Mobile Portable HD IR PTZ Camera User's Manual

Version 1.0.0

Table of Contents

Welcome

Thank you for purchasing our product!

This user's manual is designed to be a reference tool for the operation of your camera.

Here you can find information about this camera features and functions.

Please keep it well for future reference!

Before installation and operation, please read the following safeguards and warnings carefully!

Important Safeguards and Warnings

The purpose of the content of this manual is to ensure that the user can use the product correctly. Please read the related content carefully before use and keep it properly for future reference.

1 Safety Measures

1.1 Qualified Engineer Needed

- The installation engineer or maintenance engineer shall have the basic knowledge and operation technique for low-voltage cable layout and low-voltage electronic cable connection.
- Please read the installation manual carefully and understand all the content.

1.2 Lifting Appliance Requirement

- Please select the proper installation location and PTZ installation mode and use the lifting appliances at the safety environment.
- The lifting appliances shall have the enough capacity to reach the installation height.
- The lifting appliances shall have safety performance.

2. Warning

2.1 Safety Transportation

Heavy stress, violent vibration or water soak are not allowed during transportation, storage. We are not liable for any damage or problem during improper transportation regardless of installer delivery or return to factory maintenance

2.2 When device is malfunction

Shut down the device and disconnect the power cable immediately if there is smoke, abnormal smell then contact the company ASAP.

2.3 Do not try to dismantle or modify the device

Do not dismantle or modify the device in any manner. We are not liable for any problems caused by unauthorized modifications or attempted repair.

2.4 Do not allow other object falling into the device

Please make sure there is no metal or inflammable, explosive substance in the system. The above mentioned objects in the device may result in fire, short-circuit or damage. Please shut down the device and disconnect the power cable if there is water or liquid falling into the system. Please contact the company's customer service ASAP. Please pay attention to the camera. Avoid the sea water or rain to erode the camera.

2.5. Handle carefully

In order to avoid injury, do not allow this series product to fall down to the ground or suffer heavy impact or vibration.

2.6 Set up in places far from the electric and magnetic fields.

This series product shall be kept away from TV, radio transmitter, electromagnetism device, motor, transformer, and loudspeaker to stop the electromagnetic fields from interfering pictures.

2.7 Avoid moisture and dust

In order to avoid the damage of camera, do not set the camera in the place with lampblack, water vapor, high temperature or too much dust.

2.8 Avoid high temperature

Do not install the camera close to the heating furnace or other heat source, such as spotlight; the temperature may rise very high if the camera is installed in the ceiling, kitchen or near the boiler room.

2.9 Cleaning

Wipe off the dirt on the shell with soft cloth. Remove dirt by using soft cloth dipped with detergent and wipe after being twisted dry, then wipe again with dry soft cloth. Do not use gasoline, paint thinner or other chemicals to clean the shell or it may cause deformation and paint peeling off. Be sure to read the user's manual when using chemical cloth. Do not let the camera shell be close to plastic and rubber material for a long time or it may cause damage and paint peeling off.

3 Installation preparation

3.1 Basic requirements

All the electrical work must comply with the use of the latest electrical regulations, fire prevention

regulations and related laws and regulations；check if all the accessories are complete according to the

packing list, make sure if the application and installation of the PTZ are consistent with the requirement, if not, please contact the supplier; please use the product according to the requirement of the working environment.

3.2 Check installation space and the strength of the installation site construction

Make sure there is enough space for the product and installation structure in the installation site. Make sure the wall of installing PTZ and the bracket's carrying capacity must support the total weight of the PTZ and other installation structural parts. It requires four times of safety factor.

3.3 Please save all the packaging materials of the PTZ

Please keep the original packaging materials properly after unpacking the PTZ so that when there is any problem coming up, send the PTZ to the agent or factory with its original packaging materials. The non-original packaging materials may cause accidental damage during transportation and result in extra cost.

4 Special announcement

- The actual product may have tiny difference with the model described in the manual which is just for reference.
- The products update frequently, there will be no prior notice if there is any upgrade.
- Please contact the customer service of the company for the latest program and supplementary documentation.
- The manual is for reference with several models, the specific operation for each product will not be enumerated; please operate according to the actual product.
- We've tried our best to ensure the content in the manual complete and accurate, but there may be some deviation with the actual value for some data. The company's final explanation shall prevail if there is any question or dispute.

- We are not liable for any damage caused by the operation which in not in accordance with guidance in the manual.

1 Product Overview

1.1 Brief Introduction

Mobile portable HD IR PTZ camera is a type of hi-tech monitoring product with high degree of integration and intelligentization. It adopts new design about structure; it becomes smaller and more portable compared with traditional T-shaped PTZ. The portable PTZ can be divided into sucker type and bracket type according to different installation mode; it can be optional as well according to the users' requirements. The standard cable port and sucker-type installation mode greatly reduce the difficulty of engineering construction, it won't cause any influence to the overall aesthetics of the monitoring scene after installation. The product has several features at the same time such as clear image, digitalization, Intelligentization and etc. Besides the general functions, it is also added with GPS overlay and GPS write stream functions, meanwhile the product supports IR night vision, triple stream setup and standard H.264 video coding mode.

