

Security Radar

User Manual

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About this Manual

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

Note

- Please refer to the installation standard in ***Radar Installation Recommendation*** for equipment installation.
- You should activate the device the first time it accesses to the network for safety reasons. For details, see **Device Activation**.

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.

Note

- You should set the device port No. as 80.
- 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. You can configure the device parameters in this 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

In 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

Before You Start

- Get the iVMS-4200 client software from the supplied disk or the official website ***http://www.hikvision.com/en/*** . Install the software by following the prompts.
- The device and the PC that runs the software should be in the same subnet.

Steps

1. Run the client software.
2. Enter **Device Management → Device** in the **Maintenance and Management** list.
3. Click **Online Device**.
4. Check the device status from the online device list, and select an inactive device.
5. Click **Activate**.
6. Create and confirm the admin password of the device.

   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.

7. Click **OK** to start activation.

   Device status will change to **Active** after successful activation.
8. Edit IP address of the device.
   1) Select a device and click on the online device list.
   2) Change the device IP address to the same subnet with your computer and set port number as 80.
   3) Enter the admin password of the device and click **OK** to complete modification.
9. **Optional:** Check the device on the online device list and click **Add** to add the device to the device list.

2.2 Activate via SADP

SADP is a tool to detect, activate and modify the IP address of the device over the LAN.

Before You Start

- Get the SADP software from the supplied disk or the official website ***http://www.hikvision.com/en/*** , and install the SADP according to the prompts.
- The device and the PC that runs the SADP tool should be within the same subnet.

The following steps show how to activate a device and modify its IP address. For batch activation and IP addresses modification, refer to *User Manual of SADP* for details.

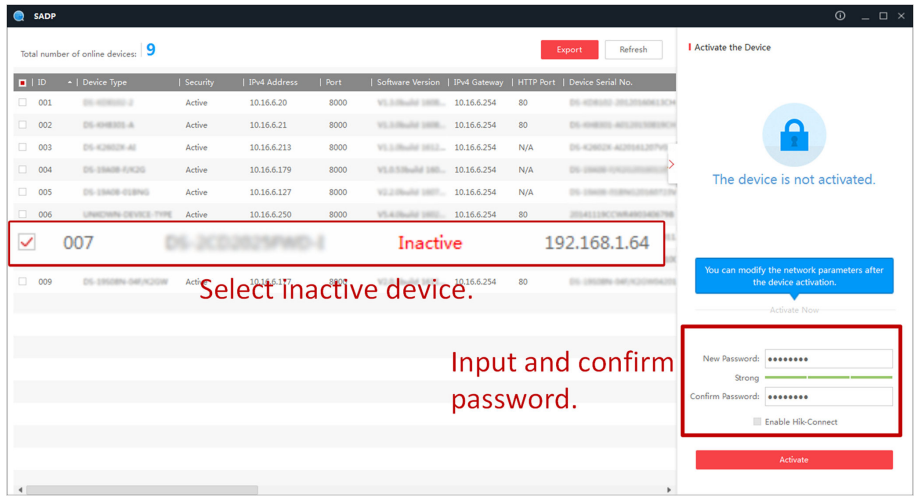
Steps

1. Run the SADP software and search the online devices.
2. Find and select your device in online device list.
3. Input new password (admin 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.

4. Click **Activate** to start activation.



Status of the device becomes **Active** after successful activation.

5. Modify IP address of the device.
   1) Select the device.
   2) Change the device IP address to the same subnet as your computer by either modifying the IP address manually or checking **Enable DHCP**.
   3) Input the admin password and click **Modify** to activate your IP address modification.

2.3 Activate Device via Web Browser

Use web browser to activate the device. Use SADP software or PC client to search the online device to get the IP address of the device, and activate the device on the web page.

Before You Start

Make sure your device and your PC connect to the same LAN.

Steps

1. Open a web browser and input the IP address of the device.

   Note

   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. The default IP address of the device is 192.0.0.64.

2. Create and confirm the admin 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.

3. Click **OK** to complete activation.
4. Edit IP address of the device.
   1) Enter IP address modification page.
   2) Change IP address.
   3) Save the settings.

Chapter 3 Wired Network Settings

You can set the device IP address and other network parameters.

Steps

Note

Functions varied depending on the model of the device.

1. In the client software, enter **Device Management** page.
2. Select the device in the Device for Management list, click .
3. Click **Communication Parameters → Wired Network Settings** to enter the page.

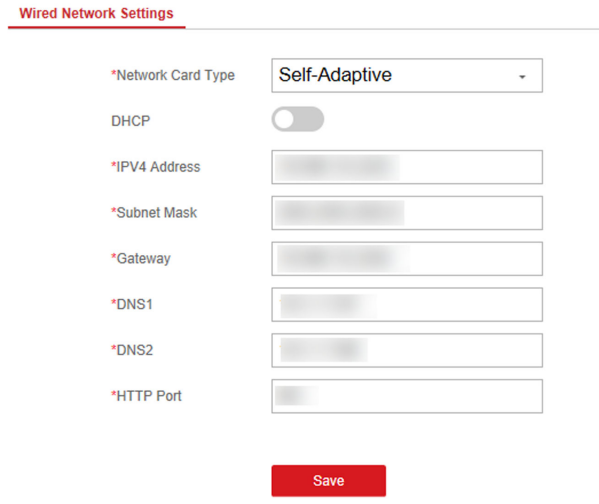


Figure 3-1 Wired Network Settings Page

4. Set the parameters.
   - Automatic Settings: Enable **DHCP** and set the HTTP port.
   - Manual Settings: Disabled **DHCP** and set **IP Address**, **Subnet Mask**, **Gateway Address**, **DNS Server Address**.

   Note

   By default, the HTTP port is 80, which is not editable.
5. **Optional:** Set correct DNS server address if the device needs to visit Hik-Connect server via a domain name.
6. Set correct DNS server address if the device needs to visit server via a domain name.
7. Click **Save**.

Chapter 4 Radar Settings

You can add zones, and set camera tracking parameters for the radar in the **Radar** module of the client software.

4.1 Add Map

Steps

1. Click **E-map** to enter the radar page.
2. Select the group of the radar, and click **Add map** to load a map.

Note

Supported picture formats: jpg/png/bmp.

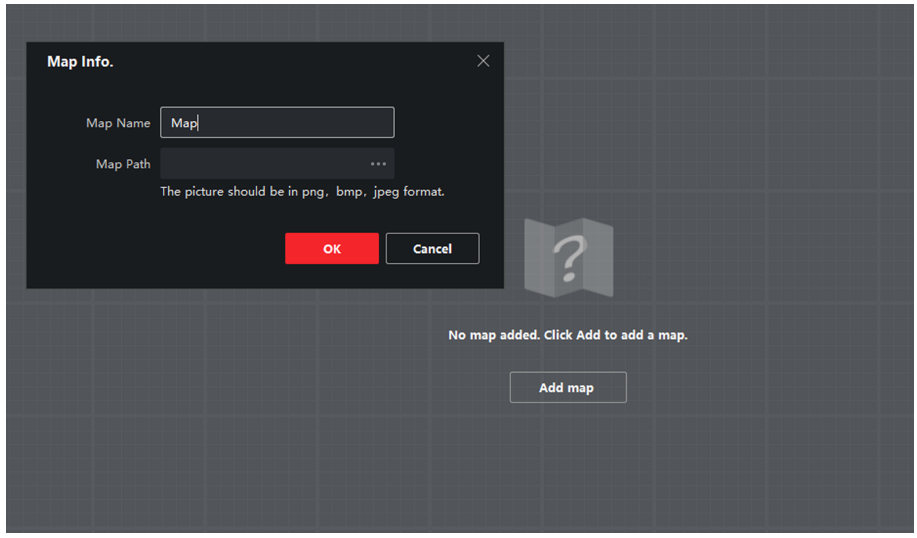


Figure 4-1 Add a Map

3. Click **OK**.
4. Click **Edit Scale**.
5. Click on the map to draw a straight line, select the end position and click again to complete the drawing.
6. Enter the actual distance between two points.

Note

The gray word range is the predicted distance range of system. You should enter the number in the this range.

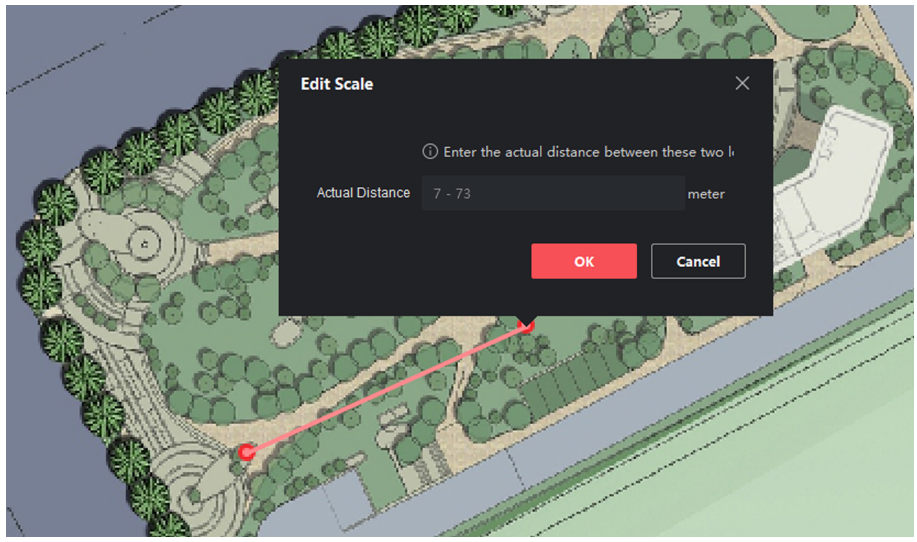


Figure 4-2 Edit Scale

7. Click **Save**.

4.2 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.

Note

Multiple radars need to be added to the same group before they can be added to the same map.

Steps

1. In 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 click and drag the radar onto the map.



Figure 4-3 Add the Radar to the Map

3. Adjust the radar position. Drag the sector 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
Hot Spot Color	Color of radar name
Hot 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 4-4 Radar Menu

Menu	Description

Arm Open the arming mode of the radar detection area.

Note

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

Disarm Close the arming mode of the radar detection area.

Event Search and play back alarm events.

