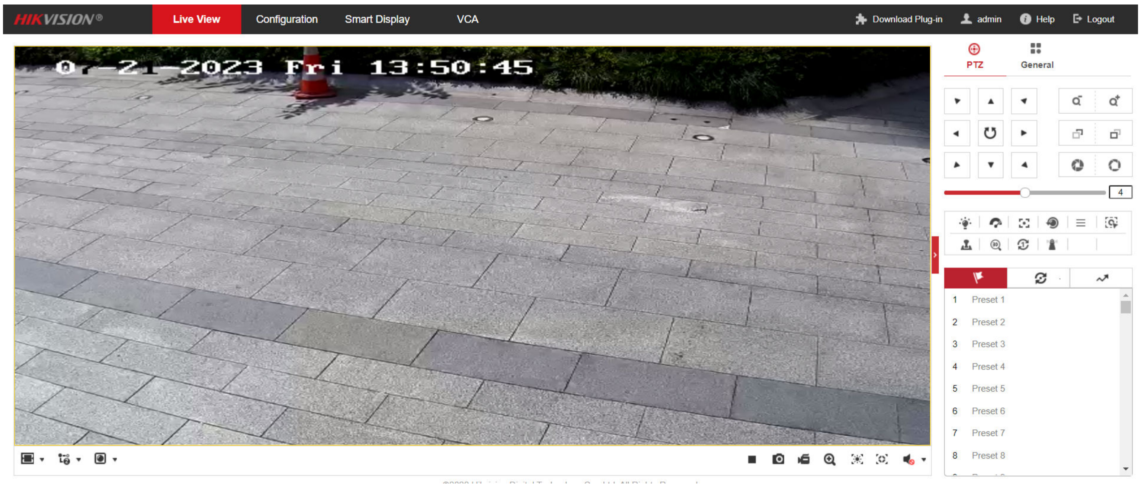


Figure 5-1 Camera live View Page

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.

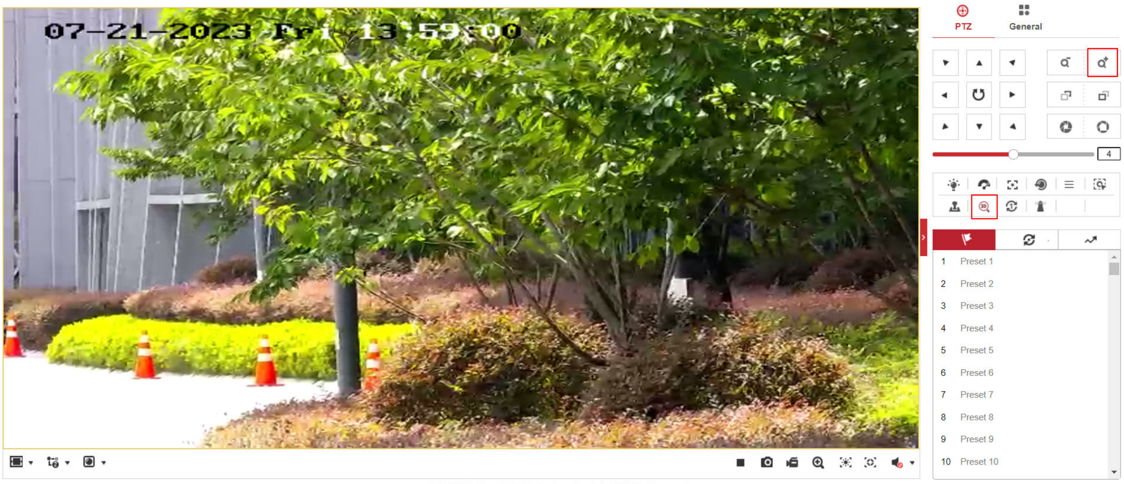


Figure 5-2 Reference Point Position

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.

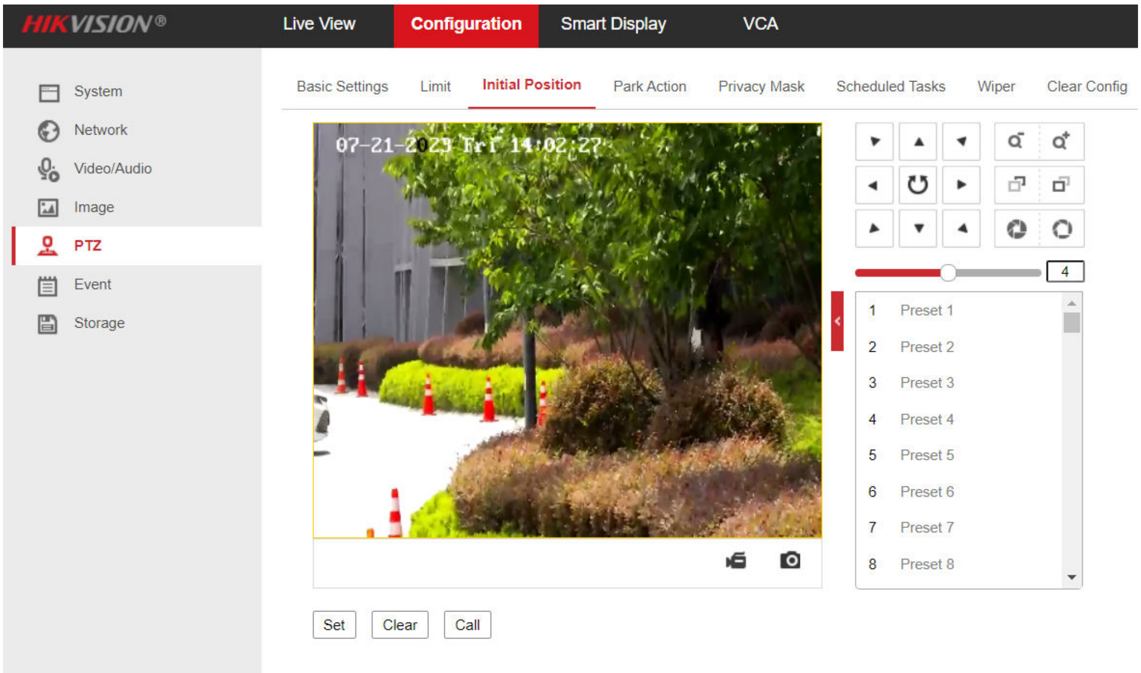


Figure 5-3 Set Initial Position

5.2 Link Camera to Radar

After linking a camera, when there is an alarm of the camera, the linked zones and trigger lines will trigger alarms.

Before You Start

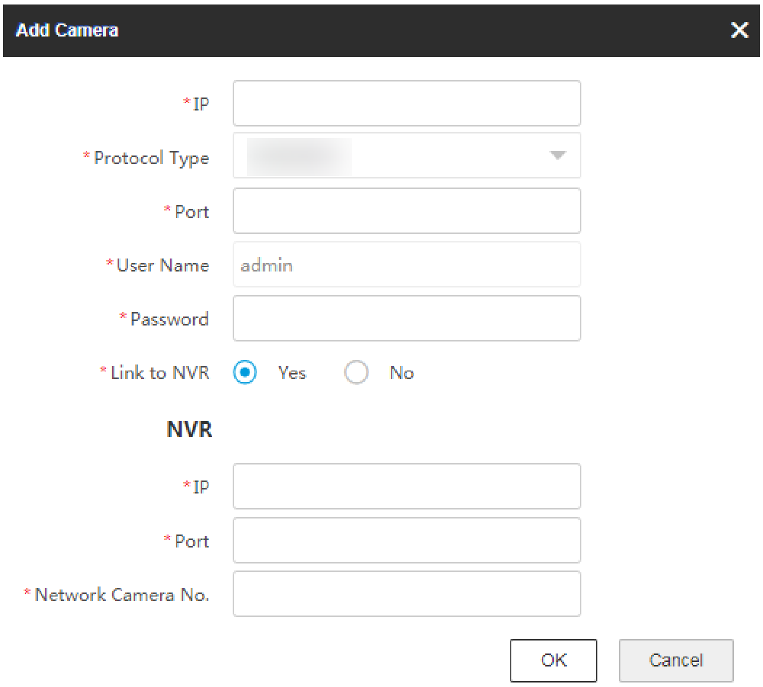
Disarm the radar before linking a camera.

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. Go to **Radar → Coordinate Calibration → Link Camera** .
2. Add a camera.
   1) Click **+ Add Camera** in the camera 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 link the NVR and set the NVR parameters.



Add Camera

*IP

*Protocol Type

*Port

*User Name: admin

*Password

*Link to NVR: ● Yes ○ No

NVR

*IP

*Port

*Network Camera No.

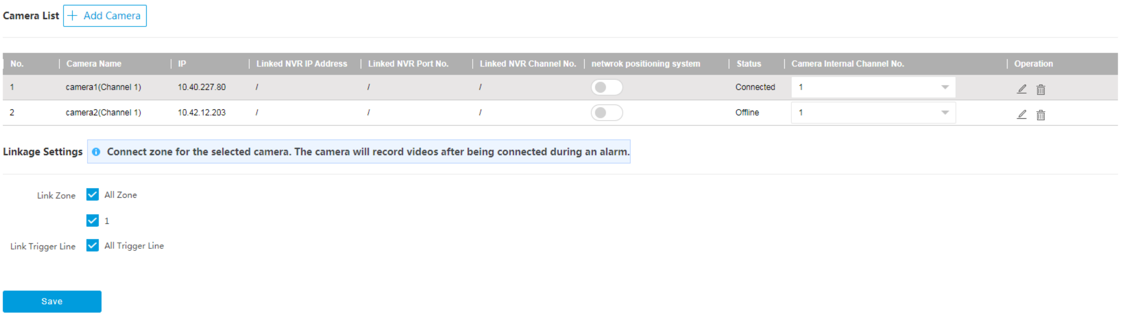
Figure 5-4 Add Camera

3) Click **OK**.

Note

Up to 4 cameras can be linked to 1 radar.

3. Link zones and trigger lines to the camera.
   1) Select a camera in the camera list.
   2) Select zones and trigger lines to link in **Linkage Settings**.
   3) Click **Save**.



Camera List

No.	Camera Name	IP	Linked NVR IP Address	Linked NVR Port No.	Linked NVR Channel No.	netwrok positioning system	Status	Camera Internal Channel No.	Operation
1	camera1(Channel 1)	10.40.227.80	/	/	/	○	Connected	1	
2	camera2(Channel 1)	10.42.12.203	/	/	/	○	Offline	1	

Linkage Settings Connect zone for the selected camera. The camera will record videos after being connected during an alarm.

Link Zone ☑ All Zone

☑ 1

Link Trigger Line ☑ All Trigger Line

Figure 5-5 Link Camera

4. **Optional:** Edit the added camera in the camera list.
   1) If the camera is a network positioning system, enable **Network Positioning System**.
   2) Select **Camera Internal Channel No.**
   3) Click ✎ to edit the camera information.

4) Click 🗑 to delete the camera.

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 **Radar Disarm** on **Radar** interface to disarm the radar.
- You need to link the speed dome to the zone before calibration, and set the speed dome initial position.
- The installation height of the linked speed dome should be more than 3 m.

Steps

1. Enter the IP address of the radar in the address bar of the web browser. Go to **Radar → Coordinate Calibration → Coordinate Calibration** .
2. Click a live view window and select **Link Camera Channel**. The live view window will show the camera live view image.

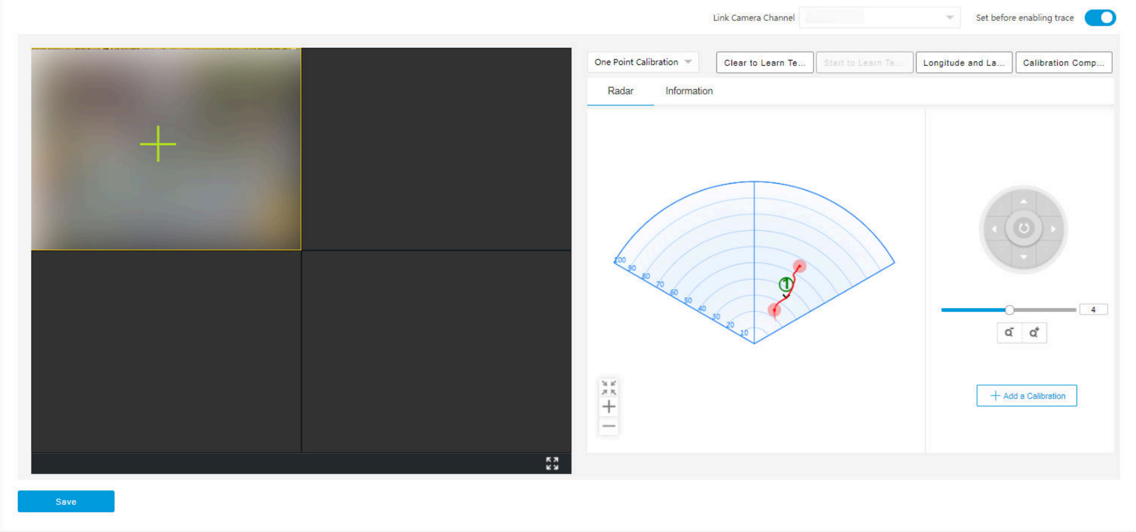


Figure 5-6 Coordinate Calibration

Note

You can click ⛶ to maximum the selected window, or click ⛶ to restore.

3. **Optional:** You can click + or — to adjust the radar detection area.
4. 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 set the calibration point according to the actual scene.

- 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).

