

PanoVu Camera Application Guidance

| Date | Contents | Editor |
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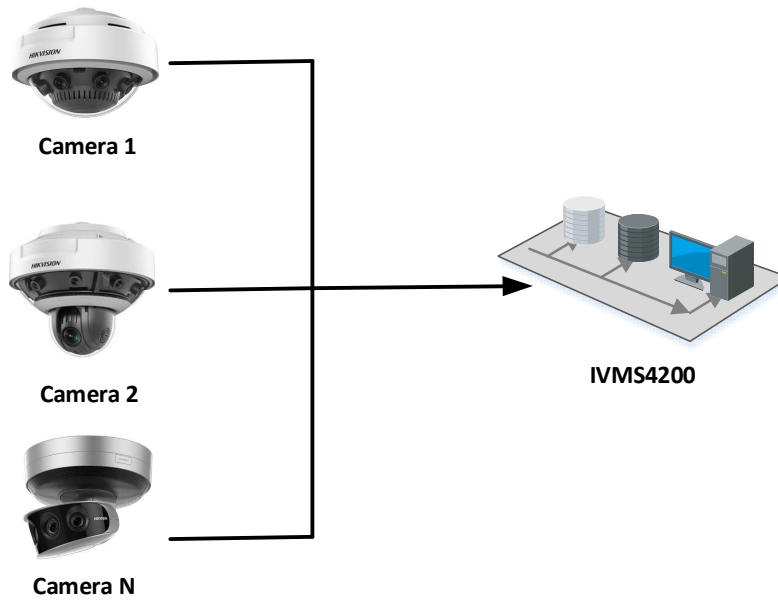
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Chapter 1. Solution Introduction

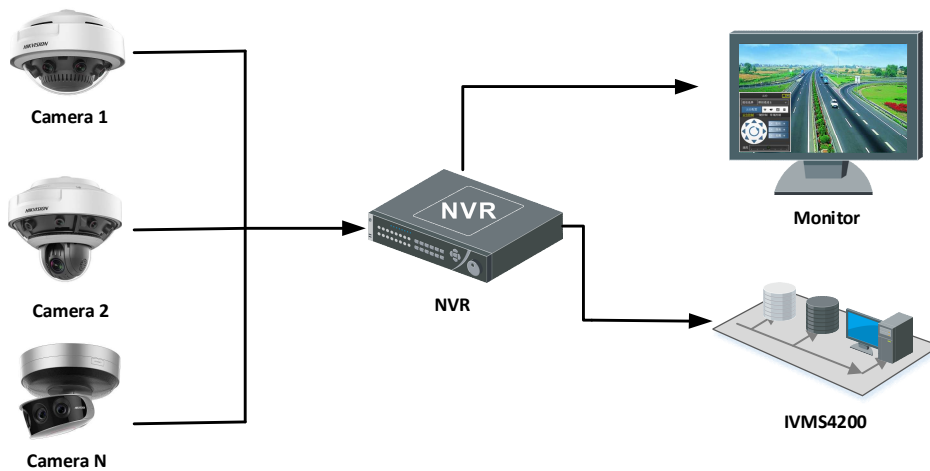
1.1 Solution 1: PanoVu Camera + VMS

In this solution, PanoVu camera can be directly accessed to the IVM 4200 for code stream transmission. The figure below is a simple network topology diagram:



1.2 Solution 2: PanoVu Camera + NVR + VMS

In this solution, PanoVu camera can be directly accessed to the IVM 4200 via NVR. The result can be displayed locally on the NVR or on 4200 clients. The figure below is a simple network topology diagram:



1.3 Computer Performance Recommendation.

1. CPU i5 4570 or better
2. GPU NVIDIA Geforce GTX 970 or better
3. RAM 8G and above
4. MCRInstaller.exe should be installed

1.4 Requirements of products

| PanoVu Camera | NVR | Channel parameters | Channel Bitrate | VMS4200 |
|---|---|--|--|--------------------------|
| DS-2DP0818Zxx(180°Panoramic+PTZ Camera) | DeepinMind NVR, I series, DS-96128/256 series Super NVR | 1 Panoramic Channel(4 lens),Panoramic Resolution:4*2=8MP 1 PTZ Channel (1 lens), PTZ Resolution:2MP | Panoramic Channel: 13Mbps PTZ Channel : 5Mbps | Latest base-line version |
| DS-2DP1636Zxx(360°Panoramic+PTZ Camera) | DeepinMind NVR, I series, DS-96128/256 series Super NVR | 2 Panoramic Channel(8 lens): 8*2=16MP 1 PTZ Channel (1 lens), PTZ Resolution:2MP | Panoramic Channel: 26Mbps PTZ Channel : 5Mbps | Latest base-line version |
| DS-2DP1636-D(360°Panoramic) | DS-96128/256 series Super NVR | 1 Panoramic Channel(8 lens): 8*2=16MP | Panoramic Channel: 13Mbps | Latest base-line version |
| DS-2CD6A64F-IHS/NFC(180°Panoramic) | DS-96128/256 series Super NVR | 1 Panoramic Channel(4 lens): 6*4=24MP | Panoramic Channel:17Mbps | Latest base-line version |