Note

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

7. **Optional:** After exiting the editing mode, click **Arm/Disarm → Arm all Radars** or **Arm/Disarm → Disarm all Radars** in the upper right corner of the map to arm/disarm all radars on the map.

4.3 Add Radar Zone

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 E-map page, click **Edit** to enter the editing mode.
2. **Optional:** Enable **Field Assisstan** 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.
3. Click **Radar Settings → Draw Zone Manually** , and click the mouse to draw a zone on the radar detection area.



Figure 4-5 Draw a Zone

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 zoom in/out to adjust the size of the displayed radar area.

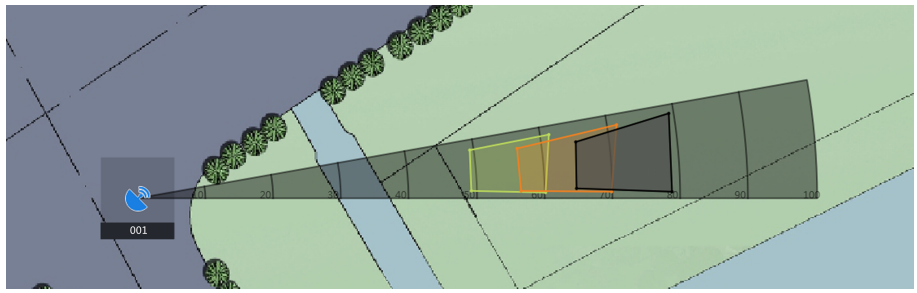


Figure 4-6 Overlap zones

4. 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.

   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.

5. Click **OK**.
6. **Optional:** Modify or delete the zone.
   1) Double click on the zone, enter the zone editing mode.
   2) Put the cursor on the line of the zone and it will change to a cross, click to add a marker.

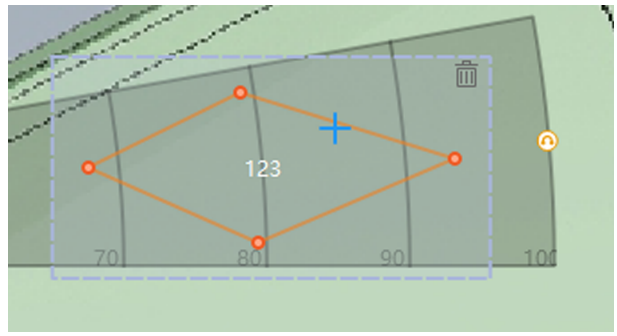


Figure 4-7 Add a Marker

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

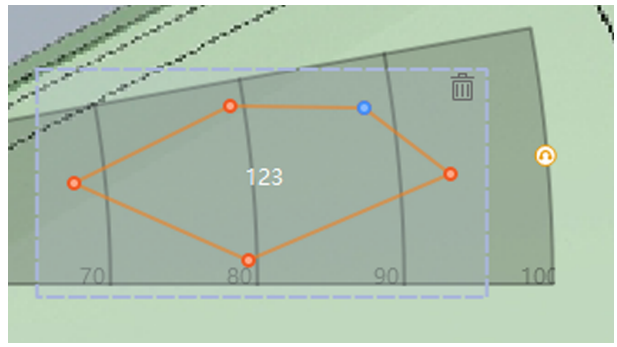


Figure 4-8 Drag a Marker

4) Hold to move the zone.

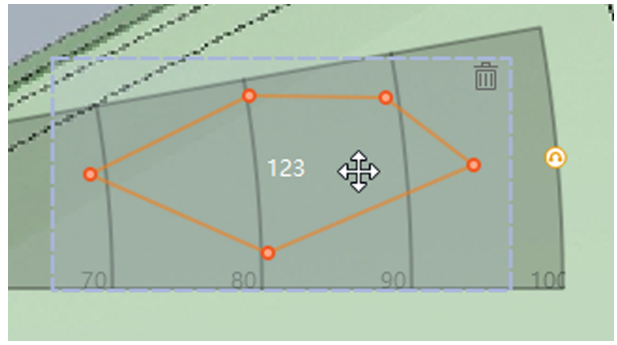


Figure 4-9 Move the Zone

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

Note

To delete a zone, click in the zone editing mode.

4.4 Add Trigger Line

You can draw trigger lines for the radar detection area and set alarm rules.

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 icon and select **Disarm** to disarm the radar.

Steps

1. In E-map page, click **Edit** to enter the editing mode.
2. Click **Radar Settings → Draw Trigger Line** . You can draw Trigger Line or Dual-trigger Line.

Note

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

3. Draw the 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.)

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.
- Alarm rules: 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.

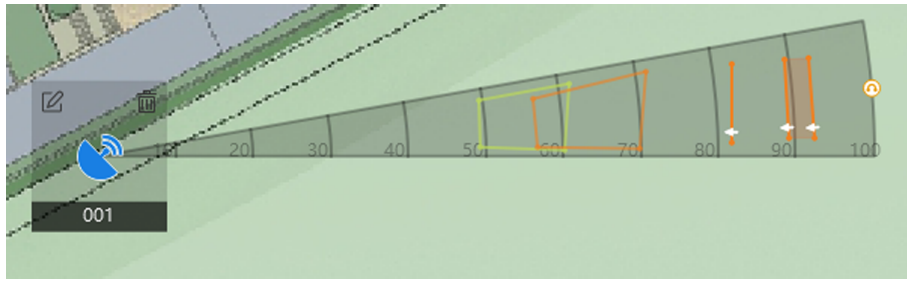


Figure 4-10 Draw a Trigger Line

4. Click **OK** to complete the drawing.
5. **Optional:** Click on the trigger line will appear different options: **Edit**, **Delete** and **Move**. You can edit the trigger line by clicking on it.
   - **Add a Marker**: Double click on the trigger line to enter the trigger line editing mode. Click on the line to add a marker.

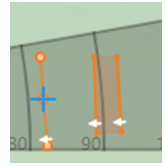


Figure 4-12 Add a Marker

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

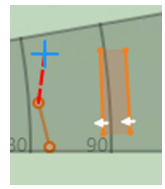


Figure 4-13 Move a Marker

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

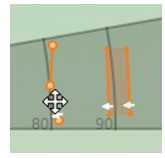


Figure 4-14 Move the Trigger Line

- **Edit**: Click on the trigger line and select **Edit**. You can edit the name and alarm rules of the trigger line.

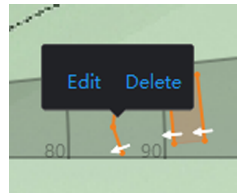


Figure 4-15 Edit

- **Delete**: Click on the trigger line and select **Delete** to delete the trigger line.
- **Move**: Click on the trigger line and select **Move**. Set the distance between two lines.

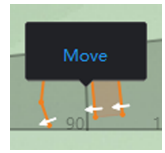


Figure 4-16 Move

4.5 Other Auxiliary Functions

Live 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 **Live View** and the live view window will appear on the bottom of the page. Drag the cameras in the left list to the live view window and you can view the video in real time.

Chapter 5 Camera Linkage Settings

The radar can work with cameras such as speed dome and box camera for target tracking and video recording.

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

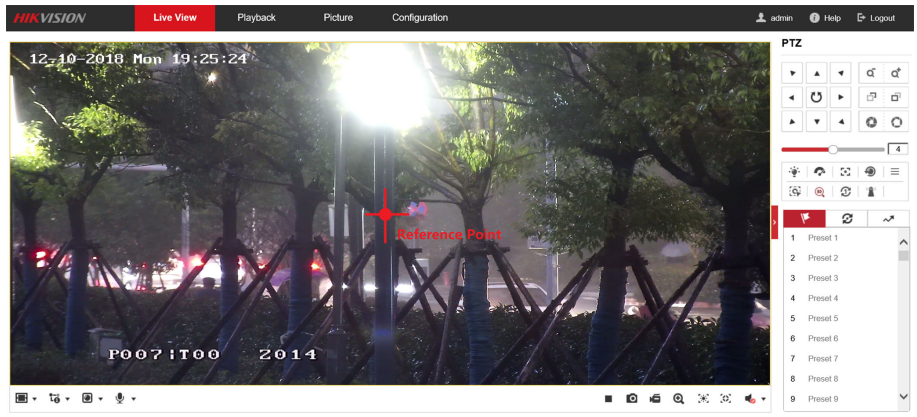


Figure 5-1 Reference Point Position

Note

- If the speed dome is installed tilted, after you click , you may find the reference point is above the center of the frame or it is outside the frame. 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**: Pan /tilt /zoom.

3. Enter the **Configuration → PTZ → Initial Position** page, and click **Set** to set the initial position.

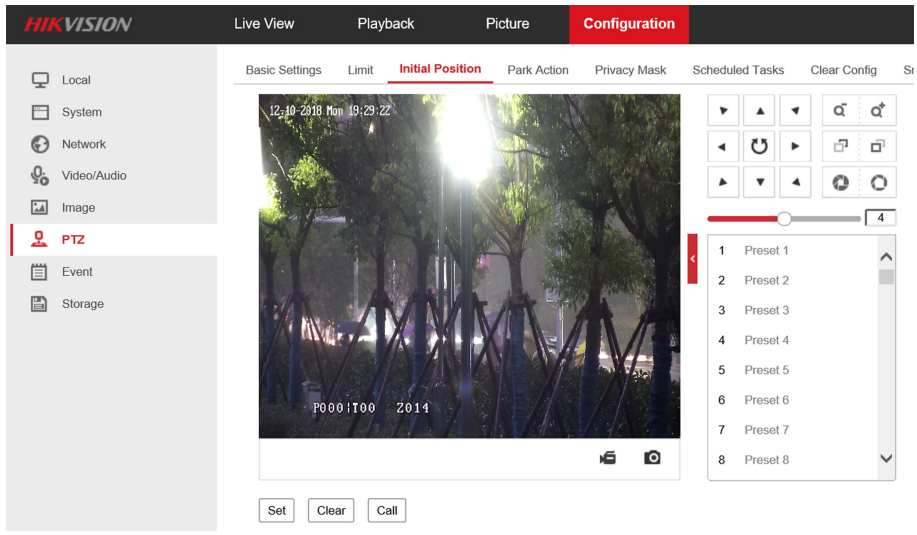


Figure 5-2 Set Initial Position

5.2 Link the Camera to the radar

Before You Start

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 **Device Management**. Select a radar in the device list. Click → **Smart Rule Settings** → **Camera Linkage Settings** to enter the page.