The product adopts 16-bit processor with high integration, ultralow power consumption, and ultra strong stability. It is equipped with built-in high power IR array light, ultrahigh luminous efficiency, uniform light compensation and small quantity of heat; night vision distance is up to 80m. It adopts precise motor drive, which can realize smooth slow running without jittering. It adopts industrial components and realizes longer lifetime for the speed dome.

1.2 Features

IR system

The IR control of system is in the automatic status, the IR lamp is acted according to on or off of camera's low illumination by automatic tracking.

Zoom Speed Limit

HD mobile PTZ camera adopts focal length/speed automatch technology, which has solved the problem of unclear image caused by quick image movement if the joystick is slightly touched under the situation where the image is zoomed in several times when during PTZ operation done by joystick.

Auto scan

High-speed positioning system scans back and forth regularly in a certain horizontal field. Here you need to set left and right limit and scan speed.

Auto Tour

Add presets into a routine in a desired order and then set time and stop duration for each address. The camera will begin an auto touring between these presets.

Auto pattern

Memorize high-speed positioning system operation such as pan, tilt, and zoom to repeat. Focus and iris are in auto mode during auto pattern.

3D noise reduction

Support 3D noise reduction setup to reduce the camera noise under the low illumination environment. It is to enhance video quality.

Power up

HD Mobile High-Speed Positioning System executes the power up operation after it reboots and completes the initialization. The power up function includes horizontal and vertical self-check and zoom function self-check, also displays the information of the system.

Day/Night Mode (B/W & Color Mode)

There are several modes such as photo sensor/auto/manual.

Note:

This function needs the speed dome driver (camera) supported.

Auto focus

Support camera auto focus function.

Backlight Compensation

Under strong light environment, high-speed positioning system can balance the brightest and darkest sections of a scene to produce a more vivid picture.

Pan Tilt and Zoom

Supports zoom in and zoom out during tilt and pan movement.

You can still get vivid image even you set auto focus and auto iris during this period.

Image Stabilizer/Flip

You can enable image stabilizer function and flip in the menu.

When there is vibration, this IS function can guarantee video stability and when flip, you can view video more clearly.

Note:

This function needs speed dome driver (camera) supported.

Power failure safeguard

When the system keeps the static state for more than 30 seconds, it will save the current state automatically. Under the situation of sudden power failure, the system will save the state before power failure when it is scanning or patterning. The system will execute the scan or pattern before power failure automatically if power on. The system will stay in the state saved automatically before power failure if it doesn't execute scan or pattern before power failure.

1.3 Specification Parameter

Please refer to sheet 1-1 for specification parameter.

Parameter	Index
Model	MPTZ1100-2030RA
CMOS size	1 / 2.8"
Effective pixel	1920 (H) x 1080 (V)
Zoom	30x optical zoom; focal length 4.5～135 mm; (F1.6 to 4.4)
Max observation range	Horizontal：67.8°（near）to 2.77°（far）
Video output	Network output
Output	Support triple stream Main stream max supports 1920 * 1080 @ 30 fps realtime video output
Image compression	H.264Baseline / H.264Main profile / H.264High profile / M-JPEG
Network protocol	IPv4, TCP/IP, extended support HTTP, RSTP, UDP, FTP,DDNS and etc.
IR light distance	80m (2 pairs of IR light)
Local storage function	Support max 128G memory card

Sheet 1-1

1.4 Electric Index

Please refer to sheet 1-2 for electric index.

Parameters	Index
Input Voltage	Mobile device operating voltage DC 12V
Consumption	<12W (IR off); < 24W (IR on)
Preset Quantity	256
Preset precision	±0.1°
Electrical Connection	One RJ45 port, one 4-core aviation plug power supply port
Auto pattern	Support
Idle action	Support
Mode path	Support
3D positioning	Support
Internal communication protocol	Baud rate 2400, support PELCO-D protocol

Sheet 1-2

1.5 Mechanical Index

Please refer to sheet 1-3 for mechanical index.

Parameters	Index
Material	Aluminum Alloy (Main Body)
Level of Protection	IP66
Pan	360°continuous rotation
Tilt	-20°~90°
Pan Speed	0.1° ~ 90°/s
Tilt Speed	0.1° ~ 60°/s
Weight	2.5Kg
Installation	Ceiling /fixed installation mode

Sheet 1-3

1.6 Environmental Conditions

Please refer to sheet 1-4 for environmental condition information.

Parameters	Index
Working environment temperature	-35℃ ~ 60℃
Relative Humidity	10% ~ 90%

Sheet 1-4

1.7 PTZ Control

Please refer to sheet 1-5 for PTZ control information.

