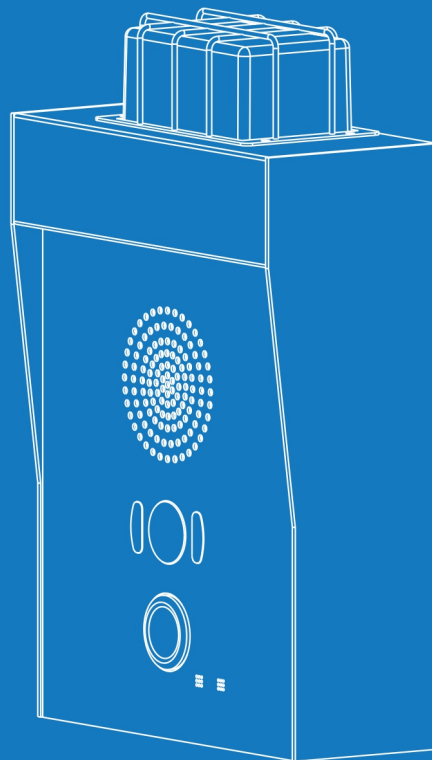


***SPON***

IP VIDEO INTERCOM TERMINAL  
User Manual



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## Summary

Please abide by the warning and the relevant safety tips.

Please take this manual in convenient place after you reading the guide for future reference.

### Warning



The sign means there is potential safety hazard, when operate wrong may result in death or serious injury.



The sign is used to remind user of this equipment is attached the important data of operation and maintenance.

### Setting and Installation

(1) Avoid being wet with the water.

Don't make the machine or exposed to rain water or other liquid contamination of the environment, or lead to fire or get an electric shock.

(2) Don't use voltage outside of the designation

Using the marked voltage on the machine.

Using more than the logo of voltage could lead to fire or shock.

(3) Don't scratch the power cord.

Don't scratch the power cord or cut it.

Simultaneously, keep the power line far way from heated objects, put heavy things on it will lead to fires or electric shock.

### Using machine

(1) Once the anomalies

In use ,immediately cut off power supply when finding the abnormal phenomena, please connect with the agency. if you continue to use, it will likely fires or shock.

·The smoke or odor of the machine.

·The inside of the machine is flooded by water or foreign bodies intrusion.

·Machine falling or machine shell damage.

·The power cord damage(wire core is exposed of broken, etc)

·Fault(eg it can't network, no sound ect)

(2) Don't open the machine internal or modification of the machine.

Do not let foreign matters invade the machines internal.

Don't let the metal items or inflammable objects inserting machine such as foreign inserting machines or throw into the vents machines internal, otherwise will likely cause fires or electric shock.

(3) Please do not touch it when thunder

To avoid electric shock, please do not touch the machine and the plug when lightning, etc.

(4) Please do not place containers with liquid or small metal objects on machine above.

If gets upset containers, and let the fluid inflow to the machine that will likely fires or cause shock.

(5) Do not open the machine internal or modification of the machine.

The machine internal contains high voltage parts, once the open cover, or modification of the machine, it will likely fires or cause shock. All about maintenance and other such matters within the machine to transform should be operated by professional personnel.

(6) Maintenance or the precautions when not in use for long time.

When Maintenance, if the machine not in use in 10 days or more than 10 days, in order to ensure the safe, please shut off power supply switch, and will power plug. If failure to comply with this provision, it will likely cause electric shock or fires.

## Product Introduction

IP video intercom terminal, embedded with IP audio digital network audio technology of SPON independent intellectual property rights, equipped with network interface, power input interface, digital camera, alarm input and output, line output and other ports, and it is suitable for outdoor and noisy environment.