   Note

   You can also enter IP address of the radar in a browser to enter the web client. Click **Smart Rule Settings** → **Camera Linkage Settings** to enter the page.

2. Add a camera.
   1) Click **+**.
   2) Enter the IP address, port, user name, password of the camera, and select whether to link to NVR.

      Note

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

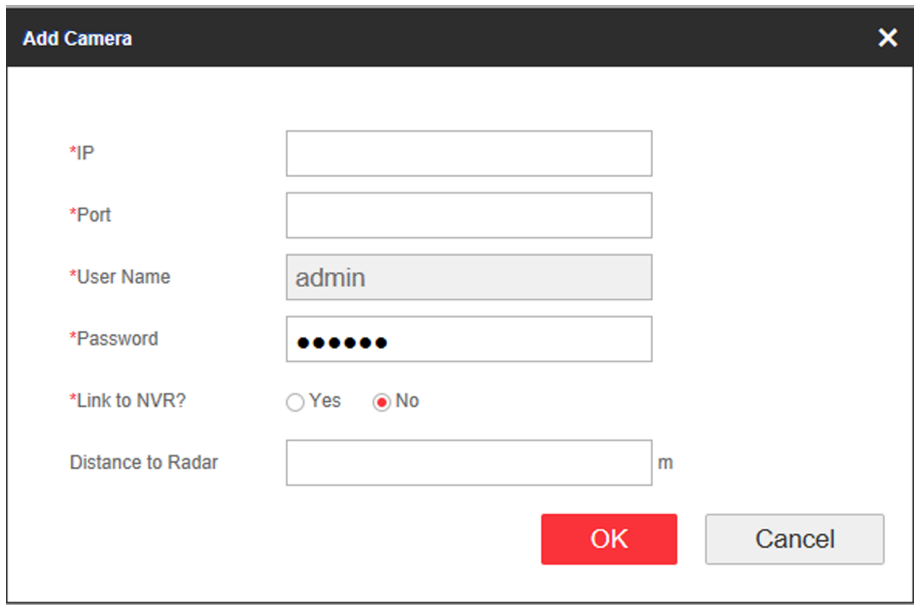


Figure 5-3 Add a Camera

3) When the camera and radar are mounted on different poles, in order to improve the tracking effect of the camera, you need to enter **Distance to Radar**. (horizontal distance between the camera and the radar)
4) Click **OK**.

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

Note

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

4. Add the camera to the client software.
1) In the client software, click **Device Management**.
2) Click **Add** in the device list, enter name, IP address, port, user name, password of the camera. Check **Import to Group**.
3) Click **Add**.

5.3 Calibrate Camera

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

Before You Start

- You need to disarm the radar before the operation. Click **Finish** in the E-map page to exit the editing mode. Click on the radar icon and select **Disarm** 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 to be more than 3 m.

Steps

1. In the client software, click **Device Management → Group** .
2. Select the group of the radar and click **Ecoding Channels → Import** .
3. Check cameras need to be calibrated and click **Import**.
4. Click **E-map** to enter the page and click **Edit** to enter the editing mode.
5. Click **Radar Settings → Master-slave Tracking Settings** .
6. Select a radar in the drop-down list.
7. Click a live view window and select a camera in the **Linked Cameras** list. The live view window will show the camera screen.
8. Select the live view window of the camera needs to be calibrated, and double click on it to maximum the window.

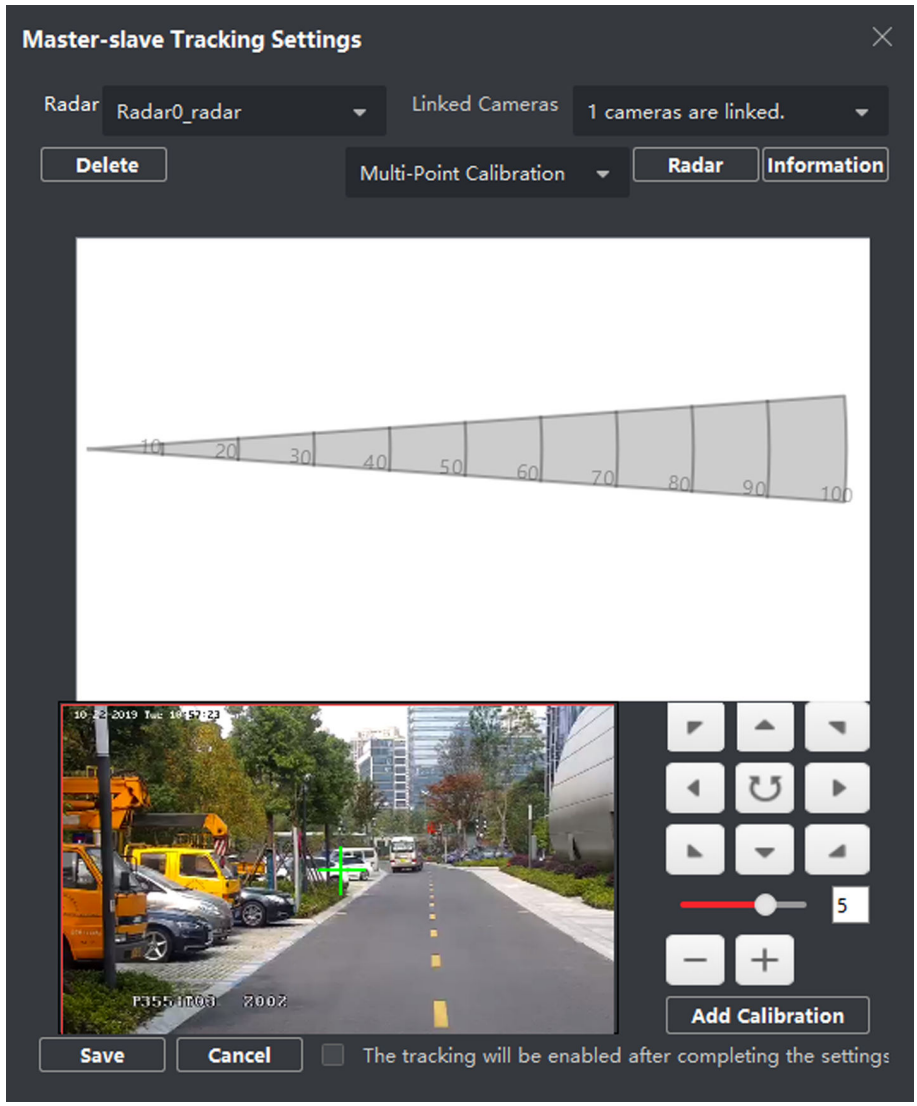


Figure 5-4 Calibration Page

9. Select a schedule for calibration point selection.

Note

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

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



Figure 5-5 Installation Scene for One-Point Calibration



Figure 5-6 Installation Scene for Multi-Point Calibration

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

5.3.1 One Point Calibration

Before You Start

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

Steps

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

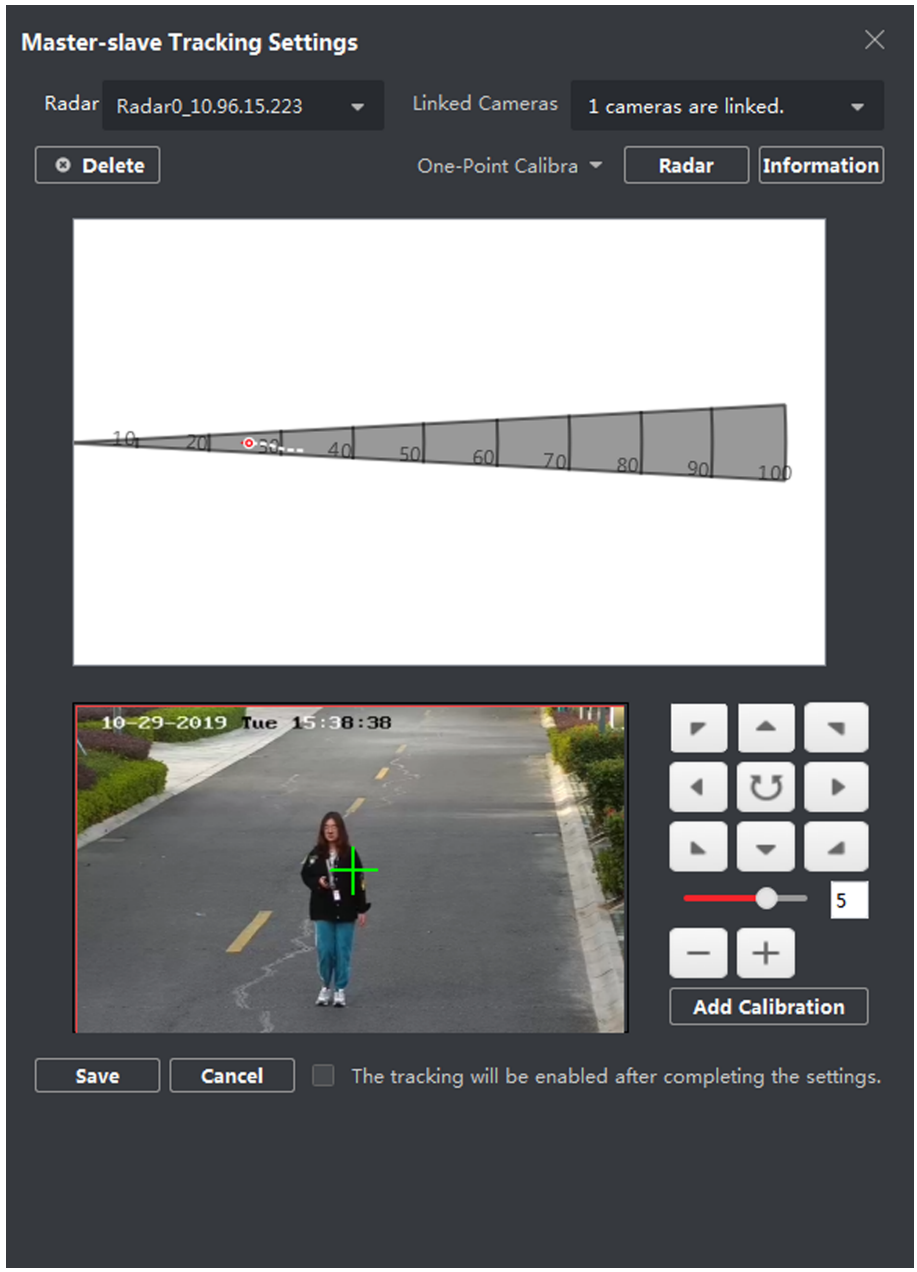


Figure 5-7 Select the Track

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

Note

- Select the calibration point in the **Information** list, and you can click **Delete** to delete the calibration point.
- The track disappears if the calibration staff is standing in the place for more than 7s. If the calibration staff does not move to the calibration point when the track disappears, you need to ask the calibration staff to move again to produce a track, and click the track to continue the calibration.



