



DS-PRI120

Security Radar

User Manual

Legal Information

©2020 Hangzhou Hikvision Digital Technology Co., Ltd. All rights reserved.

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/](https://www.hikvision.com/)).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

Trademarks

HIKVISION and other Hikvision's trademarks and logos are the properties of Hikvision in various jurisdictions.

Other trademarks and logos mentioned are the properties of their respective owners.

Disclaimer

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THIS MANUAL AND THE PRODUCT DESCRIBED, WITH ITS HARDWARE, SOFTWARE AND FIRMWARE, ARE PROVIDED "AS IS" AND "WITH ALL FAULTS AND ERRORS." HIKVISION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE. THE USE OF THE PRODUCT BY YOU IS AT YOUR OWN RISK. IN NO EVENT WILL HIKVISION BE LIABLE TO YOU FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES, INCLUDING, AMONG OTHERS, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, OR LOSS OF DATA, CORRUPTION OF SYSTEMS, OR LOSS OF DOCUMENTATION, WHETHER BASED ON BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY, OR OTHERWISE, IN CONNECTION WITH THE USE OF THE PRODUCT, EVEN IF HIKVISION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSS.

YOU ACKNOWLEDGE THAT THE NATURE OF INTERNET PROVIDES FOR INHERENT SECURITY RISKS, AND HIKVISION SHALL NOT TAKE ANY RESPONSIBILITIES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER-ATTACK, HACKER ATTACK, VIRUS INSPECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, HIKVISION WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

YOU AGREE TO USE THIS PRODUCT IN COMPLIANCE WITH ALL APPLICABLE LAWS, AND YOU ARE SOLELY RESPONSIBLE FOR ENSURING THAT YOUR USE CONFORMS TO THE APPLICABLE LAW. ESPECIALLY, YOU ARE RESPONSIBLE, FOR USING THIS PRODUCT IN A MANNER THAT DOES NOT INFRINGE ON THE RIGHTS OF THIRD PARTIES, INCLUDING WITHOUT LIMITATION, RIGHTS OF PUBLICITY, INTELLECTUAL PROPERTY RIGHTS, OR DATA PROTECTION AND OTHER PRIVACY RIGHTS. YOU SHALL NOT USE THIS PRODUCT FOR ANY PROHIBITED END-USES, INCLUDING THE DEVELOPMENT OR PRODUCTION OF WEAPONS OF MASS DESTRUCTION, THE DEVELOPMENT OR PRODUCTION OF CHEMICAL OR BIOLOGICAL WEAPONS, ANY ACTIVITIES IN THE CONTEXT RELATED TO ANY NUCLEAR EXPLOSIVE OR UNSAFE NUCLEAR FUEL-CYCLE, OR IN SUPPORT OF HUMAN RIGHTS ABUSES.

IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATTER PREVAILS.

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.

Contents

Legal Information	2
About this Manual.....	2
Trademarks	2
Disclaimer.....	2
Symbol Conventions.....	3
Chapter 1 Access to Client Software/Web Client	7
Chapter 2 Activation	8
2.1 Activate Device via Client Software	8
2.2 Activate via SADP	8
2.3 Activate Device via Web Browser	10
Chapter 3 Wired Network Settings	11
Chapter 4 Radar Settings.....	12
4.1 Radar Settings in the WebClient.....	12
4.1.1 Add Map.....	12
4.1.2 Add Zones.....	13
4.1.3 Add Trigger Line.....	15
4.2 Radar Settings in the Client Software	17
4.2.1 Add Map.....	17
4.2.2 Add the Radar to the Map	18
4.2.3 Add Radar Zone.....	21
4.2.4 Add Trigger Line.....	24
4.2.5 Other Auxiliary Functions.....	26
Chapter 5 Camera Linkage Settings	27
5.1 Set Speed Dome Initial Position	27
5.2 Link the Camera to the Radar.....	28
5.3 Calibrate Camera.....	29

5.3.1 One Point Calibration	32
5.3.2 Multipoint Calibration.....	35
5.4 Set Park Function for Linked Camera	37
5.5 Link the Camera to the Zone.....	38
5.6 Pop-up Alarm Notification	39
Chapter 6 Calibrating via Radar Calibration Tool.....	41
6.1 Download and Registration.....	41
6.2 Add Device	41
6.3 One-Point Calibration.....	42
6.4 Multi-Point Calibration.....	43
Chapter 7 Set Record and Storage Settings	45
7.1 Set Storage Settings	45
7.1.1 Set Storage Schedule via Storage Server	45
7.1.2 Set Storage Schedule via NVR	46
7.2 Set Tracking Strategy.....	46
Chapter 8 Alarm Settings	47
8.1 Alarm Center	47
8.2 Notification Push.....	47
8.3 Set Zone.....	48
8.4 Set Alarm Output	48
8.5 Set Arming/Disarming Schedule	49
8.6 Set Motion Speed.....	50
8.7 Video Tracking Switch Settings.....	50
Chapter 9 Set Radar Advanced Function.....	51
9.1 Set Master-Slave Tracking Settings.....	51
9.2 Set Detection Angle and Range.....	51
9.3 Set Scene Mode and Sensitivity	51

9.4 Set Frequency Range Settings.....	52
9.5 Track Settings	52
Chapter 10 View Alarm Information.....	53
Chapter 11 System Management	54
11.1 Set Time.....	54
11.2 Manage User	54
11.3 System Maintenance.....	55
11.4 View Device Information.....	55
11.5 Search Log	55
11.6 Enabling Remote Debugging	55
11.7 LED Status.....	56
Appendix A. Radar Mounting Height Recommendation	57
Appendix B. Formatting Description.....	58
Appendix C. Indicator Description	59
Appendix D. FAQ.....	60
D.1 How to Achieve an Optimum Detection Range?	60
D.2 How To Solve the Problem that the Radar Is Not Shown in the Device List on the Radar Page?.....	60
D.3 How to Adjust the Sensitivity to Avoid False Alarm?.....	60
D.4 How to Raise the Precision of Camera Tracking?.....	60
D.5 How To Solve the Problem that No Reference Point Is on the Frame While Setting the Speed Dome Initial Position?.....	61
D.6 What is the Reason that Failed to Draw a Zone Automatically?	62
D.7 What Makes a Failed Arming?	62
D.8 Why Is It Required to Remove Reflective Objects from the Radar Area?.....	62
D.9 Why Is the Camera Unable to Track the Target?	63
D.10 Common Mistakes of Calibrating Camera	63
Appendix E. Communication Matrix and Device Command.....	64

Chapter 1 Access to Client Software/Web Client

You can log in to 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.

You should activate the device the first time it accesses the network for safety reasons. For details, see **Device Activation**.

Access to Client Software

Download and install the iVMS-4200 client software. Register 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 and configure the device parameters.

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, 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 running the software should be in the same subnet.
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.



STRONG PASSWORD RECOMMENDED – We highly recommend that you create a strong password of your own choosing (using a minimum of eight characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in high security systems, resetting the password monthly or weekly can better protect your product.

Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

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 as 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/](http://www.hikvision.com/en/), and install the SADP according to the prompts.
- The device and the PC running 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 the *SADP User Manual* for details.

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.



STRONG PASSWORD RECOMMENDED – We highly recommend that you create a strong password of your own choosing (using a minimum of eight characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in high security systems, resetting the password monthly or weekly can better protect your product.

Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

4. Click **Activate** to start activation. Status of the device becomes **Active** after successful activation.

The screenshot shows the SADP software interface. On the left, a table lists online devices. Device 007 is highlighted in red and marked as 'Inactive' with IP address 192.168.1.64. A red box around it contains the text 'Select inactive device.' Below the table, another red box contains the text 'Input and confirm password.' On the right, the 'Activate the Device' dialog box is open, showing a message 'The device is not activated.' and a blue button 'Activate Now'. Below this, there are fields for 'New Password' and 'Confirm Password', both containing asterisks. A checkbox for 'Enable Hik-Connect' is also visible, and a red 'Activate' button is at the bottom.

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 a Web browser to activate the device. Use SADP software or PC client to search for online devices 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.

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.



STRONG PASSWORD RECOMMENDED – We highly recommend that you create a strong password of your own choosing (using a minimum of eight characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We also recommend that you reset your password regularly. Especially in high security systems, resetting the password monthly or weekly can better protect your product.

Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

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.



NOTE: Functions vary depending on the device model.

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 client software or Web client.

4.1 Radar Settings in the Web Client

Edit maps, radars, zones and trigger lines in Web client.



NOTE: Staying in the Radar page for two hours without any operation will automatically log out.

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

4.1.1 Add Map

1. Enter the IP address of the radar and log in.
2. Click **Radar** to enter the page.
3. Click **Edit** to enter the editing mode.
4. Click **Map Management** → **Add Map**.



NOTE: The added map should be less than 3 MB.

5. Load a map and click **OK**.
6. Click **Map Management** → **Edit Scale**.
7. Click on the map to draw a straight line, select the end position and click again to complete the drawing.
8. Enter the actual distance between two points.