Chapter 2.Function configuration

2.1 Scenario requirement

In order to have a better image stitching effect, DS-2DP0818/1636xx camera and DS-2CD6A64xx camera are guaranteed to be at least 6 meters and 12 meters away from objects respectively. The picture below has an obvious image stitching dislocation phenomenon.

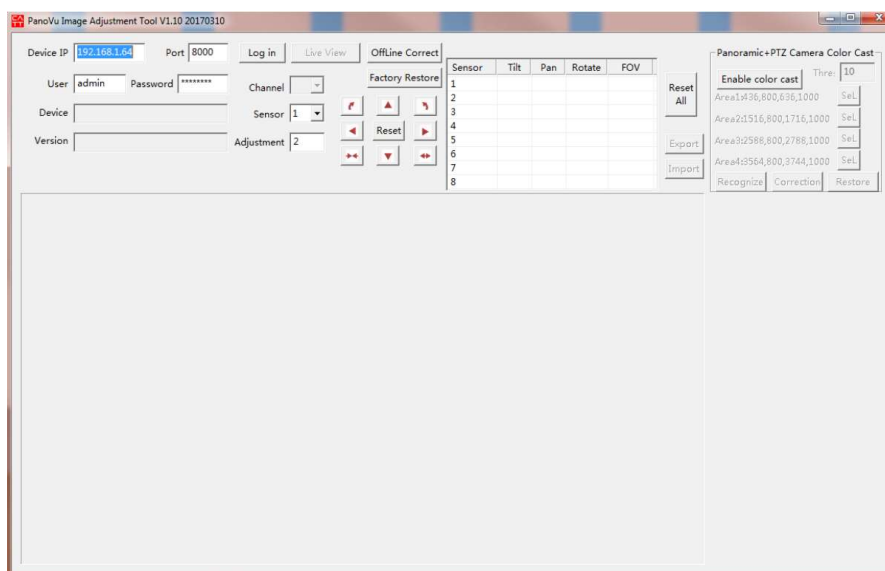


2.2 Image Stitching

Image stitching of PanoVu Camera has been set up by default. We can use **PanoVu Image Adjustment Tool** to stitch image if find an obvious image stitching dislocation phenomenon.

The blow step is for image stitching:

- 1) Install MCRInstaller.exe. (MCRInstaller.exe must be installed before using PanoVu Image Adjustment Tool)
- 2) Open PanoVu.exe, input Device IP, Port, User name, Password then Log in.



Notes: Panoramic channel of DS-2CD6A64 is 1; Panoramic channel of DS -2DP0818Z-D is 2; Panoramic channel of 2DP1636Z-D is 2 and 3; every channel has 4 sensor.

- 3) Click **auto stitch** button. Wait for the preview image of the panoramic channel, and click **ok** button if the image is correct. If the preview image is not good, click **cancel** and the tool will stitch again.

Notes: For DS-2DP1636Zxx, it has two panoramic channel. After channel 2 finished stitching, then you can click cancel and go to stitch channel 3.

- 4) DS -2DP1636-D only support Manual stitch, the step is below:
 - Open PanoVu.exe, input Device IP, Port, User name, Password then Log in.

- Switch the sensor that needs to be adjusted, then click UP, DOWN, LEFT or RIGHT buttons to adjust image.
- Close the tool after completing adjustment.



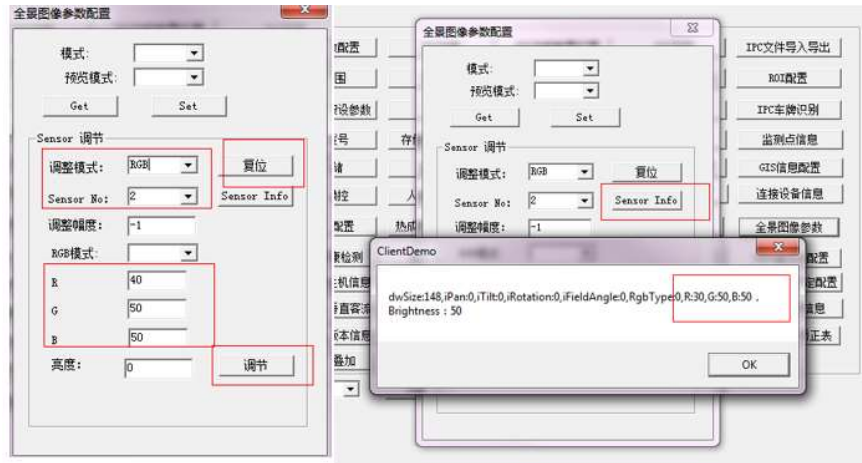
2.3 Color cast adjustment

There may be image color cast in the actual use process, The image can be fixed by adjusting RGB values, and the adjustment method is as follows:

- 1) Open SDK Demo, add device, go to Product Related → IPC/IPD CFG → Panoramic image parameter.