Figure 5-8 Add a Calibration

6. Click **Save**.

5.3.2 Multipoint Calibration

Before You Start

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

Steps

1. In calibration page, select **Multipoint 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.

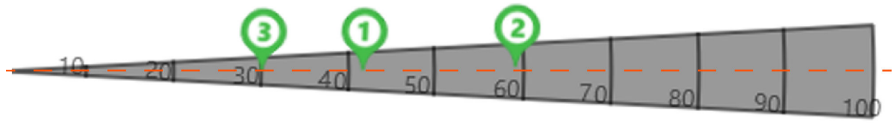


Figure 5-9 Multipoint Distribution Instance

Note

It is required to set 3 calibration points (equally distributed) when multipoint calibration.

3. According to the calibration points, ask the calibration staff to move to a calibration point, and refer to step 2 to step 5 in *One Point Calibration* to calibrate the calibration point.
4. When the first calibration point is calibrated completely, let the calibration staff move to the next calibration point after the yellow track disappears. And then 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.

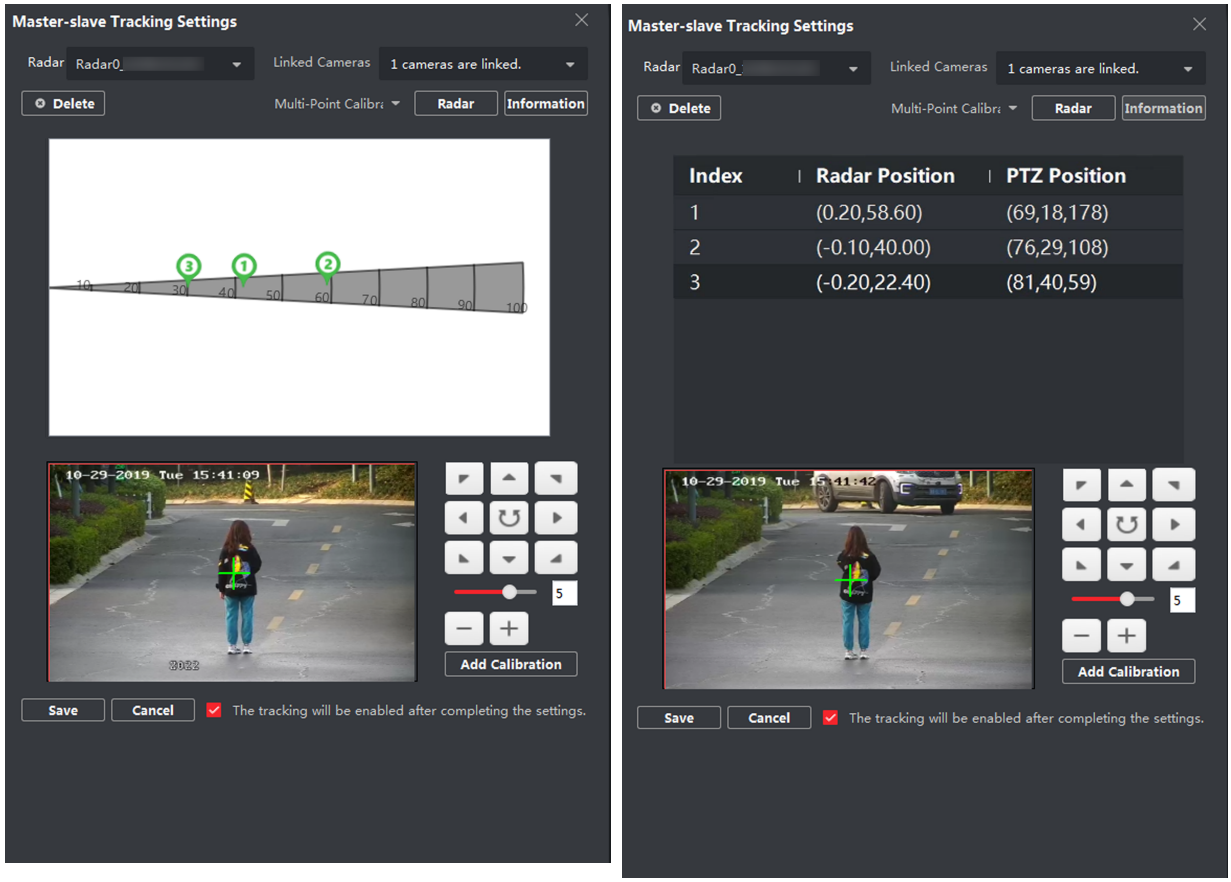


Figure 5-11 Multipoint Calibration Info Page

Note

- Every time a calibration point is calibrated completely, the operation staff should not adjust the PTZ buttons in the live view window (Adjustment will change the PTZ position of the current calibration point, and results in an incorrect calibration). You can adjust the PTZ buttons when calibrating the calibration point.
- If you need to delete all calibration points, select the calibration point in the **Information** list, and you can click **Delete** to delete the calibration point.

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

Note

You can save the calibration information successfully if there are 3 calibration points, otherwise, you cannot save it.

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.
- Calibate 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.

Steps

1. Enter E-map page, and click **Edit** to exit the editing mode.
2. Click **Radar Settings → Set Parking Point** .

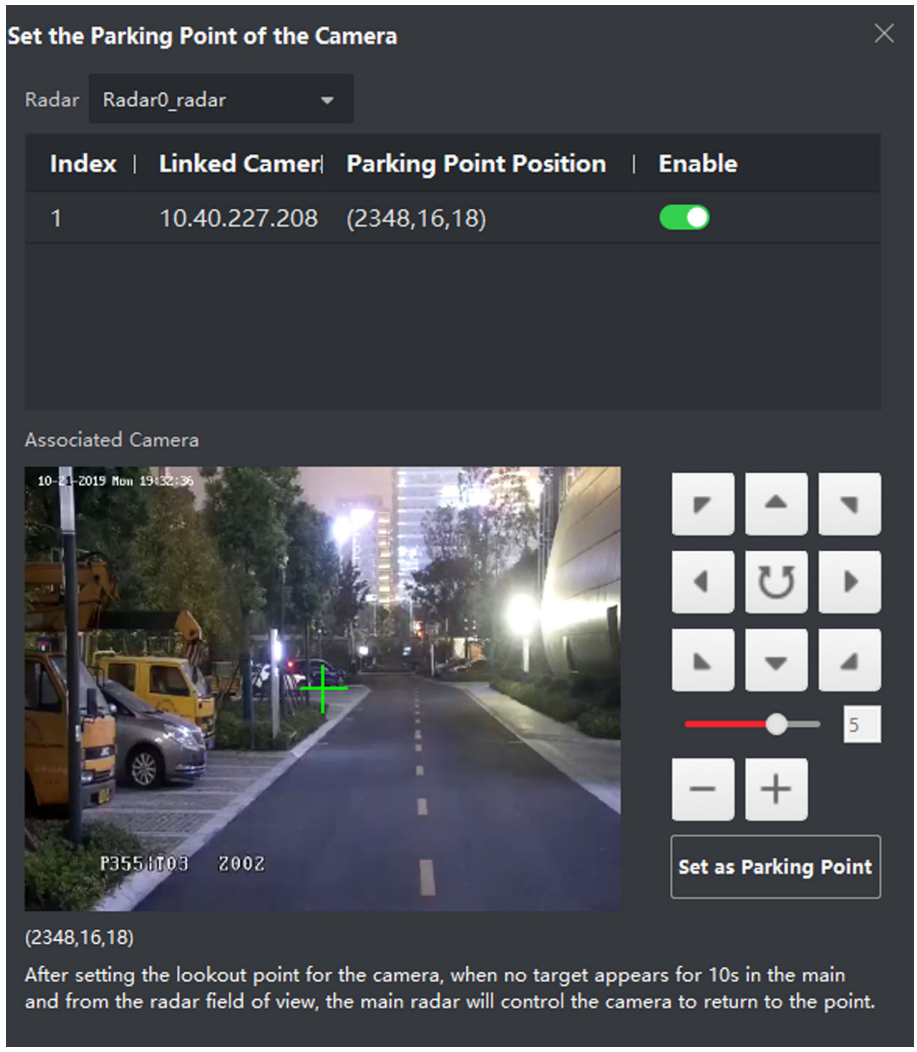


Figure 5-12 Set Camera Parking Point

3. Select a linked camera in the drop-down list.
4. Use function buttons on the right to adjust the camera screen center position (cross icon position) to the watch point. You can click on the screen and the screen 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 screen.

5. Click **Set as Parking Point**.

5.5 Link the Camera to the Zone

Before You Start

- Add the zone to the radar.
- Add the camera to the client software.

Steps

1. In the client software, click **Event Management → Security Control Event** to enter the page.
2. Select a zone in the left list.
3. Check event in the right list.
4. Click **Edit Linkage** to edit the trigger client actions and cameras that you need to link.

Note

- Each zone can link to 4 cameras, and up to 50 cameras can be linked.
- For more details, see *User Manual of iVMS-4200 Client Software*.