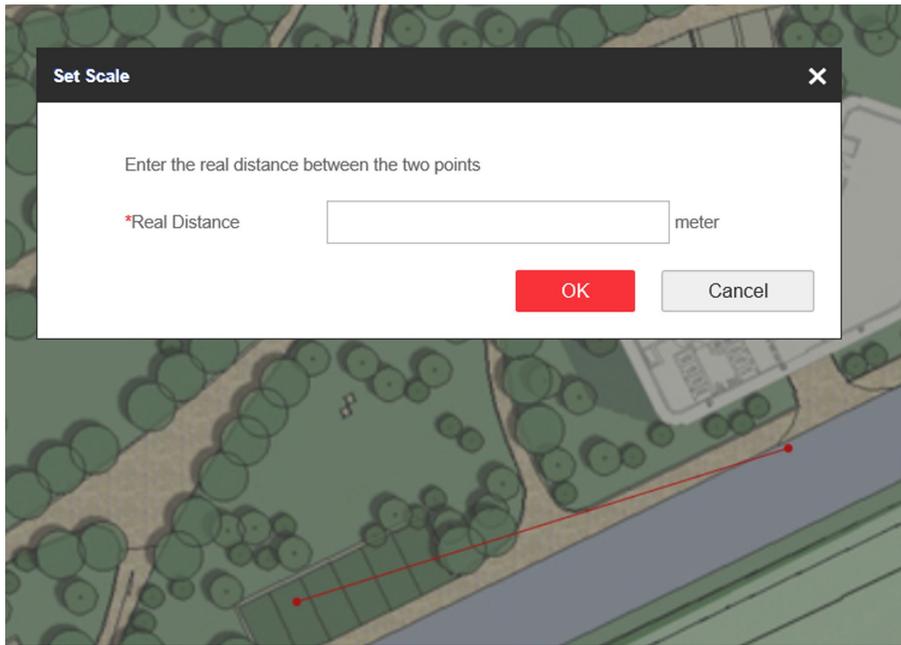


Figure 4-1 Edit Scale



NOTE: Range is the predicted distance range of system. Enter the number for this range.

9. Click **OK**.
10. 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.

4.1.2 Add Zones

1. Enter the IP address of the radar and log in.
2. Click **Radar** to enter the page.
3. Click **Edit** to enter the editing mode.
4. **Optional:** Enable **Enable Auxiliary** in the upper left corner of the map. The target track will appear on the radar detection area. You can draw a zone with reference to the track. The track cleared when disabled.
5. Click **Draw Zone Manually**, and click the mouse to draw a zone on the radar detection area.



NOTE: Zones can overlap, the priority of the effective overlapping zone is: Disabled Zone>Warning Zone>Early Warning Zone. That is, Early Warning Zone can contain Warning Zone and Disabled Zone, and Warning Zone can contain Disabled Zone.

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

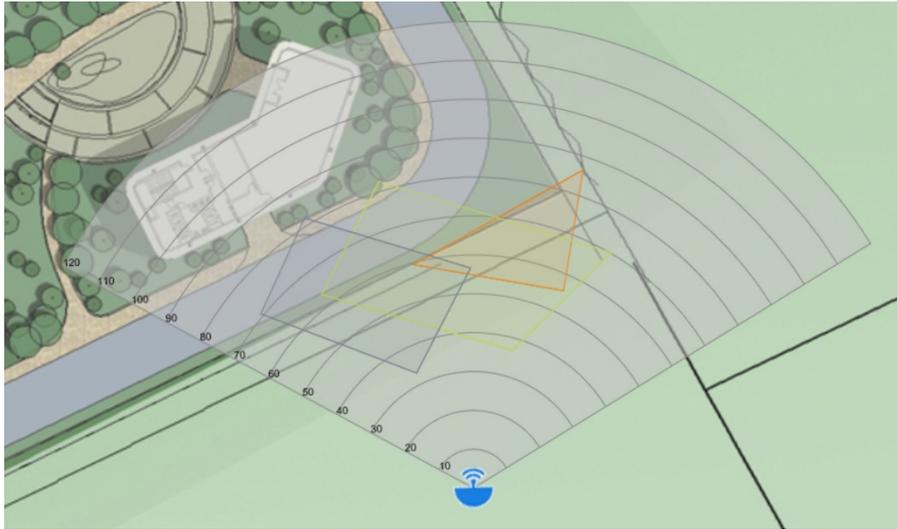


Figure 4-3 Overlap zones

6. Right-click to complete drawing, and the system will pop up a window. Enter the zone name, and select **Early Warning Zone**, **Warning Zone**, or **Disabled Zone** as the zone type.
 - **Early Warning Zone:** The early warning zone will identify target that has potential risks in advance and trigger alarm, but will not store alarm track. The early warning zone is green.
 - **Warning Zone:** The warning zone will identify the targets entering the area and trigger alarm. The warning zone is orange.
 - **Disabled Zone:** The disabled zone will block the target track into the area. rm. The disabled zone is gray.
7. Click **OK**.
8. **Optional:** Modify or delete the zone.
 - 1) Double click on the zone to 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.

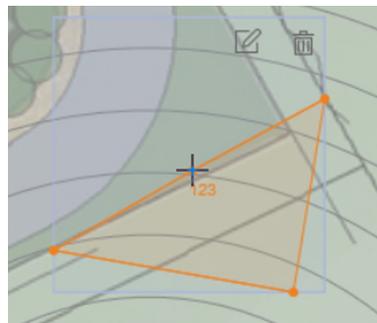


Figure 4-4 Add a Marker

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



Figure 4-5 Drag a Marker

4) Hold to move the zone.

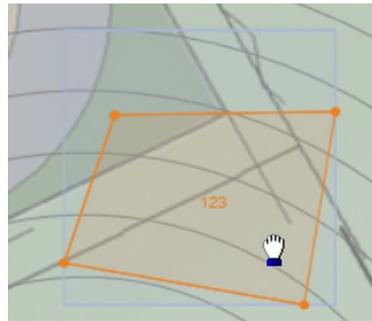


Figure 4-6 Move the Zone

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



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

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

4.1.3 Add Trigger Line

Before You Start

Disarm the radar before adding trigger lines.

1. Enter the IP address of the radar, and log in.
2. Click **Radar** to enter the page.
3. Click **Edit** to enter the editing mode.
4. Click **Draw Trigger Line**. You can draw a Trigger Line or Dual-trigger Line.



NOTE: Alarm is triggered by crossing the Trigger Line according to trigger line rule; alarm is triggered only after crossing double lines of Dual-trigger Line according to trigger line rule.

Drawing a dual-trigger line that is too tortuous will cause a failure.

5. 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 four trigger lines can be drawn.

Up to one 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 lines cannot cross each other.

6. Click **OK** to complete the drawing.

7. **Optional:** Double click on the trigger line to enter the trigger line editing mode.

- **Add a Marker:** Click on the line to add a marker.

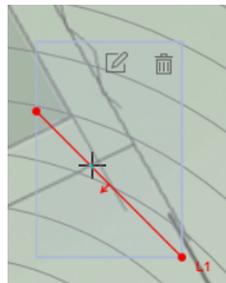


Figure 4-8 Add a Marker

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

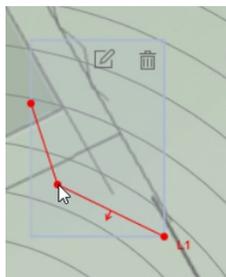


Figure 4-9 Drag a Marker

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

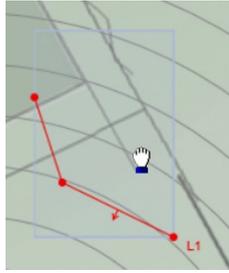


Figure 4-10 Move the Trigger Line

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

4.2 Radar Settings in the Client Software

Edit radar parameters in client software.

4.2.1 Add Map

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/jpeg.

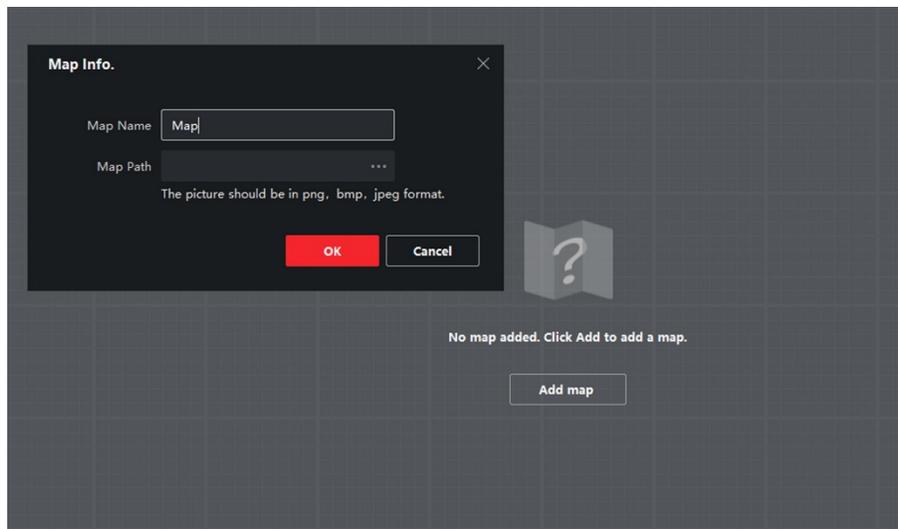


Figure 4-11 Add a Map

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: Range is the predicted distance range of system. Enter the number for this range.

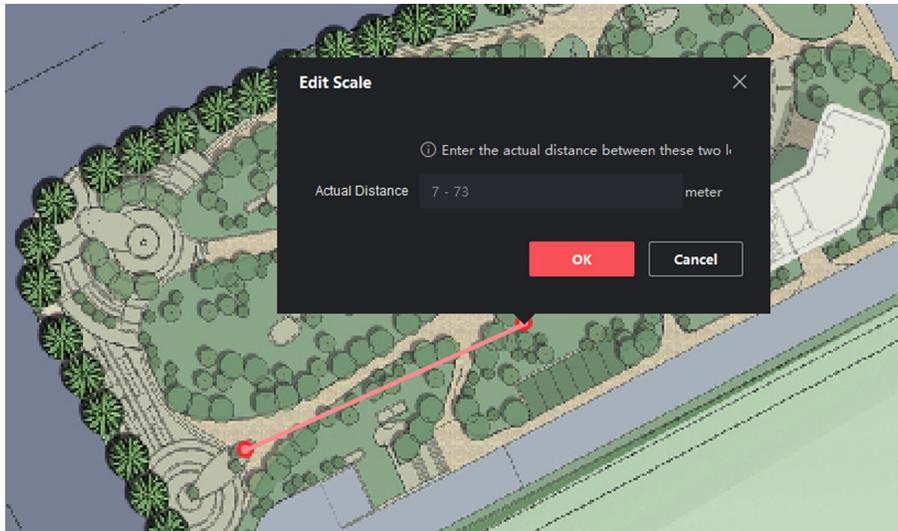


Figure 4-12 Edit Scale

7. Click **OK**.

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.