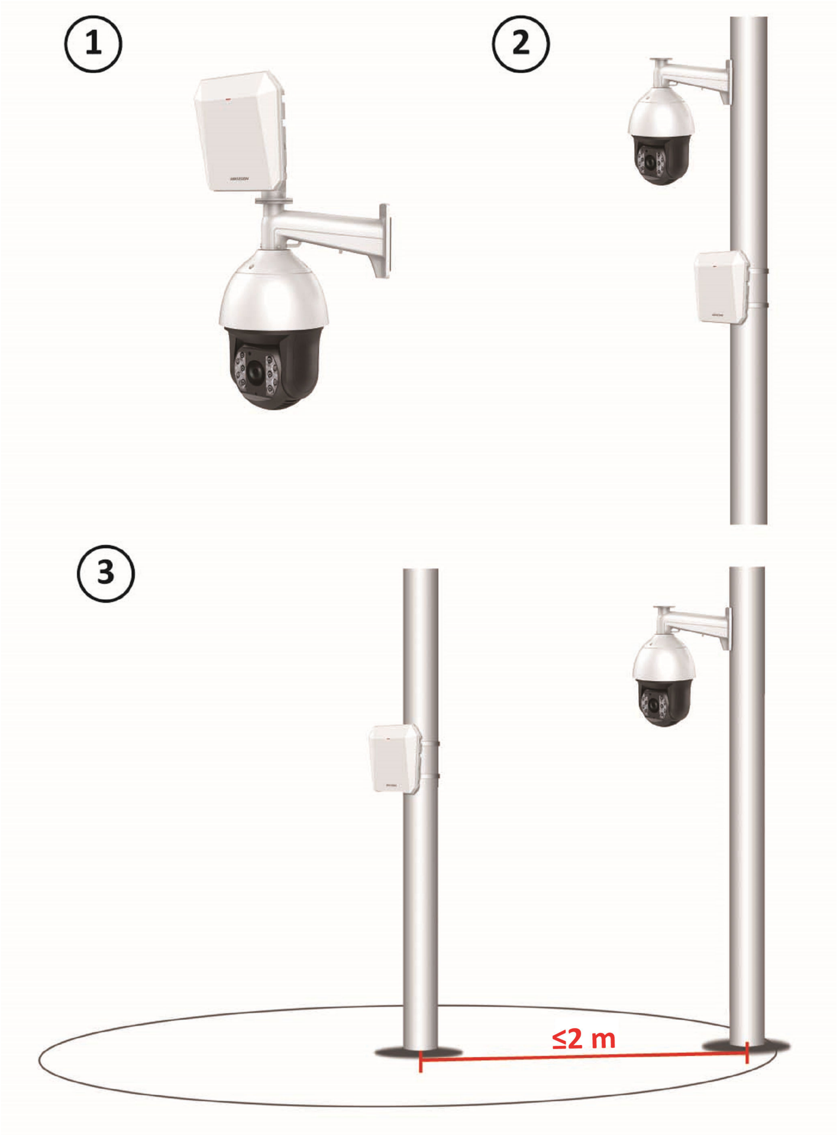


Figure 5-7 Installation Scene for One Point Calibration

- Multi-point Calibration: Applicable to the scene which is not applicable to the one-point calibration.

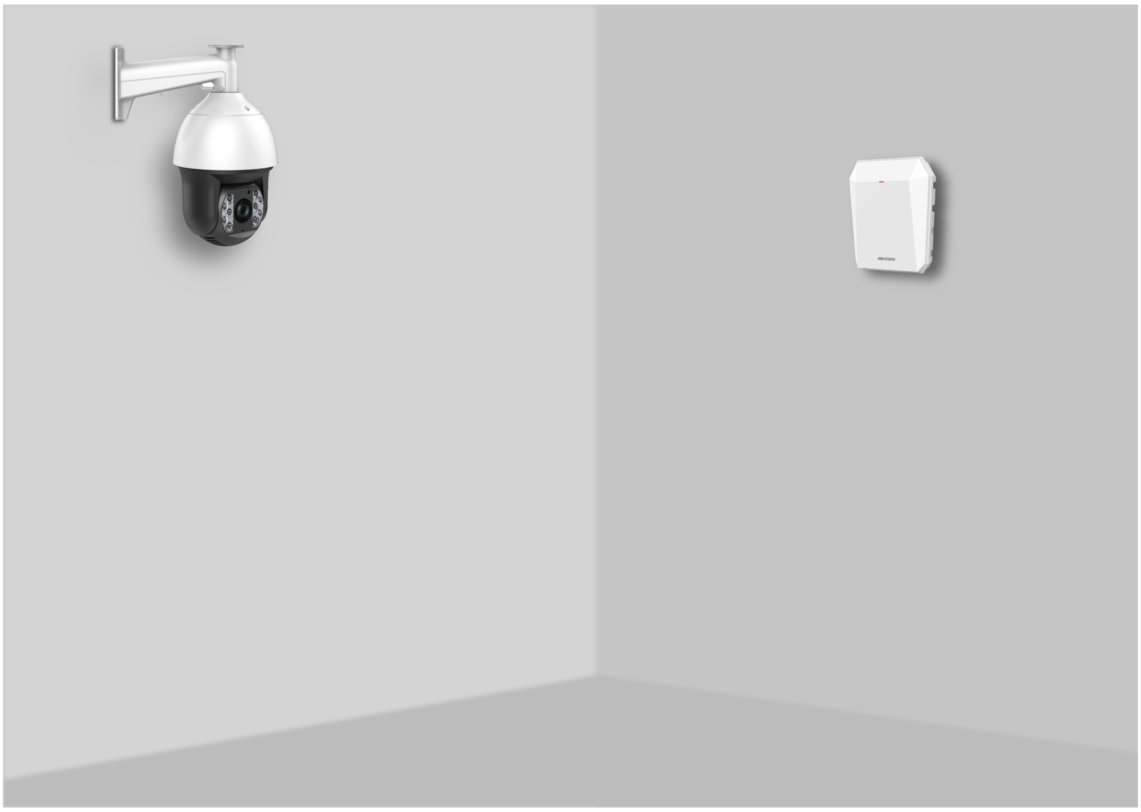


Figure 5-8 Installation Scene for Multi-point Calibration

5. Calibrate the camera. According to the actual scene, calibrate the camera by one-point calibration or multi-point calibration.

5.3.1 One Point Calibration

Before You Start

Arrange a staff (operation staff) to perform the calibration operation via the web browser, and a staff (calibration staff) to cooperate with the calibration.

Steps

1. 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.

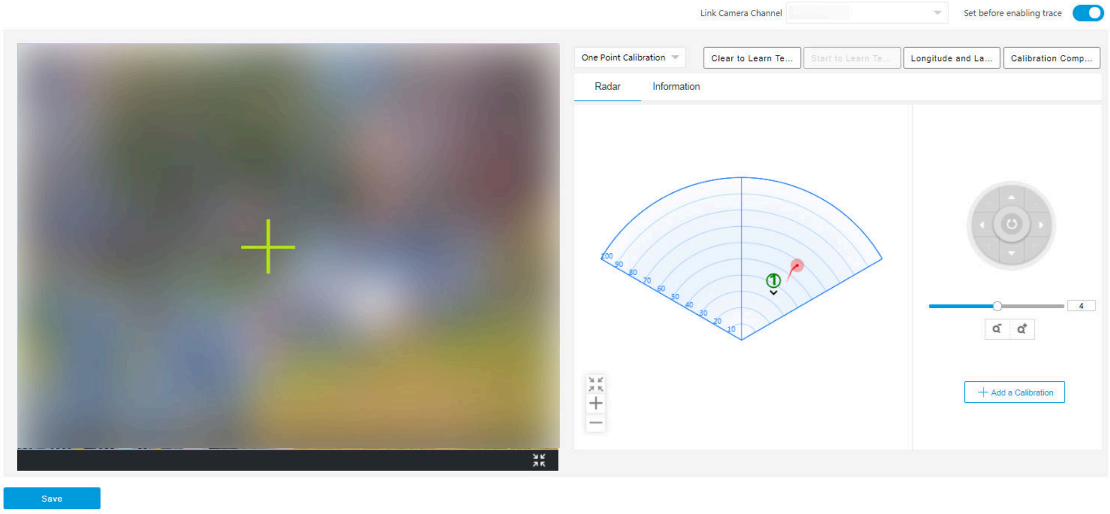


Figure 5-9 One Point Calibration

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 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 a 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 **Set before enabling trace** will be checked automatically.

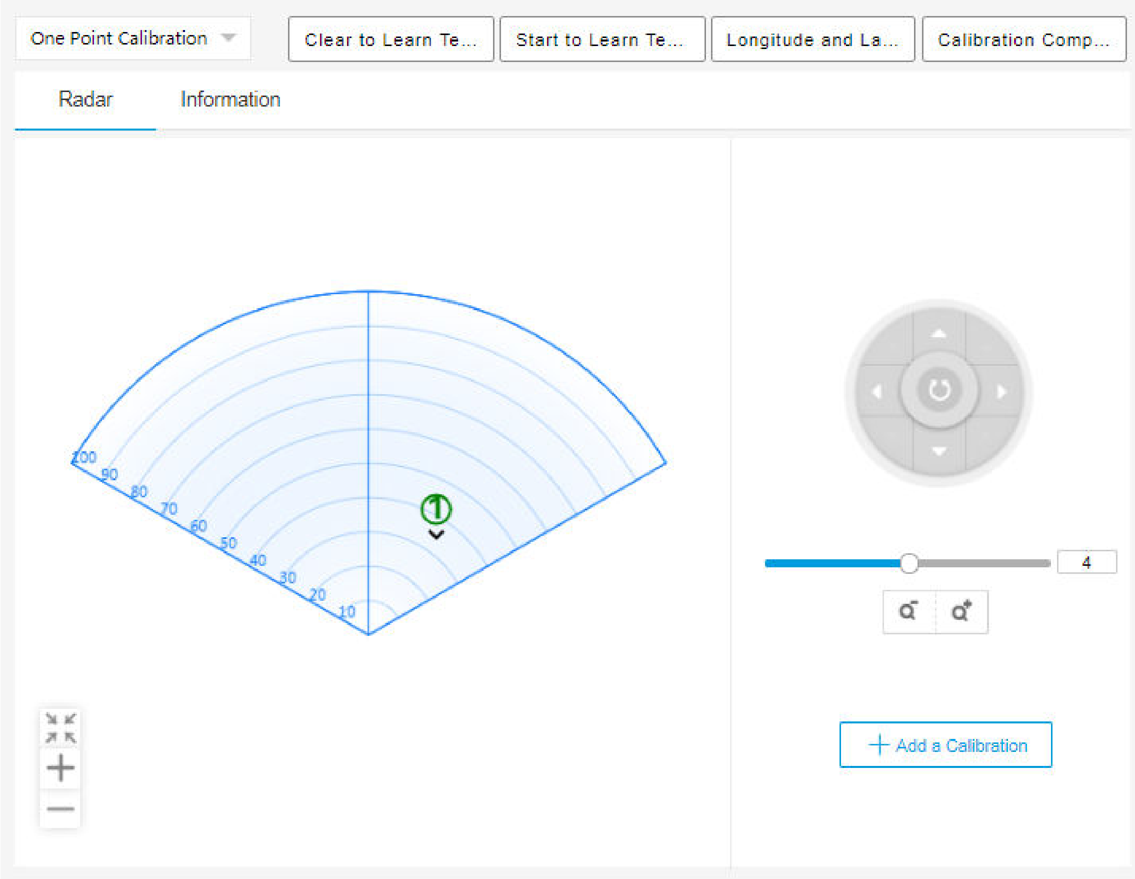
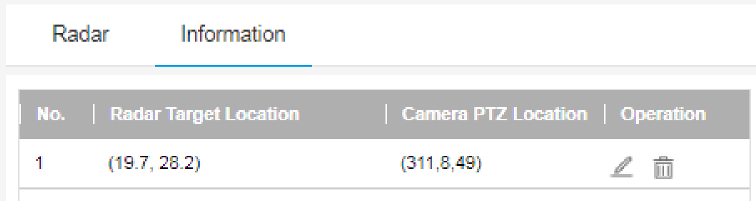


Figure 5-10 Add a Calibration



No.	Radar Target Location	Camera PTZ Location	Operation
1	(19.7, 28.2)	(311,8,49)	

Figure 5-11 Information List

Note

You should enable **Network Poisoning System** in **Radar → Coordinate Calibration → Camera Calibration** 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 via the web browser, and a staff (calibration staff) to cooperate with the calibration.

Steps

1. 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.

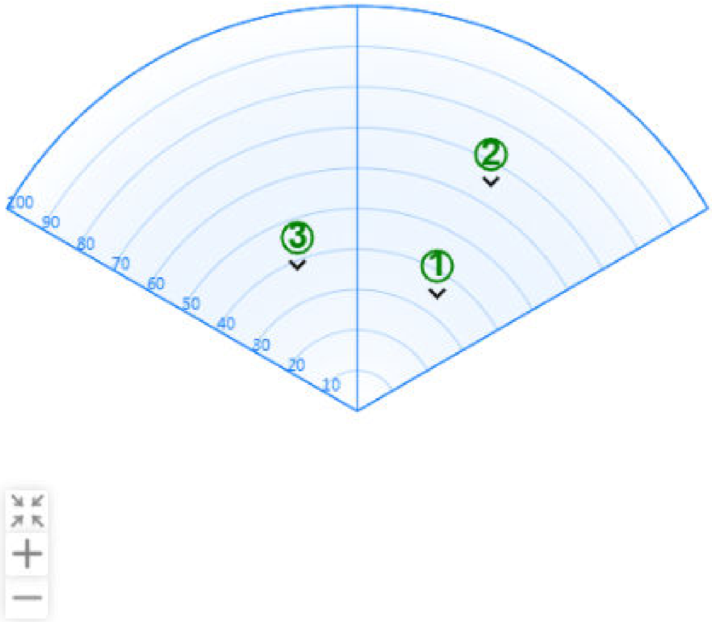


Figure 5-12 Multi-Point Distribution Instance

Note

It is required to set 3 calibration points (equally distributed) for 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 red 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.