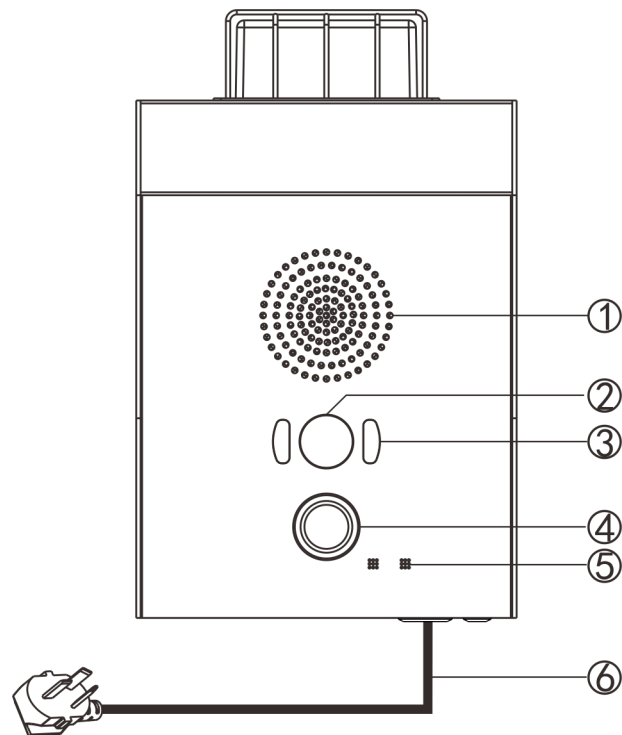


## Features

- Metal housing, IP X6 and waterproof .
- Single key calling, realize the full duplex intercom.
- Built-in loudspeaker and microphone, hands free communication and receiving broadcast.
- With line output and input interface, it can be connected with active speaker.
- With digital camera, it can be realized video and audio talking.
- Ultra wide-angle camera, supporting multi-resolution video output
- Compatible with the standard SIP protocol, connecting VOIP phone system to realize the video communication.
- Support ONVIF protocol , realizing sound and video recording all the day.
- Video screen can transmission to two or more video preview tools simultaneously.
- Browser terminal video on the Web page directly.
- 2 X alarm input and 1 X alarm output interfaces, it can connect with the external device and trigger the alarm.
- With controlled power output to drive external LED alarm light.
- Available to receive signal which is initiated from other terminals to remotely control door unlocking.
- It can work anywhere if only there have the Ethernet available, across the network

## Interface introduction

### Front



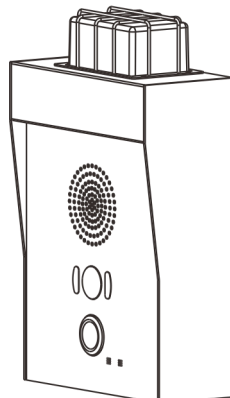
- ① Loudspeaker: remote voice playback
- ② Camera
- ③ Fill light
- ④ Call button: it can call to the server preset terminal
- ⑤ Pickup microphone: Pick up the local environment and voice.
- ⑥ Power interface

## Introduction

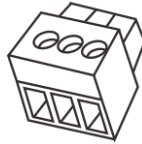
### Packing list

IP video intercom terminal is including the following fittings, please check the fittings before installation, if any missing, please contact the supplier.

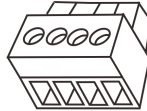
- (1) IP video intercom terminal 1 PCS



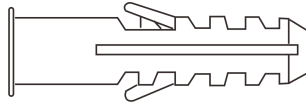
- (2) Wiring port (3.81-3P) 3 PCS



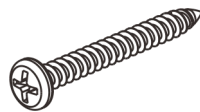
- (3) Wiring port (3.81-4P) 1 PCS



- (4) Plastic expansion sleeves (M8\*40) 3 PCS



- (5) Half round head cross tapping screw (M6\*40) 3 PCS



- (6) Washer ( $\Phi$  8) 4 PCS



- (7) Spring washers ( $\Phi$  8) 4 PCS



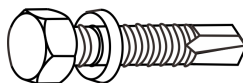
- (8) Key 1 PCS



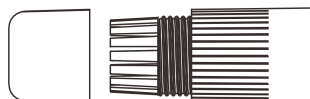
- (9) Allen screw (M8\*18) 4 PCS



- (10) External hexagonal stainless steel drilling tail self tapping screw (M6.3\*25) 3 PCS