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

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.
3. Adjust the radar position. Drag the radar icon to make the radar detection area cover the required field. 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.

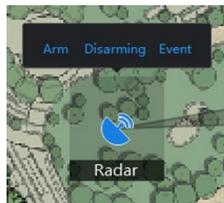


Figure 4-14 Radar Menu

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?** 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 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. In editing mode, you can calibrate the map.

- 1) Click **Edit** to enter the editing mode.
- 2) Click **Radar Settings → Map Calibration**.
- 3) Ask two calibration staff personnel to move into the radar detection area. Select their tracks on the detection area. Calibrator staff personnel stop at calibration points and the system will generate two markers at the track terminals. Click **OK** on the pop-up window to confirm the track terminal or click **Delete** to select a new track.



Figure 4-15 Confirm Terminals

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

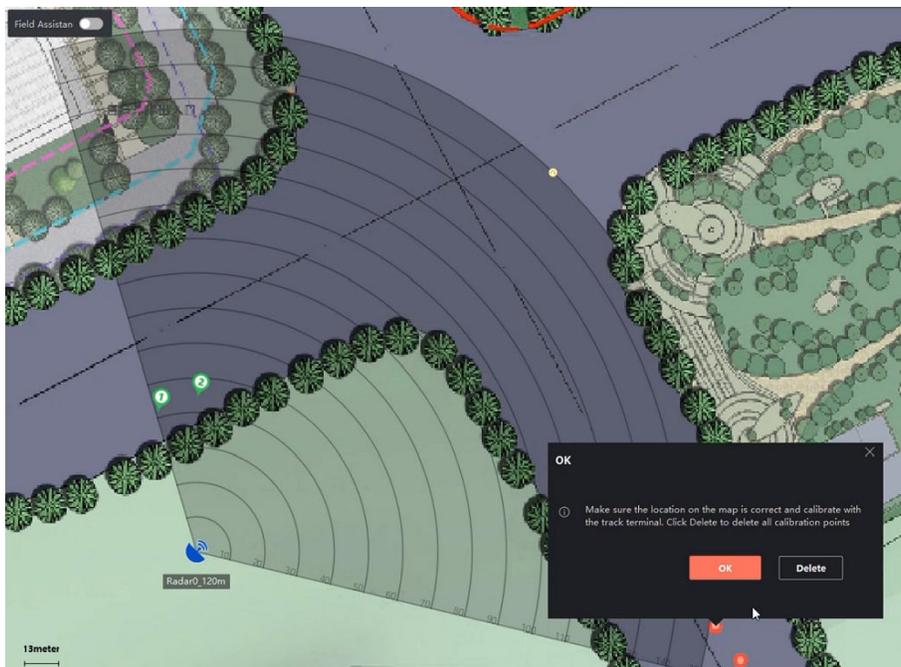


Figure 4-16 Confirm Actual Locations

- 5) Click **OK** on pop-up window. The system will automatically match the markers to the actual locations.

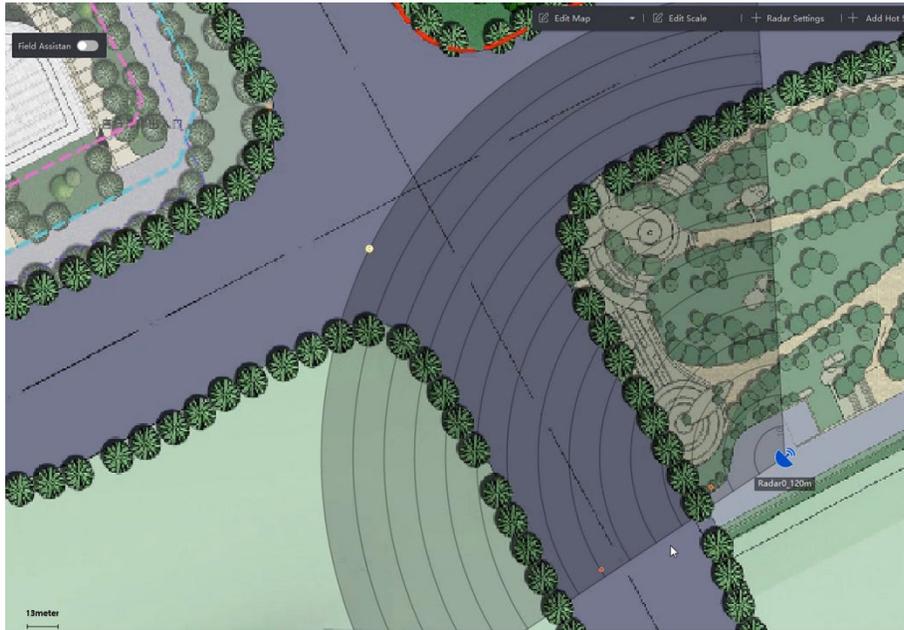


Figure 4-17 Finish Map Calibration

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

4.2.3 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.

1. In E-map page, click **Edit** to enter the editing mode.
2. **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 clears when disabled.
3. Click **Radar Settings** → **Draw Zone Manually** , and click the mouse to draw a zone on the radar detection area.



Figure 4-18 Draw a Zone

**NOTE:**

Adding zones is a batch operation. If you add zones only 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.

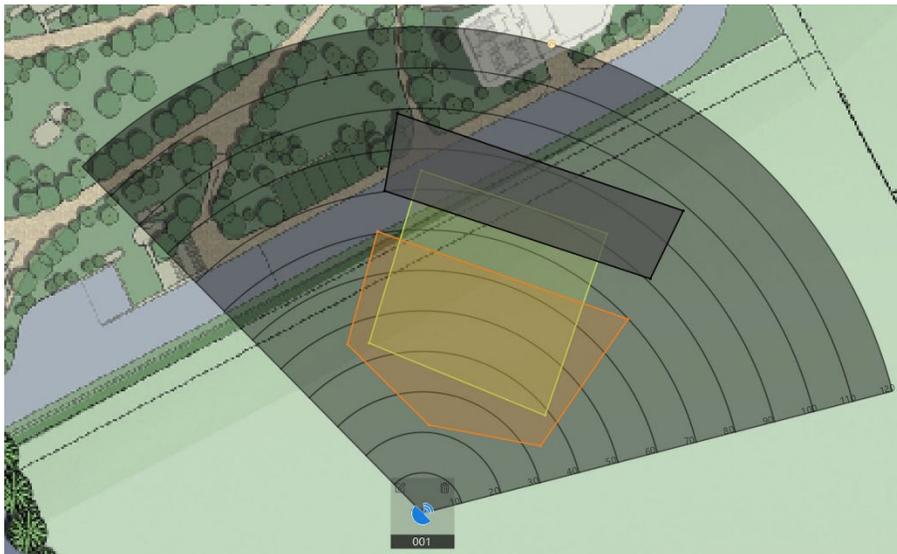


Figure 4-19 Overlap Zones

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 in the area. The disabled zone is gray.

5. Click **OK**.

6. **Optional:** Edit 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.

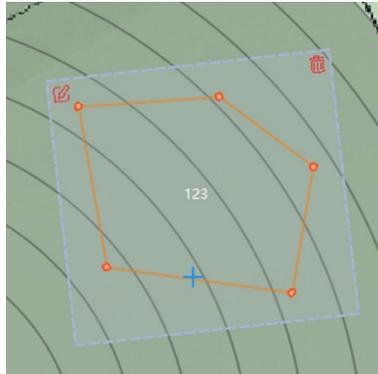


Figure 4-20 Add a Marker

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



Figure 4-21 Drag a Marker

4) Hold to move the zone.

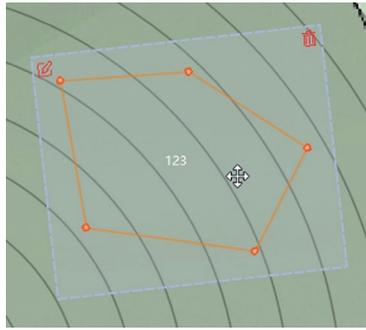


Figure 4-22 Move the Zone

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



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

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

4.2.4 Add Trigger Line

You can draw trigger lines for the radar detection area and set trigger line rule.

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.
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 four trigger lines can be drawn.

Up to one dual-trigger line 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 lines cannot cross each other.



Figure 4-23 Draw a Trigger Line

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



Figure 4-25 Add a Marker

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

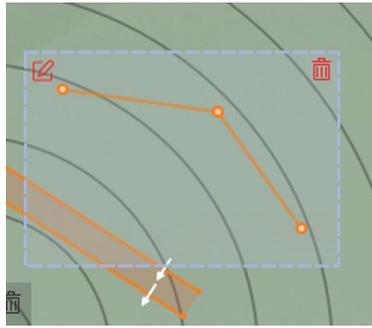


Figure 4-26 Drag a Marker

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

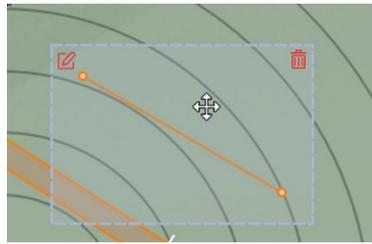


Figure 4-27 Move the Trigger Line

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

4.2.5 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 a linked zone.

In the 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.