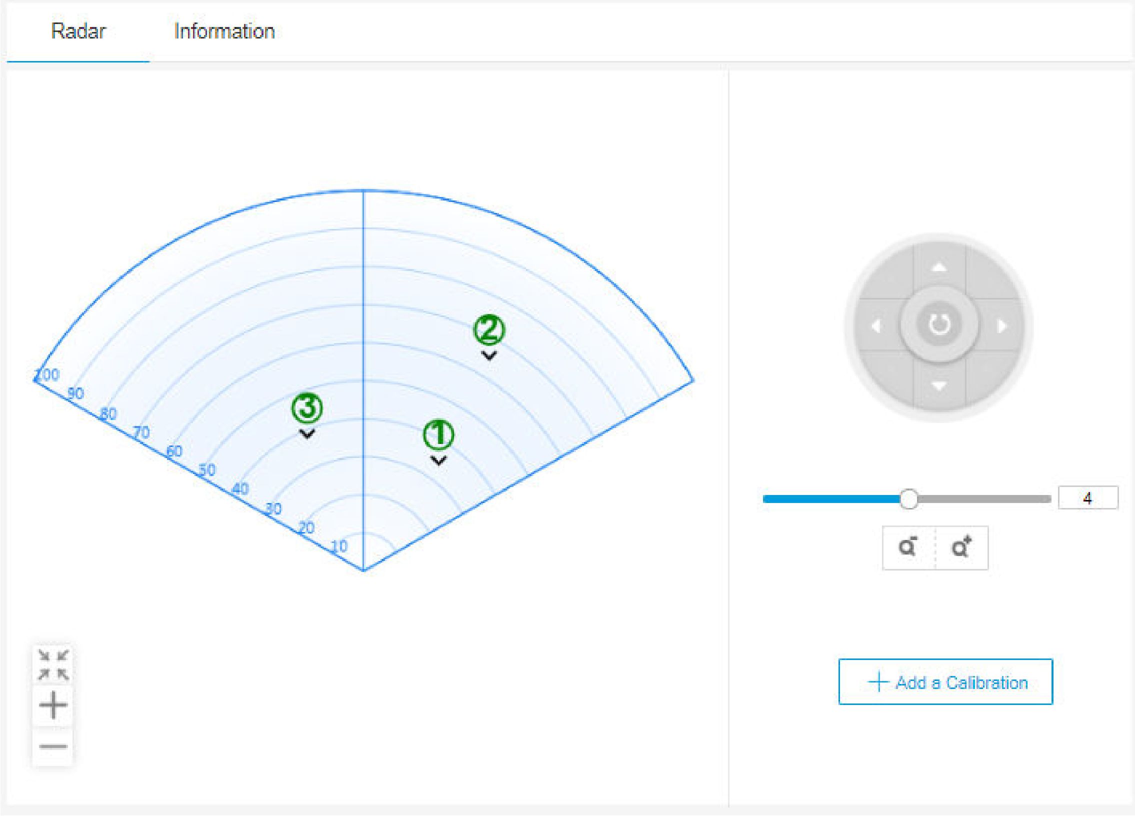


Figure 5-13 Multi-Point Calibration

Note

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

5. After all calibration points are 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 to use 3 points to calibrate.
- You should enable **Network Poisoning System** in **Radar → Coordinate Calibration → Camera Calibration** if the camera is installed with PTZ.

5.3.3 GPS Calibration

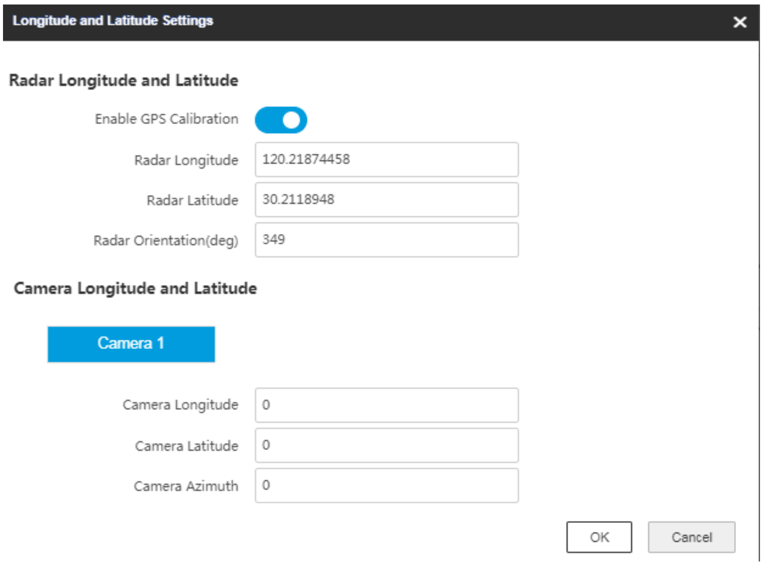
GPS calibration needs to be configured in conjunction with one point calibration. This calibration method is applicable to the scene that the camera is installed far away from the radar.

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. Refer to ***One Point Calibration*** for details.

Steps

1. Select **One Point Calibration** as the calibration mode.
2. Click **Longitude and Latitude Settings**.



Longitude and Latitude Settings

Radar Longitude and Latitude

Enable GPS Calibration: on

Radar Longitude: 120.21874458

Radar Latitude: 30.2118948

Radar Orientation(deg): 349

Camera Longitude and Latitude

Camera Longitude: 0

Camera Latitude: 0

Camera Azimuth: 0

Figure 5-14 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 the radar center line. You can place your phone on the back of the radar and use the application with compass functions to get this angle.
5. Enter the longitude, latitude, and azimuth of the camera.

   Camera Azimuth

   After the zero azimuth is confirmed, you can turn the lens until the radar is at the center cross of the frame, at which point the P value of the camera is the azimuth of the camera.
6. Click **OK**.

Note

After completing the calibration, make sure that **Set before enabling trace** on the calibration page is checked.

5.3.4 Calibration Compensation

Fine adjustment of PTZ position of the camera.

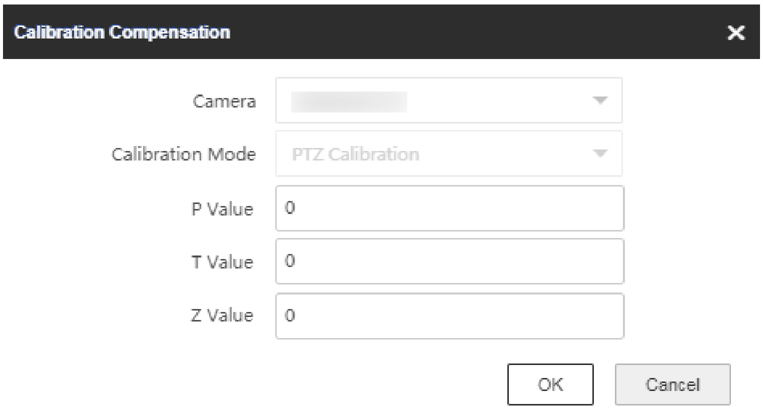
Before You Start

The camera is calibrated.

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

Steps

1. On **Coordinate Calibration** interface, click **Calibration Compensation**.



Calibration Compensation

Camera [redacted]

Calibration Mode: PTZ Calibration

P Value: 0

T Value: 0

Z Value: 0

Figure 5-15 Calibration Compensation

2. Select a camera.
3. Select **Calibration Mode**.

   GPS Calibration

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

   PTZ Calibration

   Compensation for the PTZ of the camera in single-point calibration or multi-point calibration mode.
4. Set P, T, and Z value. The entered values will be added to the original PTZ values.
5. Click **OK**.

5.3.5 Learn Terrain

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

Before You Start

One point calibration is completed.

Steps

1. On **Coordinate Calibration** interface, click **Start to Learn Terrain**.
2. Select a track in the radar detection area.

3. Click ＋ or — to adjust the target. Make sure the target is in the center of the live view image.
4. Click **Complete to Learn Terrain**.

Note

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

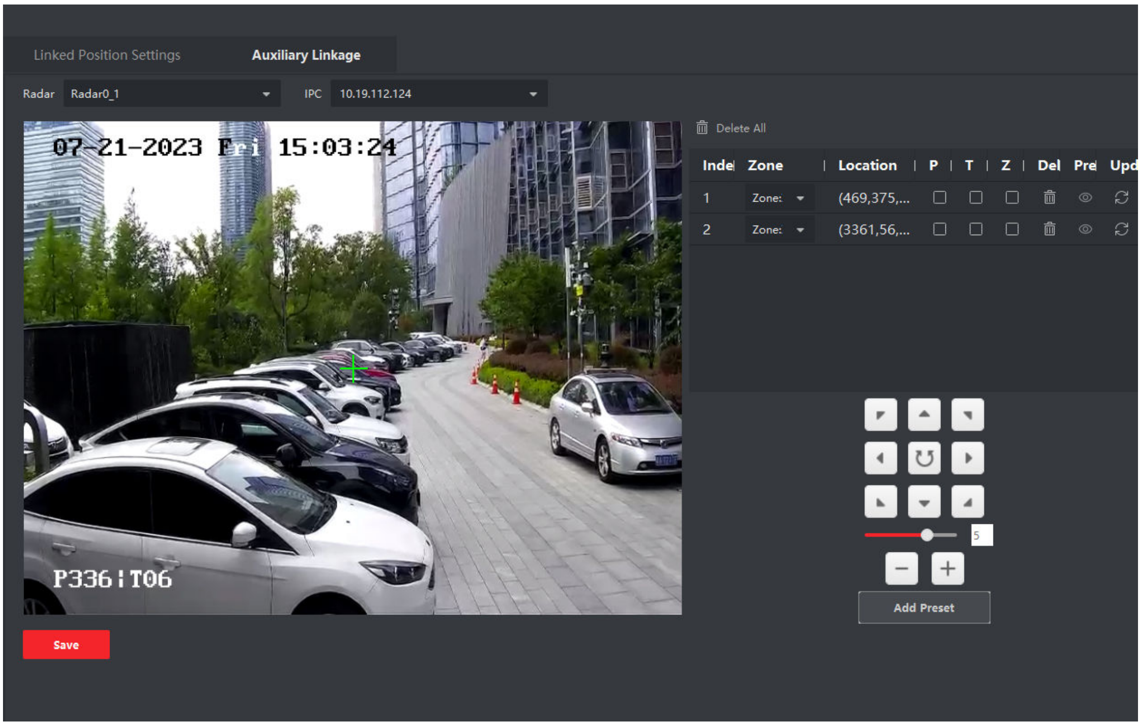
5. **Optional:** Click **Clear to Learn Terrain** to reset the function.

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** .



Radar Radar0_1

IPC 10.19.112.124

Inde	Zone	Location	P	T	Z	Del	Pre	Upd
1	Zone:	(469,375,...	☐	☐	☐	🗑	👁	🔄
2	Zone:	(3361,56,...	☐	☐	☐	🗑	👁	🔄

Figure 5-16 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

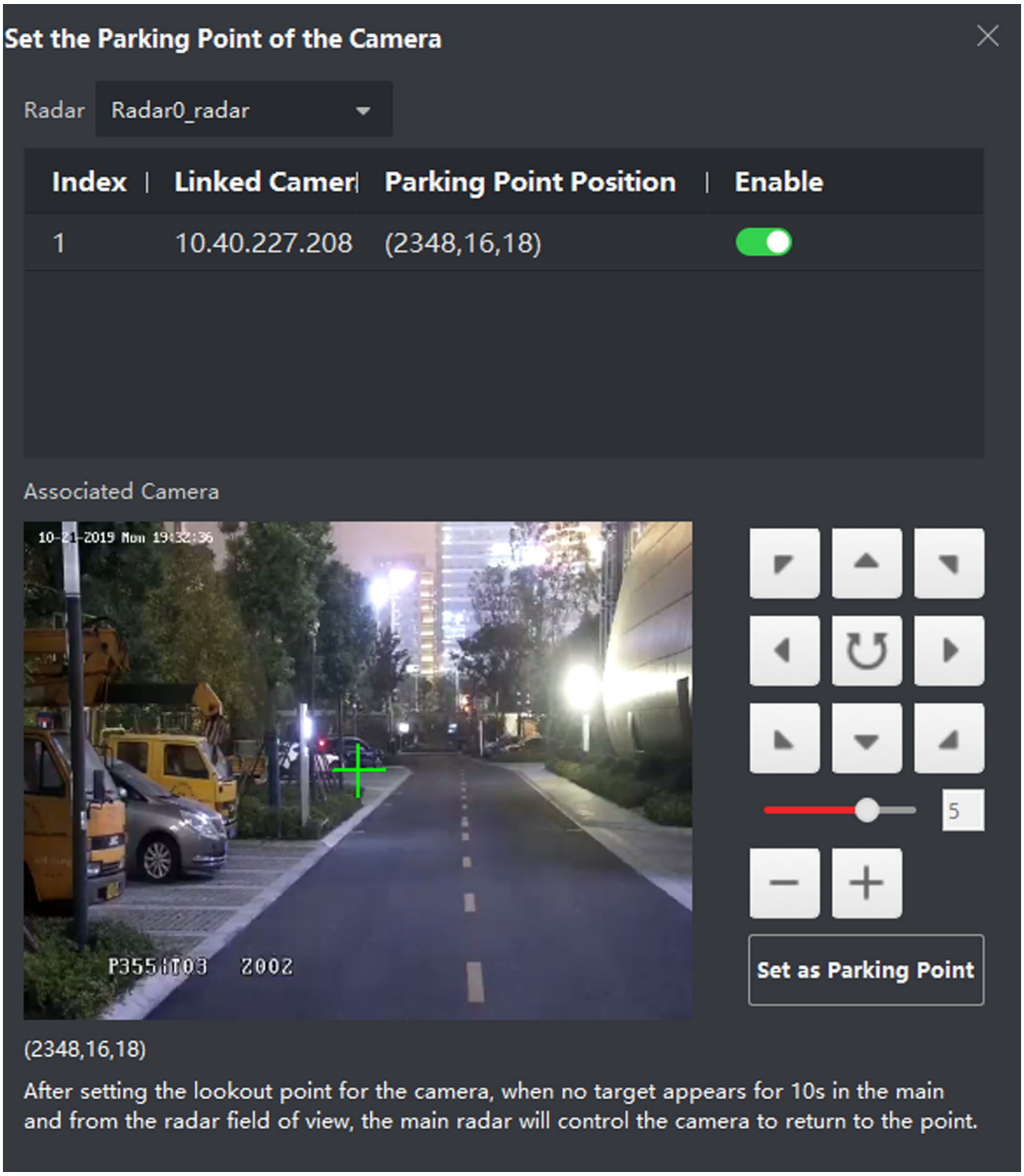
- Add the radar to the map.
- Link the camera to the radar, and add the camera to the client software.
- Calibrate the camera and enable camera tracking.
- You need to disarm the radar before the operation. Click **Finish** in the E-map page to exit the editing mode. Click on the radar icon and select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



Radar: Radar0_radar

Index	Linked Camer	Parking Point Position	Enable
1	10.40.227.208	(2348,16,18)	●

(2348,16,18)

After setting the lookout point for the camera, when no target appears for 10s in the main and from the radar field of view, the main radar will control the camera to return to the point.