- (11) Waterproof tail circuit interface 1 set



- (12) Certification 1 PCS

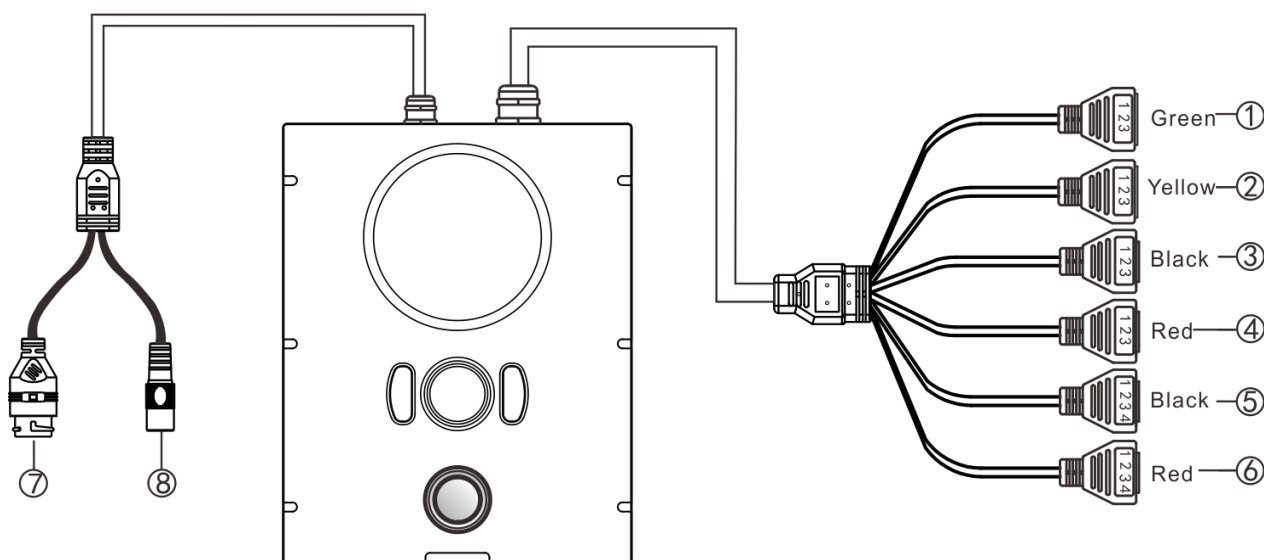


(13) Installation manual 1 PCS



## Wiring

Open the cover, then connect with every interface of internal module as requested, finally take out the wire rod from outlet hole and close the cover.



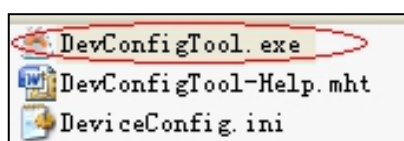
No.	Interface	Wiring description
①Green (3P)	Alarm output interface	1: ALARM_NO (alarm output AOF) 2: ALARM_NC (alarm output AON) 3: ALARM_CN (alarm output ACC)
②Yellow (3P)	Alarm input interface	1: GND 2: 1 Alarm input 1 3: 2 Alarm input 2
③Black (3P)	Communication interface	1: GND 2: T/R 3: GND
④Red (3P)	Line input/output interface	1: Line input interface 2: GND 3: Line output interface
⑤Black (4P)	Controlled power output interface	1: Alarm light 4 2: Alarm light 3 3: Alarm light 2 4: Alarm light 1 <b>Note: DC10V output, drive external alarm light flashing</b>
⑥Red (4P)	Amplifier output interface	1: Power amplifier right channel output + 2: Power amplifier right channel output - 3: Power amplifier left channel output + 4: Power amplifier left channel output -

		<b>Note: 1. external amplifier support 1*40w / 4 <math>\Omega</math> or 2*20w / 8<math>\Omega</math> speaker;</b> <b>2. Connection of speaker polarity and channel output polarity shall be corresponding;</b>
⑦Network interface	Network interface	Plug in the network cable to connect to the server
⑧Power interface	Power interface	24V 5A Power input