- 2) Set adjustment mode to RGB and chose the sensor No. that need to be adjusted. Adjust the value of RGB and the adjustable value range is 0-100, then click adjust button



- 3) The default value of RGB is 50, below 50 indicates that the component is reduced, and more than 50 indicates that the component is increased. You can click [sensorInfo] to view the current RGB value of the sensor, and click [reset] to restore the RGB value to 50.

4) **Adjustment method:**

Two phenomena of adjusting RGB values (R red, G green, B blue)


- When there has image color cast, only adjust one of the values of R or B, while the other values remain unchanged. If image has a reddish color, decrease R value/increase B value(Only image effect is still unable to improve after adjusting one of R value or B value to the lowest or highest then adjust another value
- RGB value can be adjusted at the same time to increase or decrease image brightness, which can improve the problem of over brightness or darkness between sensor

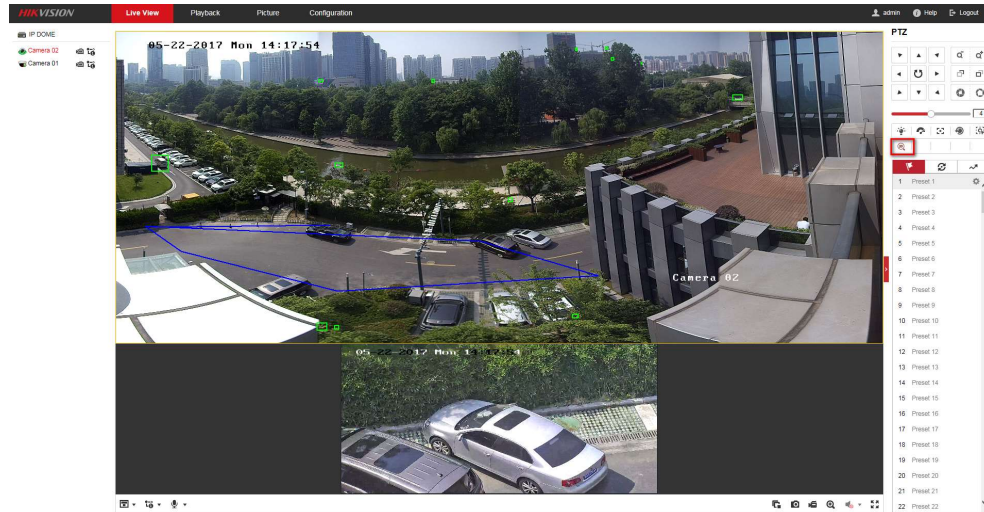
For example: sensor 1 RGB 50 50 50 → 60 60 60, which can increase the brightness of sensor 1.

2.4 Panorama Tracking

Notes: Only DP0818Zx and DP1636Zxx support Panorama Tracking function

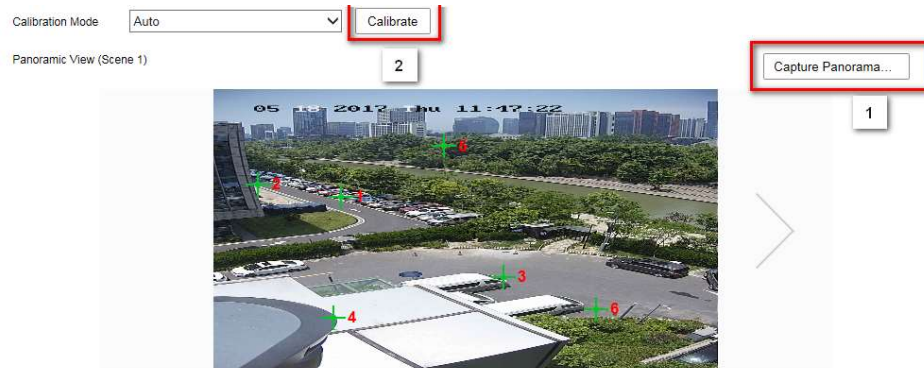
1. Calibration

- PanoVu PTZ camera has been calibrated by default
- We can click  button on the live view interface to ensure whether 3D ZOOM is accurate or not, if not, please calibrate again.
- The device supports Auto Calibration and Manual Calibration



2. Auto calibration

- 1) Chose Auto Calibration Mode, click capture panoramic picture first (scene 1 and scene 5), then click calibrate button.