Figure 5-17 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*.

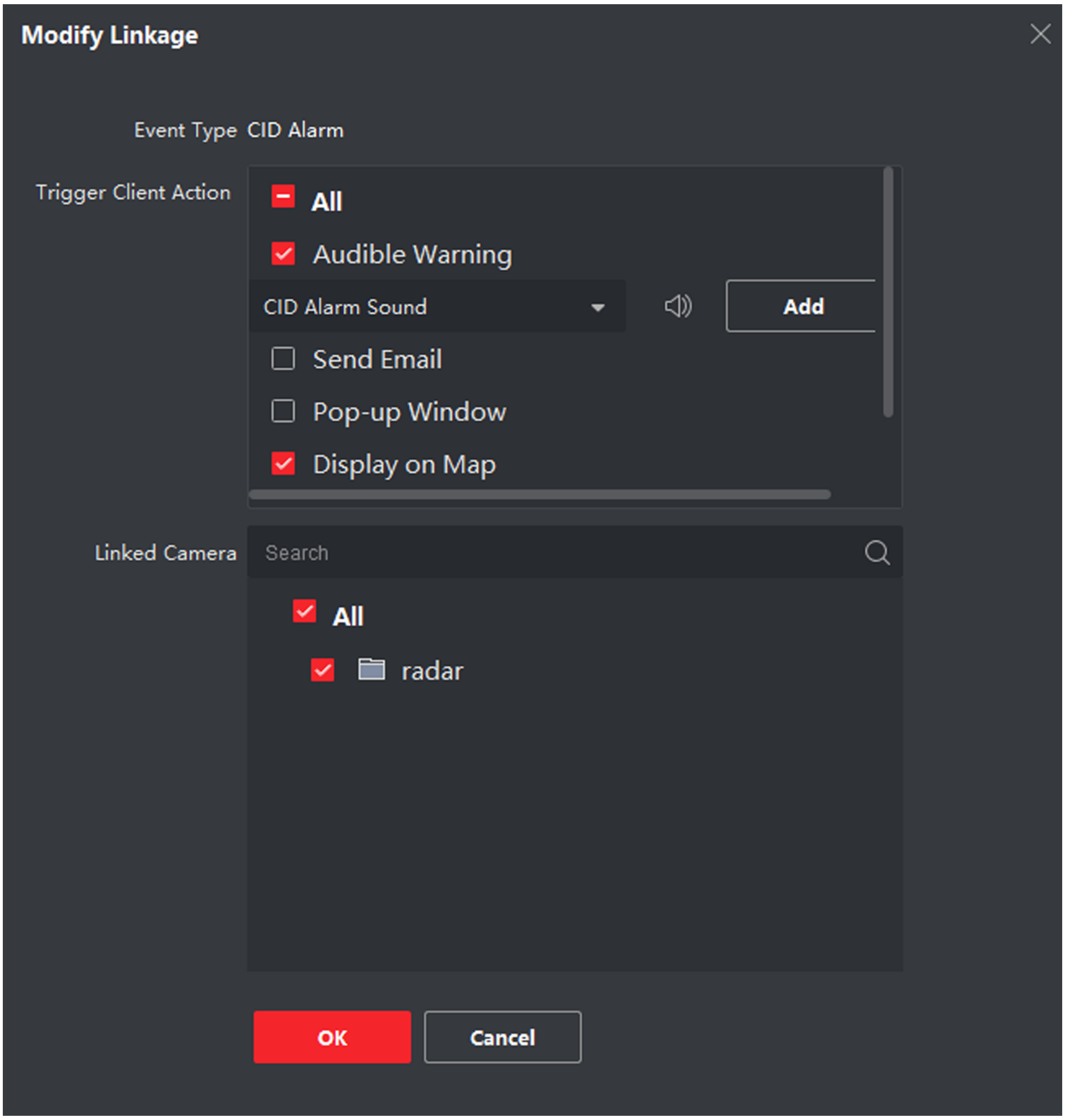


Figure 5-18 Link the Camera to the Zone

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.

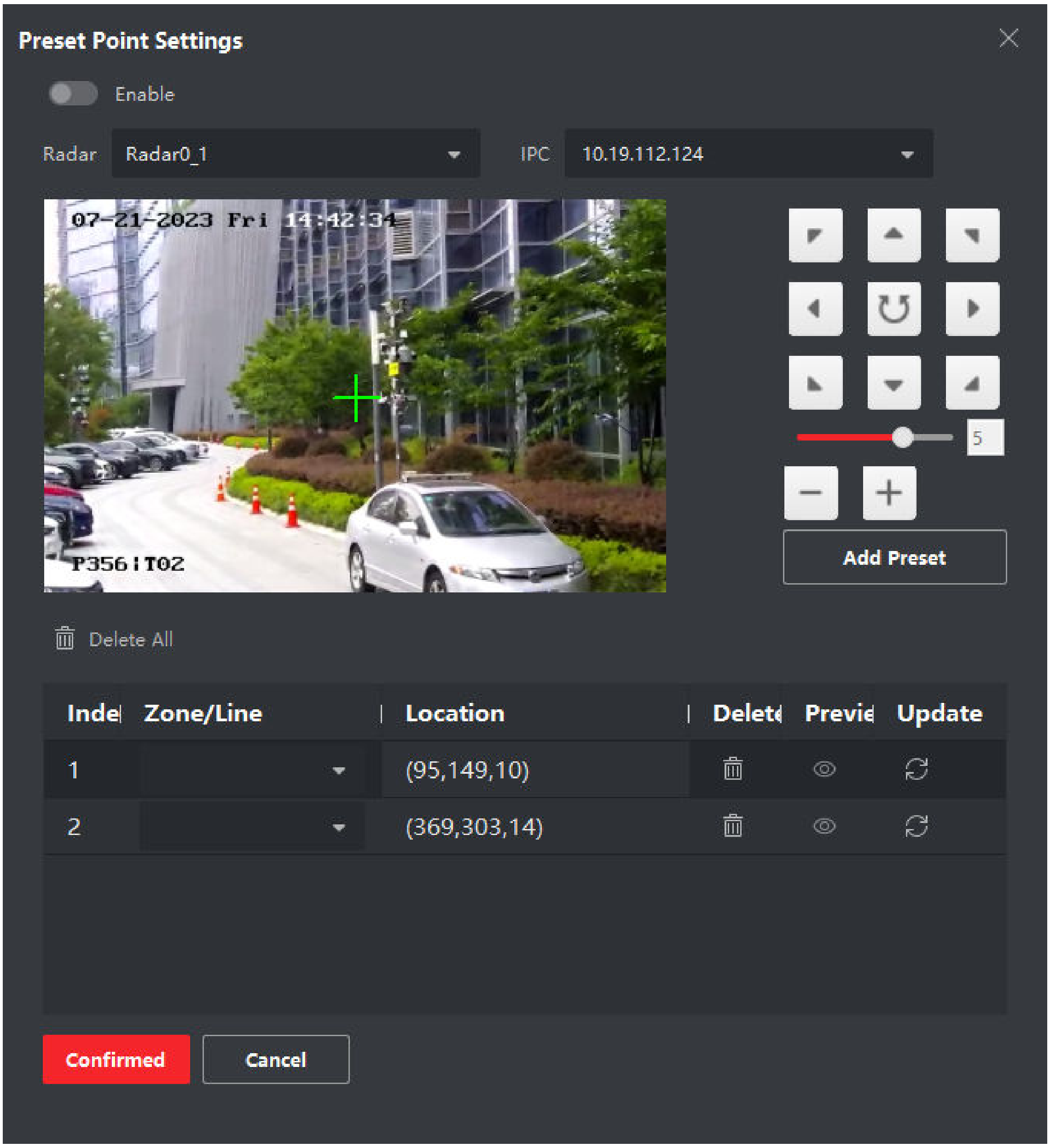
Before You Start

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.



Inde	Zone/Line	Location	Delete	Previe	Update
1		(95,149,10)			
2		(369,303,14)			

Figure 5-19 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**.

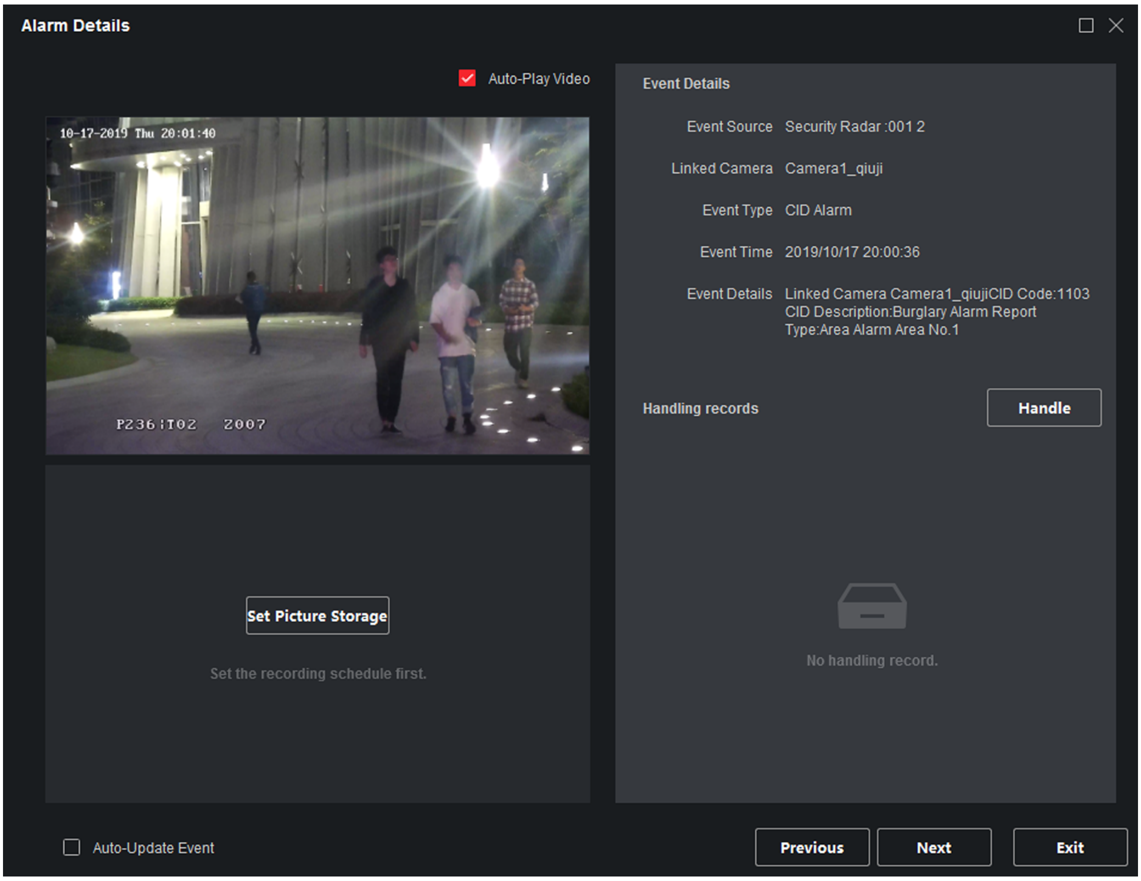
5.7 Pop-up Alarm Notification

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.



Event Source Security Radar :001 2
Linked Camera Camera1_qiuji
Event Type CID Alarm
Event Time 2019/10/17 20:00:36
Event Details Linked Camera Camera1_qiujiCID Code:1103 CID Description:Burglary Alarm Report Type:Area Alarm Area No.1

Figure 5-20 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. Go to **Radar → Coordinate Calibration → Link Camera** .

Note

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

2. Add NVR.

1) Click **+ Add Camera** in the camera list.

2) Enter the IP address, port, user name, password of the camera, and select to link to NVR.

