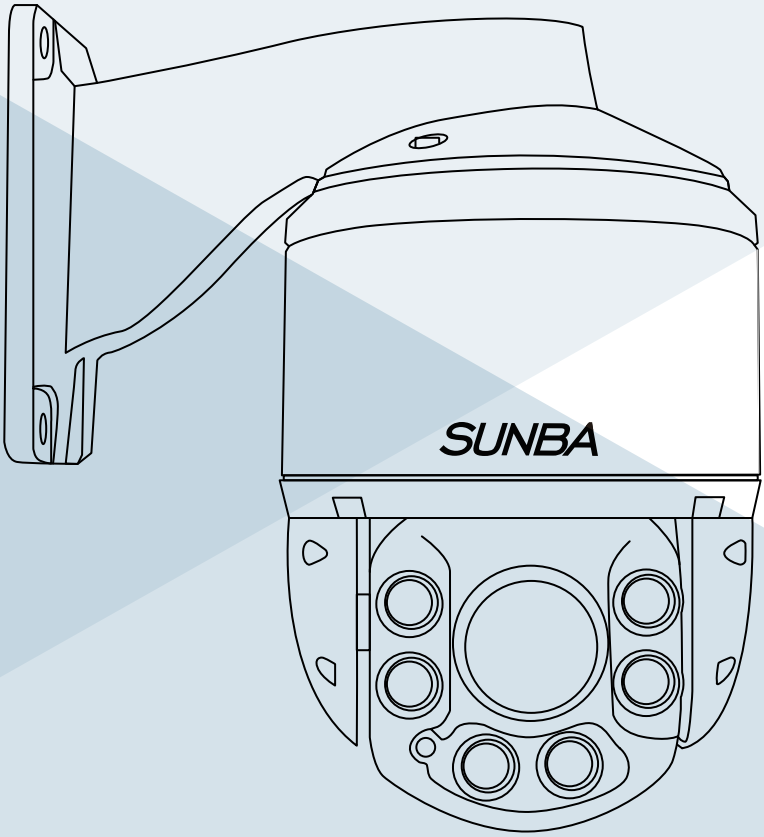
SUNBA®

Pan Tilt Zoom, Limitless View

Network PTZ Camera

Value Series User Guide



2018/08 V1.0

www.sunbatech.com

FCC Warning (U.S.A)

The device has been tested in compliance with limits set by Part 15 of Federal Communication Commission (Class B). The operation of the device is thus limited by the following two conditions:
1) it is not permitted to cause harmful interference to any authorized radio communications, and 2) it must accept any interference it receives.

WARNING: Please test the camera indoor before mounting it outside. Stay at least 24 hours to test both daytime and night vision IR LED.

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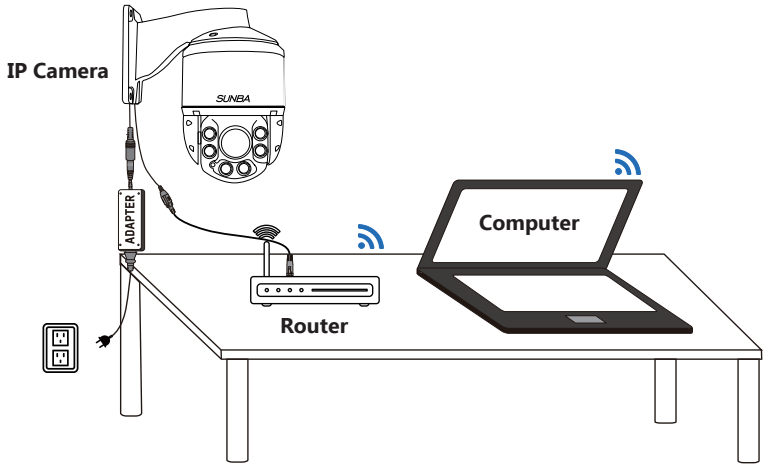
1. Camera Bench Test

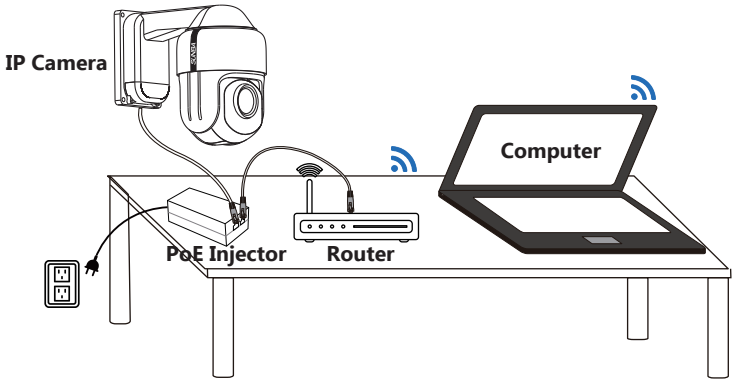
Test the camera on your desk before mounting outside.

Type A: With DC12V Aadapter (non-PoE)



Do NOT extend the power cable during the bench test because DC power drops quickly along the transmission. A bench test helps you rule out all problems caused by power supply. Underpower causes problems such as 1) flickering screen 2) unstable infrared (camera reboots repeatedly) and 3) spinning dome.

Type B: With PoE Injector/Switch



PoE Standard

Mode	Power Gauge	PoE Standard	Support DC12V Adapter?
VF-4X	25W	802.3at	Yes
305-D4X	25W	802.3at	Yes
406-D20X	25W	802.3at	Yes

Note: 802.3at is also known as PoE+.

What are you testing in this stage?

1. Does the camera rotate when powered up?

When powered up, the speed dome automatically begins a self-diagnostic process during which the camera will pan horizontally and vertically to make sure PTZ, lens and other parts of the camera are functional. Please contact our technical staff if a self-test does not happen on your unit. Please refrain from disassembling the unit before contacting us.

2. Live View and Picture Quality

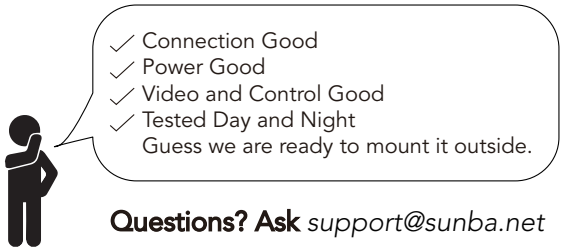
Check the video streaming quality.

3. Pan Tilt and Zoom

Check whether the camera performs the pan, tilt, zoom actions properly.

4. Night Vision

Shield the camera front lens, turn off the lights and draw the curtains to see if the camera is able to automatically turn to infrared night vision mode.



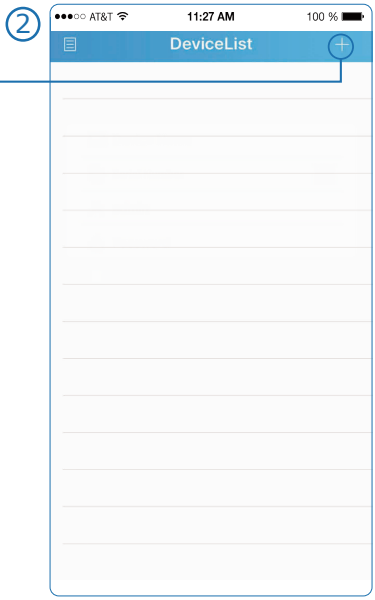
2. Camera Access by Smartphone

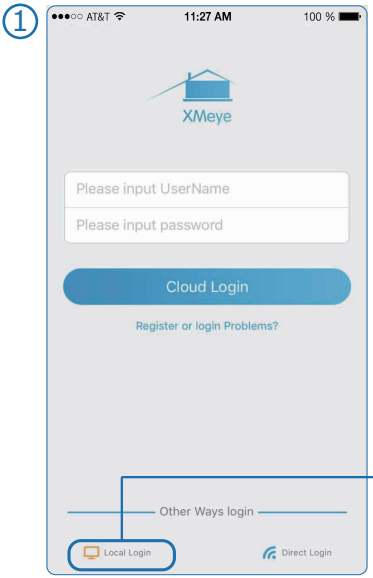
video tutorial smartphone.sunba.net

APP DOWNLOAD

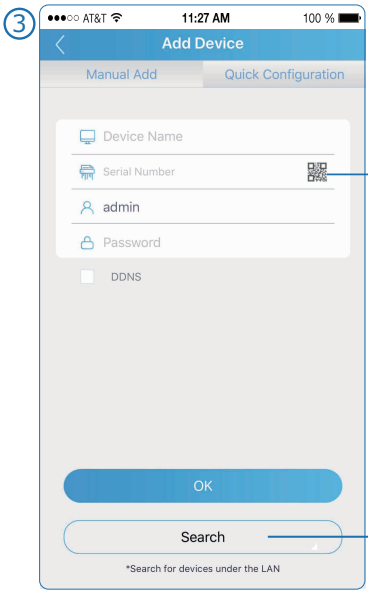
Android iOS

Click the "+" icon to add device.