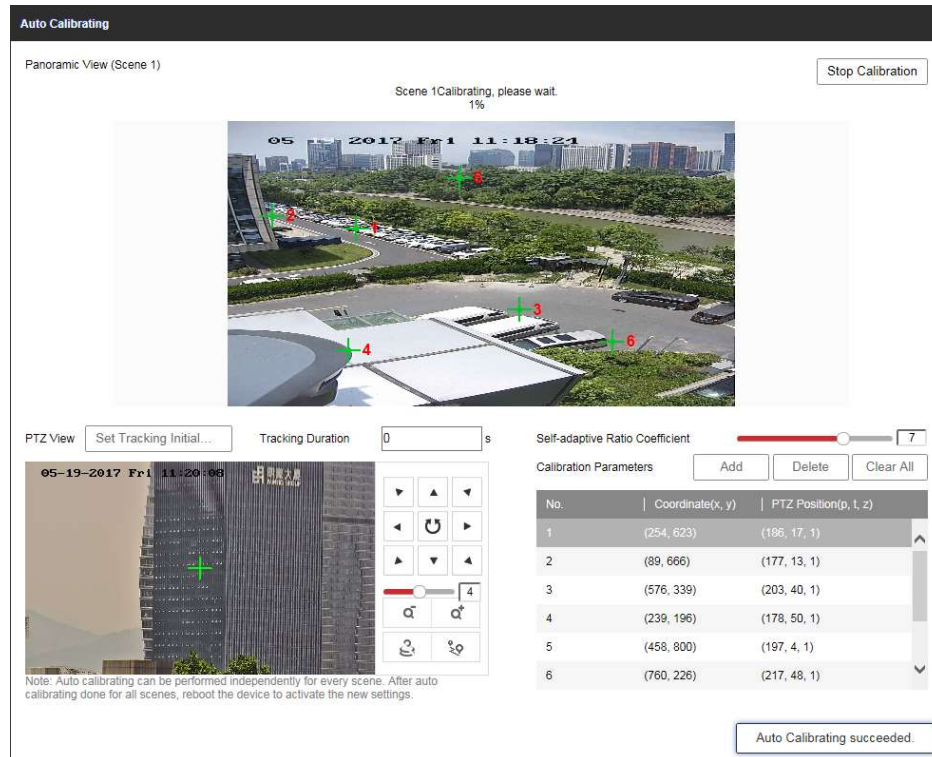
- 2) Click auto calibrate, it will pop up the auto calibration window, and begin to calibrate scene 1. It will automatically calibrate for each scene, every scene cost about 3 minutes. It needs to manually switch to the next scene after one scene is calibrating succeeded. After all scenes finished calibration, click Auto calibrating succeeded, then the device will reboot.

Auto Calibrating

Panoramic View (Scene 1)

Scene 1 Calibrating, please wait.
1%

Stop Calibration



PTZ View

Set Tracking Initial...

Tracking Duration 0 s

Self-adaptive Ratio Coefficient 7

Calibration Parameters Add Delete Clear All

| No. | Coordinate(x, y) | PTZ Position(p, t, z) |
|-----|------------------|-----------------------|
| 1 | (254, 623) | (166, 17, 1) |
| 2 | (89, 666) | (177, 13, 1) |
| 3 | (576, 339) | (203, 40, 1) |
| 4 | (239, 196) | (178, 50, 1) |
| 5 | (458, 800) | (197, 4, 1) |
| 6 | (760, 226) | (217, 48, 1) |

Note: Auto calibrating can be performed independently for every scene. After auto calibrating done for all scenes, reboot the device to activate the new settings.

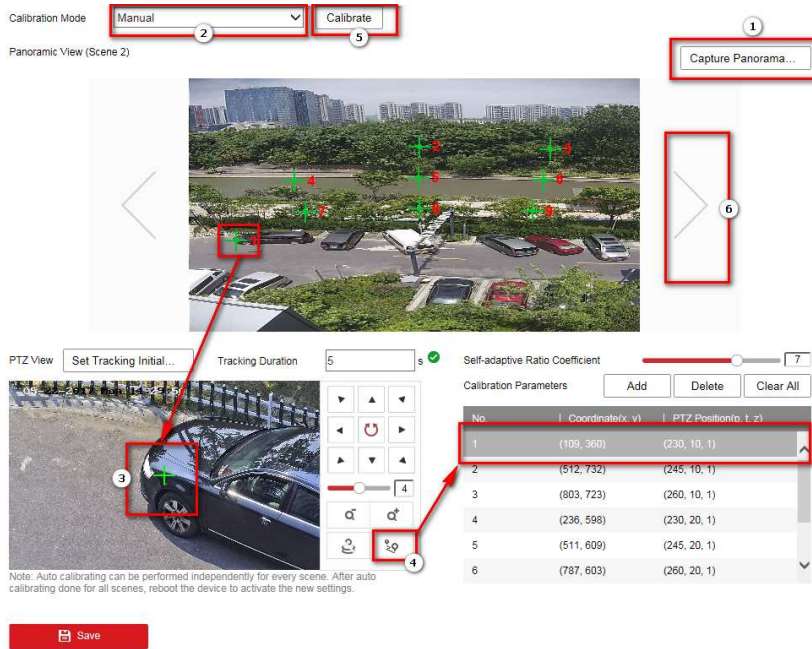
Auto Calibrating succeeded.