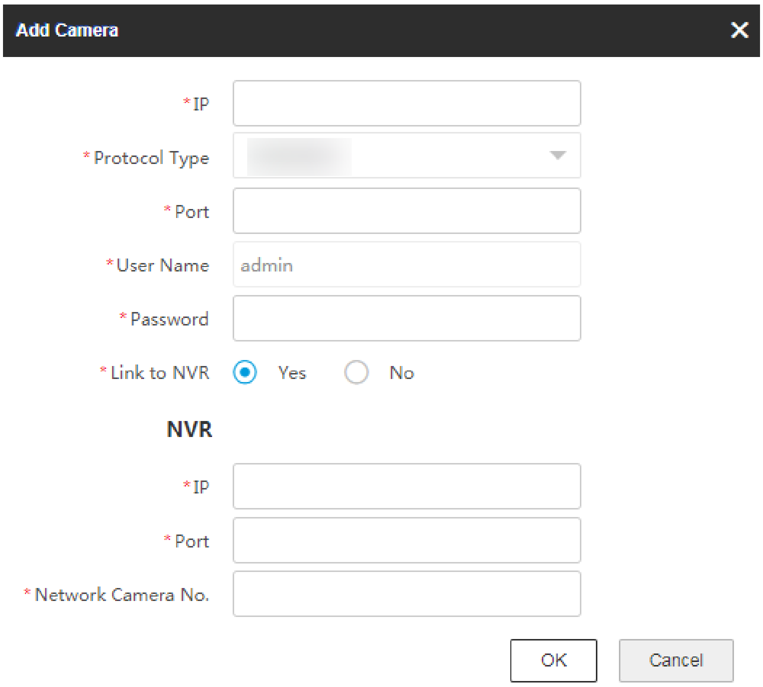


Figure 6-1 Add NVR

3) Click **OK**.

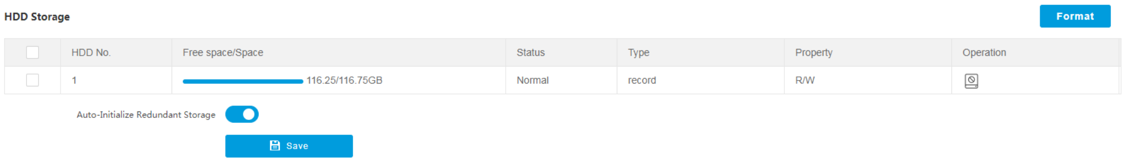
Result

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

6.3 Format Storage

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. Go to **Configuration → Storage → Storage Management → HDD Management** .

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



HDD Storage

☐	HDD No.	Free space/Space	Status	Type	Property	Operation
☐	1	116.25/116.75GB	Normal	record	R/W	

Auto-Initialize Redundant Storage ●

Figure 6-2 Format Storage

Auto-Initialize Redundant Storage

When exception occurred in the storage, it will be formatted automatically before next rebooting.

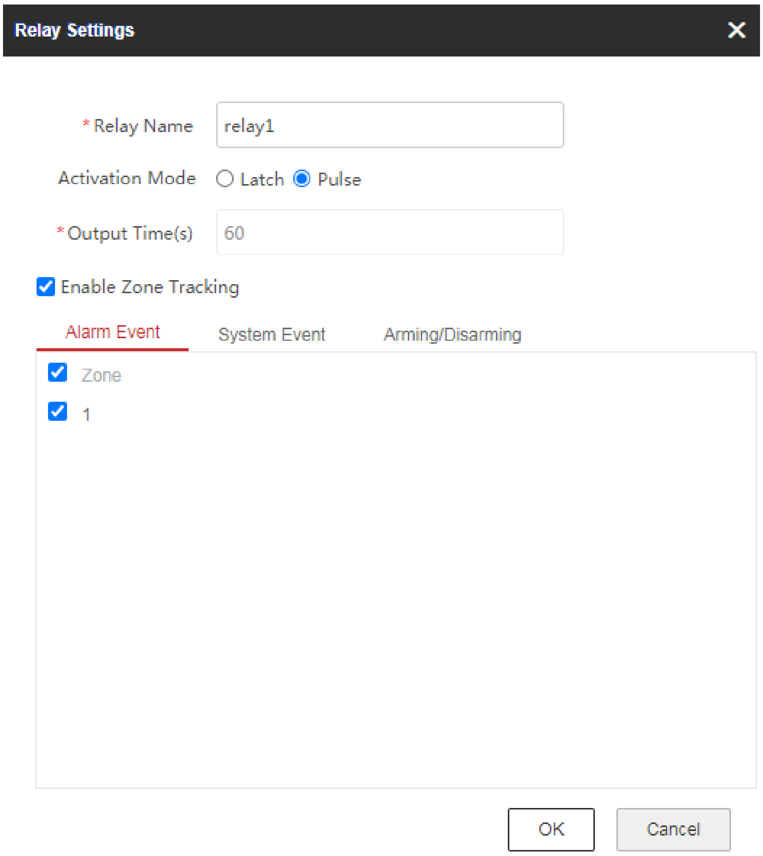
Chapter 7 Smart Rule Settings

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 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. Go to **Configuration → Alarm Module → Relay → Output** .
2. Select a relay, and click ✎ to set the relay parameters.



Relay Settings

* Relay Name: relay1

Activation Mode: ○ Latch ● Pulse

* Output Time(s): 60

☑ Enable Zone Tracking

Figure 7-1 Set Relay Parameters

Activation Mode

Latch

The alarms will output continuously.

Pulse

Set **Output Time**, and the alarms will output for the set time.

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 enabled, if only the zone is selected in the alarm event, the relay output time depends on the time the alarm is triggered in the zone.

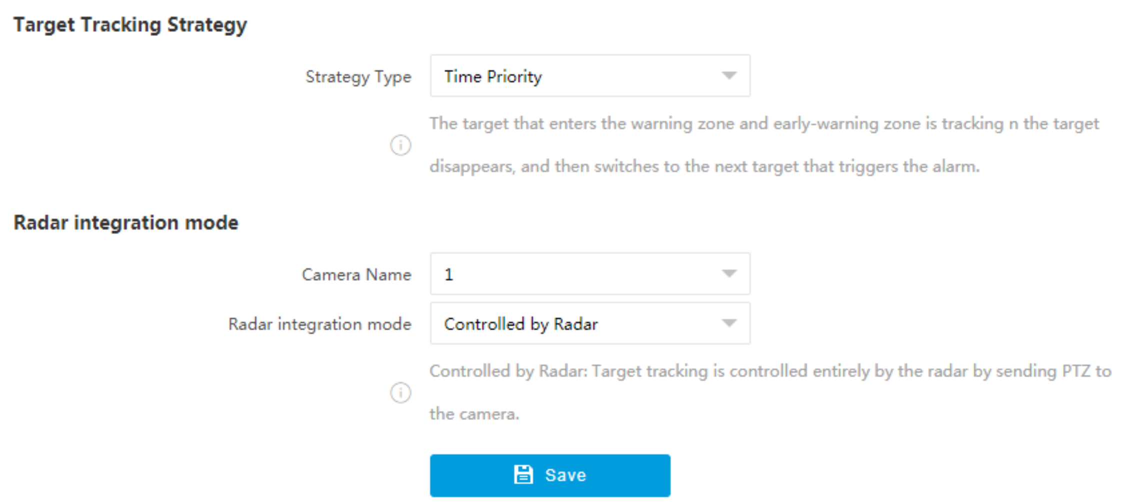
---

3. Set alarm output related parameters. Link the relay with alarm events, system events, and arming/disarming operations.
4. Click **OK**.

7.2 Set Camera Linkage Trace

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. Go to **Configuration → Capture → Trace Settings → Camera Linkage Trace Settings** .



Target Tracking Strategy

Strategy Type: Time Priority

The target that enters the warning zone and early-warning zone is tracking n the target disappears, and then switches to the next target that triggers the alarm.

Radar integration mode

Camera Name: 1

Radar integration mode: Controlled by Radar

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

Figure 7-2 Set Camera Linkage Trace

2. Set target tracking strategy.

Time Priority

The target that enters the warning zone and early-warning zone is being tracked until the target disappears, and then the next target that triggers the alarm will be tracked.

Range Priority

The target that is shortest away from the radar will be tracked.

Multi-Target Auto Switch

The target will be switched automatically when there are multiple targets in the zone. You should set **Switch Interval**, and the switching order is from the smallest to the largest target No.

Target Trigger Priority

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

The latest target will be automatically tracked and the next new target will be tracked 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 No.

3. Set radar integration mode.

Camera Name

Select the camera that linked with the radar.

Radar Integration Mode

Controlled by Radar

Target tracking is controlled entirely by the radar by sending PTZ coordinates to the camera.

Guided by Radar

After the radar detects the target, it will control the camera to the designated position. Then the radar will no longer control the camera tracking, and the camera will automatically track the target in the live video.

Note

Some cameras do not support the radar guidance function, and a popup window will display "The camera does not support radar guidance." during configuration.

4. Click **Save**.

7.3 Set Forced Trace

Set forced trace and the camera will track the targets in the radar detection range forcibly.

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. Go to **Configuration → Capture → Trace Settings → Forced Trace Settings** .

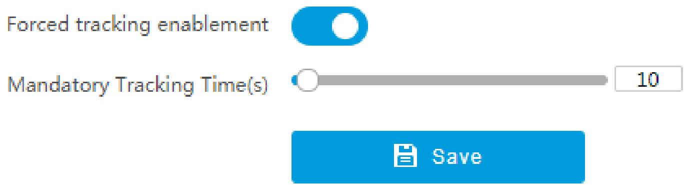


Figure 7-3 Set Forced Trace

2. Enable **Forced Tracking Enablement**.
3. Set **Mandatory Tracking Time**.
4. Click **Save**.

7.4 Camera Calibration

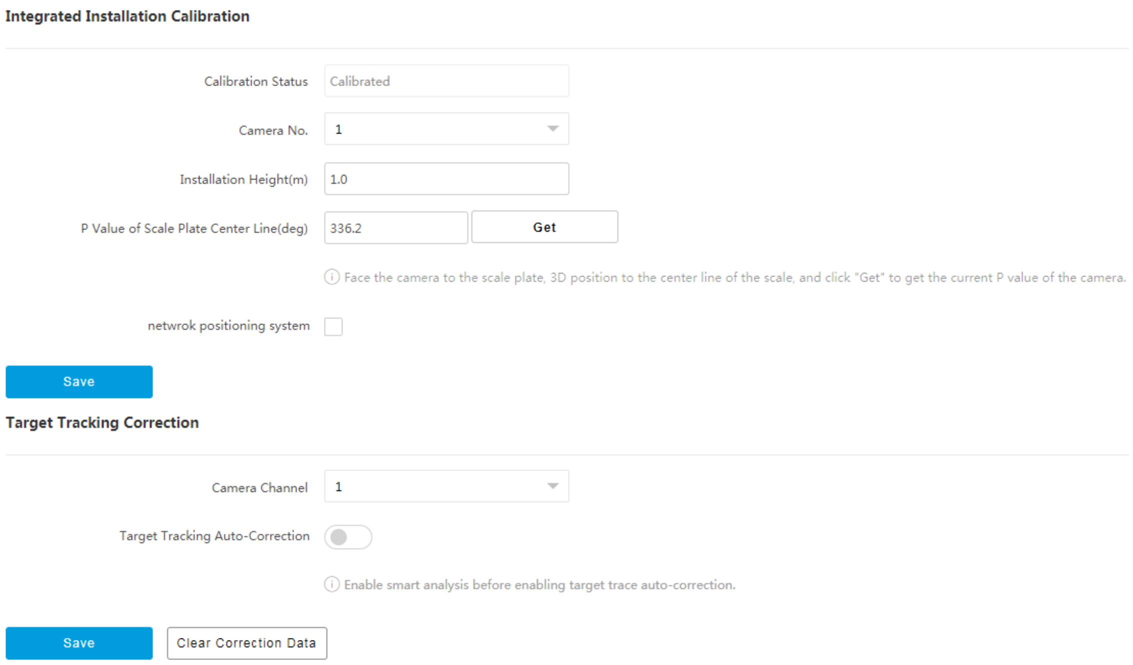
The all-in-one mounting plate mounted radar can be calibrated according to this section. Target tracking correction can be enabled for the camera enabled video content analysis.

Before You Start

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

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. Go to **Radar → Coordinate Calibration → Camera Calibration** .



Integrated Installation Calibration

Calibration Status: Calibrated

Camera No.: 1

Installation Height(m): 1.0

P Value of Scale Plate Center Line(deg): 336.2

ⓘ Face the camera to the scale plate, 3D position to the center line of the scale, and click "Get" to get the current P value of the camera.

netwrok positioning system ☐

Target Tracking Correction

Camera Channel: 1

Target Tracking Auto-Correction: ○

ⓘ Enable smart analysis before enabling target trace auto-correction.

Figure 7-4 Camera Calibration

2. Set integrated installation calibration.

1) Select **Camera No.**

2) Enter **Installation Height**. It is the vertical height from the camera to the detection surface.

3) Face the camera to the ruler, enlarge the image, enable 3D positioning, and click the center line of the ruler, and the center of the live view image will be automatically adjusted. Click **Get** to get the **P Value of Scale Plate Center Line**.

4) **Optional:** For cameras installed with PTZ, check **Network Positioning System**.

5) Click **Save**.

3. Set target tracking correction.

1) Select **Camera Channel** which has been enabled video content analysis.

2) Enable **Target Tracking Auto-Correction**, and set the parameters.

Target Tracking Auto-Correction

When enabled, the target will be in the best position in the live view image. The camera will automatically adjust the lens to center the target. When the function is enabled, the device will continue to adapt to the terrain in the live view image according to each judgment to achieve the best effect.

Sensitivity Auto-Correction

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

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.

3) Click **Save**.

4) **Optional:** Click **Clear Correction Data** to clear the target tracking correction data.

7.5 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. Go to **Configuration → Capture → Arming/Disarming Schedule → Arming/Disarming Schedule** .