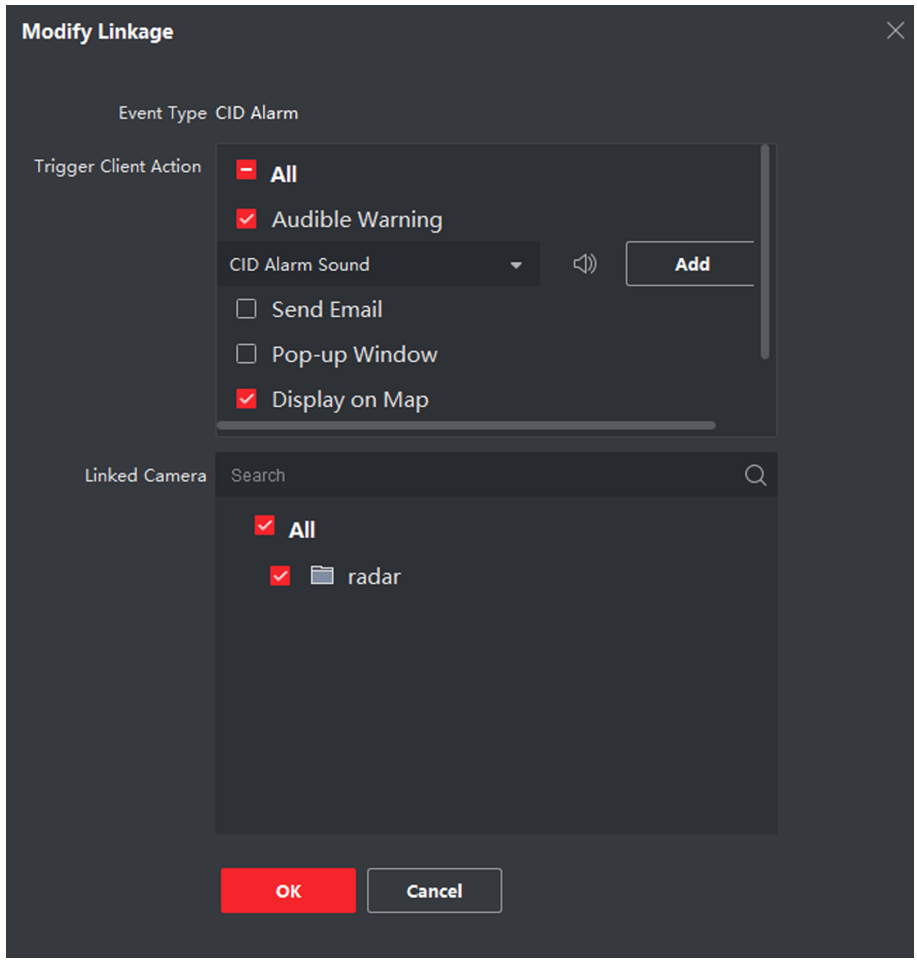


Figure 5-13 Link the Camera to the Zone

5. Click **OK**.

5.6 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** to enter the page.
2. Click on the bottom of the page to show the alarm event list.
3. Click to enable alarm triggered pop-up image.
4. When the alarm is triggered, the client software will automatically pop up an alarm window.

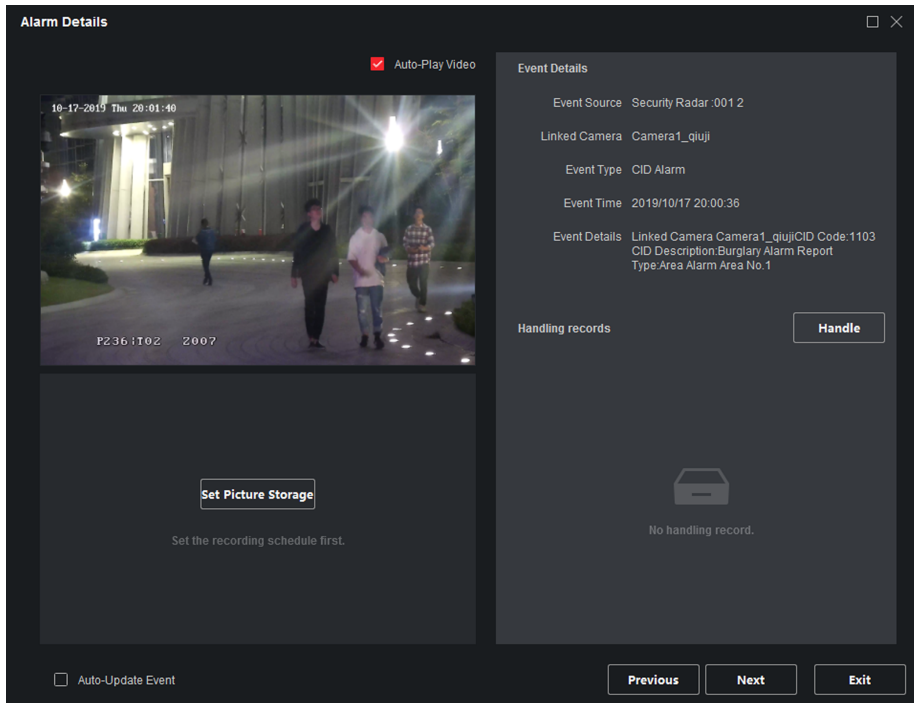


Figure 5-14 The Alarm Window

- 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.

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

Note

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

Chapter 6 Set Record and Storage Settings

6.1 Set Storage Settings

You can use storage server or NVR to store videos.

6.1.1 Set Storage Schedule via 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.
- Activate and add the storage server to the client before setting storage schedule, you can refer to *User Manual of iVMS-4200 Client Software*.

Steps

1. In client software, click **Storage Schedule** to enter the page.
2. Select the camera in the Camera Group list.

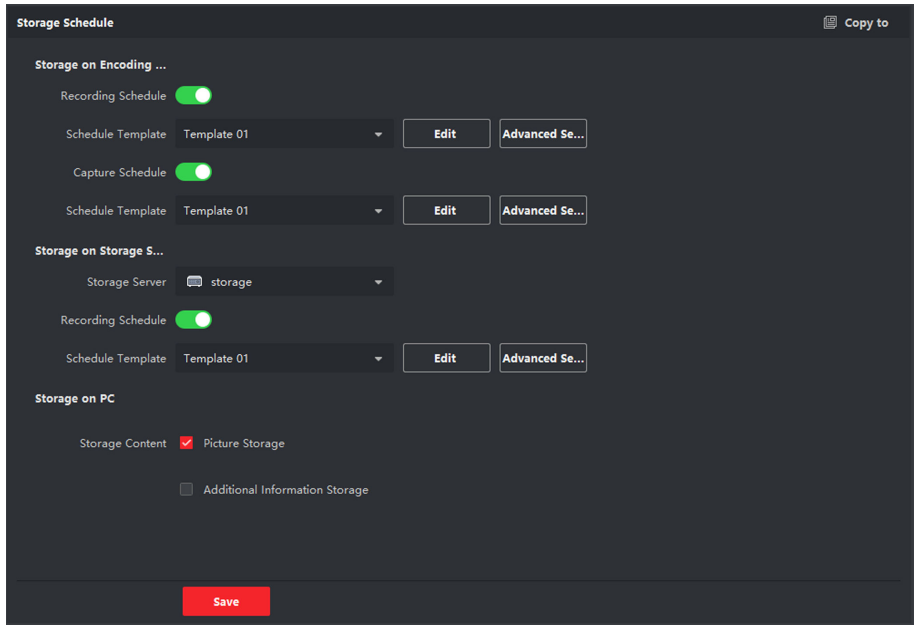


Figure 6-1 Storage Schedule

3. Enable **Recording Schedule** and **Picture Storage** in **Storage on Encoding Device** module.
4. Select a template in the drop-down list (**All-day Template**, **Weekday Template**, **Event Template**, etc.).
5. Click **Edit** and **Advanced Settings** to set the template.
6. Select a storage server from the **Storage Server** drop-down list.
7. Enable **Recording Schedule** and set parameters.
8. Check **Picture Storage** in **Storage on PC** module.

9. Click **Save**.

Note

For detailed settings, please refer to *User Manual of iVMS-4200 Client Software*.

6.1.2 Set Storage Schedule via NVR

Steps

1. In the client software, click , or enter the IP address of radar in brower to enter the web client.
2. Click **Smart Rule Settings → Camera Linkage Settings** to enter the page.
3. Add NVR.
   - Add an NVR to an existing camera.

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

     Click **+**. Choose **Yes** in **Link to NVR?**. Enter IP address, port, network camera No. and distance to radar. Click **OK**.

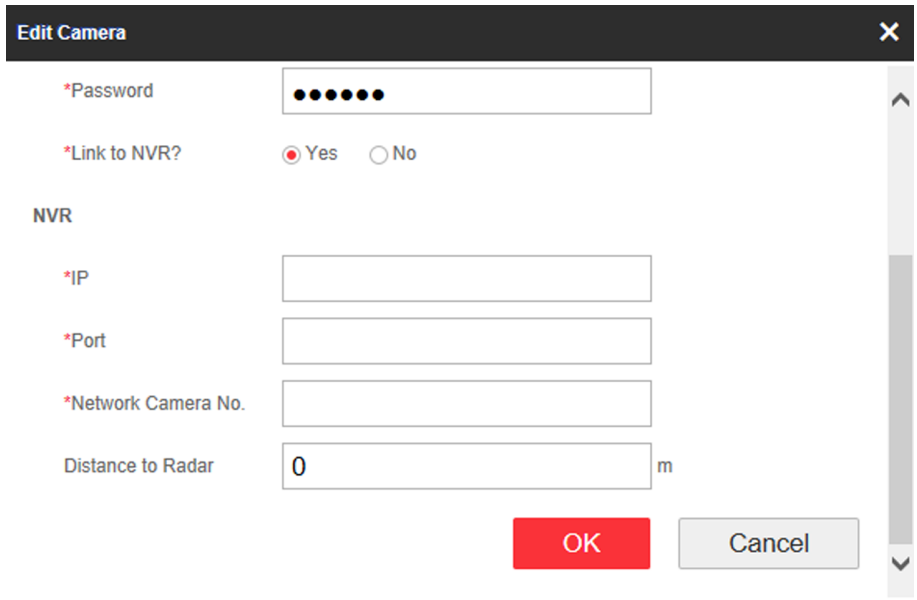


Figure 6-2 Add a NVR

6.2 Set Tracking Strategy

Steps

1. Select the radar and click in client software, or enter the radar IP address in the address bar of the web browser. Click **Smart Rule Settings → Video Record Strategy Settings** to enter the page.
2. Select **Time Priority**, **Range Priority**, or **Multi-Target Auto Switch** as the strategy. The camera will record the intrusion till the target leave warning zone.

   Time Priority

   Record the first target that intrude the zone.

   Range Priority

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

   Multi-Target Auto Switch

   Switch the target automatically when there are multiple targets in the zone. You should set **Switch Interval**.
3. Click **Save**.