Preset	Function	Setting	Call
66	Defog/heat	OFF	ON
21	IR Lamp or white light lamp	OFF	ON

Sheet 1-5

1.8 Quick Configuration Tool

NOTE:

Quick configuration tool can search current IP address, modify IP address. At the same time, you can use it to upgrade the device.

Please note the tool only applies to the IP addresses in the same segment.

Double click the "ConfigTools.exe" icon; you can see an interface is shown as in Figure 1-1.

In the device list interface, you can view device IP address, port number, subnet mask, default gateway, MAC address and etc.
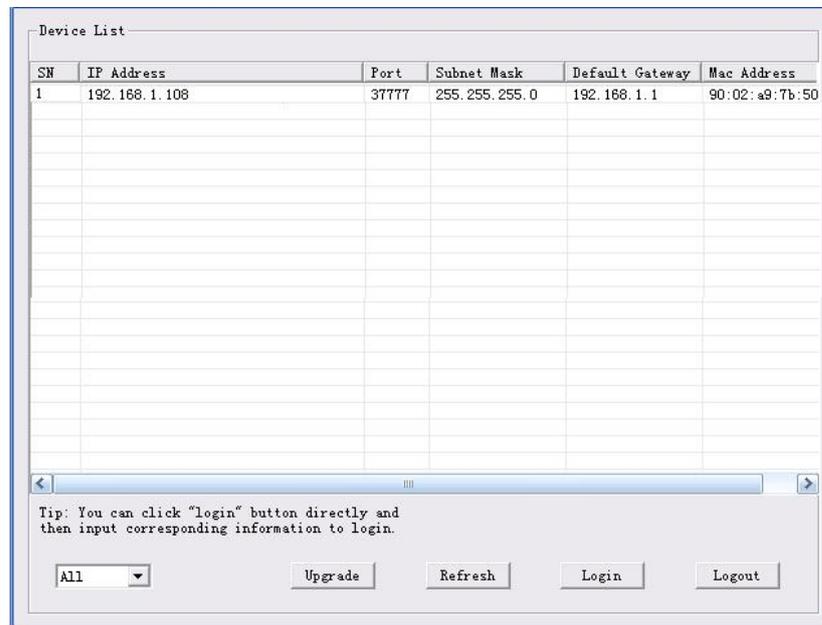

Figure 1-1

Select one IP address and then right click mouse, you can see an interface is shown as in Figure 1-2.

Note:

You can set the IP address, subnet mask and gateway for the network camera and PC. Please note network camera IP address and PC IP address shall be in the same network segment if there is no

router. Network camera default IP address is 192.168.1.108. If there is a router, please set the corresponding gateway and subnet mask.

The factory default user name is **admin** and password is **admin**. For security reasons, please modify your password after you first login.

For detailed WEB operation, please refer to the Web Operation Manual in the resource CD.

Figure 1-2

Select the "Open Device Web" item; you can go to the corresponding web login interface. See Figure 1-3.

Figure 1-3

If you want to modify the device IP address without logging in the device web interface, you can go to the configuration tool main interface to set.

In the configuration tool search interface (Figure 1-1), please select a device IP address and then double click it to open the login interface. Or you can select an IP address and then click the Login button to go to the login interface. See Figure 1-4.

In Figure 1-4, you can view device IP address, user name, password and port. Please modify the corresponding information to login.

Please note the port information here shall be identical with the port value you set in TCP port in Web Network interface. Otherwise, you cannot login the device.

If you are using device background upgrade port 3800 to login, other setups are all invalid.

Figure 1-4

After you logged in, the configuration tool main interface is shown as below. See Figure 1-5.

Figure 1-5
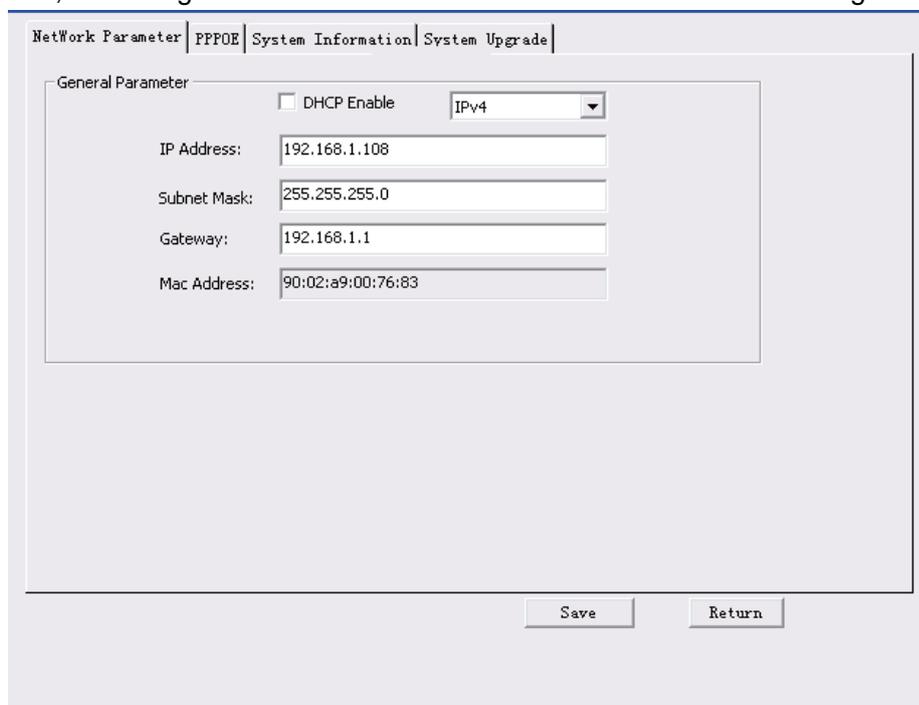
For detailed information and operation instruction of the quick configuration tool, please refer to the Quick Configuration Tool User's Manual included in the resources CD.