Note: During the calibrating process, the panoramic channel live view will switch to original image.

3. Manual Calibration

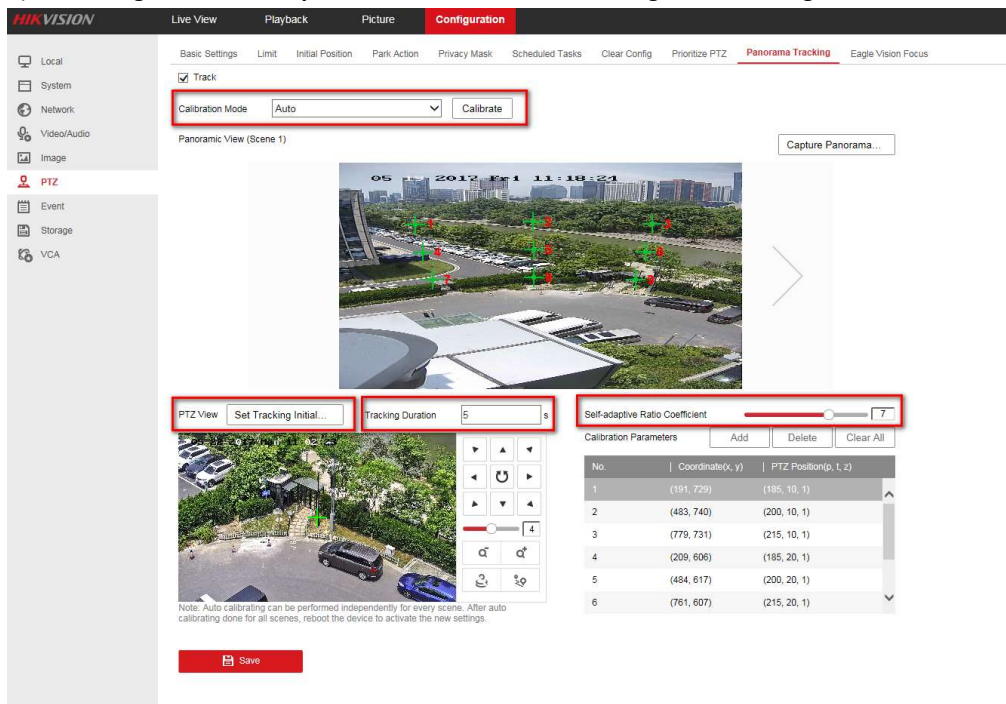
Manual Calibration step is as blew:

- 1) Click capture panoramic picture first
- 2) Chose Manual Calibration mode
- 3) Discretely distribute the 9 calibration points in the image(at least 6 points).
- 4) Adjust PTZ to make sure that the centre of the tracking PTZ camera are in the same position with No.1 calibration position then click Get PTZ Position button. Calibrate other No. calibration positon one by one
- 5) Click **calibrate** button, then click **save** button
- 6) Swtich next panoramic View and calibrate it
- 7) When all panoramic View have been calibrated , save the parameters.



4. Enable Tracking

- 1) Enable tracking after calibration
- 2) We can set the position that PTZ camera stay after tracking by click **Set Tracking Initial Position** button
- 3) Tracking time for every object can be set by clicking **Tracking Duration** button.
- 4) The larger the **self-adaptive Ratio Coefficient** is, the larger the tracking Ratio is.