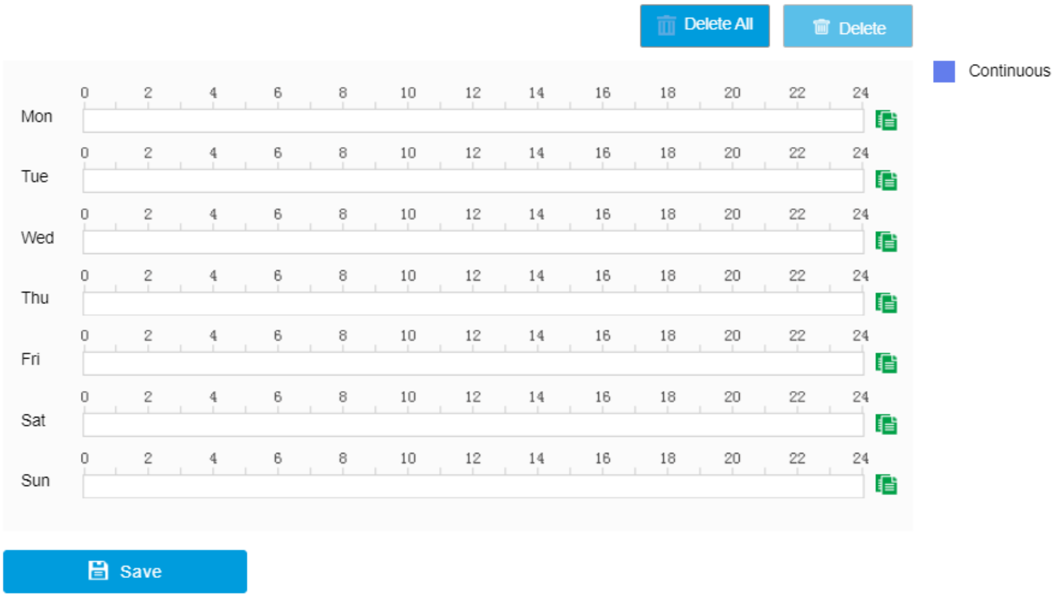


Figure 7-5 Set Arming/Disarming Schedule

2. Drag the cursor on the time bar to set an arming/disarming time.

Note

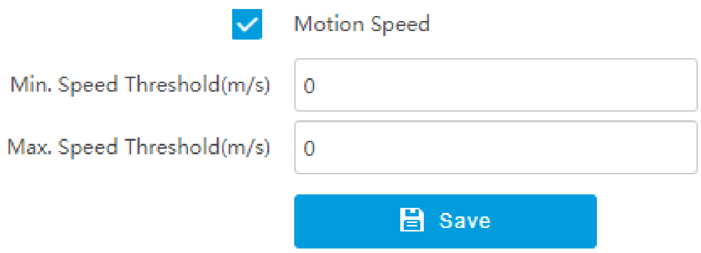
Up to 2 time periods can be set on a time bar.

3. Adjust the arming/disarming time.
   - Click a set arming/disarming period and enter the start time and end time in the pop-up window.
   - Drag two ends of the set arming/disarming period bar to adjust the length.
   - Drag the whole set arming/disarming period bar and relocate it.
4. **Optional:** Delete arming/disarming periods.
   - Click a set arming/disarming period and click **Delete** in the pop-up window.
   - Click a set arming/disarming period and click **Delete** on the arming/disarming schedule interface.
   - Click **Delete All** to delete all the arming/disarming schedule.
5. **Optional:** Click 📋 to copy the settings to other days.
6. Click**Save**to save.

7.6 Set Alarm

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. Go to **Configuration → Alarm Module → Alarm Settings** .
2. Set motion speed.
    1) Click **Motion Speed**.



☑ Motion Speed

Min. Speed Threshold(m/s) 0

Max. Speed Threshold(m/s) 0

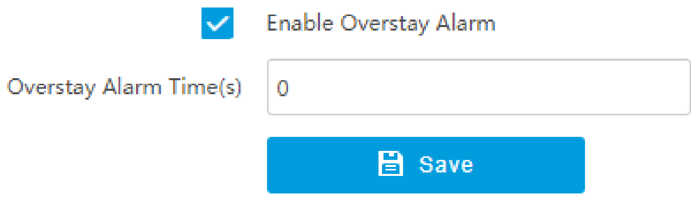
Figure 7-6 Set Motion Speed

    2) Enable **Motion Speed**.
    3) Set **Min. Speed Threshold** and **Max. Speed Threshold**.

    Only the target that moves in set speed threshold will trigger the alarm.

    4) Click **Save**.

3. Set overstay alarm.
    1) Click **Overstay Alarm**.



☑ Enable Overstay Alarm

Overstay Alarm Time(s) 0

Figure 7-7 Set Overstay Alarm

    2) Check **Enable Overstay Alarm**.
    3) Set **Overstay Alarm Time**.

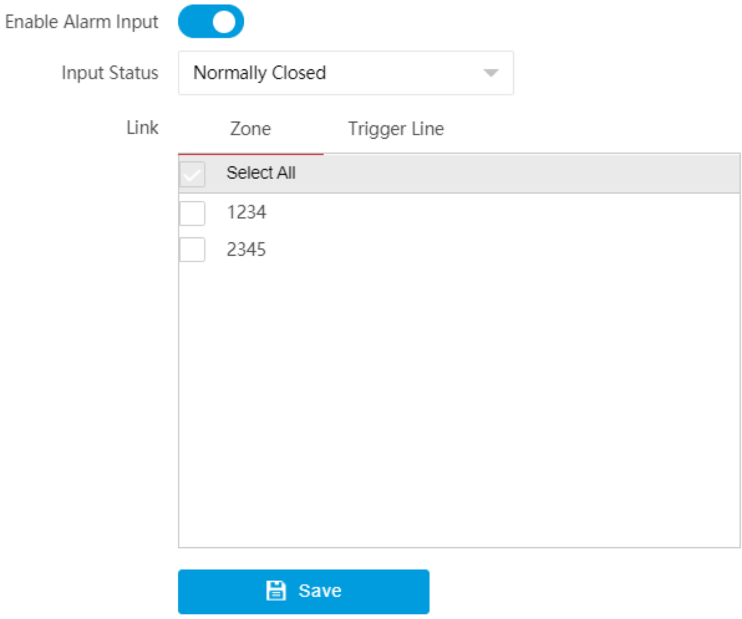
    Targets that stay longer than the overstay time will trigger an alarm.

    4) Click **Save**.

7.7 Set Alarm Input

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. Go to **Configuration → Alarm Module → Alarm Input Settings → Alarm Input Settings** .



Enable Alarm Input ●

Input Status: Normally Closed

Figure 7-8 Set Alarm Input

2. Enable alarm input.
3. Select **Input Status**.
4. Select zones and trigger lines to be linked.

   When there is an alarm input, the linked zones and trigger lines will trigger an alarm.
5. Click **Save**.

7.8 Video Content Analysis

Smart analysis of the detection targets.

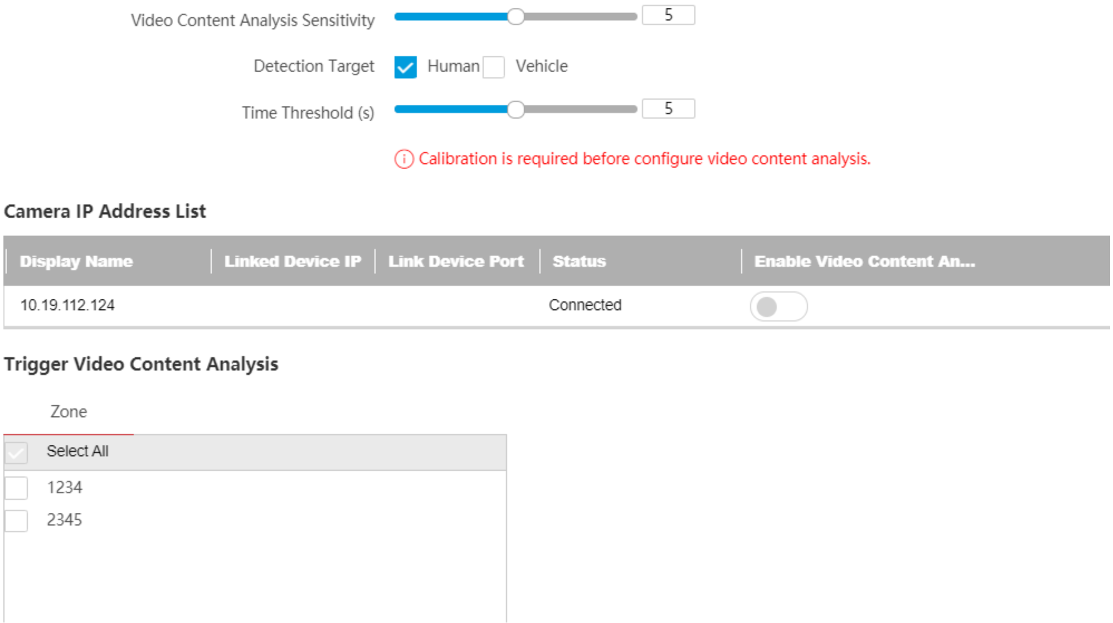
Before You Start

- Link and calibrate the camera (speed domes or network positioning system). 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. Go to **Configuration → Capture → Video Content Analysis** .
2. Set video content analysis parameters.
   1) Click **Video Content Analysis**.



Video Content Analysis Sensitivity: 5

Detection Target: ☑ Human ☐ Vehicle

Time Threshold (s): 5

ⓘ Calibration is required before configure video content analysis.

Camera IP Address List

Display Name	Linked Device IP	Link Device Port	Status	Enable Video Content An...
10.19.112.124			Connected	○

Trigger Video Content Analysis

Zone

☑ Select All
☐ 1234
☐ 2345

Figure 7-9 Video Content Analysis

   2) Set **Video Content Analysis Sensitivity** and **Time Threshold**.

   Video Content Analysis

   The sensitivity of detecting targets.

   Time Threshold

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

   3) Select **Detection 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 that will trigger the video content analysis.
   6) Click**Save**.
3. Set smart analysis time schedule.
   1) Click **Smart Analysis Time Schedule**.
   2) Set the time schedule. The configuration method is the same with that of the arming/disarming schedule.

Outside the configured video content analysis time schedule, alarm will be triggered according to the logic of disabled video content analysis, that is, all targets that trigger the zones will be alarmed.

7.9 Set Capture Parameters

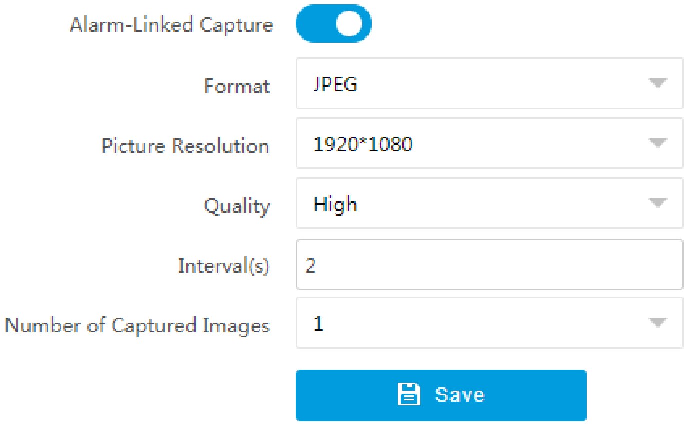
Capture pictures when an alarm is triggered.

Note

- Calibrate the radar first.
- Go to **Configuration → Capture → Trace Settings → Camera Linkage Trace Settings** to set 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. Go to **Configuration → Capture → Capture Settings → Capture Settings** . Enable **Alarm-Linked Capture**.

Set captured picture format, resolution, quality, interval, and number.



Alarm-Linked Capture ●

Format: JPEG

Picture Resolution: 1920*1080

Quality: High

Interval(s): 2

Number of Captured Images: 1

Figure 7-10 Set Capture Parameters

Note

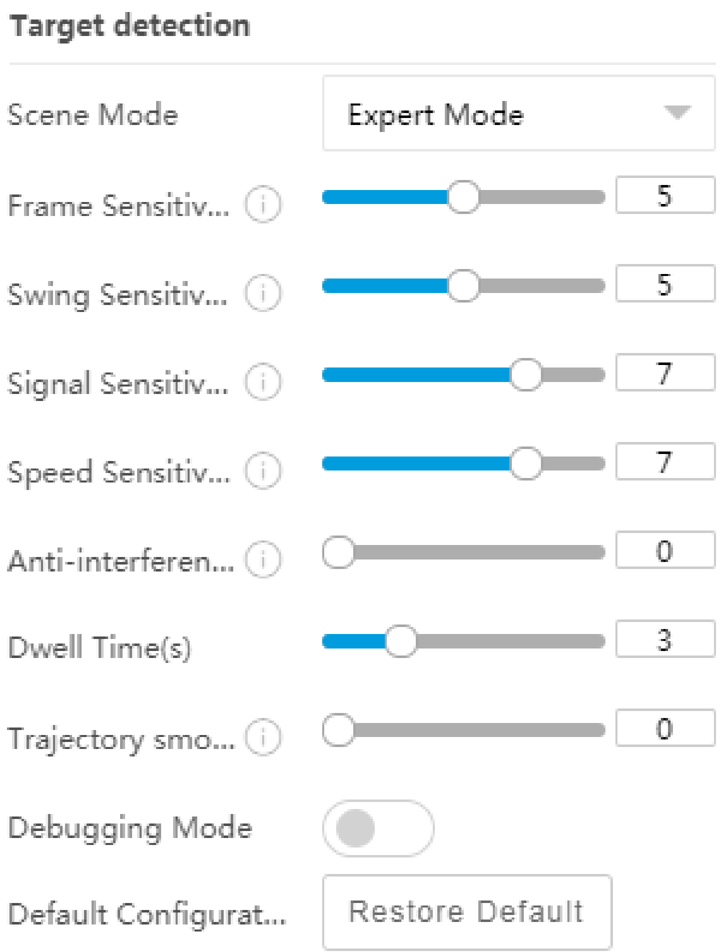
- When you want to capture multiple pictures for a single target, you can set **Interval** for every two pictures.
- Total Capture Time = Interval × (Number of Captured Images - 1). The total capture time is recommended to be less than the set **Min. Tracking Time of New Target** in **Configuration → Capture → Trace Settings → Camera Linkage Trace Settings** . 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 Set Target Detection

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. Go to **Radar → Parameter Config → Radar Settings → Target Detection** .