1. Select a reference object approximately 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 a 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.

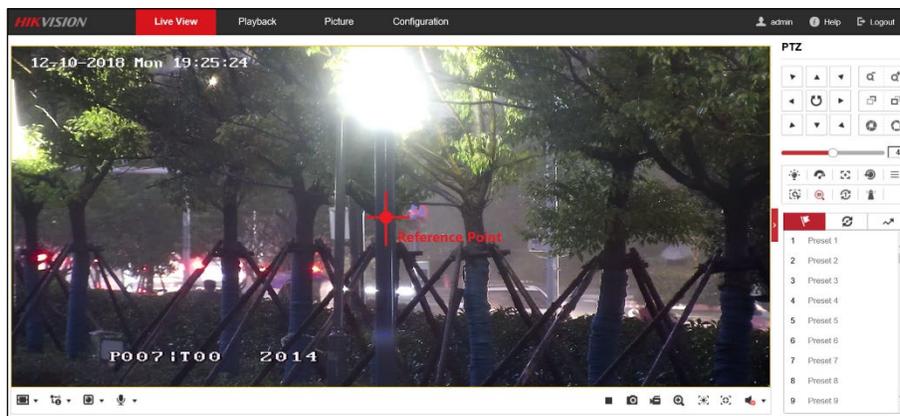


Figure 5-1 Reference Point Position



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 is outside the frame. In this case, adjust the speed dome's maximum elevation angle. For detail adjustment method, see ***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.

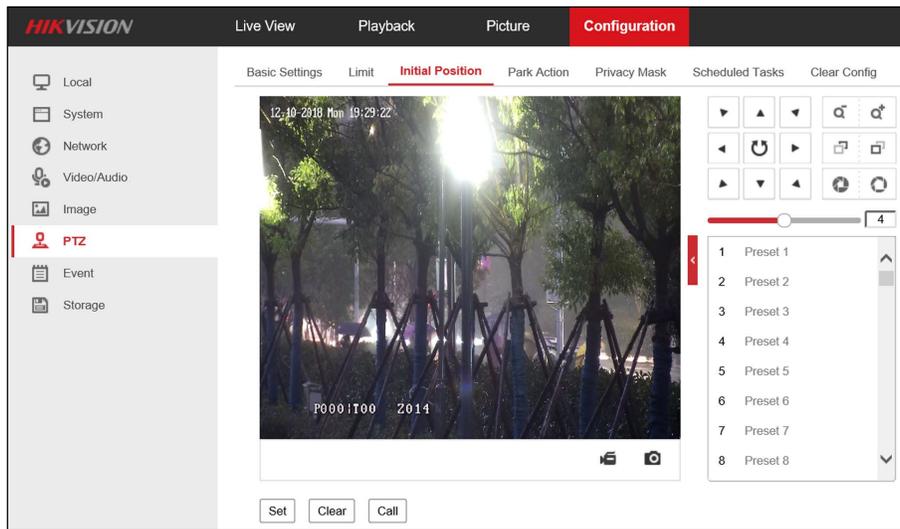


Figure 5-2 Set Initial Position

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.

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) 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 four 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.

1. In the client software, click **Device Management** → **Group** .

2. Select the group of the radar and click **Encoding 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. Double-click on the camera's live view window that needs to be calibrated to maximum it.

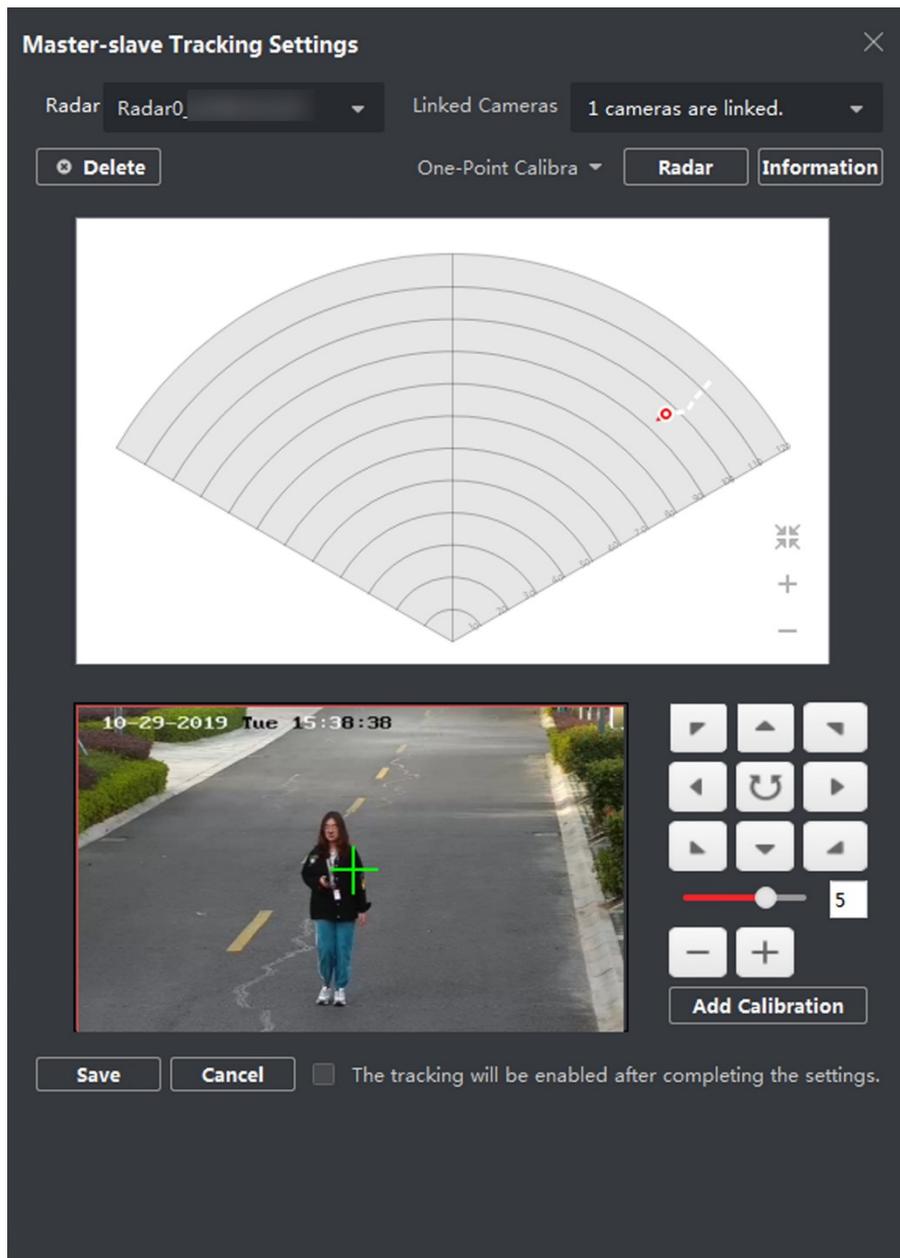


Figure 5-4 Calibration Page

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: Scenes not applicable to one-point calibration need to adopt multi-point calibration.



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 using one-point calibration or multi-point calibration.

5.3.1 One Point Calibration

Before You Start

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

1. In the 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.

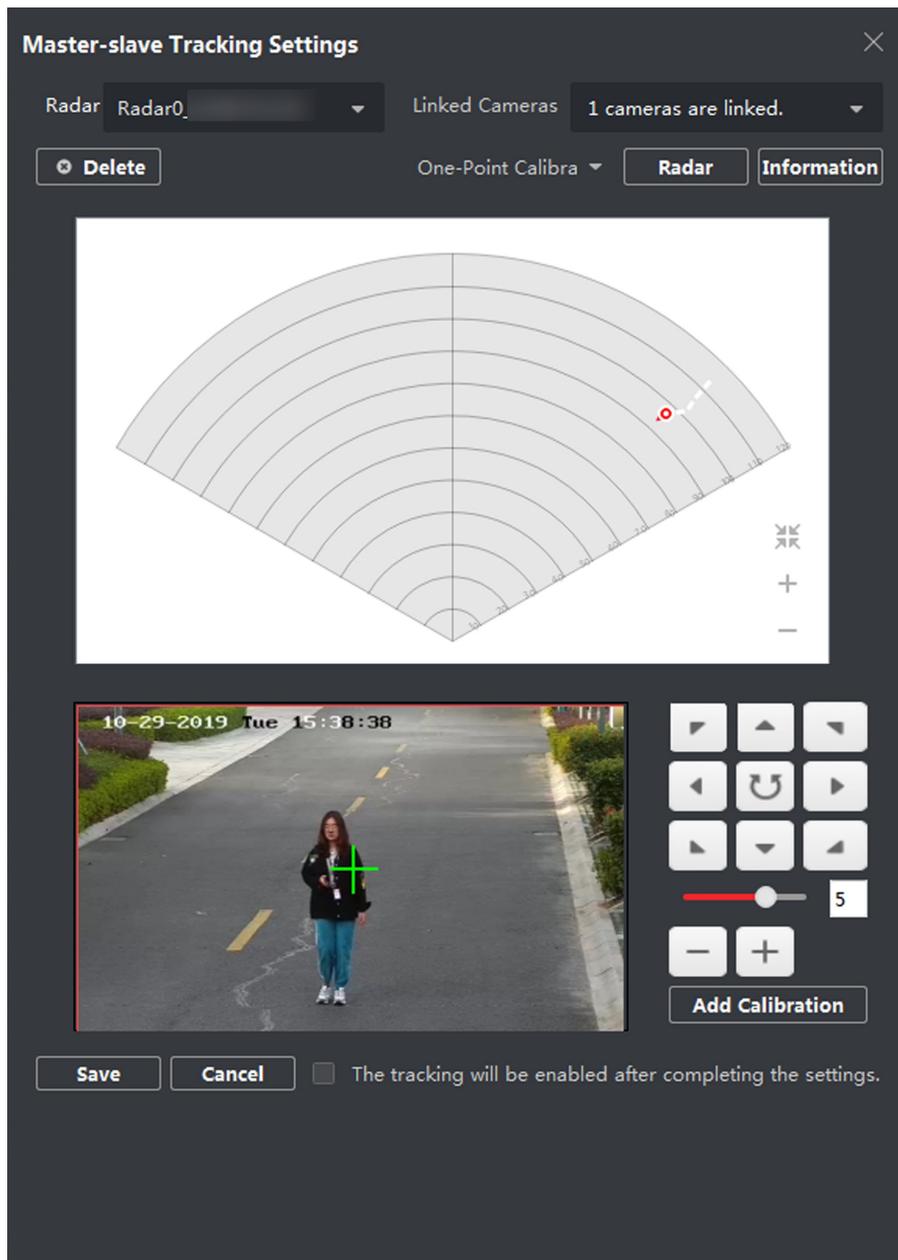


Figure 5-7 Select the Track

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 place for more than 7s. If the calibration staff does not move to the calibration point when the track disappears, ask the calibration staff to move again to produce a track, and click the track to continue the calibration.