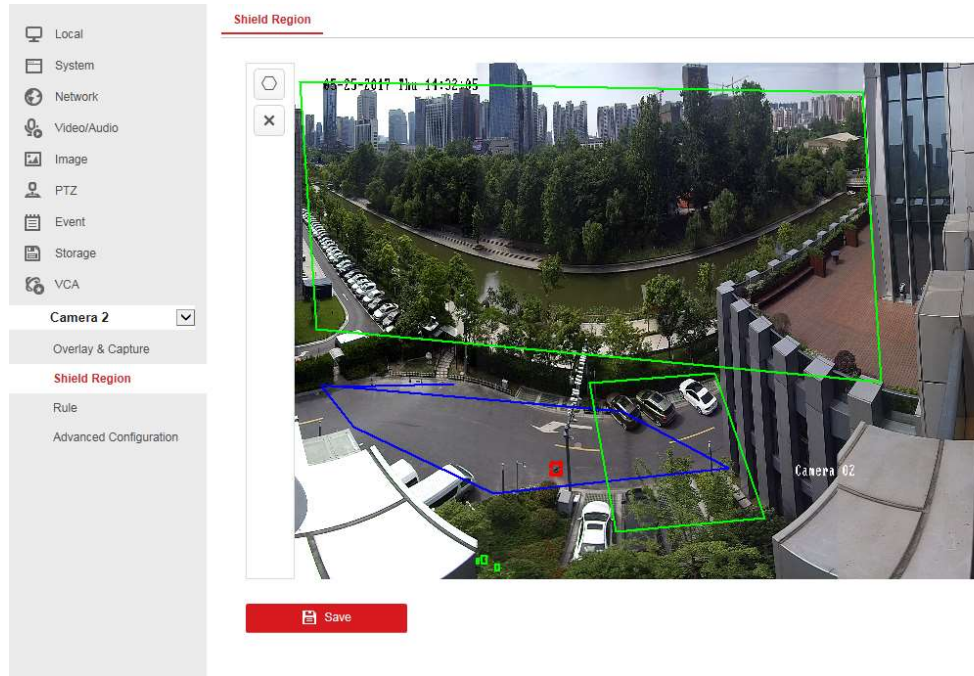


5. VCA Rule

- 1) Go Configuration → VCA, choose panoramic view 2 or 3.
- 2) Go Rule interface, add Rule, the device supports 4 rule types: Line Crossing, Intrusion, Region Entrance, Region Exiting
- 3) Draw arming area in the image
- 4) Set **Arming Schedule** and **Alarm Linkage** then click **save** button.

6. Shield Region

The shield Region enables you to cover the green box for intelligent detection in certain areas on the live video. If the shield area overlaps with the VCA area, VCA region has high priority and still performs intelligent detection.



7. Manual Tracking

- Step 1: Enable rules in web configuration
- Step 2: Click on the manual tracking icon
- Step 3: Left click a moving object in the live video. The speed dome will track the object automatically.



Chapter 3. Installation Specification

3.1 Bracket selection

- 1) there has two PanoVu PTZ Cameras models: DS-2DP0818Zxx(180°) and DS-2DP1636Zxx(360°)

| PanoVu Camera | Panoramic field of view | Recommended Installation |
|---------------|-------------------------|---|
| DS-2DP0818Z | 180° | Wall Mount, Horizontal pole mount, Vertical Pole mount |
| DS-2DP1636Z | 360° | Pendant mount, Horizontal pole mount |
| DS-2DP1636-D | 360° | Wall Mount, Pendant mount, Gooseneck mount |
| DS-2CD6A64F | 180° | Wall Mount, Horizontal pole mount, Vertical Pole mount, Pendant mount |

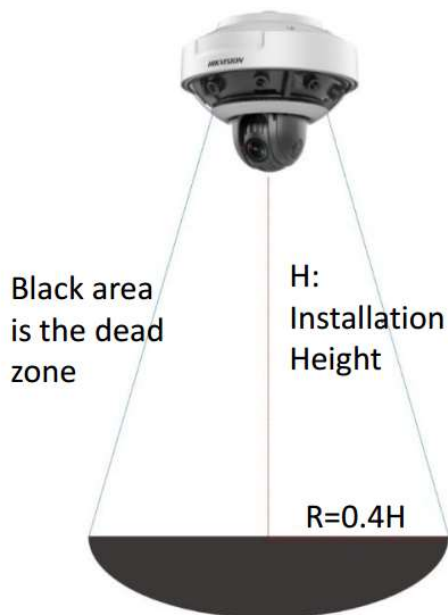
- 2) Bracket selection

| Products | Horizontal pole mount | Vertical Pole mount | Pendant mount | Wall Mount | Pendant mount |
|--|--|--|------------------------|------------------------|----------------------------|
| DS-2DP0818Z DS-2DP1636Z DS-2DP1636-D | 302700731 DS-1673ZJ 302701257 DS-1668ZJ | 302701097 DS-1603ZJ 302701205 DS-1684ZJ | 302701257 DS-1668ZJ | 302701097 DS-1603ZJ | 302701258 DS-1668ZJ(20) |
| DS-2CD6A64F | 302700731 DS-1673ZJ | 302700684 DS-1602ZJ | 302700215 DS-1663ZJ | 302700684 DS-1602ZJ | 302701179 DS-1661ZJ |

Notes: For which product to choose, we need to depend on the actual scenario. Generally speaking, it is recommended to choose DS-2DP0818Z for wall mount and DS-2DP1636Z for Pendant mount.