Target detection

Scene Mode: Expert Mode
Frame Sensitiv...: 5
Swing Sensitiv...: 5
Signal Sensitiv...: 7
Speed Sensitiv...: 7
Anti-interferen...: 0
Dwell Time(s): 3
Trajectory smo...: 0
Debugging Mode
Default Configurat...: Restore Default

Figure 8-1 Set Target Detection

2. Select **Scene Mode** according to the actual scene.

   Expert Mode

      Frame Sensitivity

It represents for the required min. frames for generating target ID. The higher the sensitivity is, the easier the targets can be detected.

Swing Sensitivity

It represents for the motion characteristics of the targets. The higher the sensitivity is, the better the tangential and low-speed targets can be detected. The lower the sensitivity is, the better the flashing traces can be filtered, and the later the tangential and low-speed targets can be detected.

Signal Sensitivity

It represents for the cfar threshold. The higher the sensitivity is, the lower the cfar threshold is, and the easier the low-consumption targets can be detected.

Speed Sensitivity

It represents for the detected zero-speed zone size. The higher the sensitivity, the smaller the zero-speed zone. The targets in the zero-speed zone will be filtered based on swing sensitivity, and the targets outside the zero-speed zone will be detected directly. The lower the sensitivity is, the larger the zero-speed zone will be, and the later the tangential and low-speed targets can be detected.

Suggestion: Set 8 to 9 for empty scenes. Set 7 for low-speed targets such as a small number of shrubs. Set 5 to 6 for large areas of trees. Set 1 to 4 for river scenes and high wind scenes.

Anti-interference Sensitivity

It represents for the anti-interference ability of algorithm. The higher the sensitivity is, the stronger the anti-interference ability will be. But it will increase computation and the CPU usage of algorithm.

Dwell Time

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

Trajectory Smoothness Sensitivity

It represents for the smooth degree of the trace. The higher the sensitivity, the smoother the trace.

Open Mode

It is applicable to the scenes where there are no large objects in the radar detection area.

Shrub Mode

It is applicable to the scenes where there are shrubs and other objects that are likely to swing in the radar detection area. The shrub mode can also be used to decrease the interference of rainstorm.

Common Mode

It is applicable to the common scenes.

Railway Mode

It is applicable to the railway scenes in which radars are constructed around the railway to filter the trains.

Jail Mode

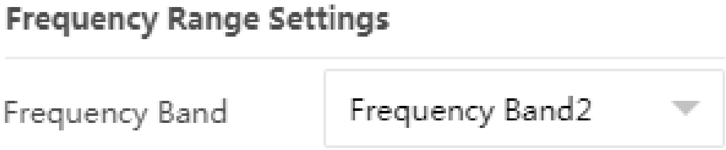
It is applicable to the jail scenes with the width of 5 m to detect persons.

3. Enable **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.
4. Click **Set** to save the settings.
5. **Optional:** Click **Restore Default** to restore the settings 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. Go to **Radar → Parameter Config → Radar Settings → Frequency Range Settings** .



Frequency Range Settings

Frequency Band: Frequency Band2

Figure 8-2 Set Frequency Range

The radar supports multiple frequency bands. You can select one according to the actual needs. Click **Set** to save the settings.

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

You can arrange multiple radars for linkage detection and set the main-sub radar 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. Go to **Radar → Parameter Config → Radar Settings → Panorama Tracking Settings** to enter the page.

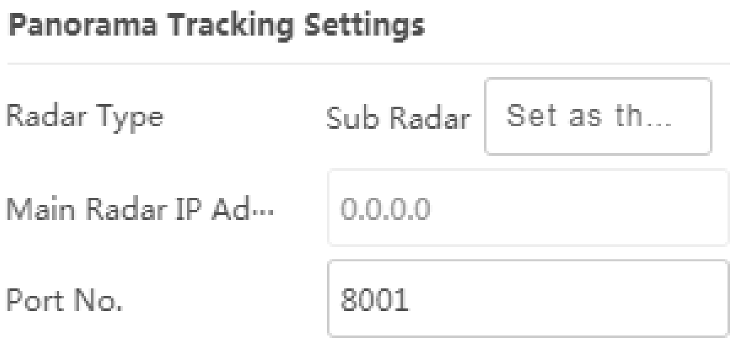


Figure 8-3 Set Panorama Tracking

2. Set the radar type and parameters.
   - If the current radar is set as a main radar, you can add, edit, delete the sub-radar, and set the sub-radar priority.

     Note

     The port No. set for the sub-radar should be the same as that of the main radar.
   - If the current radar is set as a sub-radar, you need to set the main radar IP address and port No.
3. Click **Set** to save the settings.

Result

When the sub-radar detects the target and triggers the alarm, the target information to be tracked will be sent to the main radar, and the main radar will arrange linked cameras to track the target according to the set radar priority.

8.4 Set Array

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

Some models 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. Go to **Radar → Parameter Config → Radar Settings → Advanced Settings** .

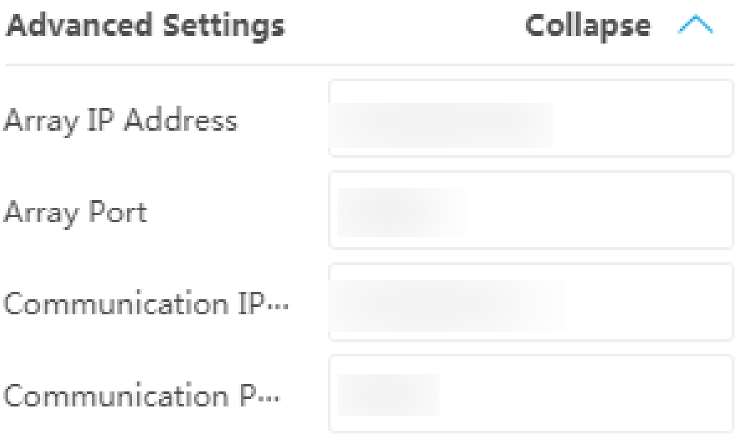


Figure 8-4 Set Array

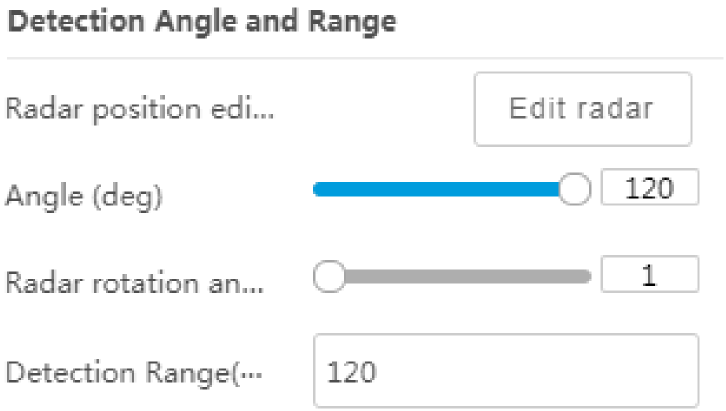
Enter **Array IP Address**, **Array Port**, **Communication IP Address**, and **Communication Port**. Click **Set** to save the settings.

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. Go to **Radar → Parameter Config → Detection Display Settings → Detection Angle and Range** .



Detection Angle and Range

Radar position edi...

Angle (deg) 120

Radar rotation an... 1

Detection Range(··· 120

Figure 9-1 Set Detection Angle and Range

2. Slide the bar to set the radar angle and radar rotation angle, and set the detection range.

Note

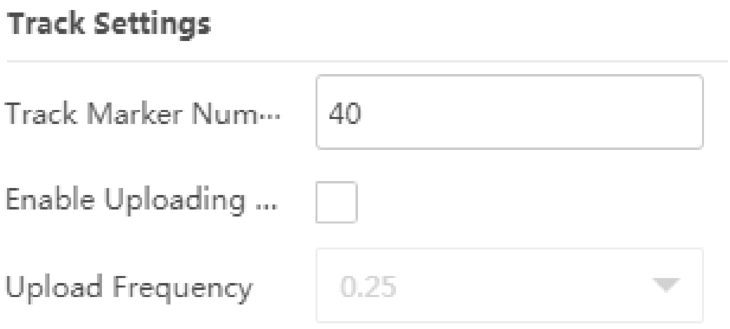
The system should perform terrain learning again after you edit the angle or the rotation angle.

3. Click **Set** to save the settings.

9.2 Set Track

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. Go to **Radar → Parameter Config → Detection Display Settings → Track Settings** .



Track Settings

Track Marker Num··· 40

Enable Uploading ... ☐

Upload Frequency 0.25

Figure 9-2 Set Track

2. Set the parameters.

   Track Marker Number

   Edit the track marker number to control the track length. The default is 40.

   Uploading Frequency

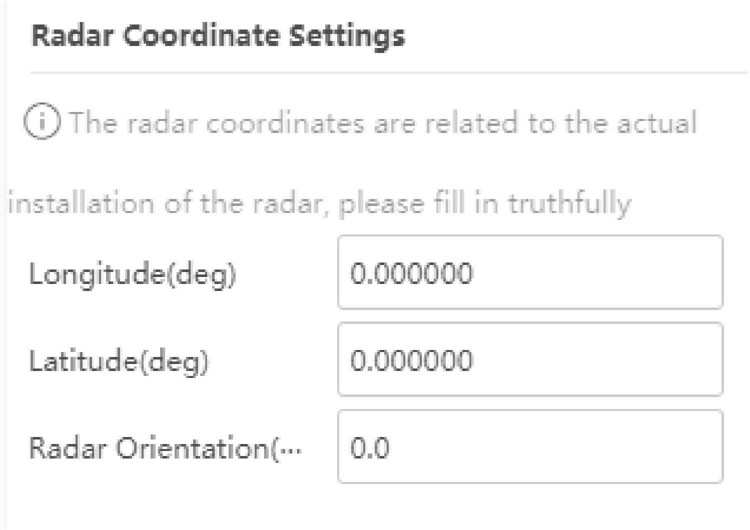
   Check **Enable Uploading Frequency**, and set **Uploading Frequency**.
3. Click **Set** to save the settings.

9.3 Set Radar Coordinate

Set the radar latitude, 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. Go to **Radar → Parameter Config → Detection Display Settings → Radar Coordinate Settings** .



Radar Coordinate Settings

The radar coordinates are related to the actual installation of the radar, please fill in truthfully

Longitude(deg) 0.000000

Latitude(deg) 0.000000

Radar Orientation(··· 0.0

Figure 9-3 Set Radar Coordinate

2. Set the radar **Longitude**, **Latitude**, and **Radar Orientation**.

Note

- The radar orientation is the clockwise angle between the true north direction and the radar center line. You can place your mobile phone on the back of the radar and use the application with compass functions to get this angle.
- The radar coordinates are related to the actual installation of the radar. Please enter truthfully.

3. Click **Set** to save the settings.

Chapter 10 View Alarm Information

10.1 View Real-Time Event

You can arm the radar via the web browser, and view the real-time event details.

Steps

1. Go to **Radar → Real-Time Event** .
2. Click to select the arming level.
   - **Level 1 Arming** can only connect one client or web. The uploaded pictures will not be stored in the storage card. The pictures in the storage card will be uploaded to the level 1 arming.
   - **Level 2 Arming** can connect three clients or webs. The pictures will be uploaded to the client/ web, and stored in the storage card.
   - **Disarming** is to cancel the alarm status or real-time picture.
3. Click **Arming**.
4. View the alarm event details in the picture list.

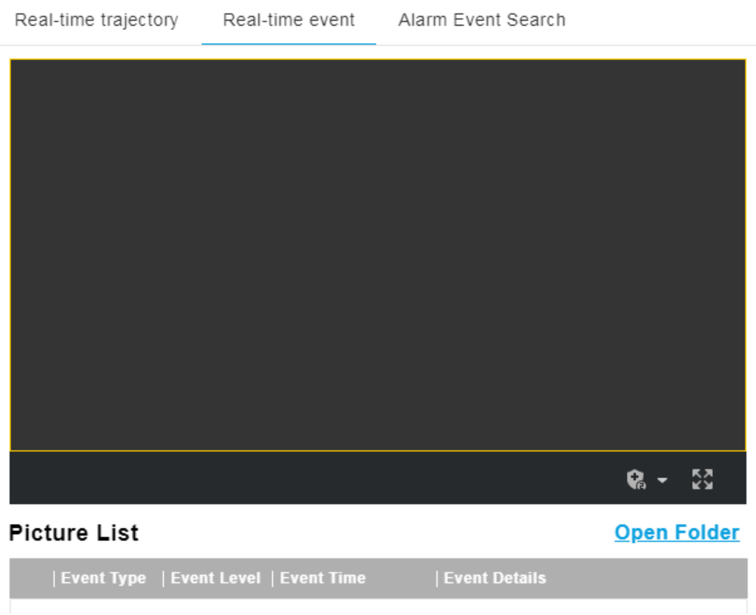


Figure 10-1 Real-Time Event

5. **Optional:** Click **Open Folder** to open the saving path of captured pictures.

10.2 Search Alarm Event

The device supports searching and playing back the alarm events.