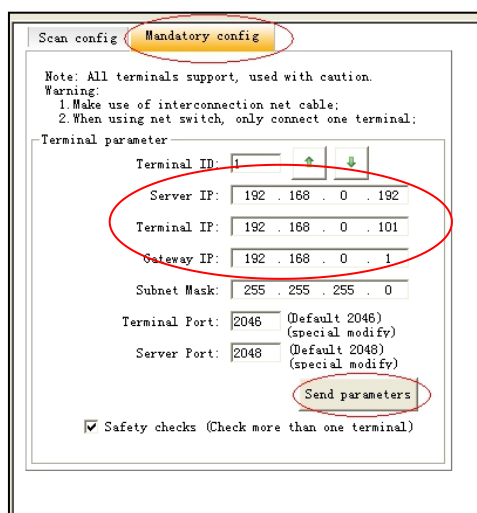
## Basic Network Settings

### Terminal devices scanning tools

(1) Under the menu of [optical disc:\tool software\] found “Dev config tool. exe” and run it, after starting, input the defaulted password “123456”.



(2) Please select the [Mandatory config] from the right menu, then filling each correct parameters in the [terminal parameter]. It will be finished IP parameter configuration once pressed “send parameters”.



**Notes:** 1. If use Win7 system operation, please taking the administrator mode to running and close all the firewall and related software.

2. The terminal scanning tools can only set the network parameter configuration to one terminal at one time, so please ensure one computer only connect with the one target terminal when using this ways.

### Web page Mode

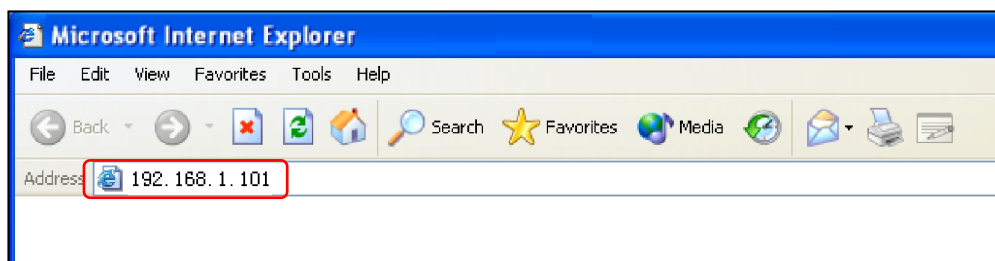
Enter into the IP video intercom terminal web interface, then modify the terminal each parameters according to the environment, click “save” after settings completed.



## User-define Terminal Parameters

### Login Web interface

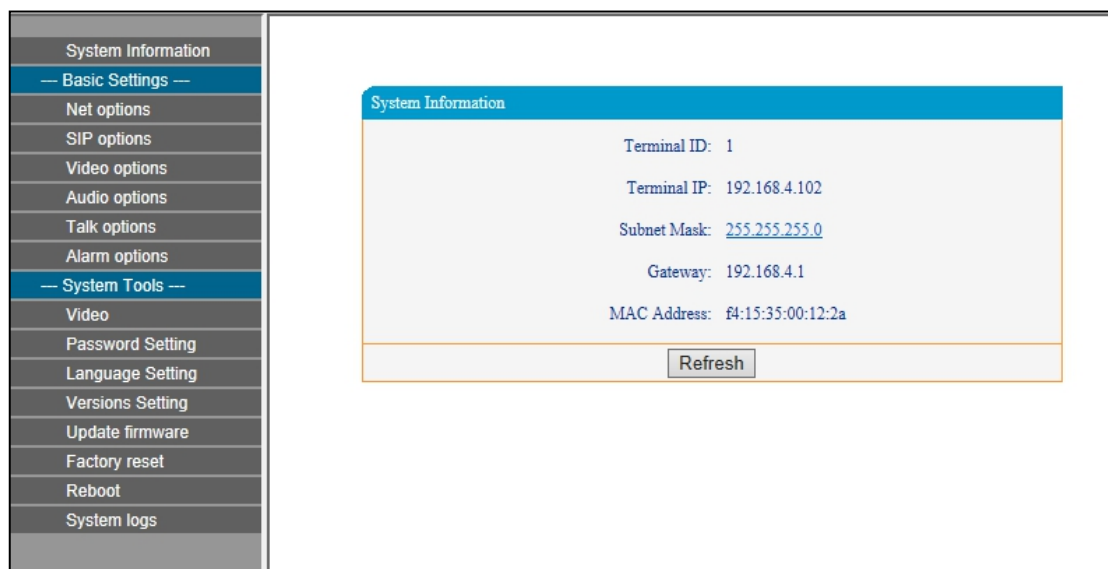
(1) Please input the IP address of the IP video intercom terminal to the address column of the browser (the factory default IP address is 192.168.1.101, it will automatically play the IP address when the press the terminal key without the cable inserted), then enter.