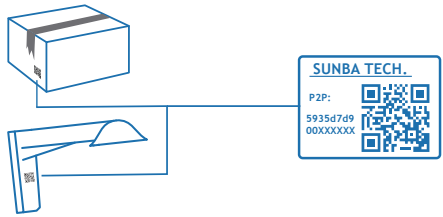




Choose "Local Login"
to store your device info locally.

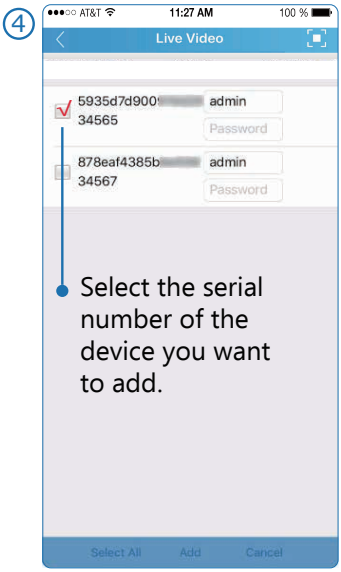


Remote or with 4G: manually scan the camera QR code to add device.

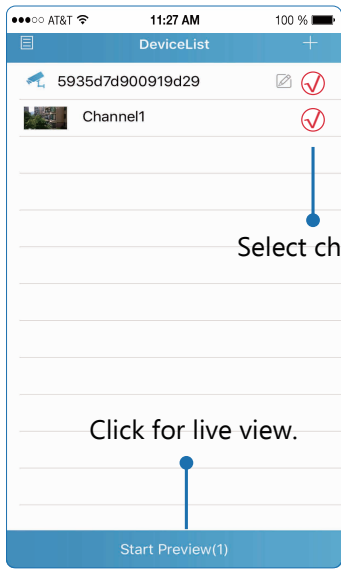


The app automatically shows all Sunba devices in LAN.

Click the search icon if your camera and smart-phone are connected to the same WiFi.

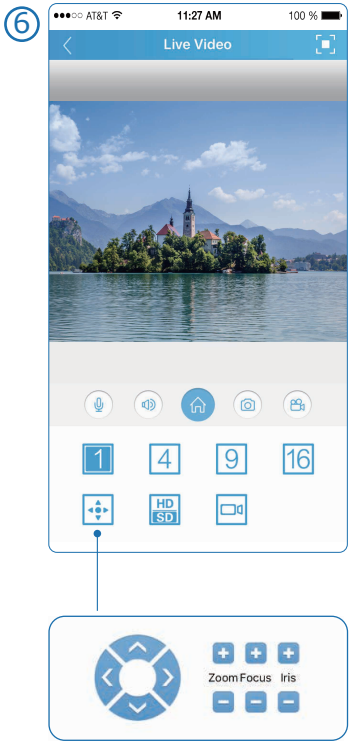


Select the serial number of the device you want to add.



Select channel.

Click for live view.



Access camera main menu.

Turn on speaker (if equipped).

Turn on audio.

Take a snapshot and save the image to your phone.

Record a video and save the clip to your phone.

Single camera view.

4-split view.

9-split view.

16-split view.

Switch video stream quality.

Check in-device playback (if TF card option is available).

Return to previous menu.

Switch to full screen view.

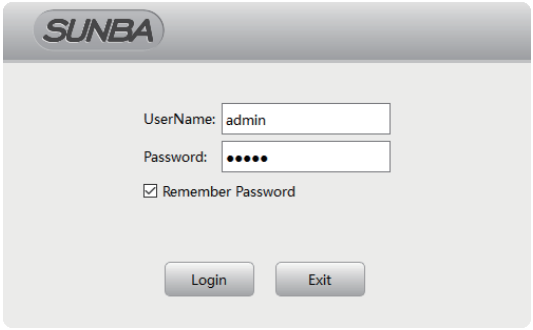
Enable pan/tilt/zoom control.

3. Camera Access by VMS Client

Step 1: Install VMS from the CD ROM.

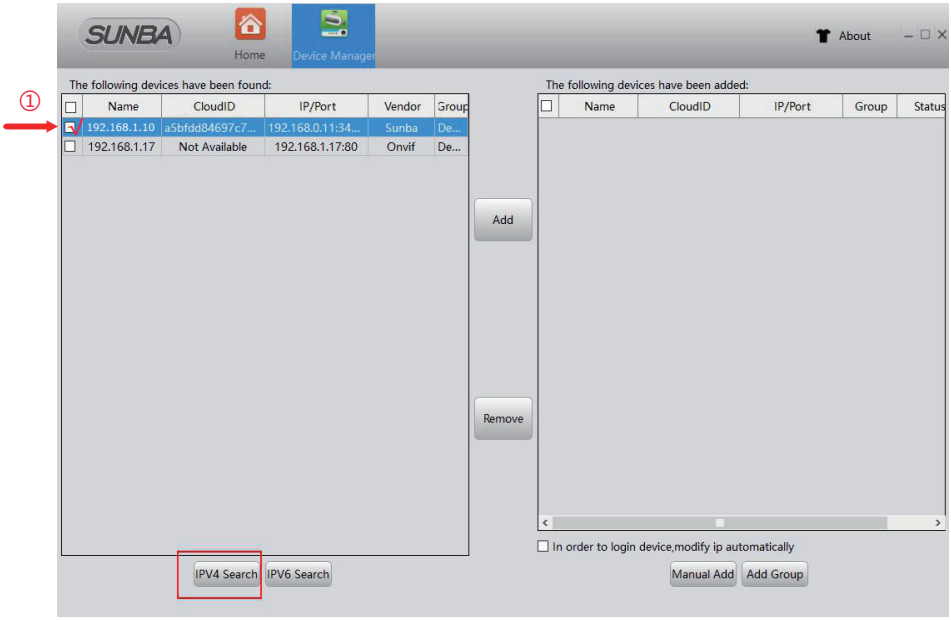
Input the default software account:

VMS for PC: admin/admin
VMS for Mac: admin/(blank)



Step 2: Open the Device Manager page.

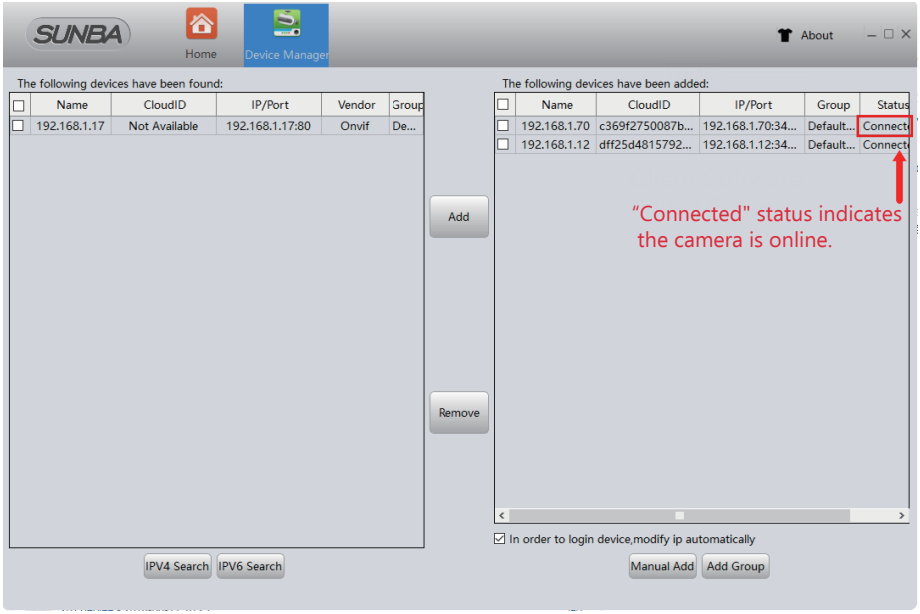
Click "**IPV4 Search**" and select the camera, then click "**add**" to connect the device.