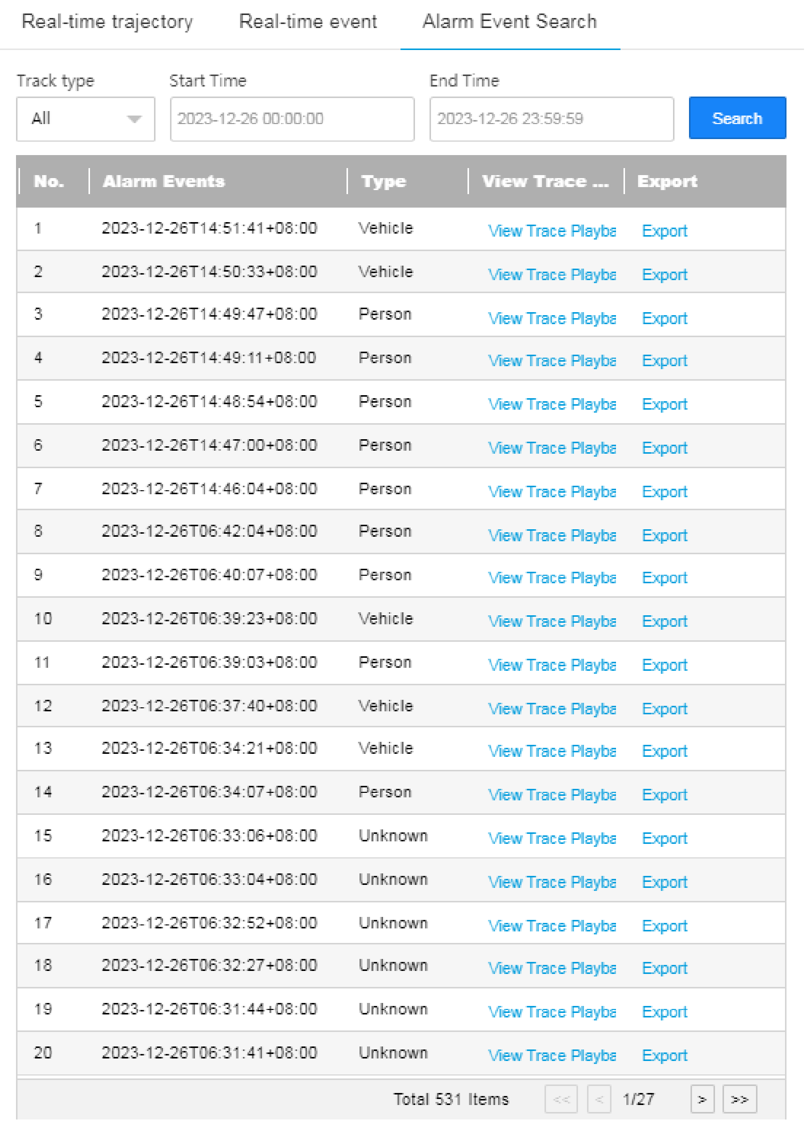
Before You Start

Set record and storage before searching and playing back alarm events.

Steps

1. Click **E-map** in the client software, or enter the IP address of the radar in the address bar of the web browser. Go to **Radar → Alarm Event Search** .
2. Set the search conditions, and click **Search**.

   The searched alarm events will display in the list.



Track type: All

Start Time: 2023-12-26 00:00:00

End Time: 2023-12-26 23:59:59

No.	Alarm Events	Type	View Trace ...	Export
1	2023-12-26T14:51:41+08:00	Vehicle	View Trace Playba	Export
2	2023-12-26T14:50:33+08:00	Vehicle	View Trace Playba	Export
3	2023-12-26T14:49:47+08:00	Person	View Trace Playba	Export
4	2023-12-26T14:49:11+08:00	Person	View Trace Playba	Export
5	2023-12-26T14:48:54+08:00	Person	View Trace Playba	Export
6	2023-12-26T14:47:00+08:00	Person	View Trace Playba	Export
7	2023-12-26T14:46:04+08:00	Person	View Trace Playba	Export
8	2023-12-26T06:42:04+08:00	Person	View Trace Playba	Export
9	2023-12-26T06:40:07+08:00	Person	View Trace Playba	Export
10	2023-12-26T06:39:23+08:00	Vehicle	View Trace Playba	Export
11	2023-12-26T06:39:03+08:00	Person	View Trace Playba	Export
12	2023-12-26T06:37:40+08:00	Vehicle	View Trace Playba	Export
13	2023-12-26T06:34:21+08:00	Vehicle	View Trace Playba	Export
14	2023-12-26T06:34:07+08:00	Person	View Trace Playba	Export
15	2023-12-26T06:33:06+08:00	Unknown	View Trace Playba	Export
16	2023-12-26T06:33:04+08:00	Unknown	View Trace Playba	Export
17	2023-12-26T06:32:52+08:00	Unknown	View Trace Playba	Export
18	2023-12-26T06:32:27+08:00	Unknown	View Trace Playba	Export
19	2023-12-26T06:31:44+08:00	Unknown	View Trace Playba	Export
20	2023-12-26T06:31:41+08:00	Unknown	View Trace Playba	Export

Total 531 Items << < 1/27 > >>

Figure 10-2 Search Alarm Event

3. Click **View Trace Playback** and click **Play**to play back the alarm event.
4. Click **Export**, and select **Radar Track** or **Video Recording Trace** to export to the specific saving path of the computer.

Chapter 11 System Configuration

11.1 System Settings

View the device information and 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. Go to **Configuration → System → System Settings → Basic Information** .
You can edit **Device Name** and **Device No.** View the device type, serial No., version, algorithm 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. Go to **Configuration → System → System Settings → Device Status** .
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. Go to **Configuration → System → System Settings → Time Settings** .
Select **Sync Mode** and click **Save**.

NTP Synchronization

Select it to synchronize the device time with that of the NTP server. Set **Server IP**, **NTP Port**, and **Interval**. Click **NTP Test** to test if the connection between the device and the server is normal.

Manual Synchronization

Select it to synchronize the device time with that of the computer. Set time manually, or check **Sync. with computer time**.

SDK

If the remote host has been set for the device, select it to synchronize time via the remote host.

No

Select it to disable time synchronization.

All

Select it, and you can select any mode above.

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. Go to **Configuration → System → System Settings → DST** . Check **Enable DST**, and set the DST start time, end time, and 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. Go to **Configuration → System → Maintenance → Upgrade & Maintenance** .

Reboot

Click **Reboot** to reboot the device.

Note

You can also click **Reboot** on the upper right corner of the page to reboot the device.

Simply Restore Device Parameters

Click **Restore** to restore all the parameters except for admin user information and wired network parameters to default settings.

Fully Restore to Factory Settings

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

Export Data

Click **Export** and you can export the device configuration parameters, debug file, or diagnosis information to the computer. You need to set an encryption password when exporting configuration parameters.

Upgrade

Click **Browse** and select an upgrade file from the computer 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.

Import Data

Click **Browse** to select a configuration file from the computer and click **Import** to import configuration parameters to the device. You need to enter the password set for exporting the configuration parameters.

⚠ **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. Go to **Configuration → System → Maintenance → Log Search** . Set search conditions, and click **Search** to get the log list. You can click **Export** to export the log information.

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. Go to **Configuration → System → Security → Security Service** .

Software

Enable User Lock

If 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.

Log Audit Service

The security audit logs refer to the security operation logs. You can search and analyze the security log files of the device so as to find out the illegal intrusion and troubleshoot the security events. Security audit logs can be saved on device internal storage. The log will be saved every half hour after device booting. Due to limited storage space, you are recommended to save the logs on a log server. Enable system log service, and set the IP address and port of the log server. The device will upload the security audit logs to the log server regularly.

Timeout Logout

Enable timeout logout for static page. If there is no operation in the set **Max. Timeout,** the account will log out automatically.

Password Validity Period

Select **Validity Type**. Select **Permanent**, and the password will be permanently valid. Select **Daily** and set **Password Expiry Time**. It will prompt you that the password is expired according to the set password expiry time, and you need to set the new 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. Go to **Configuration → System → Security → Security Settings** . Select **RTSP Authentication**.

digest

Digest authentication with higher safety.

11.4 Manage User

The administrator can add, modify, or delete other accounts, and grant different permissions to different user levels.

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. Go to **Configuration → System → User Management → User List** .
2. Select **Password Level**.

   The password level of the added user should conform to the selected level.
3. Add a user.
   1) Click **Add**.
   2) Enter **User Name** and select **Type**.
   3) Enter **Admin Password**, **New Password**, and confirm the password.

      Caution

      To increase security of using the device on the network, please change the password of your account regularly. Changing the password every 3 months is recommended. If the device is used in high-risk environment, it is recommended that the password should be changed every month or week.
   4) Assign remote permission to users based on needs.

      User

      Users can be assigned permission of viewing live video and changing their own passwords, but no permission for other operations.

      Operator

      Operators can be assigned all permission except for operations on the administrator and creating accounts.
   5) Click **OK**.
4. **Optional:** You can do the following operations.

Change the password and permission	Click ✎ to change the password and permission.
Delete the user	Click 🗑 to delete the user.

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.

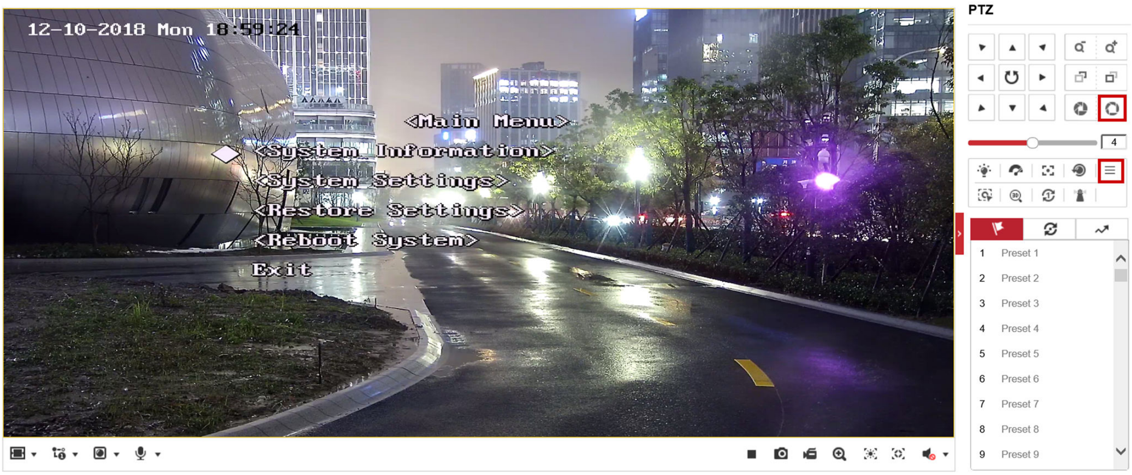


Figure B-1 The Main Menu of Speed Dome

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.

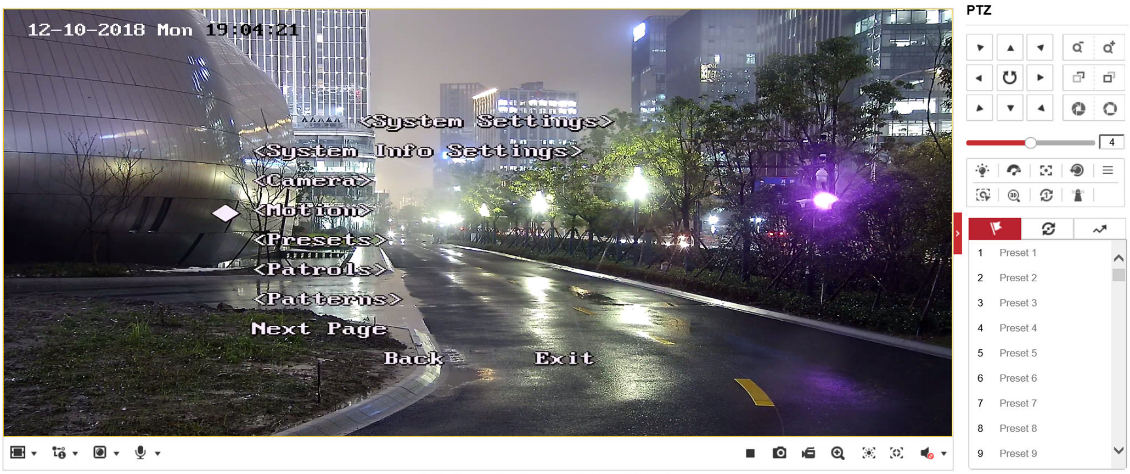
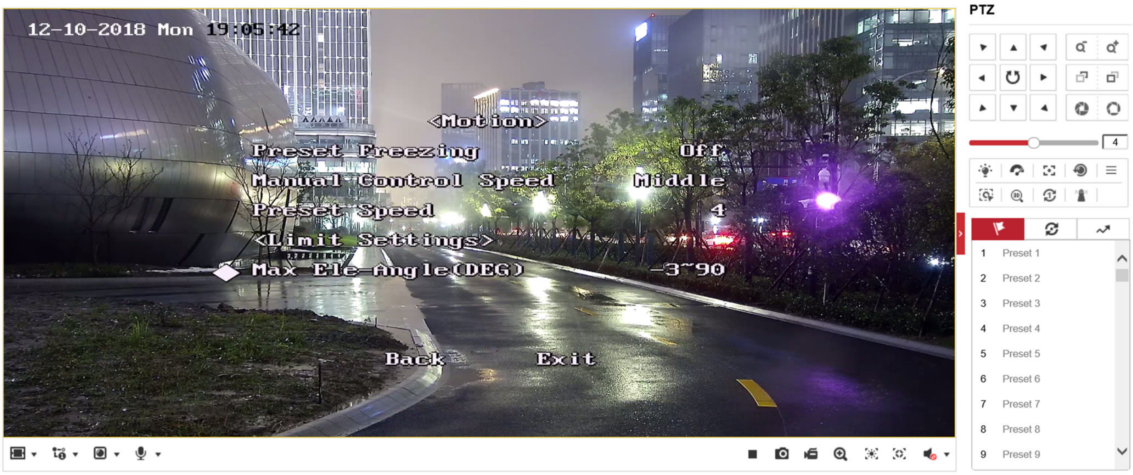


Figure B-2 Motion

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.



12-10-2018 Mon 19:05:42

<Motion>

Preset Freezing Off

Manual Control Speed Middle

Preset Speed 4

<Limit Settings>

Max Ele-Angle(DEG) -3~90

Back Exit

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

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