Chapter 7 Alarm Settings

7.1 Alarm Center

You can set the alarm center's parameters and all alarms will be sent to the configured alarm center.

Steps

1. Select the radar and click in the client software, or enter the radar IP address in the address bar of the web browser. Click **Communication Parameters → Alarm Center Parameters** to enter the Alarm Center Settings page.

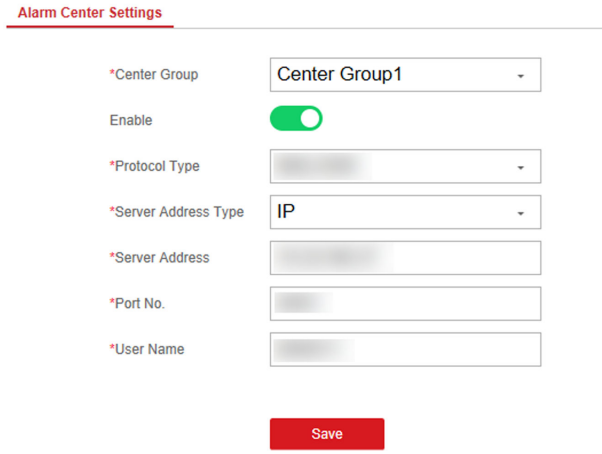


Figure 7-1 Alarm Center Parameters

2. Select **Center Group**, and slide the slider to enable the center group. The alarm information will be uploaded to the selected center group.
3. Select **Protocol Type** from the drop-down list, select **Server Address Type** from the drop-down list, enter the server address, port No., and the user name.

Note

The protocol type NAL2300 is the Hikvision private protocol.

4. Click **Save**.

7.2 Notification Push

When an alarm is triggered, if you want the send the alarm notification to the client, alarm center, cloud or mobile client, you can set the notification push parameters.

Steps

1. Select the radar and click in the client software, or enter the radar IP address in the address bar of the web browser. Click **Communication Parameters → Message Notification** .

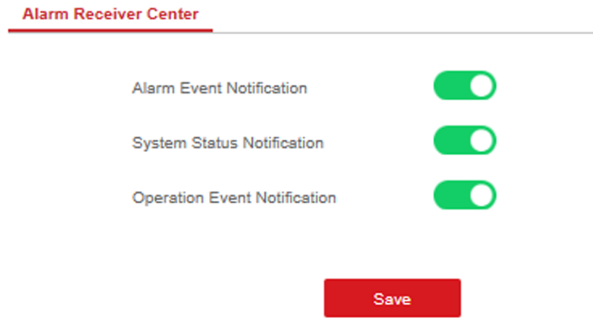


Figure 7-2 Notification Push

2. Enable the target notification.

   Alarm Event Notification

   The device will push notifications when the zone alarm is triggered or restored.

   System Status Notification

   The device will push notifications when any status in the system is changed.

   Operation Event Notification

   The device will push notifications when the user operate the device.

3. Click **Save**.

7.3 Set Zone

Steps

1. Select the radar and click in the client software, or enter the radar IP address in the address bar of the web browser. Click **Alarm Module Parameters → Zone** to enter the page.

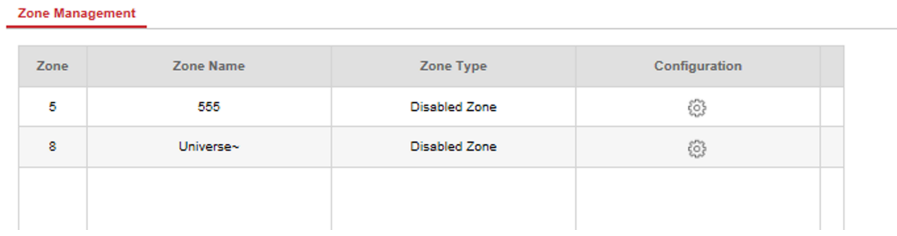


Figure 7-3 Set Zone

2. Select a zone, and click to edit the zone name and zone type.
3. Click **OK** to complete.

7.4 Set Alarm Output

Steps

1. Select the radar and click in the client software, or enter the radar IP address in the address bar of the web browser. Click **Alarm Module Parameters → Relay** to enter the page.

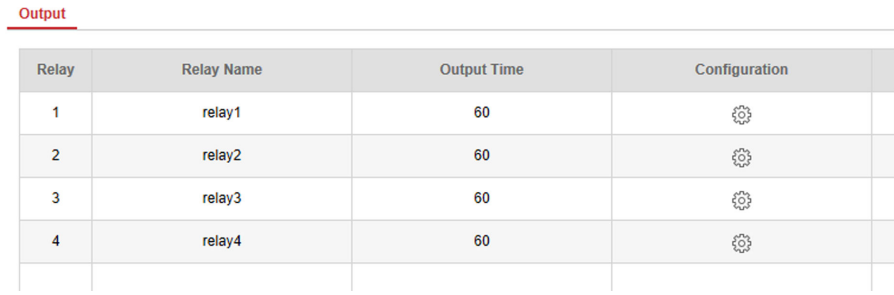


Figure 7-4 Relay

Note

You can also click **E-map → Edit → Radar Settings → Alarm Output** to open or close the relay.

2. Select an relay, and click to enter the page.
3. Edit the relay name, and output time.
4. Set relay linkage. Link the relay with alarm event, system event, and arming/disarming operation.
5. **Optional:** Check **Enable Zone Tracking**. When enabled, after the relay-linked zone is triggered by an alarm, the relay will remain open until the target exits the zone or the alarm is manually closed.

Note

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

6. Click **OK** to save.

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. Click **Smart Rule Settings → Arming/Disarming Schedule** to enter the page.

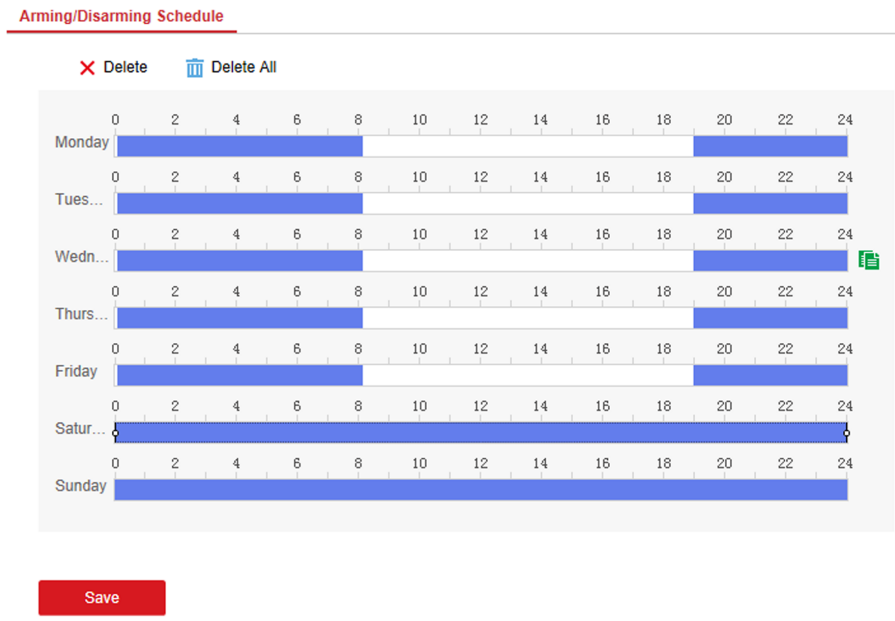


Figure 7-5 Arming/Disarming Schedule

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

Note

You can set 2 arming/disarming periods each day.

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

7.6 Set Motion Speed

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Smart Rule Settings → Alarm Speed Settings** to enter the page.
2. Check **Motion Speed**.
3. Slide the bar to set **Min. Speed Threshold** and **Max. Speed Threshold**.

Note

After enabled, only the target that move in set speed threshold will trigger the alarm.

4. Click **Save**.

7.7 Video Tracking Switch Settings

Steps

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

   Note

   After enabled, when you click a target track in the radar detection area, the camera will mandatory track the target.

4. Click **Save**.

Chapter 8 Set Radar Advanced Function

8.1 Set Master-slave Tracking Settings

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

Before You Start
There are at least 2 online radars.

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

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

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

8.2 Set Detection Angle and Range

Steps
1. Select the radar and click in client software, or enter the radar IP address in the address bar of the web browser. Click **Radar Settings → Detection Angle and Range** to enter the page.

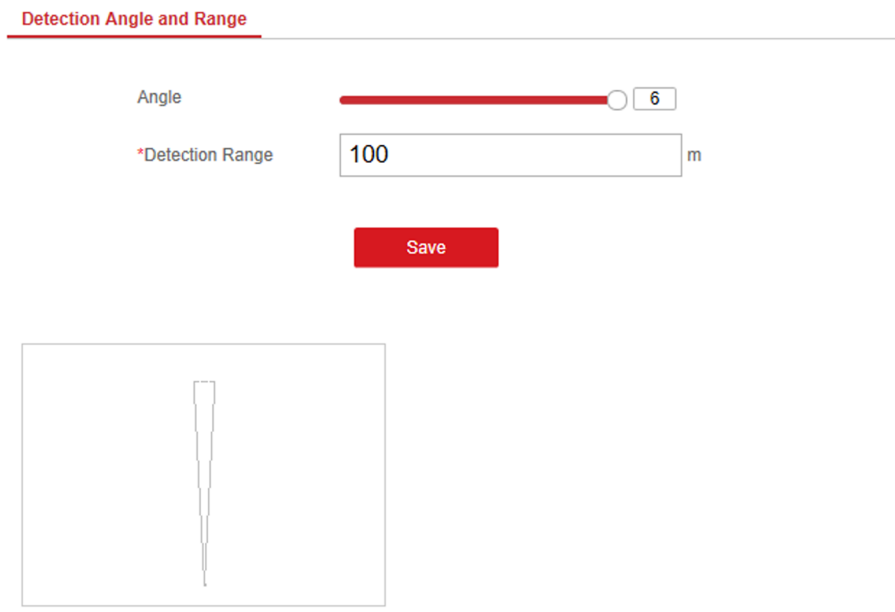


Figure 8-1 Set Detection Angle and Range

2. Slide the block to set the radar angle, and enter the detection range.
3. Click **Save** to complete.

8.3 Set Scene Mode and Sensitivity

Steps

1. Select the radar and click in the client software, or Enter the radar IP address in the address bar of the web browser. Click **Radar Settings → Sensitivity Settings** to enter the page.