Try the following if no device shows up:

A. Temporarily disable the firewall;
B. Connect the camera directly to your parental router;
C. Connect the camera directly to your PC/Mac for testing;
D. Contact support@sunba.net

Now the camera status should show "**Connected**".

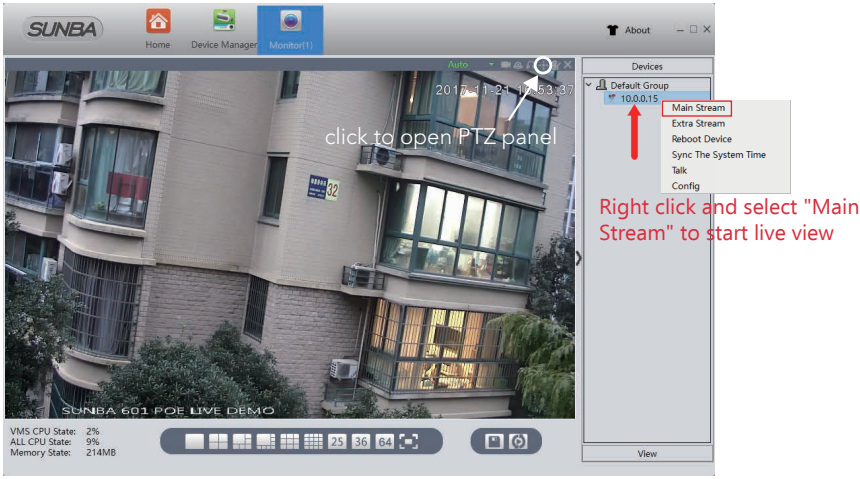


Tricks:

The camera's default ports are ONVIF 8899, TCP 34567, HTTP 80 and RTSP 554. Those values must also be unique to each other.

Step 3: Live View

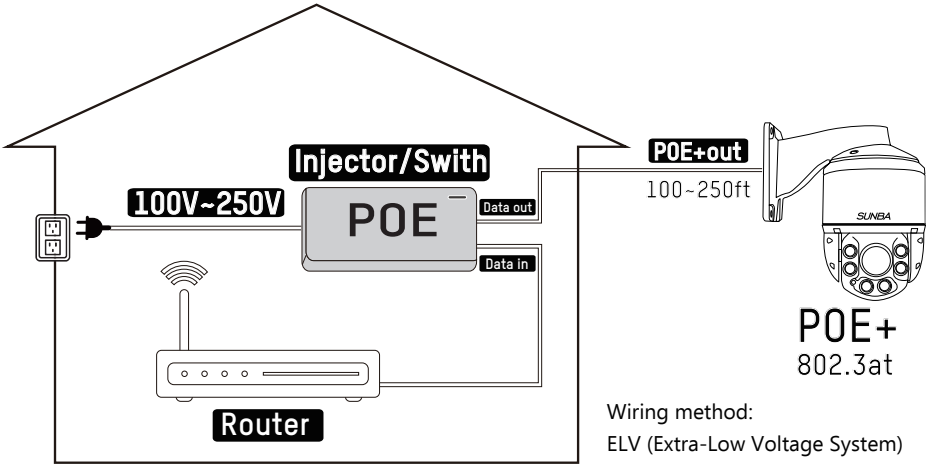
Please go to the "**monitor**" page.



4. Mounting Outdoor

Please complete bench test (see Chapter 1) before mounting the camera outdoor.

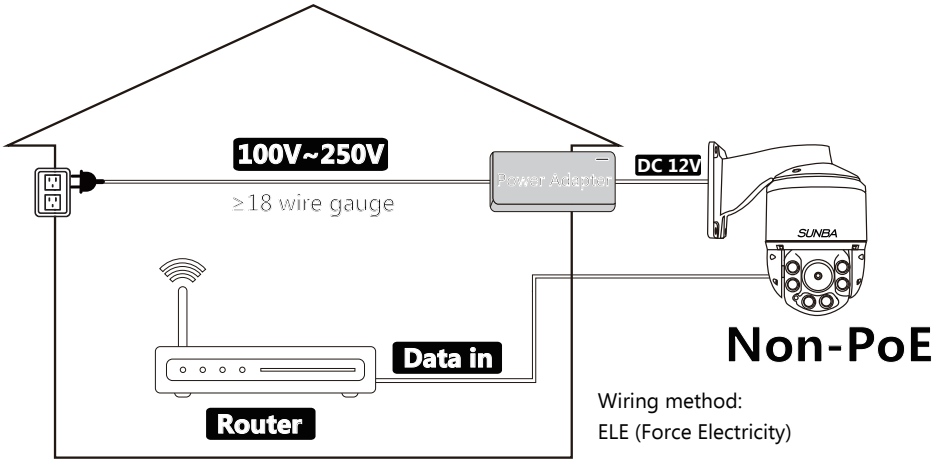
Wiring Type A: Power of Ethernet Solution



Wiring method:

ELV (Extra-Low Voltage System)

Wiring Type B: Non-PoE (DC12V) Solution



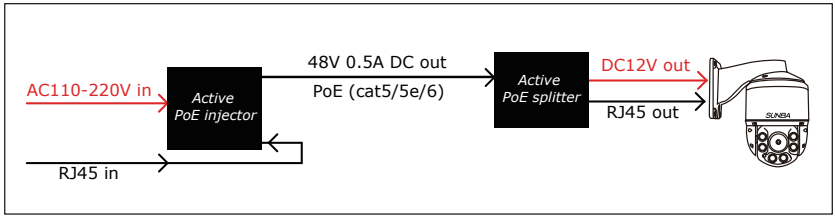
For Non-PoE Application (if you extend the power):

The camera may not work properly if the power reaches the camera is below 12V due to resistance along the extended DC line (distance dependent). If that happens, please make your AC power source near the camera, and connect it with our default adapter you received from the package.

For extension, you can select from AC power extension cable (no distance limit) or thick (≥18 AWG) DC power extension cable.

Risk Relevant

1.Using 24VAC or higher voltage adapter (16V, 24V) will immediately dam--age the camera and void the warranty.
2.The camera will be exposed to high risks of motherboard damage and void the warranty if you use passive PoE injector/splitter.

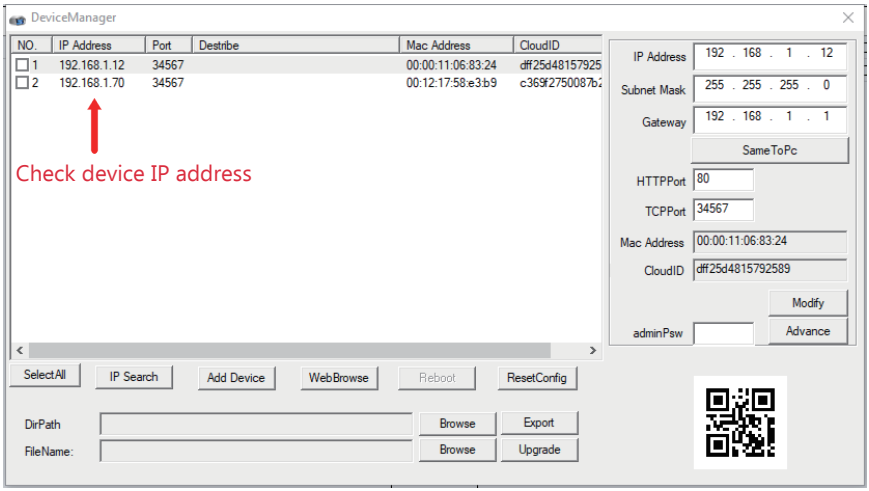


Active PoE Injector/Splitter are **allowed** if you use PoE to power non-PoE camera.