1.8 Web Operation

This series speed dome product supports the Web access and management via PC.

Web includes several modules: live view, PTZ, setup, alarm, logout and etc.

Speed dome factory default setup:

● IP address: 192.168.1.108.

● User name: admin

● Password: admin

1.8.1 Network Connection

Please follow the steps listed below for network connection.

● Make sure the speed dome has connected to the network properly.

- Speed dome IP address and PC IP address shall be in the same network segment. Speed dome default IP address is 192.168.1.108. If there is router, please set the corresponding gateway and subnet mask.
- Use order ping ***.***.***.***(* speed dome address) to check connection is OK or not.

1.8.2 Login and Logout

Open IE and input speed dome address in the address bar.

For example, if your speed dome IP is 192.168.1.108, then please input http:// 192.168.1.108 in IE address bar. See Figure 1-6.
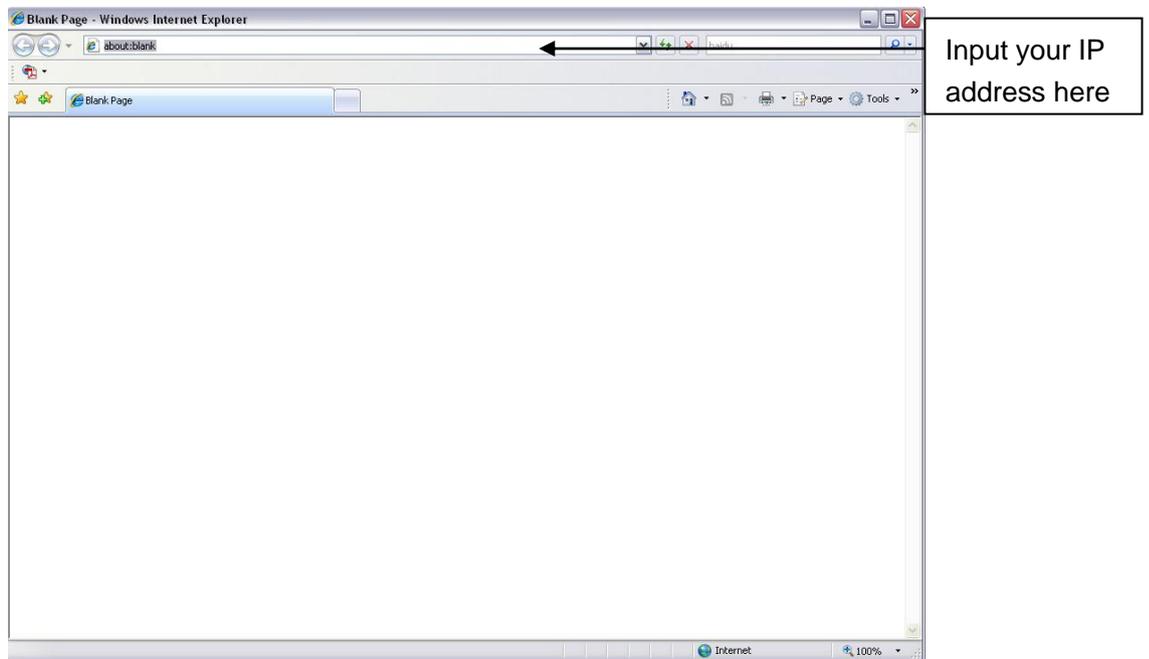

Figure 1-6

System pops up warning information to ask you whether install control webrec.cab or not. Please click OK button, system can automatically install the control. When system is upgrading, it can overwrite the previous Web too.