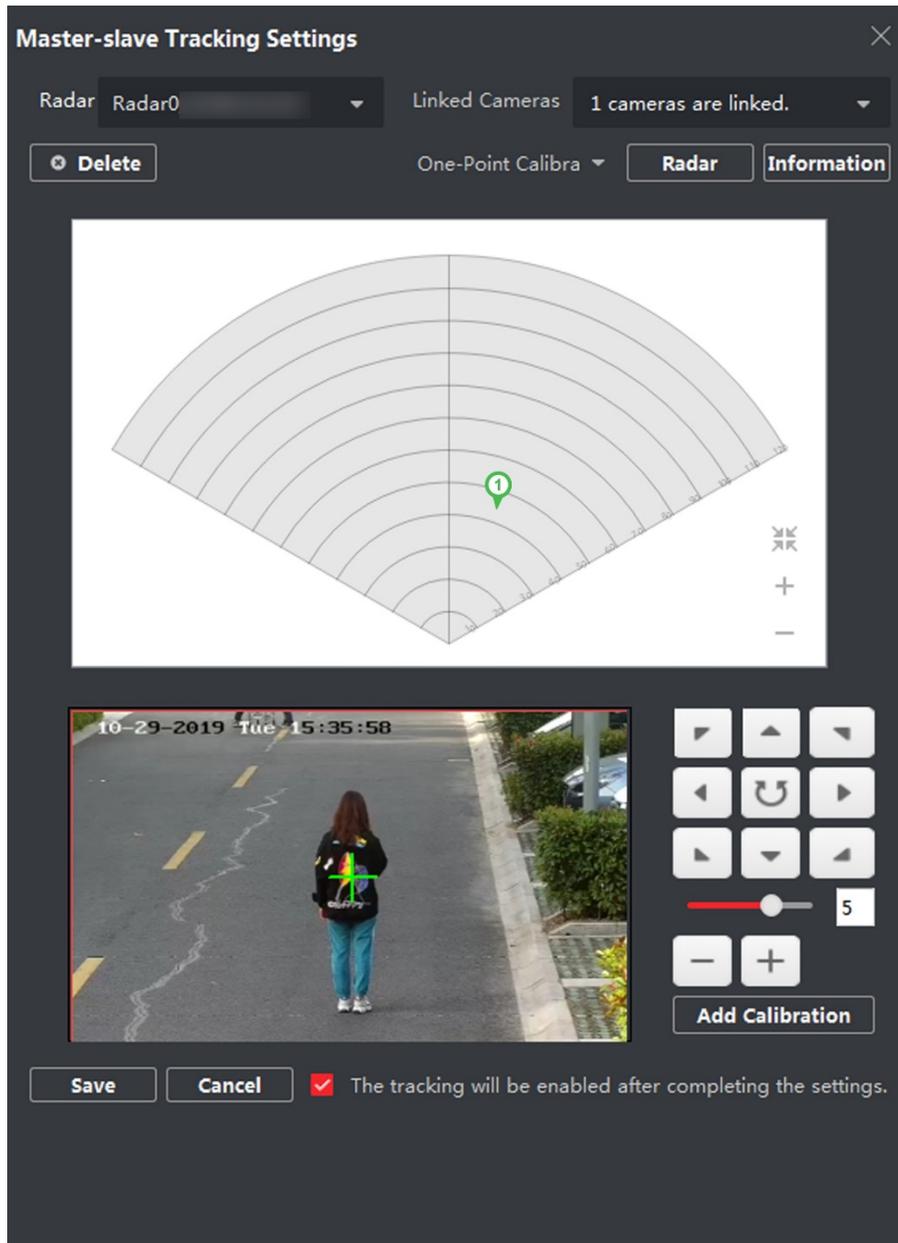


Figure 5-8 Add a Calibration

6. Click **Save**.

5.3.2 Multipoint Calibration

Before You Start

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

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



Figure 5-9 Multipoint Distribution Instance



NOTE: It is required to set three equally distributed calibration points with 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 positions in turn.

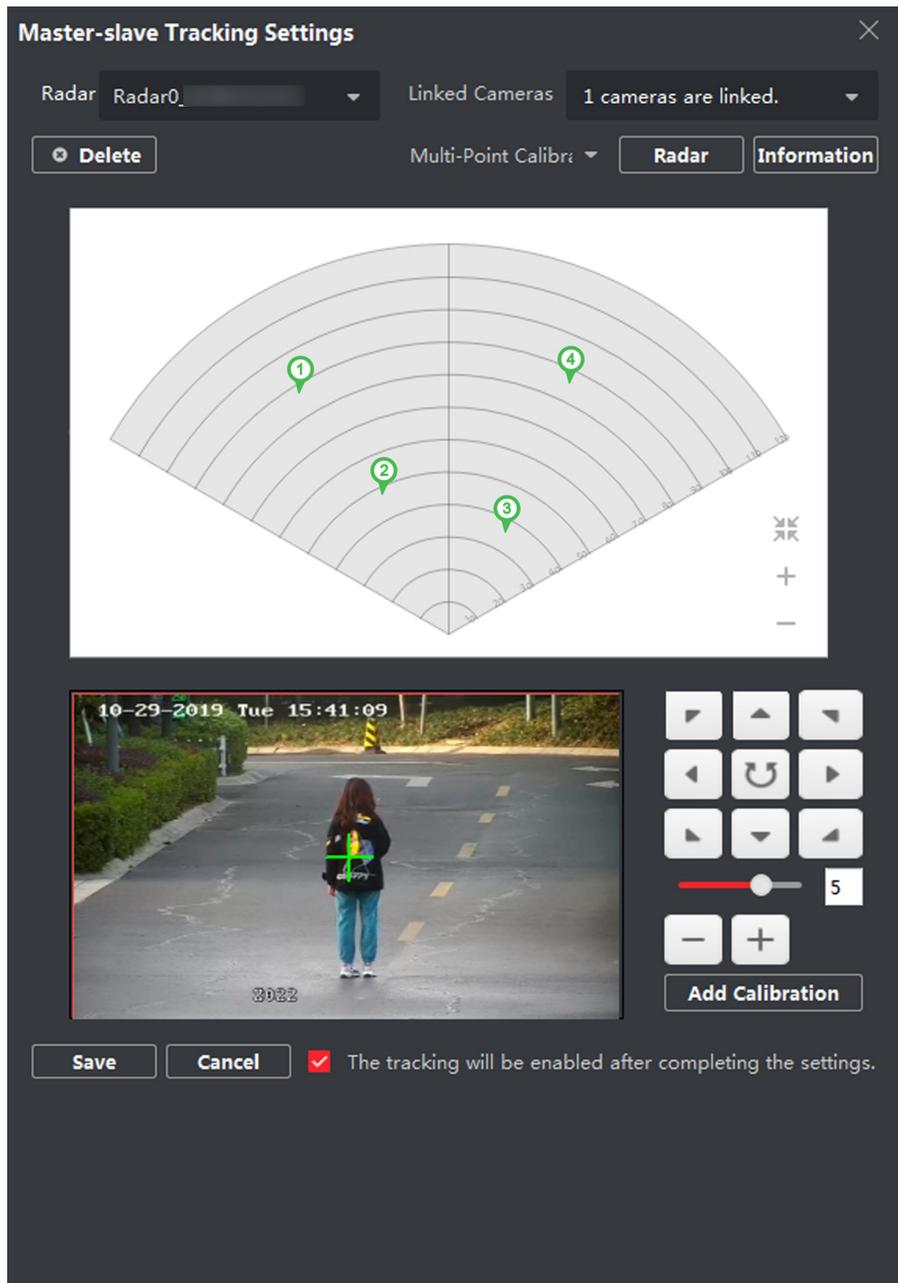


Figure 5-10 Multipoint Calibration Radar Page

**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 result 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 click **Delete** to delete the calibration point.

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

**NOTE:**

You can save the calibration information successfully if there are three 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 if 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.
1. Enter E-map page, and click **Edit** to exit the editing mode.
 2. Click **Radar Settings** → **Set Parking Point**.