5. Web Access

Step 1: Check Device IP from VMS or Device Manager tool

Users can download VMS or Device Manager from the CD-ROM.
Both software will display the current IP of the camera.



You can always download the web plugin seperately from Sunba website if it takes too long to download the plugin from popped window.

Step 2: Start a web browser (Internet Explorer)

Enter the IP address of your camera in the location/host field.
If you have changed the default http port (80) of the camera, you need to enter *IP: http port.*

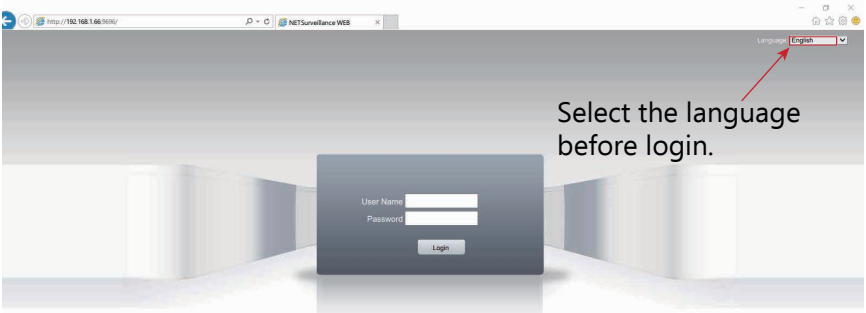
Note: Our cameras currently do not support Windows 10 Edge Explorer.

Step 3: Install the web plugin

Download and install the web plugin by clicking the "download" tab or by installing the WebPlugin from the CD-ROM. Please make sure the browser is CLOSED during the installation. If you are unable to download the plugin or if your software disc is damaged during transit, please visit plugin.sunba.net to download the plugin. Restart the browser/computer if the installation does not take effect in 5 mins.

Step 4: Select Language

You can change the language from the upper right corner. Changes only take effect after you successfully install the plugin, otherwise the text will show "??????" or disappear.



Step 5. Enter Username and Password

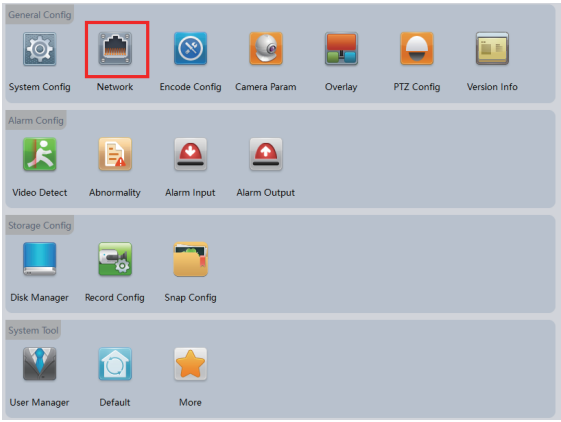
Enter username and password. The username is admin with no password by default. Please **change the admin password** after log in to protect your privacy by referring to Chapter 14.

Step 6. Select Stream

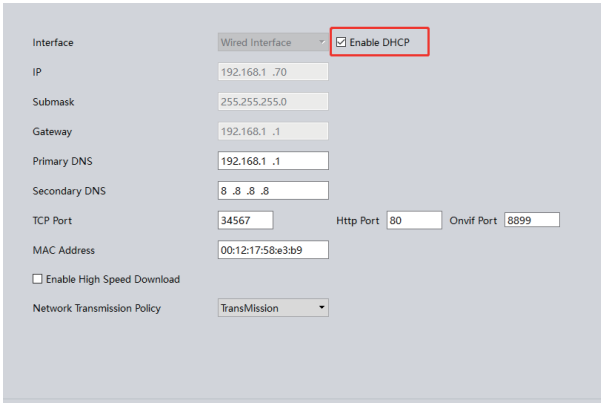
Go to <stream menu> and connect with either main stream (clear, better quality, higher network requirements) or extra stream (fluent, lower network requirements).

6. Assign a static IP

Step 1: Enter Device Config Page of Internet Explorer or VMS, and select the Network tab.



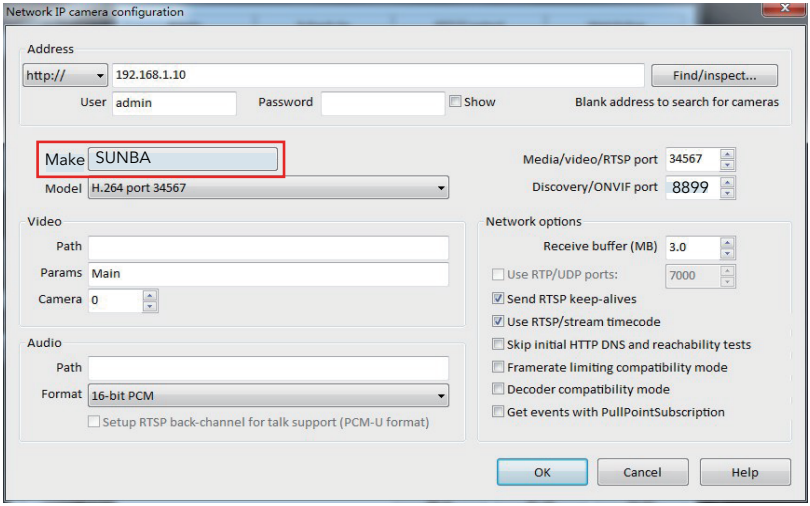
Step 2: Unselect the DHCP option.



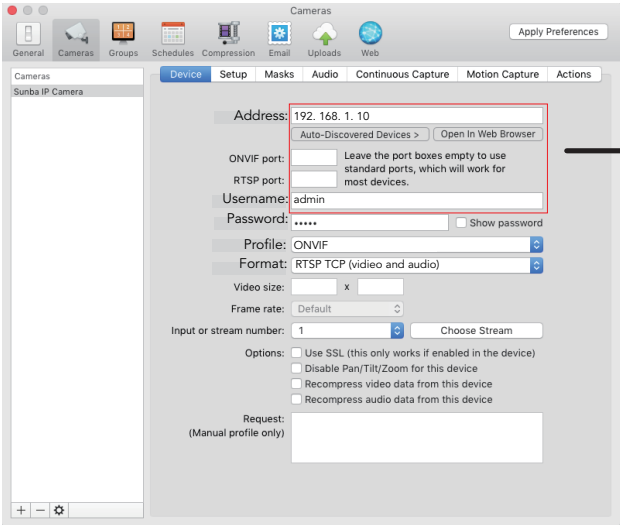
Step 3: Change the camera IP and click "Apply" to save the changes. Power cycle the unit to activate the new setting.

7. Access by 3rd Party Software

This chapter introduces how to add the camera to a selected few popular 3rd party software.



Blue Iris (in Windows)



Fill in the boxes with corresponding network info of your camera. By default, the ONVIF port is 8899 and RTSP port is 554.

Security Spy (in Mac)

Other third party IP camera management tools

There are many other IP camera management tools you can use. Above we attached the setting from the most popular software in Windows and Mac. Some software/NVR requires manually adding the camera with the camera's ONVIF protocol and the ONVIF port 8899.

Note : In 3rd party software/NVR, due to the level of customization for ONVIF by diffrent surveillance manufacturers, only ptz, video and recording may work depending on specific ONVIF version.

If you have particular 3rd party software that you would want to use with Sunba PTZ cameras, we are happy to supply resources and assistance we can offer to integrate our protocol. Please contact us via support@sunba.net.

8. Remote Access

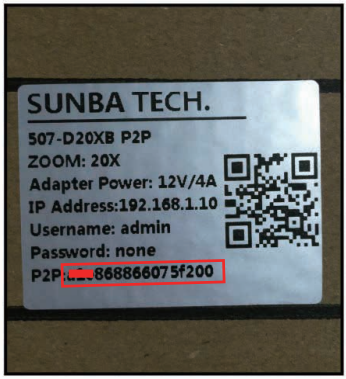
Tips:
Go to Sunba website FAQ page and type keyword “mobile”to gain the setup page for popular smartphone app such as XMEye (JFeye), TinyCam Pro, IP Cam Viewer.