If you can't download the ActiveX file, please check whether you have installed the plug-in to disable the control download. Or you can lower the IE security level. See Figure 1-7.
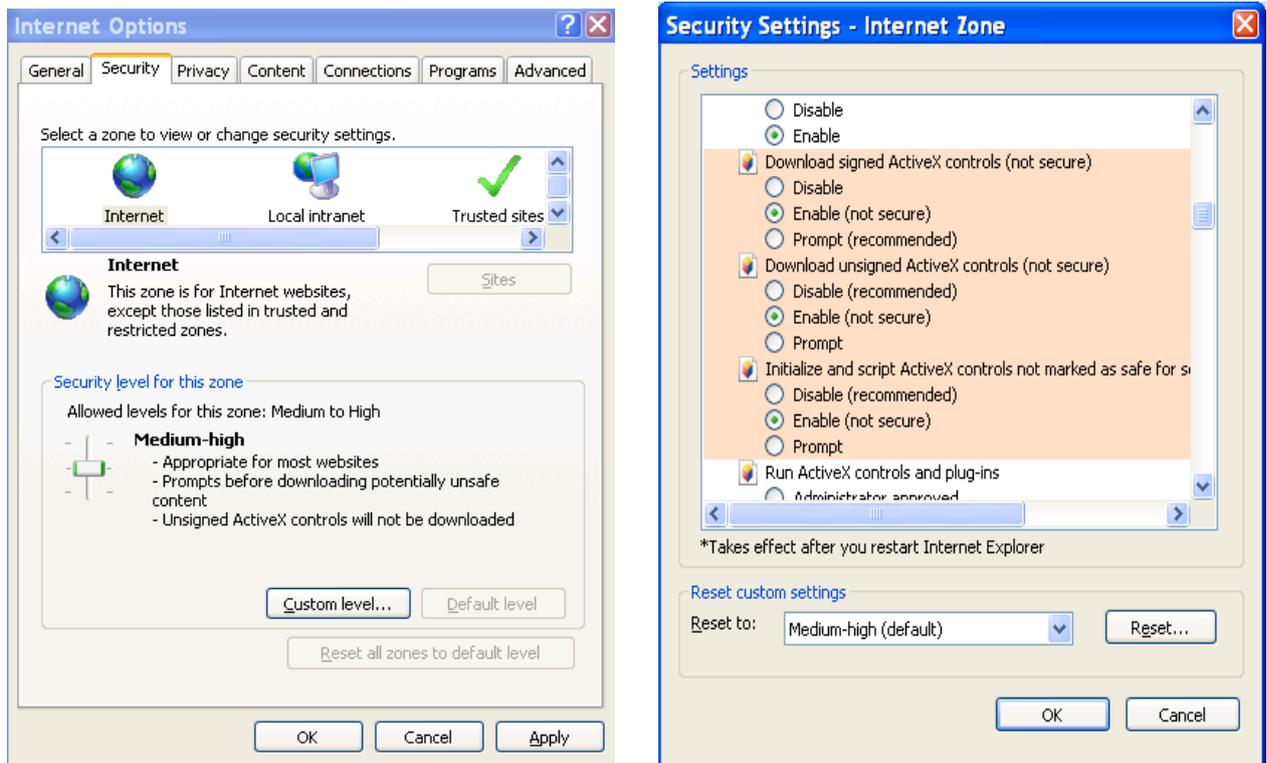
Figure 1-7

After installation, the interface is shown as below. See Figure 1-8.

Please input your user name and password.

Default factory name is **admin** and password is **admin**.

Select the network connection type.

Note: For security reasons, please modify your password after you first login.

Figure 1-8

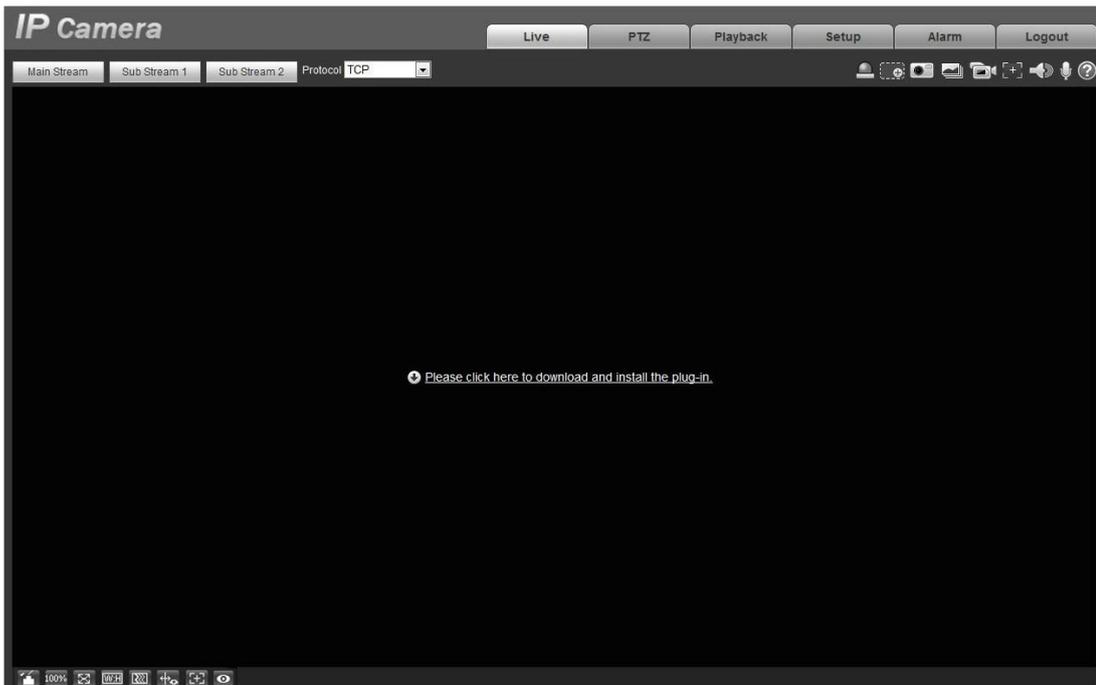After you logged in, you can see the main window. See Figure 1-9.