(2) Enter the user name and password in the web page (the default user name and password is admin)



(3) Click Login to enter terminal web page.



## Network Parameters

To set the network parameters, please modify each parameter in the network parameters according to the site environment. After setting, click [Save], and the device will be restarted.

Parameters as following:

Terminal IP	IP address of the terminal, the factory default is 192.168.1.101
Subnet mask	The mask of the subnet where the terminal is located.
Default gateway	The gateway of the network where the terminal is located
Preferred DNS server	IP of the preferred domain name resolver on the network where the terminal is located
Alternate DNS server	IP of the alternate domain name resolver on the network where the terminal is located

## Server Parameters (SIP protocol)

Set server platform parameters for terminal login. When the communication protocol between the terminal and the server is SIP protocol, directly set the server parameters in "SIP parameters". After setting, click [Save] to restart the device.

Note: If the server logged in by the terminal is NAS server, set the protocol as NAS version in "System Tools" - "Protocol Settings" on the Web page, and then set the service parameters.

Parameters as following:

SIP server	SIP server address where terminal located, please input correct SIP server IP
------------	---

	address or domain name to avoid call failure. Please do not modify the port (the default is 5060) without any special situation.
Account/password	SIP account and password of terminal, it can't repeat with other terminals.
Network port	Set network port according to the situation
Audio port	Set audio port according to the situation
Video port	Set video port according to the situation

## Server Parameters (SPON NAS protocol)

The default communication protocol between the terminal and the server is SIP protocol. If the server logged in by the terminal is NAS server, switch the protocol to NAS version in "System Tools" - "Protocol Settings" on the Web page. After switching and saving, restart the device and empty the browser cache, and the web version will become NAS protocol version. At this point, "service parameters" can be set. After setting, click [Save] to restart the device.

The screenshot shows the 'Server options' configuration page. On the left is a sidebar menu with options: System Information, Basic Settings (selected), Net options, Server options (highlighted in blue), Video, Audio options, Talk options, Alarm options, and System Tools. The main content area is titled 'Server options' and contains the following fields:

- Terminal ID: 1
- Local Port: 2046
- Primary Server: 192.168.1.13 : 2048
- Secondary Server: 192.168.1.14 : 2048

A 'Save' button is located at the bottom right of the configuration area.

Parameters as following:

Terminal ID	The only identify device No., it can't repeat with other host. . The defaults is 1.
Local Port	The port No. of the terminal Note: please do not modify the port (the default is 2046) without any special situation.
Preferred server	Server address of terminal login, the defaults is 192.168.1.13
Alternate server	When the preferred server fails to connect, you can log in to the alternate server. After the preferred server is available, the terminal re-logs in to the preferred server.

## Video Parameters

Set the terminal video parameters, click [Save] after modification, and restart the device will take effect.

System Information	<div>Video options</div> <div> Main video resolution: 1080P-1920x1080  Main Fps: 20  Main Bitrate(kb): 1024  Main IFrame: 20  Main EncodeMode: CBR    Second video resolution: VGA-640x480  Second Bitrate(kb): 512  Second IFrame: 15  Second EncodeMode: CBR    OSD: Enable  Date format: YYYY-MM  Font color: Green  infrared: 10  infrared_time: 20  Picture Complexity: BP </div> <div>Save</div>
— Basic Settings —	
Net options	
SIP options	
Video options	
Audio options	
Talk options	
Alarm options	
— System Tools —	
Video	
Password Setting	
Language Setting	
Versions Setting	
Update firmware	
Factory reset	
Reboot	
System logs	