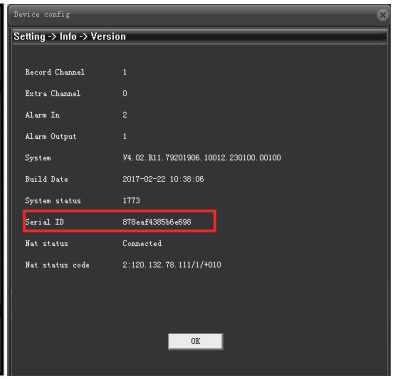
Type 1: Sunba Cloud (P2P)

P2P cloud technology enables customers to remotely access, control and configure their cameras through internet even if you are thousands miles away.

Warning: P2P function may not work if you modify the default media port (34567) of the camera or the DNS of your camera is not on the same subnet as your router. Your NAT status by DeviceConfig->Version needs to be “connected” before you are able to access your camera through P2P.

1) Find Your Sunba Cloud ID:
Note P2P Code = Cloud ID = Serial Number

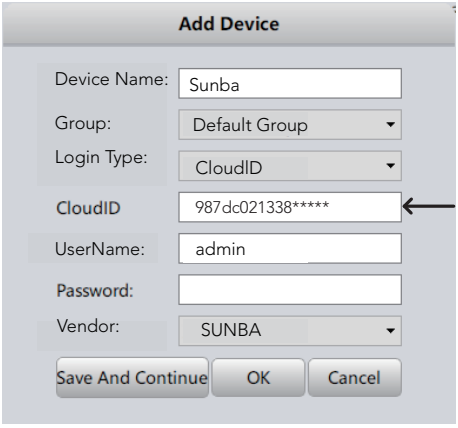




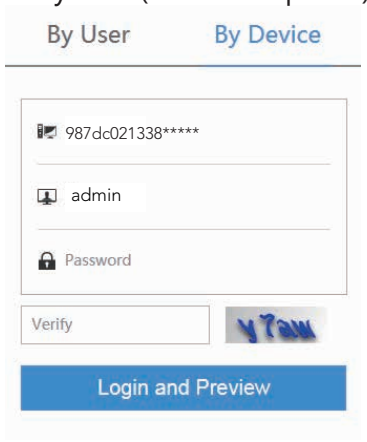
2) Enter the Cloud ID in Sunba Cloud Platform for remote access:

Internet Explorer:
Please go to xmeye.net and use “**Device Login**”. Enter the cloud ID of the camera and associated username and password.

VMS for PC



xmeye.net (Internet Explorer)



Type 2: Port Forwarding

Please refer to portforward.sunba.net for more instructions.

Please forward BOTH http port (80 by default) and TCP (media) port (34567 by default) and refer to the manual of your router for detailed steps of port forward in order to remotely access using a WAN IP. Other apps such as Tiny Cam or IP Cam Viewer may require you to forward ONVIF and RTSP port as well.

Type 3: RTSP

Please use the following URL along with any 3rd RTSP service provider:
"rtsp://IP:554/user=admin&password=&channel=1&stream=0.sdp?real_stream" where 0 = mainstream and 1 = substream
For example with the default network setting:
rtsp://192.168.1.10:554/user=admin&password=&channel=1&stream=0.sdp?real_stream

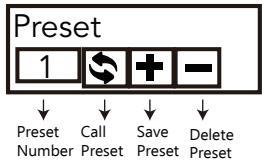
Type 4: VPN (Virtual Private Network)

This is recommended for customers who have static IP address and advanced router functions.
First, your router MUST support VPN. Then please refer to the corresponding manual of your router to establish a VPN for the local network where the camera is connected to. For example, the VPN was setup for the router at your home where the camera is installed. Please remember the username and password of the VPN. Then, at any remote location, you can always setup a new network using VPN to remotely access your camera at home.

9. Presets, Patrol and Pattern

Note: For other software please refer to the manual of the third party software.

Enter the number and hit "+" to set/add/save a
Enter the number and hit "-" to delete a preset.
Enter the number and hit "↻" to call a preset.



PTZ Preset Position

Sunba dome cameras can set preset PTZ positions for which cameras can memorize and travel directly by calling the preset. Preset positions are represented by numbers. You need to "add" a preset and then "call" it.
You can always "delete" them later.

Special Presets

Check Special Preset via specialpreset.sunba.net

Special presets are preset numbers associated with advanced commands that cameras can follow to modify/enable settings such as changing infrared mode, setting up camera auto scan boundaries etc. You can call the preset directly (no need to "add" a preset as they are pre-existed) according to **The Full Preset List.**

Patrol

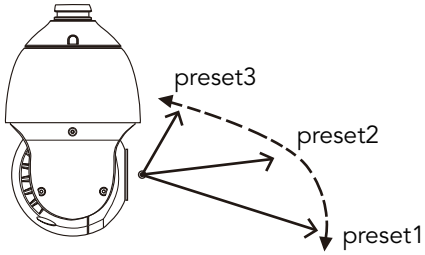
The PTZ camera can travel from one preset to another by order. A patrol is usually named as a tour or a cruise. The total presets included in a patrol can be up to 10. To activate a patrol, first you will need to save corresponding presets you want to tour across. For example, preset 1-10 can be called by using special preset 88 (see The Full Preset List).

Pattern

Different from patrol, which enables the camera to travel between different points, patterns are continuous sets of movement that Sunba cameras can perform in a record and replay fashion. Note: Patterns will not be activated unless Motion Detection and Video Blind are disabled.

When using 84 + Add Preset to set a pattern scan, you must use direction & zoom key to set the actions and click Iris+ key to end the pattern setup, prompt as follows:

IRIS OPEN EXIT



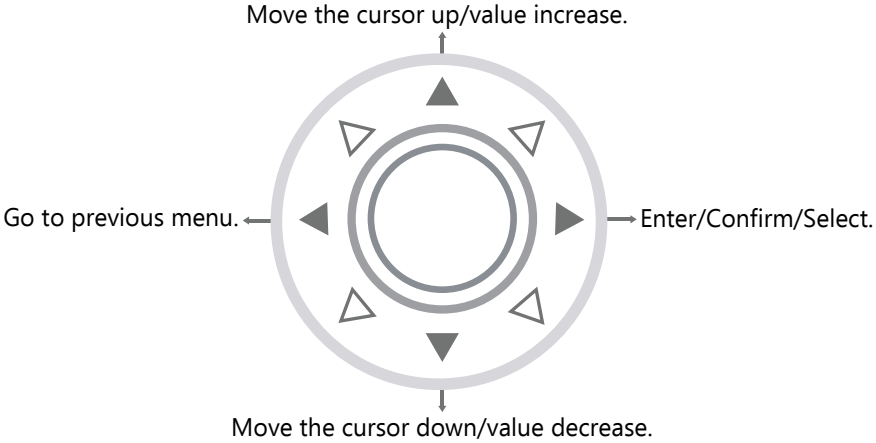
Note: When pressing any direction key, the camera will stop the patrol, scan & pattern.