Figure 1-9

Click on "Please click here to download and install the plug-in". The system pops up warning information to ask you whether run or save this plug-in.

Click to install and run the plug-in, see Figure 1-10 after you log in again.

Figure 1-10

Please refer to the *Web Operation Manual included* in the resource CD for detailed operation instruction.

2 Camera Installation

2.1 Preparation before Installation

2.1.1 Four-Core Aviation Plug Pin Definition

Please refer to Figure 2-1 for the 4-core aviation plug pin, and see sheet 2-1 for more details about pin.
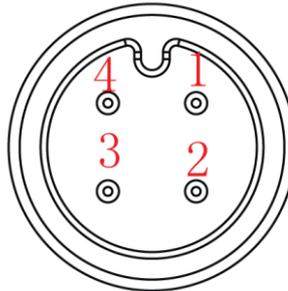

Figure 2-1

Port number	Definition
1	DC 12V+
2	GND
3	NULL
4	NULL

Sheet 2-1

2.1.2 Cable exit binding post

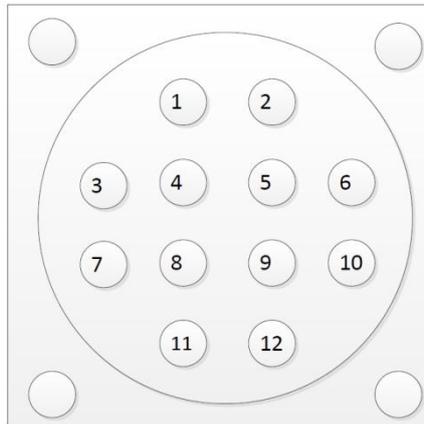Please refer to Figure 2-2 for cable exit binding post, and see sheet 2-2 for more details about pin.

Figure 2-2

Please refer to the following sheet for detailed information.

SN	Binding post name	Note
1	DC12V＋	Power + 12V MAX 5A
2	GND	Power - 12V MAX 5A
3	Analog video output	-
4	Analog audio/video shield	-
5	Analog audio input	-
6	Analog audio output	-
7	ETHTX-	RJ45 network port

SN	Binding post name	Note
8	ETHTX+	RJ45 network port
9	ETHRX-	RJ45 network port
10	ETHTX+	RJ45 network port
11	NULL	-
12	NULL	-

Sheet 2-2

2.2 Product Installation

2.2.1 Product Dimension

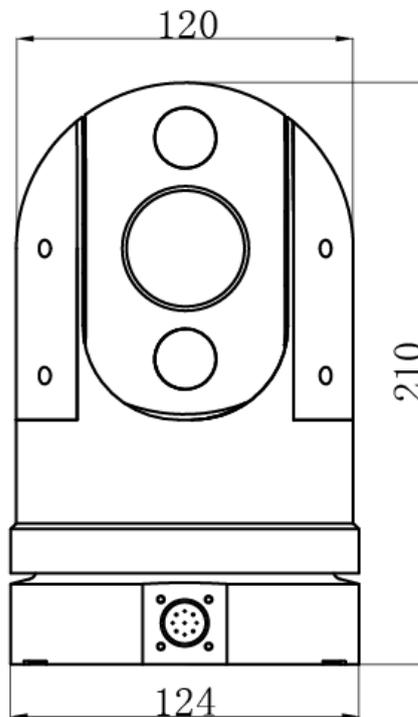Please refer to Figure 2-1 for product dimension information.

Figure 2-1

2.2.2 Installation Modes

The portable PTZ can be divided into sucker-type PTZ (MPTZ1100-2030RA-NC) and bracket-type PTZ (MPTZ1100-2030RA-NT) according to different installation modes; it can be optional according to the users' requirements.