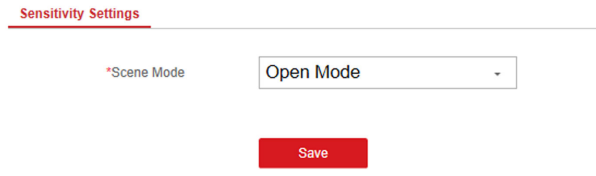


Figure 8-2 Sensitivity

2. Select **Open Mode**, **Shrub Mode**, or **Expert Mode** as the radar sensitivity mode.

   Open Mode

   There are no large objects in the radar detection area.

   Shrub Mode

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

Expert Mode (Custom Mode)

You can set tracking sensitivity, swing sensitivity, signal sensitivity and dwell time according to actual scenario requirements.

Note

When adjusting the sensitivity, the higher the value, the higher the detection sensitivity.

3. Click **Save** to complete.

8.4 Set Frequency Range Settings

Steps

1. Select the radar and click in the client software, or enter the IP address of the radar in the address bar of the web browser. Click **Radar Settings → Frequency Range Settings** to enter the page.
2. The radar supports 2 frequency bands, you can select one according to needs.

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.

3. Click **Save**.

8.5 Track Settings

Steps

1. In the client software, click **Device Management**. Select a radar in the device list. Click → **Radar Settings → Track Settings** to enter the page.

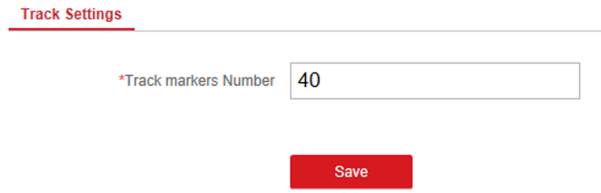


Figure 8-3 Track Settings

2. Enter **Track Marker Number**.
3. Click **Save**.

Chapter 9 View Alarm Information

The device supports alarm information query and alarm event playback.

Before You Start

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

Steps

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

Chapter 10 System Management

10.1 Set Time

Steps

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

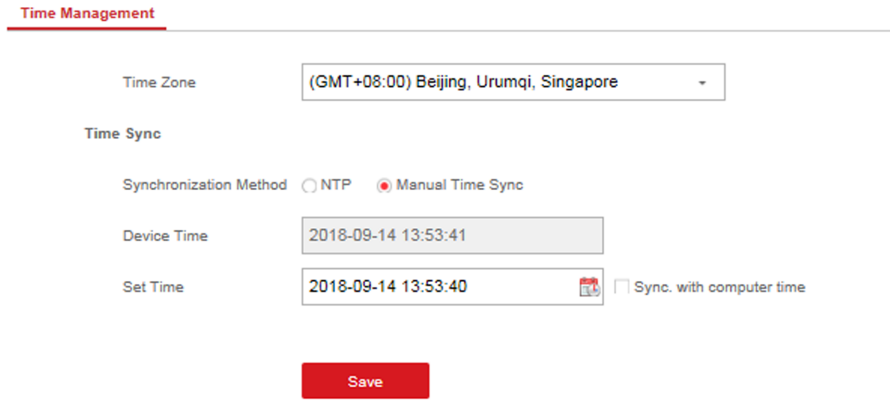


Figure 10-1 Time

2. Set the time zone and synchronization method.
3. Click **Save**.

10.2 Manage User

Steps

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

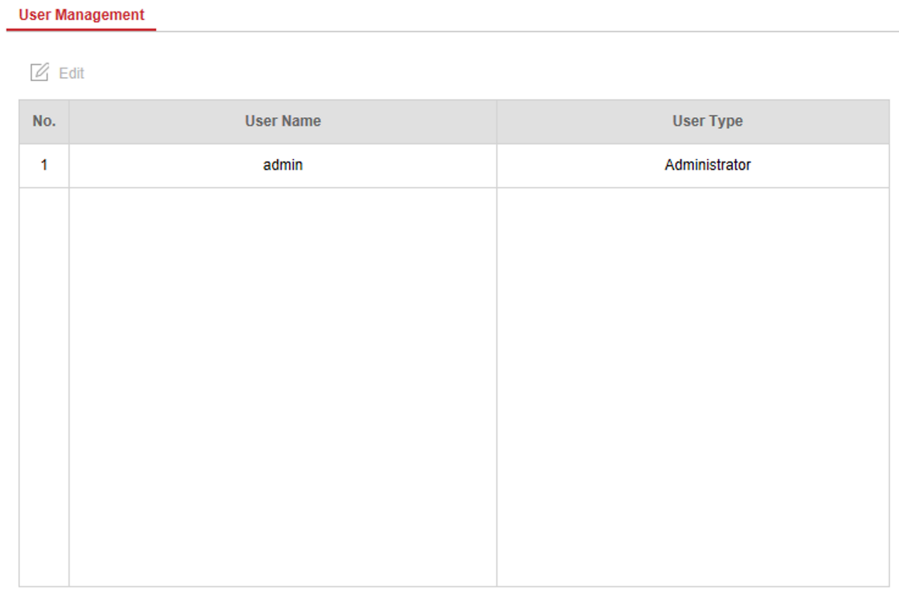


Figure 10-2 User

2. Select the admin account, and click **Edit** to edit the admin information.

10.3 System Maintenance

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

Select the device and click in the client software, or enter the device IP address in the address bar of the web browser. Click **System → System Maintenance** to enter the Upgrade and Maintenance page.

Reboot

Click **Reboot** to reboot the device.

Restore Default Settings

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

Click **Restore All** to restore all parameters to the factory settings.

Import Configuration File

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

Export Configuration File

Click **Export Configuration File** to export the device configuration parameters to the PC. Exporting configuration file requires a password to be used for file encryption.

Upgrade File

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

Note

Do not power off when the device is upgrading.

10.4 View Device Information

Select the device and click in the client software, or Enter the device IP address in the address bar of the web browser. Click **System Device → Device Information** to see device information.

10.5 Search Log

Steps

1. Select the device and click in the client software, or enter the device IP address in the address bar of the web browser. Click **System → Local Log Search** to enter the page.
2. Select Log type and time, and click **Search** to get the log list.

10.6 Enabling Remote Debugging

You are able to enable SSH (Secure Shell). When SSH is enabled, the technical support can log in to the device remotely to view the printing information of the device.

Select the device and click in the client software, or enter the device IP address in the address bar of the web browser. Click **System → Security** to enter the SSH Settings page and you can enable or disable the SSH function.

10.7 LED Status

You are able to enable LED function.

Select the device and click in the client software, or enter the device IP address in the address bar of the web browser. Click **System → Device Status** to enter the page and you can enable or disable the LED function.

Appendix A. Radar Mounting Height Recommendation

The recommended installation height is 2 to 3 m.

The following table shows the detection range at different mounting heights.

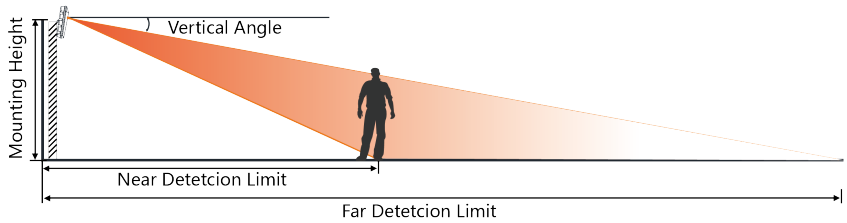


Figure A-1 Radar Mounting Height and Detection Range

Table A-1 Radar Mounting Height and Detection Range

Mounting Height	Vertical Angle	Far Detction Limit	Near Detection Limit
1.5 m	0°	99.2 m	2.8 m
1.5 m	3°	98.6 m	2.09 m
1.5 m	6°	99.5 m	2.6 m
1.5 m	9°	98.8 m	2.6 m
2.0 m	0°	97.5 m	2.09 m
2.0 m	3°	96.5 m	2.0 m
2.0 m	6°	98.7 m	2.2 m
2.0 m	9°	99.06 m	3.6 m
3.0 m	0°	99.8 m	4.6 m
3.0 m	3°	110 m	4.1 m
3.0 m	6°	98 m	3.7 m
3.0 m	9°	99.5 m	3.1 m

Appendix B. Formatting Description

You can restore all parameters to default settings for formatting the security radar by the reset button.

You can format the device as follows.

Steps

1. Power off the radar, and then hold the reset button while powering the radar on.
2. Keep holding until the red and green LED flashes for 6 times, then release the reset button and the radar will restart again.
3. All parameters will be restored to default values after the radar restarts, and you need to reactivate the radar.

Appendix C. Indicator Description

The indicator status description of the radar:

Table C-1 Indicator Description

Indicator	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 D. FAQ

D.1 How to Achieve an Optimum Detection Range?

Answer:

You can refer to *Radar Mounting Height Recommendation* for installation of radar, and you should test the radar after installation to make sure it is properly mounted. The test method is as follows:

Note

You need to enable OSD function before testing.

The near detection distance: arrange a tester to move directly from 20 m in front of the radar until the tester track disappear on the radar detection area. The last tester distance that displayed by OSD, is the near detection distance.

The far detection distance: Arrange a tester to move from the directly ahead of the radar and far away from the radar installation position (outside the radar detection area) to the radar detection area. When the target track first appears in the detection area, the tester stops moving. The last tester distance that displayed by OSD, is the far detection distance.

Note

When testing the far detection distance, the tester is required to move along the center normal of the detection area, to ensure optimum far detection distance.

According to the tested near detection distance and far detection distance, and refer to *Table A-1 Radar Mounting Height and Detection Range* to adjust the radar mounting angle.

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

Answer:

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

Note

The port number of the radar should be 80. When you add the radar to the client software, set the **Port** as 80.

D.3 How to Adjust the Sensitivity to Avoid False Alarm?

Answer:

- If there are shrubs in the radar filed, set the radar sensitivity mode as **Shrub Mode**, which helps avoid the false alarm caused by gale, storm, or shrub swing.
- If **Shrub Mode** is not satified, set the sensitivity mode as **Expert Mode** (Custom Mode). Set the **Signal Sensitivity** less than or equal to two, the **Swing Sensitivity** less than five, and the **Tracking Sensitivity** less than or equal to five.