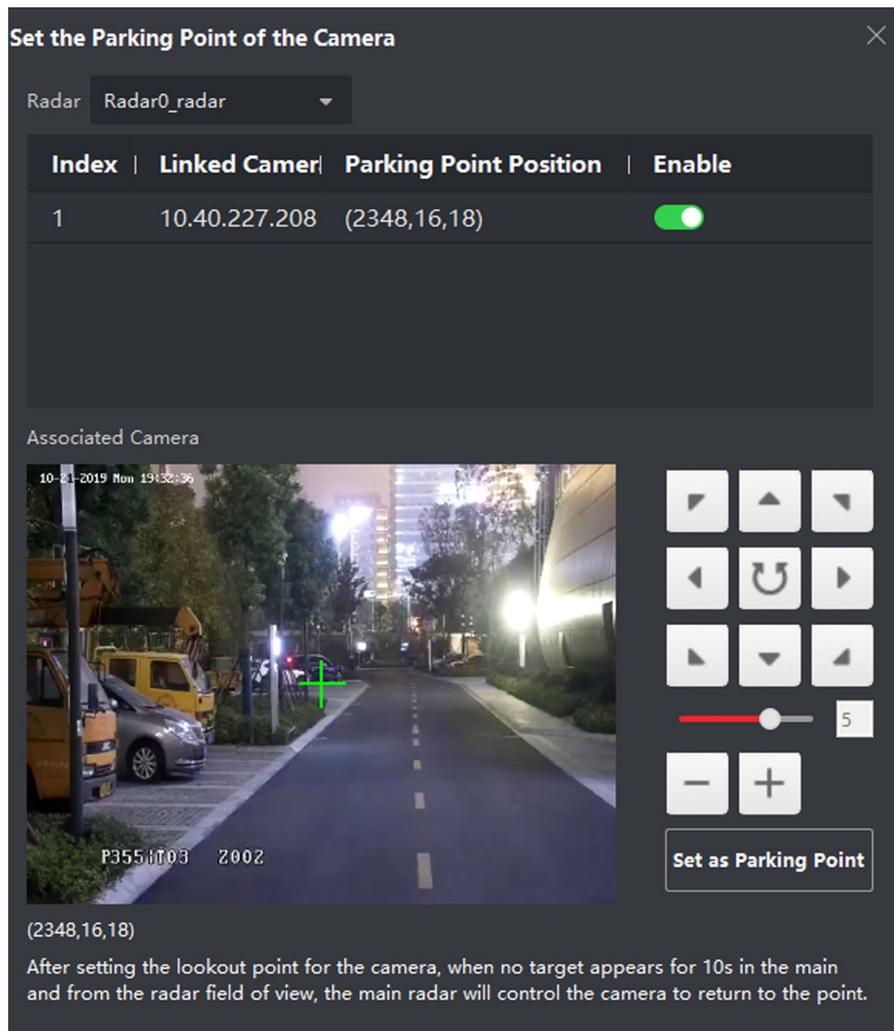


Figure 5-11 Set Camera Parking Point

3. Select a linked camera in the drop-down list.

- 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.

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

**NOTE:**

Each zone can link to four cameras, and up to 50 cameras can be linked.

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

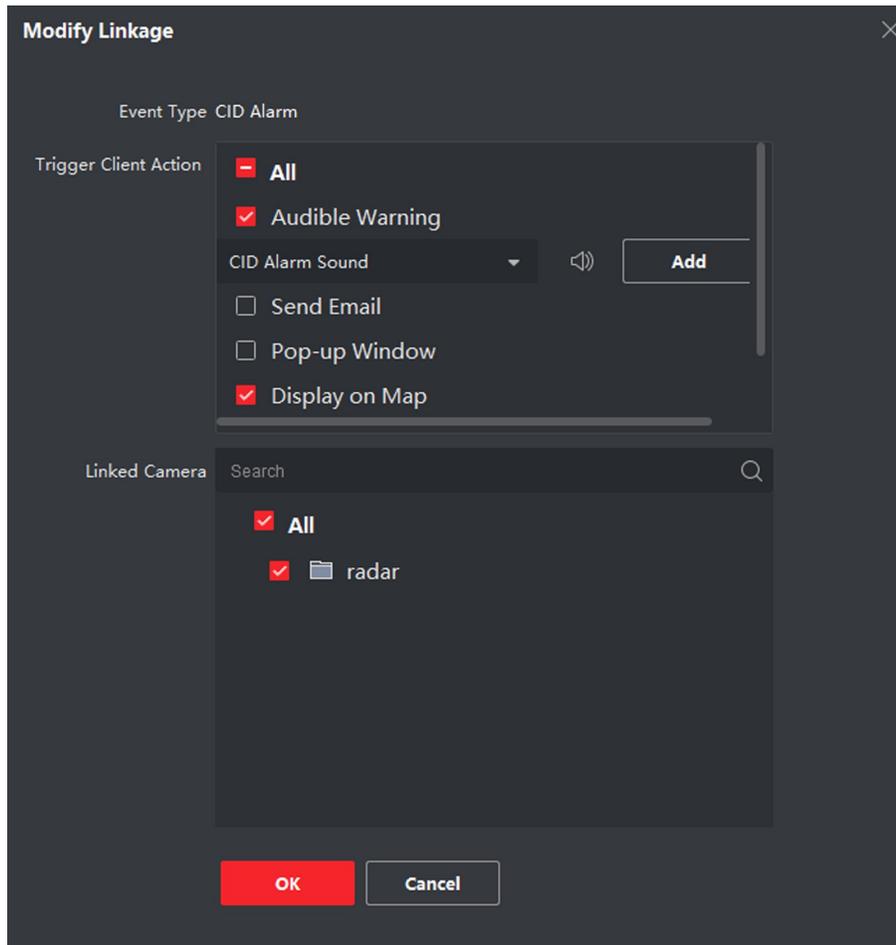


Figure 5-12 Link the Camera to the Zone

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.
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.

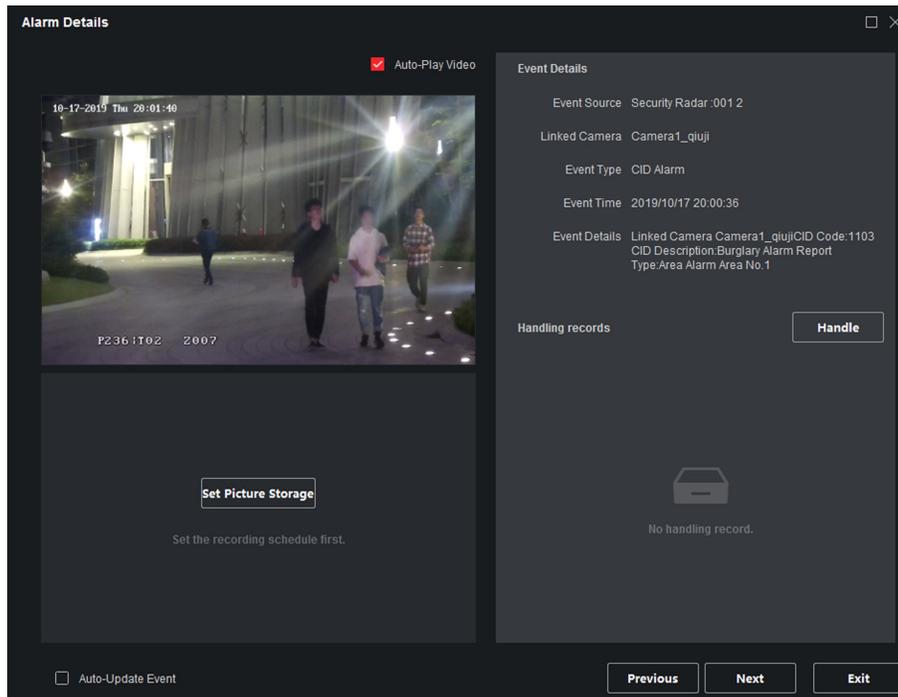


Figure 5-13 The Alarm Window

- 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 *iVMS-4200 Client Software User Manual*.

Chapter 6 Calibrating via Radar Calibration Tool

6.1 Download and Registration

Get Radar Calibration Tool and registration.

Before You Start

Download and install Radar Calibration Tool from official Website.

1. Open Radar Calibration Tool.
2. Click **Register**.
3. Create a user name.
4. Create and confirm a password.
5. Click **OK** and log into the account.

6.2 Add Device

Add groups, radars, and IPCs in Radar Calibration Tool.

Before You Start

Install and log into Radar Calibration Tool.

1. Click **Add → Group** in radar list to add a new group.
2. Double-click on the group to edit the group name.
3. Select a group and click **Add → Radar**.
4. Enter IP address, user name and password.
5. Set the port no. as 80 and click **OK**.
6. Select a radar and click **Add → IPC**.
7. Enter IP address, user name, and password.
8. Set the port no. as the actual port no. of IPC and click **OK**.
9. **Optional:** Select a group, a radar, or an IPC and click **Delete** to delete it.
10. **Optional:** Right-click on the IPC, select **Copy To**, and select a radar. The IPC will be copied to the target radar list.
11. **Optional:** Right-click on the IPC, select **Move To**, and select a radar. The IPC will be moved to the target radar list.

6.3 One-Point Calibration

Before You Start

- Disarm the radar before the operation.
 - Add the camera in the radar list before calibration, and set the speed dome initial position.
 - The installation height of the linked speed dome should to be more than 3 m.
1. Click  on the Calibration List
 2. Select a linked IPC.
 3. Select **One-Point Calibration** as the calibration mode.
 4. 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 yellow.