10. The Full Preset List

Special Preset	Function
0~50 Preset	Conventional Position Preset
XXX + Add Preset	Set preset XXX.
XXX + CALL	Call preset XXX.
95 + CALL	Open the On-Screen-Display menu of the camera
95+ CALL followed by 93 + CALL	Shift to English OSD menu
95+ CALL followed by 94 + CALL	Shift to Chinese OSD menu
81 + Add Preset	Set the left boundary of frame scan
82 + Add Preset	Set the right boundary of frame scan
82 + CALL	Start frame scan (auto scan from left side to the right side)
84 + Add Preset	Set pattern followed by different action inputs; confirm by clicking "IRIS+" button
84 + CALL	Start pattern
88 + CALL	Patrol from 1 to 10 preset
89 + CALL	Patrol from 11 to 20 preset
90 + CALL	Patrol from 21 to 30 preset
91 + CALL	Patrol from 31 to 40 preset
98+ CALL	360° continuous scan
93+ CALL	Display preset information
94 + CALL	Hide preset information
100 + CALL	Manually turn IR on (half side on)
101+ CALL	Manually turn IR off
102+ CALL	Set the IR mode to auto (default)
103 + CALL	Manually turn IR on (all side on)
120+ CALL	Display the value of photoresister
121+ CALL	Hide the value of photoresister
83+ CALL	Clear all preset
81+ CALL	Reset the PT position
92+ CALL	Reset the PTZ dome

11. Camera OSD Menu (406 Series)

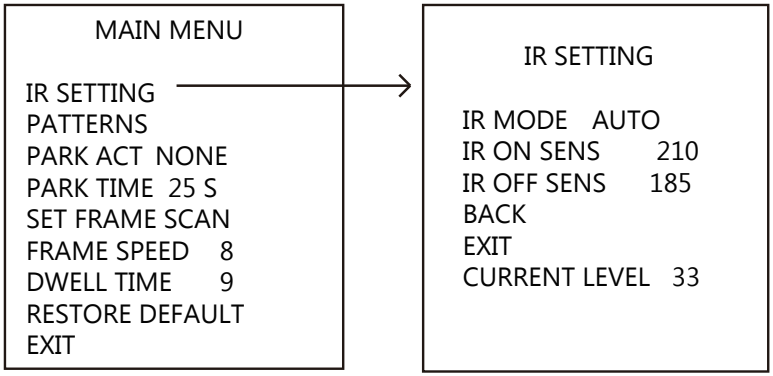
The On-Screen-Display menu is only available on Sunba 20X PTZ cameras.



How to activate and control the OSD?

Please call preset 95 to open the OSD menu. Use the up and down key to browse and move the cursor, left key to go back to the previous menu, right key to select and confirm.

Check OSDlanguage.sunba.net to learn how to switch the dis-play language of the OSD main menu from Mandarin to English.



IR MODE

1.**AUTO**: Turn on/off IR LED automatically according to darkness of ambient environment. If the value of the CURRENT LEVEL (darkness) is ≥ the IR ON SENS, then the LED will be turned on automatically, vice versa. **Larger CURRENT LEVEL is equivalent to darker environment.** AUTO MODE is selected by default.

2.**MANUAL**: Turn on and off the IR LED manually. This can be accomplished using special presets 100~103 as well. Please check specialpreset.sunba.net

IR ON SENS

The adjustable darkness threshold to turn on the IR LED, default is 210.

IR OFF SENS

The adjustable darkness threshold to turn off the IR LED, default is 185.

How the IR LED works:

The difference between the LED ON and LED OFF values must be at least 30 to avoid problems of IR LED blinking. Like vehicle lights, only half side of IR will be on for near view (low beam), please zoom in to enable the further view (high beam), which is the other side of the IR. Use preset 103+call to manually turn on both sides together.

PATTERNS

This option has the same function as 84 + Add PRESET. To set up a pattern, you must use direction & zoom key to add actions and Iris+ key to end the setting. Each pattern scan can memorize no more than 31 actions.

Note: If you open the video motion & video blind function the pattern scan will be disabled .

PARK ACT

IRIS OPEN EXIT

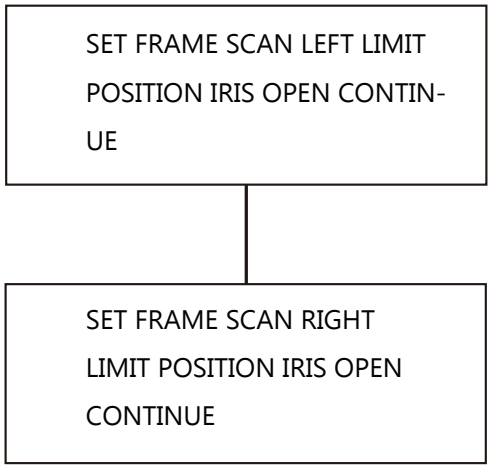
This option is also called the watch function or the defend function of a PTZ camera. The dome will automatically execute a corresponding preset action after a settled idle time (25 seconds is default) if no additional commands are sent from users.

PARK TIME

The waiting time (or idle time) before the camera executes its PARK ACTION (see above). The default is 25 seconds.

SET FRAME SCAN

Set the right and left position of frame scan. Submenu as follows:



This function enables the auto scan of the camera between a set left and right boundary. It can be set using PRESET 81+Add & PRESET 82+Add as well. When setting up the frame scan, direction keys are used to set the position of the boundary. Thus, please click the Iris+ key to confirm your setting.

FRAME SPEED
It controls the speed when the dome does the 360° scan or frame scan.

DWELL TIME
It represents the residence time the dome stops at each preset during the patrol/auto scan.

12. Camera Configuration

HDD Info:
The information of the storage device (TF card).
LOG:
Access the events, alarm and activity record of camera.
Version:
Check the serial number of the camera, and the build date of the firmware.

Reboot:
Restart the camera.
Upgrade:
Upgrade the firmware of the camera. You need to download the upgrade the file (“bin” format) first.

Record:
Set camera recording plan and mode. The “manual” and “stop” selection allows you to manually turn on and off, and the “timing” allows you to set the schedule where recording takes place.

Video Motion:
Enable motion detection alert formats (buzzer, email, recording, snapshot & FTP etc), region, and sensitivity. Set motion detection video recording time.
Video Blind:
Set an alarm when the vision of the camera is covered (usually by house breakers using clothes).
Video Loss:
Set an alarm when a video loss happens.
Alarm Input:
External connection linkage alarms such as infrared sensor etc (not built-in by camera, need additional support in qualified NVR).
Alarm Output:
Alarm output can be an external lights, siren, etc. (not built-in by camera, need additional support in qualified NVR).
Abnormal:
Set an alarm for special events such as storage device access failure or IP conflict with other devices.

How to Access the Device Config:
For IE: Click “DeviceCfg”
For VMS: Choose Device Config
(PS: You must add the camera via Sunba protocol, **not ONVIF**)

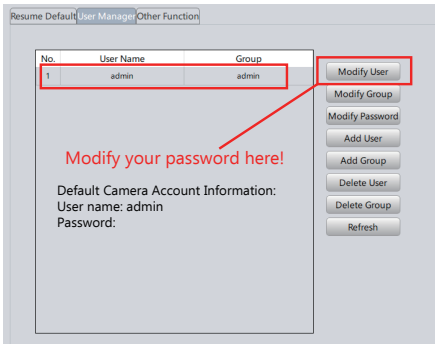
General:
Change system language and date.
Encode:
Change resolution, bit rate and other factors that affect video quality and connectivity. Enable/Disable audio.
Network:
Configure the camera's IP address, gateway, DNS etc.
NetService:
Configure NTP, email alert, WiFi and other services.
GUI Display:
Customize camera name, time title and other display setting.
Camera Parameter:
Configure camera parameter such as exposure level, wide dynamic range, shutter speed, image direction (flip, mirror) etc.
HDD Manage:
Manage the storage device (TF card).
Account: Add, delete and change account info (username/password) and their authority level.
AutoMaintain:
Set the automatic reboot plan and empty the cache of the camera.
Default:
Set the current camera configuration info to the default.
ImportExport:
Import/Export the configuration and log of the camera.

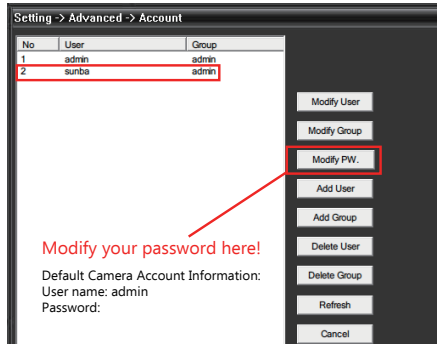
13. Account Management

Warning: Camera accounts are **NOT** the same as VMS software account. When you open VMS, a prompt will ask you to enter password for accessing the VMS program. This account is set to prevent unauthorized use of the VMS software on your desktop.