D.4 How to Raise the Precision of Camera Tracking?

Answer:

- 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.

D.5 How to Solve the Problem that No Reference Point is on the Frame While Setting the Speed Dome Initial Position?

Answer:

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.

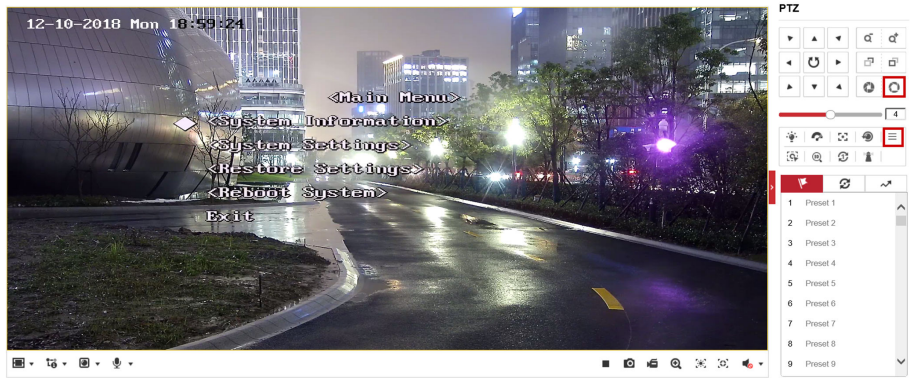


Figure D-1 The Main Menu of Speed Dome

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.

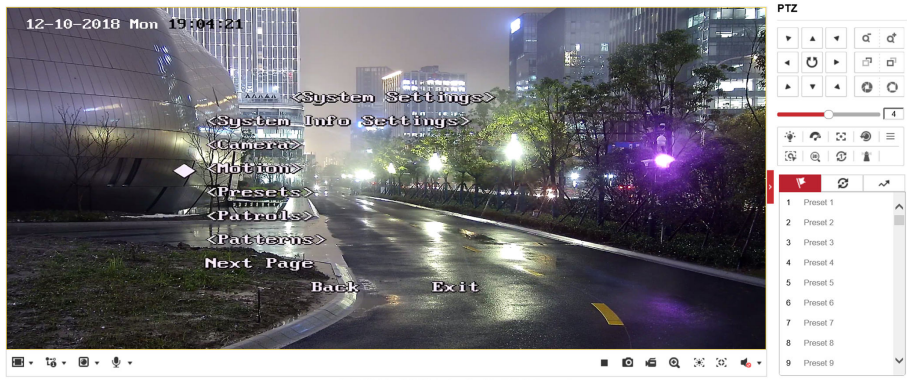


Figure D-2 Motion

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

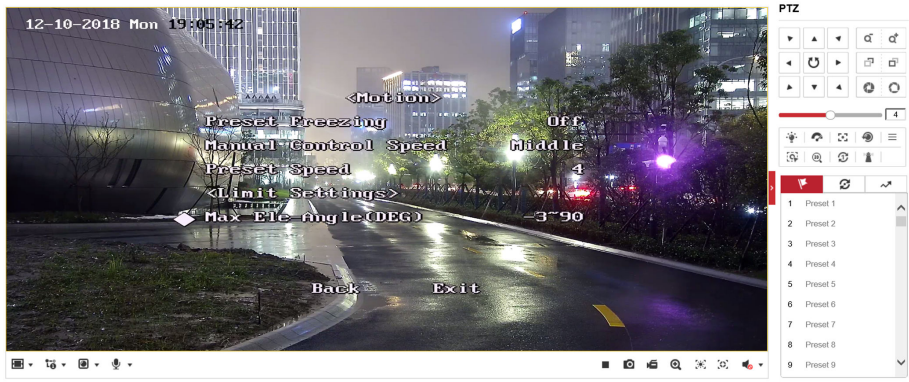


Figure D-3 Maximum Elevation Angle Adjustment

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.

D.6 What is the Reason that Failed to Draw a Zone Automatically?

Answer:

- The main reason is that the moving target (with track) does not form a closed-loop. You can check if there is a clear intersection of the track in the zone drawing page. If the track does not closed, the drawn zone will be recognized as an invalid zone.
- When the object is moving for drawing a zone, if the track of the target is lost and then appear again on the zone drawing page, and the distance between lost position and the position the target appeared again is too far, the settings will be failed.

D.7 What Makes a Failed Arming?

Answer:

The following two conditions will make a failed arming:

- In the **Radar** page, if there is a moving target in the warning zone when you click → **Arm** to arm radars, it is impossible to enable mandatory arming, resulting in failed arming.
- The current status of radar is offline.

D.8 Why Is It Required to Remove Reflective Objects from the Radar Area?

Answer:

- 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.

D.9 Why Is the Camera Unable to Track the Target?

- The camera is not calibrated.
- The camera is not linked to the zone.

D.10 Common Mistakes of Calibrating Camera

Prompt when selecting target: Please select the calibration target trajectory.

Reason: Target not selected or disappeared when acquiring parameters.
Solution: Select the moving target for parameter acquisition.

Prompt when adding calibration points: Error in parameter range, illegal range: T <=0.

Reason: The angle of pitch, T, of the speed dome is less than or equal to 0.
Solution: Adjust the angle of pitch of the speed dome so that T is greater than 0.

Prompt when adding calibration points: Incorrect Parameters.

Reason: The status of the linked camera device is offline.
Solution: Reconnect the camera. Make the status of the camera is online to continue calibration.

Appendix E. Communication Matrix and Device Command

Communication Matrix

Scan the following QR code to get the device communication matrix.
Note that the matrix contains all communication ports of Hikvision security control devices.



Figure E-1 QR Code of Communication Matrix

Device Command

Scan the following QR code to get the device common serial port commands.
Note that the command list contains all commonly used serial ports commands for all Hikvision security control devices.



Figure E-2 Device Command

User Privacy Statement

- The zhimakaimen command is used to control access to the file system to ensure device security. To obtain this permission, you can contact technical support.
- Radar products only set an admin account. You can use this account to access and configure radar device.

Table E-1 User Privacy Information Description

Password	The password for the radar device account, used to log in to the device.
Key	Used to encrypt radar device configuration information.
Username	The username for the radar device account, used to log in to the device.
Server IP	The server IP is used to support network service communication. For example, the NTP server can be used to perform timing on the radar device.
Control port	For details, please refer to *Communication Matrix*.
Device IP and port	The device IP and port are used to support network service communication. For details, refer to *Communication Matrix*.
Log	Used to record information such as device operating status and operation records.
Database information	Used to record information such as radar tracks.

Appendix F. Radar Installation Recommendation

The Following Installation Methods Cannot be Used for Prison Scene

Close to wall:

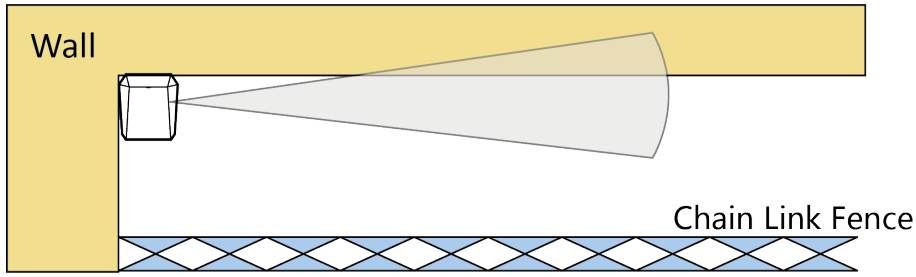


Figure F-1 Close to Wall

Close to chain link fence:

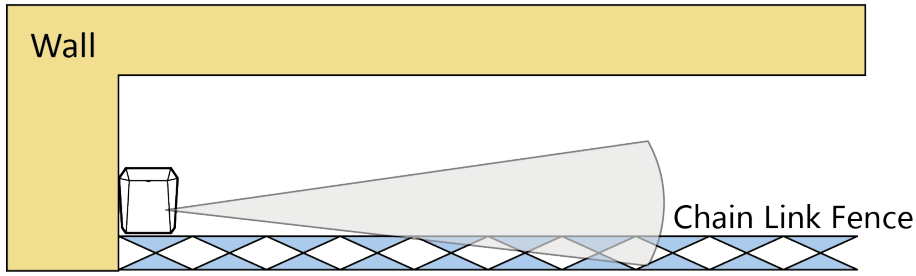


Figure F-2 Close to Chain Link Fence

Face-to-face installation, and the detection area is overlapped:

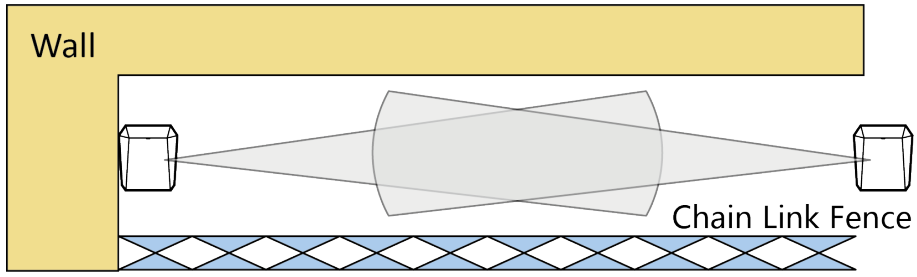


Figure F-3 Face-to-face Installation

Recommended Installation Method

If the prison scene exceeds 100 meters, radars shall be installed every 80 meters:

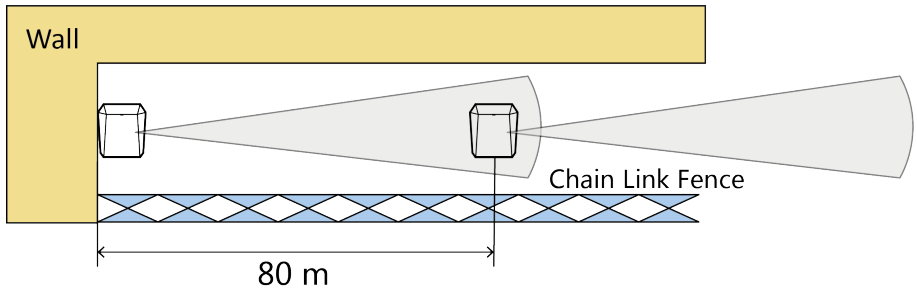


Figure F-4 Recommended Installation Method


See Far, Go Further