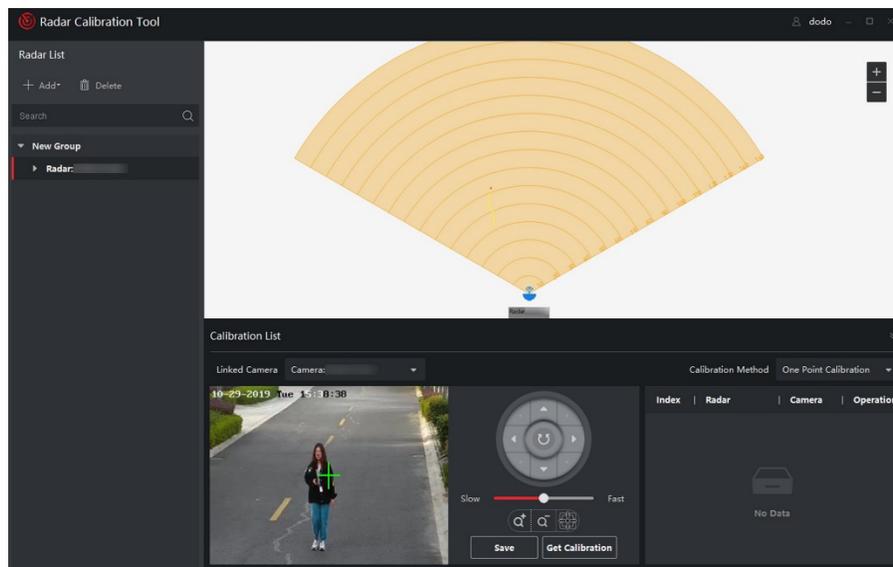


Figure 6-1 Select the Track

5. 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.
6. Adjust the PTZ buttons in the live view window to get the PTZ position: 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  and click on the center of the object and the screen will adjust automatically).
7. Click **Get Calibration** to add a calibration point, the PTZ position and the radar position of the calibration staff will be shown on the right list.

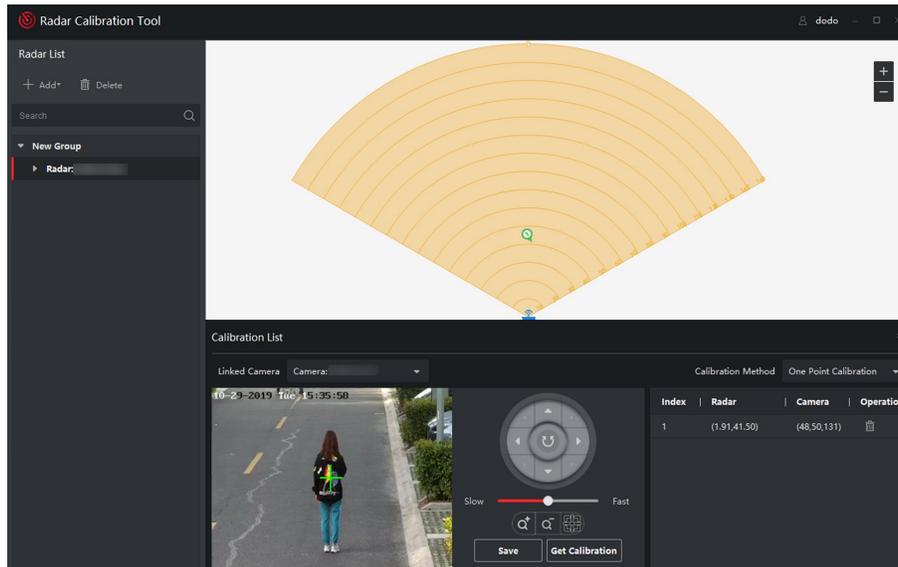


Figure 6-2 Add a Calibration

8. Click **Save**.

6.4 Multi-Point Calibration

Enter a short description of your task here (optional).

Before You Start

Enter the prerequisites here (optional).

Enter the context of your task here (optional).

1. Click  on the Calibration List
2. Select a linked IPC.
3. Select **Multi-Point Calibration** as the calibration mode.
4. Select equally distributed calibration points in the radar detection field (refer to the following figure to select points).



Figure 6-3 Multipoint Distribution Instance



NOTE: At least four equally distributed calibration points are required with multi-point calibration.

5. According to the calibration points, ask the calibration staff to move to a calibration point, and refer to step 4 to step 7 in **One-Point Calibration** to calibrate the calibration point.
6. When the first calibration point is calibrated completely, have calibration staff move to the next calibration point after the yellow track disappears, then refer to step 4 to step 7 in **One-Point Calibration** to calibrate the calibration point. Follow this process to complete all calibration point positioning in turn.

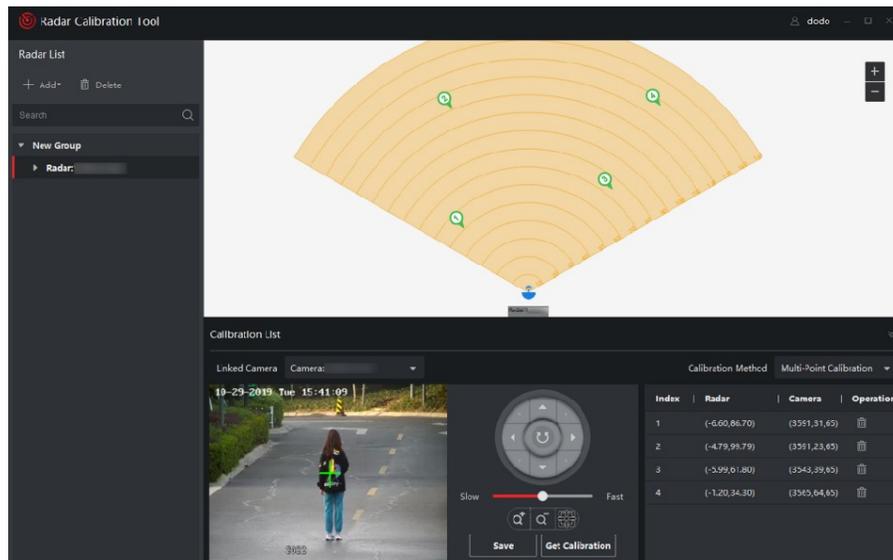


Figure 6-4 Multipoint Calibration Page

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



NOTE: You can save the calibration information successfully if there are four to eight calibration points, otherwise, you cannot save it.

Chapter 7 Set Record and Storage Settings

7.1 Set Storage Settings

You can use a storage server or NVR to store videos.

7.1.1 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 (refer to the *iVMS-4200 Client Software User Manual*).
1. In client software, click **Storage Schedule** to enter the page.
 2. Select the camera in the Camera Group list.

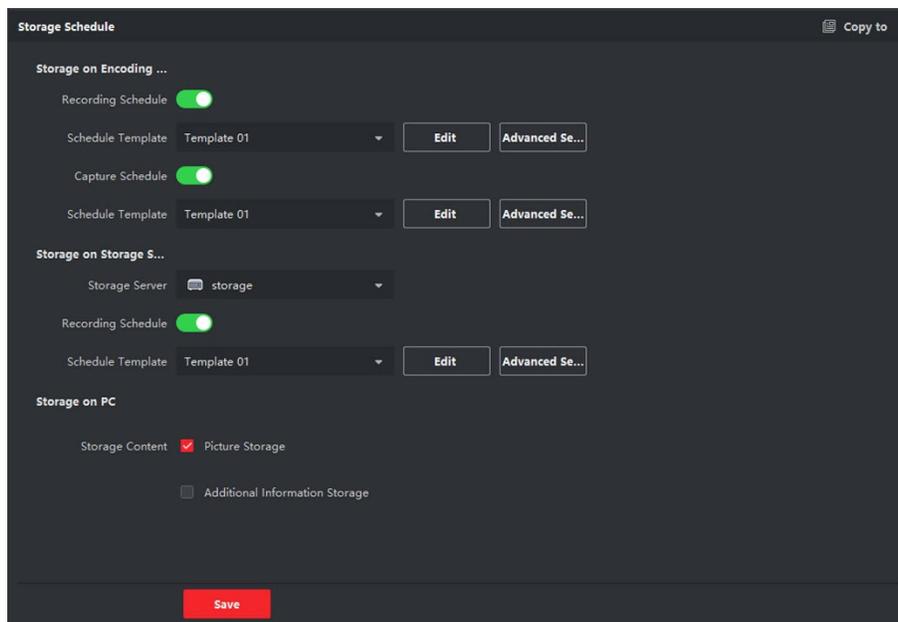


Figure 7-1 Storage Schedule

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, refer to the *iVMS-4200 Client Software User Manual*.

7.1.2 Set Storage Schedule via NVR

1. In the client software, click , or enter the IP address of radar in browser to enter the Web client.
2. Click **Smart Rule Settings** → **Camera Linkage Settings** to enter the page.
3. Add an NVR to an existing camera.
 - 1) 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**.
 - 2) Add NVR when adding a camera.
 - 3) Click **+**.
 - 4) Choose **Yes** in Link to NVR?.
 - 5) Enter IP address, port, and network camera no.
 - 6) Click **OK**.

7.2 Set Tracking Strategy

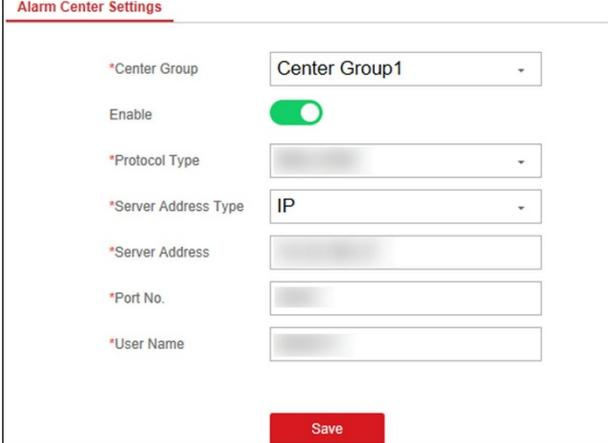
1. Select the radar and click  in client software, or enter the radar IP address in the address bar of the Web browser. Click **Smart Rule Settings** → **Video Record Strategy Settings** to enter the page.
2. Select **Time Priority**, **Range Priority**, or **Multi-Target Auto Switch** as the strategy. The camera will record the intrusion till the target leave warning zone.
 - **Time Priority:** Record the first target that intrudes the zone.
 - **Range Priority:** Record the target that is 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 8 Alarm Settings

8.1 Alarm Center

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

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



The screenshot shows the 'Alarm Center Settings' page with the following fields:

- *Center Group: Center Group1
- Enable:
- *Protocol Type: [blurred]
- *Server Address Type: IP
- *Server Address: [blurred]
- *Port No.: [blurred]
- *User Name: [blurred]
- Save button

Figure 8-1 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**.