← Account for VMS Software **NOT** for Camera

Camera accounts can only be managed by its native clients. Third party software will not be able to modify any accounts information as it doesn't have access to the camera's private protocol.





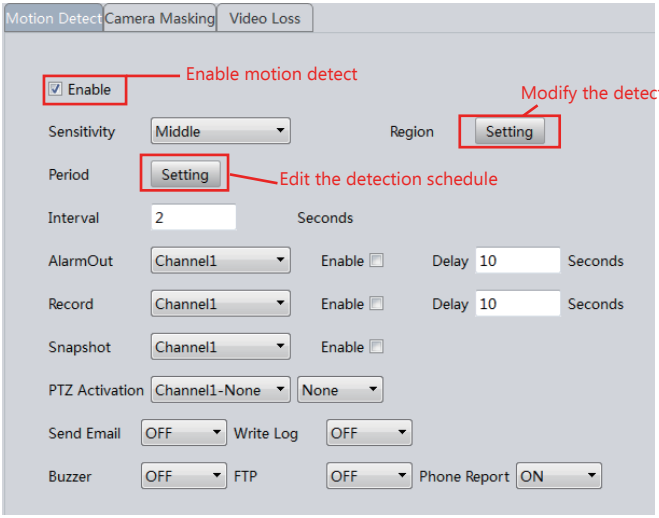
VMS: Device Config->Tool Manager->User Manager CMS/IE: Device Config-> Account

Group and User Permission:
You can set a group that shares the same level of permission for camera control and view. For example, you can set several users to a "guest" group that has limited control over the camera.

Allow multiple access:
Please remember to check the "sharable" or "reusable" option when adding a user if you wish to have the same user account accessed by multiple people.

To protect your account safety, please always remember to modify your default password!

14. Motion Detection



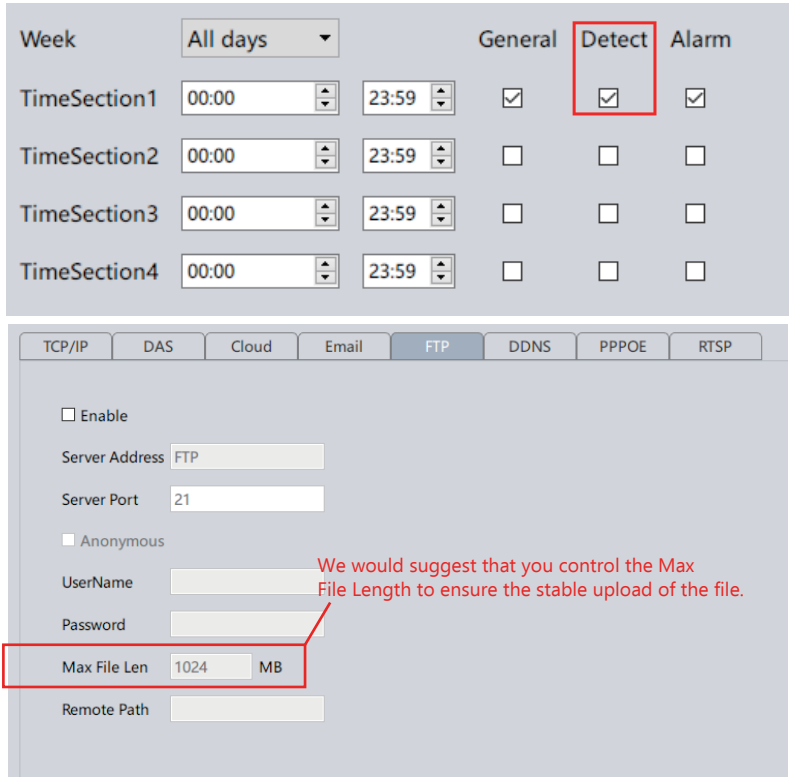
Alert Format
Buzzer: Must have a siren connected with the alarm interface of the NVR to enable this option.
Send Email: Enable this and enter your email information via Device Config->NetService (Network in VMS). You can also enable the snapshot option to activate email alert with snapshots.
Write Log: A log will be popped on the screen every time an alert is received.
FTP: See Chapter 15.
Phone Report: Enable this option, register an account in the xmeye app of your smartphone (or via xmeye.net) and activate push notification to receive text alerts.

15. FTP Communication

You can upload motion detection snapshots and videos to your FTP.

Step 1: Please remember to check the "Detect" option in the Snapshot Config or Record Config under Device Config.

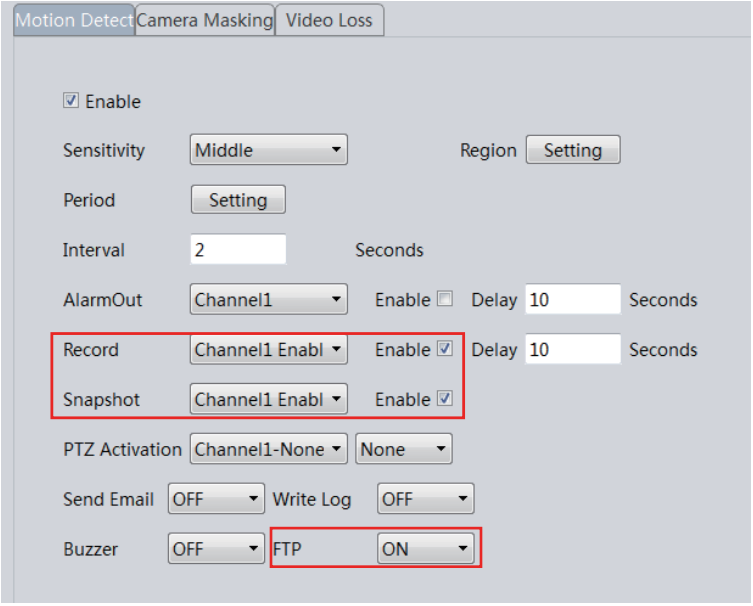
Step 2: VMS: Device Config-> Network->FTP
CMS/Browsers: Device Config->NetService->FTP



Step 3: Enable the motion detection (in Video Detect or Video Motion). See Chapter 15. Then enable the FTP option.

Snapshots: You must also enable snapshot in Video Detect.

Videos: You must also enable record in Video Detect and have a storage media in order to upload the videos to FTP. Like many other network cameras, you will need to have a TF card (install inside the camera's built-in memory slot) or a NVR as a forwarding transfer station to your FTP. This is required because without storage media, the camera does not have enough RAM to hold large video files before it establishes a connection with your FTP.



16. Reset the Camera

Option 1: Reset the camera parameter and configuration(IE/VMS/CMS)
Device Config → Default

Option 2: Reset camera network setting including ports and IP address
Device Manager → Reset Config

Option 3: Reset/modify camera network setting after lock-up (time out login error)
Download the third party tool called ONVIF Device Manager

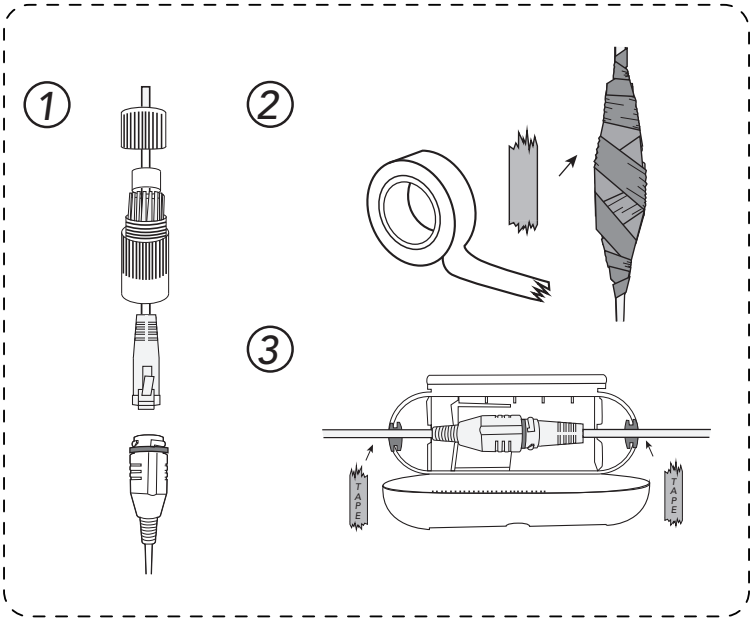
Option 4: Reset the password
Ask support@sunba.net to provide the reset tool and the super password of the day.