Attention

● The PTZ which adopts sucker installation and bracket installation can't share the installation pedestal, which means that the PTZ which adopts bracket installation can't be installed on the sucker; equally the PTZ which adopts sucker installation can't be installed on the bracket. The PTZ models of two installation modes are different; please confirm the installation mode and PTZ model during purchase.

● The bracket-type PTZ is fixed on the vehicle via screws, the sucker-type PTZ is sucked on the vehicle ceiling via magnet without screws.

● The cable ports of two PTZ are the same, and there is no difference for electrical connection, please pay attention not to make wrong cable connection, you can refer to Figure 2-11 for more details about cable connection.

11

2.2.2.1 Sucker-Type PTZ Installation Description

Step1

Aim the lock catch on the PTZ at the unlocking label on the quick installation pedestal, as it is shown in Figure 2-4.

Figure 2-4

Step 2

Embed the speed dome into the quick installation pedestal and rotate clockwise till it is fixed firmly (you can hear "click" sound), and make sure the lock catch is stuck in the slot, as it is shown in Figure 2-5.

Figure 2-5

Step 3

Tie one end of the anti-fall rope to the buckle on the quick installation pedestal, as it is shown in Figure 2-6, and tie the other end to the appropriate location of the vehicle.
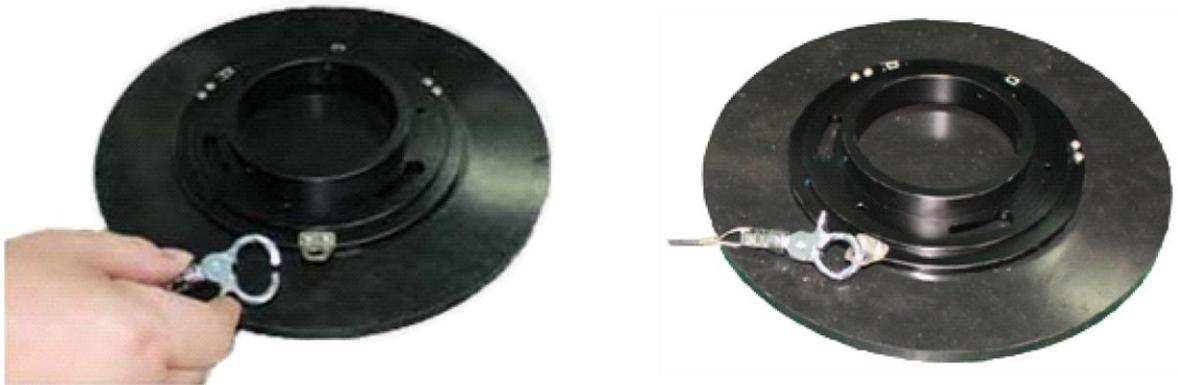

Figure 2-6

2.2.2.2 PTZ Sucker Disassembly Description

Step 1

Pull out the lock catch outward and rotate the speed dome anticlockwise to the location shown in Figure 2-7.

Pull Outward

Figure 2-7

Step 2

Then pull it up and take out the speed dome separately.

Attention

The mobile sucker fails to sustain the weight and impact of the speed dome when the speed is over 60km/h; the speed dome has to be taken back into the vehicle.

2.2.2.3 Bracket-Type PTZ Installation Description

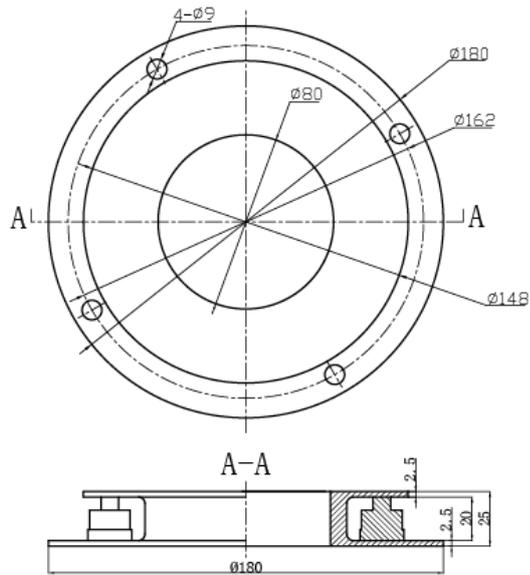The dimension of PTZ seismic damper is shown in Figure 2-8.

Figure 2-8

The installation steps of camera and seismic damper are as follows:

Step 1

Loosen the three screws on the seismic damper, as it is shown in Figure 2-9.

Figure 2-9

Step 2

Install the camera on the seismic damper and rotate the camera body clockwise, as it is shown in Figure 2-10.

14

Figure 2-10

Step 3
Match the seismic damper with the chassis base, see Figure 2-11.