8.2 Notification Push

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

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**.

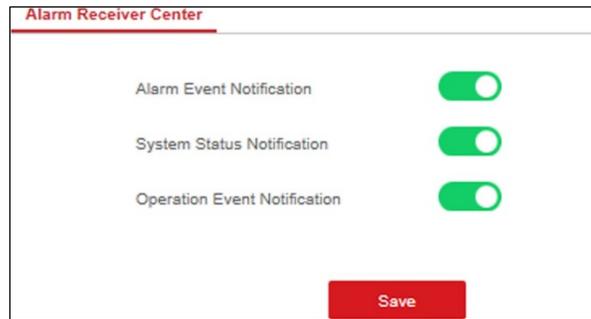


Figure 8-2 Notification Push

2. Enable the target notification.

- **Alarm Event Notification:** Device will push notifications when zone alarm is triggered or restored.
- **System Status Notification:** 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**.

8.3 Set Zone

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.

Zone Management			
Zone	Zone Name	Zone Type	Configuration
5	555	Disabled Zone	
8	Universe~	Disabled Zone	

Figure 8-3 Set Zone

2. Select a zone, and click  to edit the zone name and zone type.

3. Click **OK** to complete.

8.4 Set Alarm Output

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.

Output			
Relay	Relay Name	Output Time	Configuration
1	relay1	60	
2	relay2	60	
3	relay3	60	
4	relay4	60	

Figure 8-4 Relay



NOTE: You can also click **E-map → Edit → Radar Settings → Alarm Output** to open/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.

8.5 Set Arming/Disarming Schedule

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 8-5 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 two 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**.

8.6 Set Motion Speed

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

4. Click **Save**.

8.7 Video Tracking Switch Settings

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: Once enabled, if you click a target track in the radar detection area, the camera will mandatory track the target.

4. Click **Save**.

Chapter 9 Set Radar Advanced Function

9.1 Set Master-Slave Tracking Settings

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

Before You Start

There must be at least two online radars.

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 a 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 appears 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.

9.2 Set Detection Angle and Range

1. Select the radar and click **Remote Configuration** in the 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.
2. Slide the bar to set the radar angle, and enter the detection range.
3. Click **Save** to complete.

9.3 Set Scene Mode and Sensitivity

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.

The screenshot shows a web interface for 'Sensitivity Settings'. It features a dropdown menu for 'Scene Mode' currently set to 'Open Mode', and a red 'Save' button at the bottom.

Figure 9-1 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 be used to decrease the interference of rainstorm.
 - **Expert Mode (Custom Mode):** You can set tracking sensitivity, swing sensitivity, signal sensitivity, speed 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.

9.4 Set Frequency Range Settings

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 two 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**.

9.5 Track Settings

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

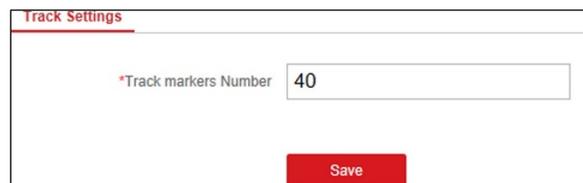


Figure 9-2 Track Settings

2. Enter **Track Marker Number**. Edit the track marker number to control the track length. The default is 40.
3. Click **Save**.

Chapter 10 View Alarm Information

The device supports alarm information query and alarm event playback.

Before You Start

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

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 11 System Management

11.1 Set Time

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.

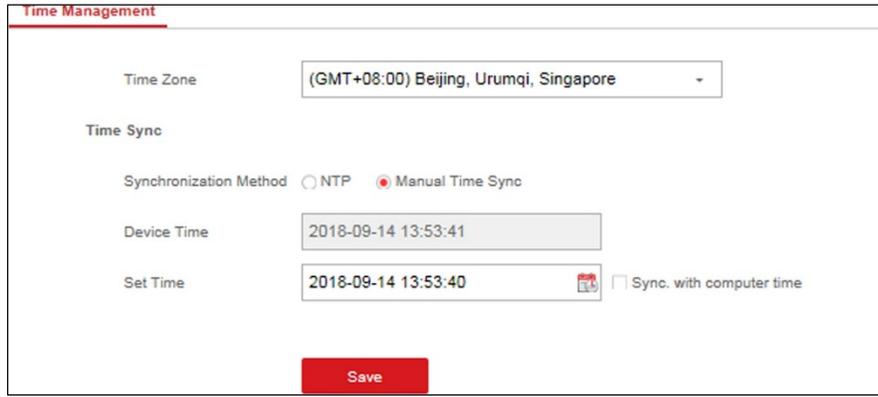
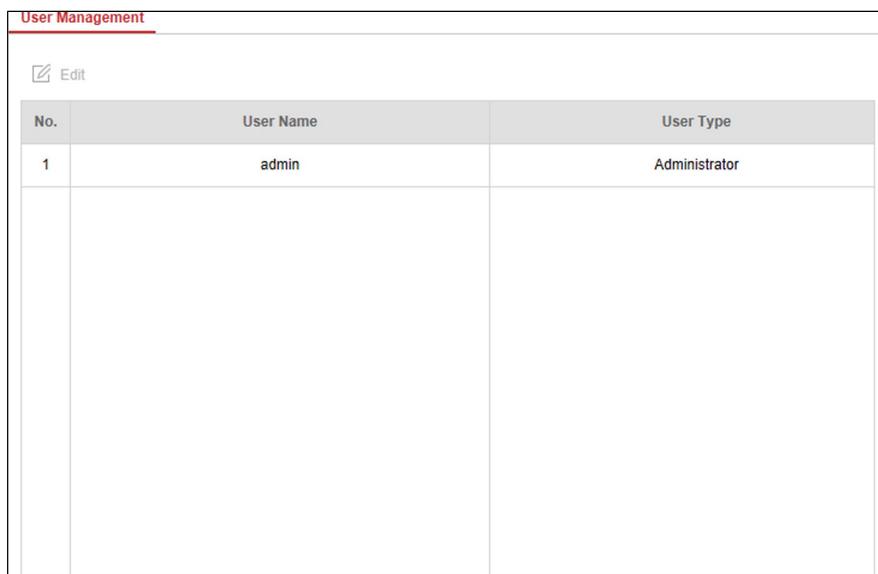


Figure 11-1 Time

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

11.2 Manage User

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.



No.	User Name	User Type
1	admin	Administrator

Figure 11-2 User

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

11.3 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.

11.4 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.

11.5 Search Log

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.

11.6 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.

11.7 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 m to 3 m.

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

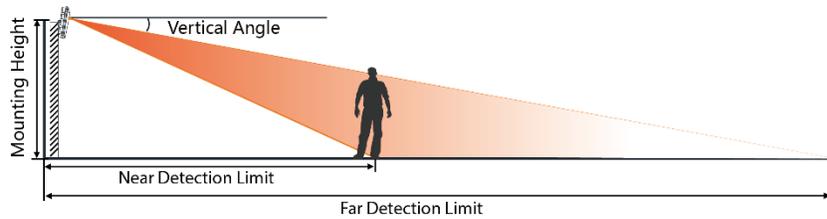


Figure A-1 Radar Mounting Height and Detection Range

Table A-1 Radar Mounting Height and Detection Range

Mounting Height	Vertical Angle	Far Detection Limit	Near Detection Limit
2.0 m	0°	102 m	4.2 m
2.0 m	3°	106 m	3.0 m
2.0 m	6°	87 m	2.4 m
2.0 m	9°	85 m	3.2 m
2.5 m	0°	124 m	5.5 m
2.5 m	3°	112 m	5.1 m
2.5 m	6°	89 m	4.2 m
2.5 m	9°	80 m	4.3 m
3.0 m	0°	119 m	7.8 m
3.0 m	3°	110 m	8.2 m
3.0 m	6°	98 m	7.1 m
3.0 m	9°	81 m	6.4 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.

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 six 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 six 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 field, set the radar sensitivity mode as **Shrub Mode**, which helps avoid false alarms caused by gales, storms, or shrub swings.

If **Shrub Mode** is not satisfactory, 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, set the speed dome initial position.

Check that the calibration points are correct. Pay attention to situations where the target is intercepted when

calibrating. If the calibration points are error, calibrate again.

Check if the calibration positions are 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, reset the initial position of the speed dome and 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 the reference point to be above the center of the frame or outside the frame while setting the speed dome initial position. In this case, adjust the maximum elevation angle of the speed dome as follows:

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 , then adjust the cursor to **Motion** and click  to enter the page.



Figure D-2 Motion

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



Figure D-3 Maximum Elevation Angle Adjustment

- Click up and down direction keys in the PTZ list to adjust the maximum elevation angle, and then click  to save the settings.
- Move 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 appears again on the zone drawing page, and the distance between the 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 glass, and the large-area metal objects or flat glass reflect the signal again to the receiving end of the radar, thus there will be a false alarm. Since the glass is flat and the reflection is

concentrated, there may be a false alarm when there is glass 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 disappears when acquiring parameters.

Solution: Select the moving target for parameter acquisition.

Prompt when adding calibration points: Error in parameter range, illegal range: $T \leq 0$

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, 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, refer to <i>Communication Matrix</i> .
Device IP and port	The device IP and port are used to support network service communication. For details, refer to <i>Communication Matrix</i> .
Log	Used to record information such as device operating status and operation records.
Database information	Used to record information such as radar tracks.