Option 5: Telnet reset
Ask support@sunba.net to schedule a remote TeamViewer session.

17. Cable Waterproof Measures

The camera itself is IP 66 Waterproof Rating. However, the cable connect--ors may still have exposures to water under different applications. It is always recommended for users to take precautions to protect the cable connectors of the camera.

Below are 3 popular methods:



1. Certain models have waterproof ethernet kit shipped together with the camera. To apply the waterproof kit, you have to cut the crystal head, thread the ethernet cable through the waterproof kit, and then finally use crimper tool to add the crystal head back to the cable.
2. Using electricial waterproof tape is one of the most popular ways of protecting connectors from water exposure.
3. Using waterproof connector protector together with some electrical waterproof tapes can be another option.

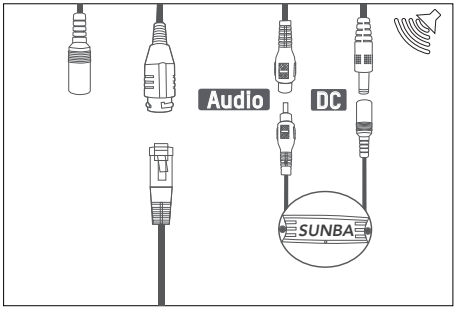
18. Audio Setting

Note: The audio feature is supported only in 305-D4X and 406-D20X. Other models have no audio interface.

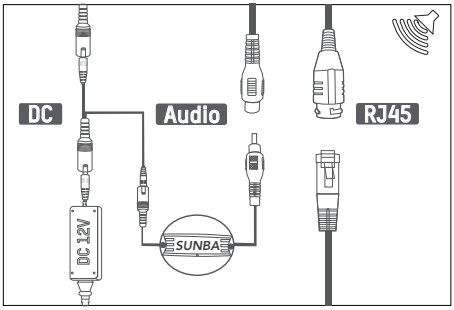
305-D4X has built-in microphone with sound pick-up capacity. There is no need to install additional microphone on this model.

406-D20X doesn't have built-in microphone. You need to add an external microphone to the camera's RCA interface to enable sound pick-up.The cameras require an active microphone,meaning the microphone must be powered.Microphones are not included in the camera package and must be purchased separately.

A. Installation: how to install the microphone by running only one power cable?



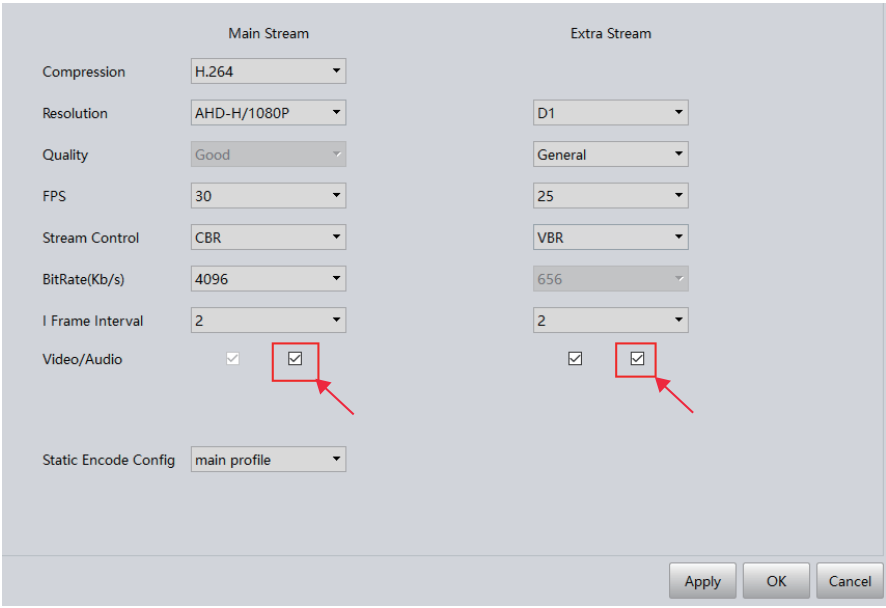
PoE Solution
A special DC male port has been made on the camera's end tail to power the microphone. The microphone can directly apply its DC female port to the existing male port on the camera. In this way, the Mic is actually powered by "borrowing" a few watts supplied to the camera.

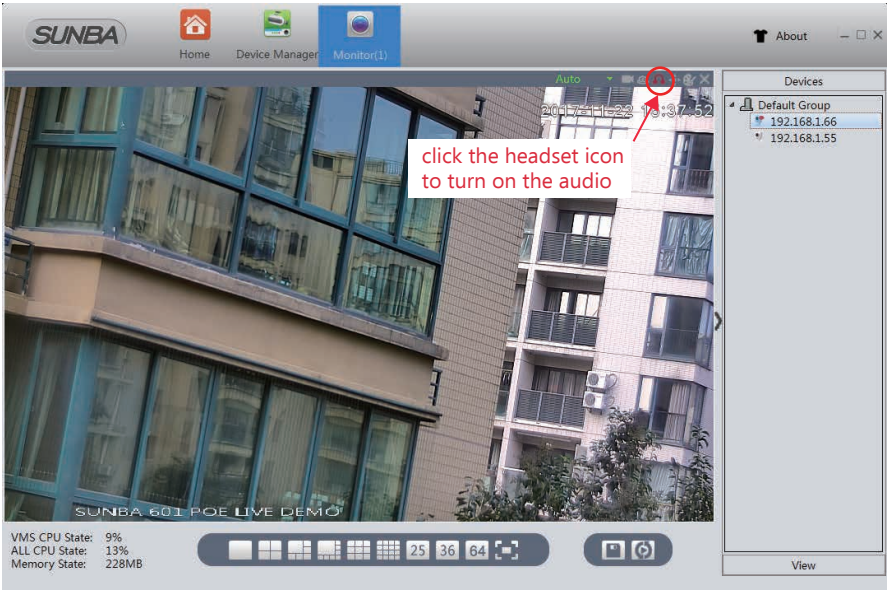


Non-PoE Solution
A Y-shape slippter (not included with the camera) is necessary in this case to divide the DC power from the adapter into two:
1) One power stream goes to the camera;
2) The other power stream goes to the microphone.

B. Setup: how to enable the audio at camera after installation?

Please remember to check the audio option in "Device Config->Encode. "





Warranty Statement

1.This product comes with a 2-year limited warranty in USA (1 year in other regions) and covering parts only. You must pay the labor fee for repair inside the warehouse. However, any parts replacements are always covered and we will be sending you videos & paper instructions on how to fix the unit. Please contact us first within the warranty period to make sure the condition of warranty is met.

2.Our warranty does not extend to any products that are physically damaged or are not under normal operating conditions as a result of misuse or improper installation on the user's end.

Sunba's Return Policy

Return Window
Please return your product within 30 days of your receipt. That's the official deadline the return request must be received. Exception applies for items in resellable conditions.

RMA
We will provide a Returned Merchandise Authorization (RMA) Number for each item that satisfies the return request. Please put your RMA sheet inside the box for reference to expedite the refund process. All products must be returned within 14 days from the RMA issuing date.

Complete Package Rule
Please return the product with its original packaging, including manuals, brackets and toolkit that come with the unit for a full refund. According to Amazon's restocking fee policy, returns with incomplete/materially different package may enable sellers to charge a restocking fee up to 15% subject to the completeness of the package. Therefore, please make sure you keep the package in good condition in the period of valid return window to avoid any additional charge.

Refund
If you didn't receive an automatic refund within 10 days of the receipt of your return, it is either the RMA was not attached to the package or the RMA was lost by the warehouse. In this case, please kindly provide us with your tracking number so that we can match the return package and the refund will be manually processed within 24 hours. Please watch your email notifications.

For any questions, don't hesitate to reach support@sunba.net
SUNBA® Technology