3.2 Installation Notes for DP0818xx and DP1636xx

- 1) The dead zone radius of DP0818xx and DP1636xx is 0.4 times the installation height, as the following picture shows:



- 2) The least installation height is 6 meter.
- 3) In order to have a better image stitching effect, DS-2DP0818/1636xx camera are guaranteed to be at least 6 meters away from objects
- 4) Make sure there is no strong light source at the bottom of the device.

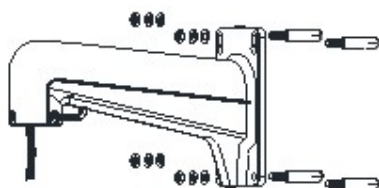


- 5) The device is not equipped with a power adapter, The SAP of power adapter is as follow:

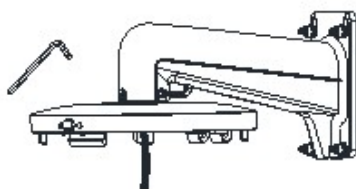
| Power adapter type | SAP | Power adapter name |
|--------------------|-----------|--------------------|
| British standard | 303700366 | EUV-150S036SV-KW01 |
| American standard | 303700367 | EUV-150S036ST-KW01 |
| European standard | 303700365 | EUV-150S036SV-KW01 |

3.3 Installation step for DS-2CD6A64

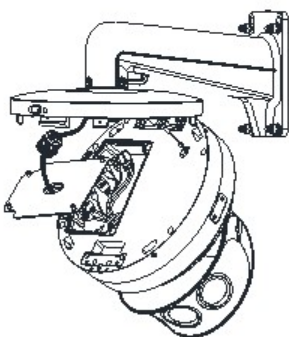
- 1) It's recommended that the camera installation distance away from the objects is above 12 meters, or there may have a stitching dislocation phenomenon.
- 2) Fix bracket: Install the bracket on the wall.



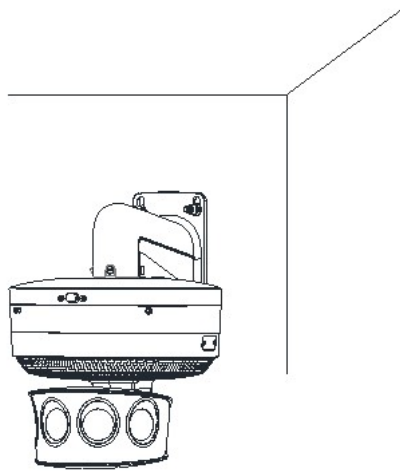
- 3) Fix adapter plate: Install the adapter plate on the bracket.



- 4) Connect camera: Open the junction box, connect the camera to the adapter plate via safety type.



- 5) Fix camera: install the cable and the junction box, fasten the camera to the fastening button and tighten the safety screw.



- 6) Adjust lens angle: install the decorative cover, then adjust the horizontal angel and vertical angel of the camera.

Chapter 4. Products feature presentation

4.1 DS-2CD6A64F

1. Key feature

Ultra HD, Ultra FOV

24Mp, splicing and fusion in camera

- FOV: h-180° , v-80°

Lower bitrate

Better performance at night

- 24Mp, splicing and fusion in camera
- FOV: H-180°, V-80°

Multi-objects tracking

- Support 60 moving objects tracing, and cycle play
- See the face of human and LPR clearly in the range of 20 meters

2. Scenario effect

- See the face of human and LPR clearly in range of 20 meters, as the following picture shows:



- Up to 60 moving targets can be detected at the same time in panoramic image
- Cycle view the tracked targets in 5 small windows
- Supported NVR: DS-96128N-I16 、 DS-96128N-I16/H 、 DS-96256N-I16 、 DS-96256N-I16/H (customized version)



4.2 DS-2DP1636Zxx/DS-2DP0818Zxx

1. Key feature

DS-2DP0818Zxx

180°PANORAMIC + PTZ CAMERA

8MP panoramic view + 2MP PTZ view

DS-2DP1636Zxx

360°PANORAMIC + PTZ CAMERA

2 x 8MP panoramic view + 2MP PTZ view

- Darkfighter technology
- VCA detections
- Manual tracking & auto tracking
- Manual tracking & auto tracking
- H265+
- 200m IR distance