Figure 2-11

2.3 System Connections

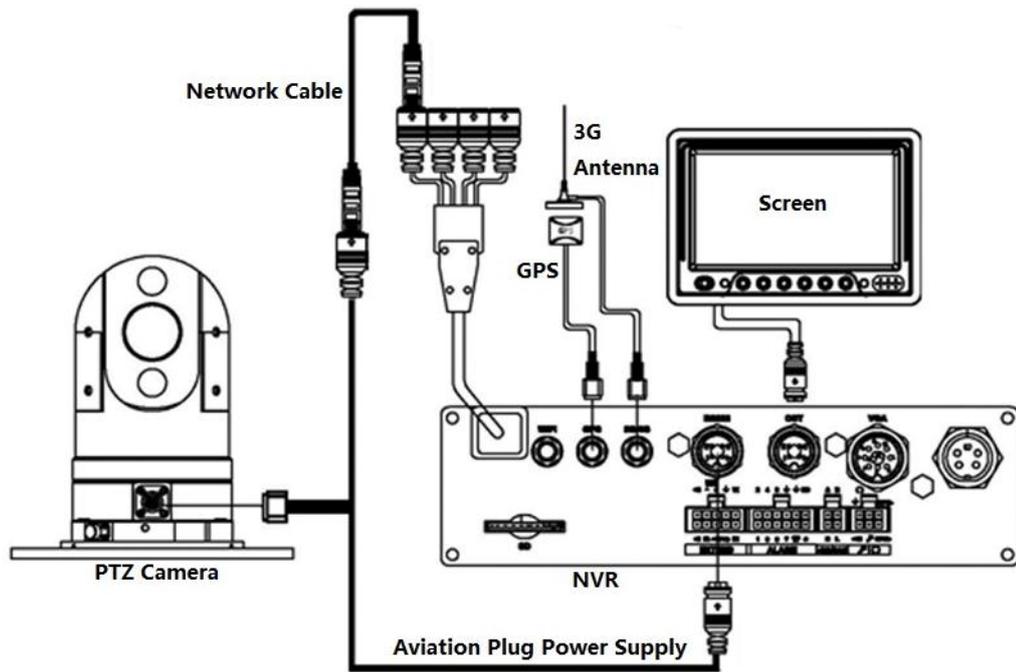Please refer to Figure 2-12 for the connection between HD mobile PTZ camera and NVR.

Figure 2-12

3 Daily Maintenance

3.1 Problems and Solutions

Please refer to sheet 3-1 for detailed information.

SYMPTOM	CAUSE	SOLUTION
No action after power up, no image and IR light is off.	Power supply abnormity	Check if NVR starts normally, if not, it needs to check NVR malfunction.
		If NVR starts normally, it needs to check if there is 12V voltage output to the pin 1 and 2 on the 4-core aviation plug port which provides power for PTZ, if there is no output, it needs to check NVR malfunction.
		It needs to check if the PTZ power supply cable is normal if NVR outputs 12V voltage normally.
		It is the PTZ malfunction if PTZ power supply cable is normal, return the PTZ back to factory for repair.
self diagnosis abnormal, image is available but with motor noise	PTZ may incline	Check if the PTZ is fixed well, if not, it needs to fix the PTZ again according to the installation guide.
	Mechanical failure	It is the mechanical failure if the PTZ doesn't incline; please return the device back to factory for repair.
self diagnosis normal, but it fails to control the PTZ rotation positioning manually	Protocol mismatch	Adjust the protocol to match the controller and power on again.
	Incorrect Baud Rate	Adjust Baud rate to match the controller and power on again.
IR lamp auto/manual ineffective	Preset is not set	Add preset referring to sheet 1-5.
	IR lamp may be damaged	Return to factory for repair

Sheet 3-1

Appendix 1 Lightening Protection and Surge Protection

This series speed dome adopts TVS lightning protection technology. It can effectively prevent damages from various pulse signals below 1500V, such as sudden lightning and surge. While maintaining your local electrical safety code, you still need to take necessary precaution measures when installing the speed dome in the outdoor environment.

- The distance between the signal transmission cable and high-voltage device (or high-voltage cable) shall be at least 50 meters.
- Outdoor cable layout shall go under the penthouse if possible.
- For vast land, please use sealing steel tube under the land to implement cable layout and connects one point to the earth. Open floor cable layout is forbidden.
- In area of strong thunderstorm hit or near high sensitive voltage (such as near high-voltage transformer substation), you need to install additional high-power thunder protection device or lightning rod.
- The lightning protection and earth of the outdoor device and cable shall be considered in the building whole thunder protection and conform to your local national or industry standard.
- System shall adopt equal-potential wiring. The earth device shall meet anti-jamming and at the same time conforms to your local electrical safety code. The earth device shall not short circuit to N (neutral) line of high voltage power grid or mixed with other wires. When connect the system to the earth alone, the earth resistance shall not be more than 4Ω and earth cable cross-sectional area shall below 25 mm^2 .
- The case of the device shall be grounded. Otherwise there is no lightning protection capability.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks mentioned are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**