2. Scenario effect

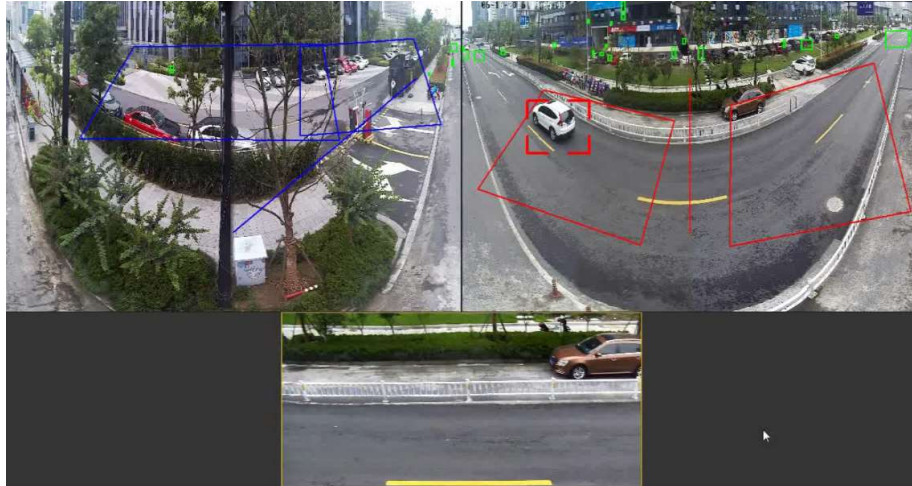
- Panorama and details: select any position area in the panorama image, the PTZ camera will track to selected area to show the details in the center of the PTZ camera image:



- DarkFighter performance



- Support Instruction Detection, Line crossing detection, Region Entrance Detection, Region Exiting Detection



4.3 DS-2DP1636-D

1. Key feature

360°PANORAMIC CAMERA

16MP panoramic view

- DarkFighter technology
- VCA detections
- 3D operation

2. Scenario effect

- **Original Image**



- **Panorama Image**



Appendix 1. FAQ

1. **PanoVu Camera has an obvious image stitching dislocation phenomenon in joining together place.**

Reason: It's easy to have an obvious stitching dislocation if the close-up view of joining together place is too close to the lens

Solution: In order to have a better image stitching effect, DS-2DP0818/1636xx camera and DS-2CD6A64xx camera are guaranteed to be at least 6 meters and 12 meters away from objects respectively.

2. **DS-2CD6A64F camera has an image distortion**



Reason: The downward view of the lens causes the distant view to be curved and distorted.

Solution: Adjust the lens angle upward, the vision distortion will decrease if the plane is flat.

Appendix 2. Frequently-used Material Link

1. PanoVu Camera promotion package

[ftp://hikftp.hikvision.com:400/00 Oversea Products/01 IP/00 Promotion Package/10 Promotion Package/01 IP Camera/03 PanoVu/](ftp://hikftp.hikvision.com:400/00%20Oversea%20Products/01%20IP/00%20Promotion%20Package/10%20Promotion%20Package/01%20IP%20Camera/03%20PanoVu/)

2. PanoVu Camera spec

[ftp://hikftp.hikvision.com:400/00 Oversea Products/01 IP/01 SPEC, A&E SPE C/SPEC/02 PTZ/10 PanoVu/](ftp://hikftp.hikvision.com:400/00%20Oversea%20Products/01%20IP/01%20SPEC,%20A&E%20SPE%20C/SPEC/02%20PTZ/10%20PanoVu/)

[ftp://hikftp.hikvision.com:400/00 Oversea Products/01 IP/01 SPEC, A&E SPE C/SPEC/01 IPC/19 PanoVu/](ftp://hikftp.hikvision.com:400/00%20Oversea%20Products/01%20IP/01%20SPEC,%20A&E%20SPE%20C/SPEC/01%20IPC/19%20PanoVu/)

3. Related tools and material:

[ftp://hikftp.hikvision.com:400/00 Oversea Products/09 Software & Tools/06 Tool \(PanoVu\)/for DS-2DPxxxx PanoVu/](ftp://hikftp.hikvision.com:400/00%20Oversea%20Products/09%20Software%20&%20Tools/06%20Tool%20(PanoVu)/for%20DS-2DPxxxx%20PanoVu/)

[ftp://hikftp.hikvision.com:400/00 Oversea Products/08 Exhibition/DeepinView & DeepinMind Demo Show/03- 24MP PanoVu/](ftp://hikftp.hikvision.com:400/00%20Oversea%20Products/08%20Exhibition/DeepinView%20&%20DeepinMind%20Demo%20Show/03-24MP%20PanoVu/)

4. PanoVu Camera Solution Guidance

[ftp://hikftp.hikvision.com:400/00 Oversea Products/01 IP/13 Installation & How to/02 PTZ/03 Solution/](ftp://hikftp.hikvision.com:400/00%20Oversea%20Products/01%20IP/13%20Installation%20&%20How%20to/02%20PTZ/03%20Solution/)