Parameters as following:

<b>Notes</b>	Video parameters are divided into two-channel coding, and the main code stream is used to set the quality parameters of video when NVR stream is fetched. The secondary code stream is used to set the quality parameters of video in intercom.
Video main resolution	The precision of the screen image ,1080P, 720, VGA for optional
FPS	Optional range (10~30).The higher the frame rate, the smoother video
Master code stream rate (kb)	The video code rate is the number of bits of data transmitted per unit of time during data transmission, with an optional range (128kb~10240kb). At the same resolution, the larger the video code stream, the smaller the compression ratio, and the better the image quality. Also, the higher CPU consumption of the terminal may lead to video card, so the code flow needs to be adjusted according to the actual network situation
Main I frame interval	I frame is also called key frame. I frame is the basis of inter-frame compression. Optional range (1~29); The smaller the value, the more refined the quantization, the higher the image quality, and the longer the code stream generated.
Main coding mode	Dynamic code rate: in the process of image compression and coding, the encoder adjusts the code rate in real time according to the image condition. Static code rate: the encoder USES a fixed code rate value throughout the process of coding the image, no matter how the image changes.
character superimposition	Enable character stack, send terminal name and time information on video, not displayed when disabled.

	<b>Notes:</b> OSD character at most support for 14 characters, among which Chinese characters at most 10, when editing the terminal name of the service software, please do not exceed the specified character number.
Encoding complexity	H.264 encoding type, BP(Baseline), MP (Main profile), HP(High profile) can be set.

## Audio Parameters

Set the audio parameters of the terminal, click [Save] after modification, and the reboot will take effect.

The screenshot shows the 'Audio options' configuration window. On the left is a sidebar menu with categories: System Information, Basic Settings (expanded), Net options, SIP options, Video options, Audio options (selected), Talk options, Alarm options, System Tools (expanded), Video, Password Setting, Language Setting, Versions Setting, Update firmware, Factory reset, Reboot, and System logs. The main content area is titled 'Audio options' and contains the following settings:

- Talking Input Select: Mic
- Talking Output Select: Speaker
- Talking Input Volume: 10
- Talking Output Volume: 8
- Ring Volume: 8
- Broadcast Output Select: Speaker
- Broadcast Volume: 8
- Monitor Volume: 10

A 'Save' button is located at the bottom right of the configuration area.

Parameters as following:

Talking input select	The input audio source of terminal is MIC input during talking. MIC: audio resource as MIC input. Line input: external device audio collection as intercom input audio resource.
Talking output select	The output audio source of terminal is speaker output during talking Speaker: the sound output from speaker. The line output medium has no sound. Line output: sound output from line output, speaker no sound for output.
Talking input volume	The total input volume (0~15) of the host during talking.
Talking output volume	The total output volume (0~15) of the host during talking.
Ring volume	The ring volume when receiving the call.
Broadcast output select	The output audio source of terminal during broadcasting. Speaker: the sound output is from speaker. The line output medium has no sound Line output: sound output from the line output, speaker no sound for output.
Broadcast volume	The total output volume during broadcasting (0~15), the main machine defaulted to receive server broadcasting volume.
Monitor volume	The total input volume of terminal during monitoring (0~15).

## Talk Parameters

Set the terminal intercom parameters, click [Save] after modification, and restart the device will take effect.

Parameters as following:

Auto answer	Set up the mode of terminal receiving talking, start for automatic answering; If forbidden, please pressing the button to turn on the talking
Allow to hang up	Set the mode of terminal hanging up the intercom. When disabled, you can't hang up the intercom. If enabled, you can hang up the intercom Set terminal hang up ways. Disabled, intercom can't be hung up; Enabled, terminal can hang up
Echo cancellation	It is enabled by default. When it is disabled, there will be an echo during the intercom process
Offline intercom	Enabled, the offline terminal can call the target set in the offline parameters Disabled, offline talk disable
Calling target	When the offline intercom is enabled, the format of the calling target which is corresponding to the terminal "call button" .

## Alarm parameters

Set the terminal alarm parameters, click [Save] after modification, and restart the device will take effect.

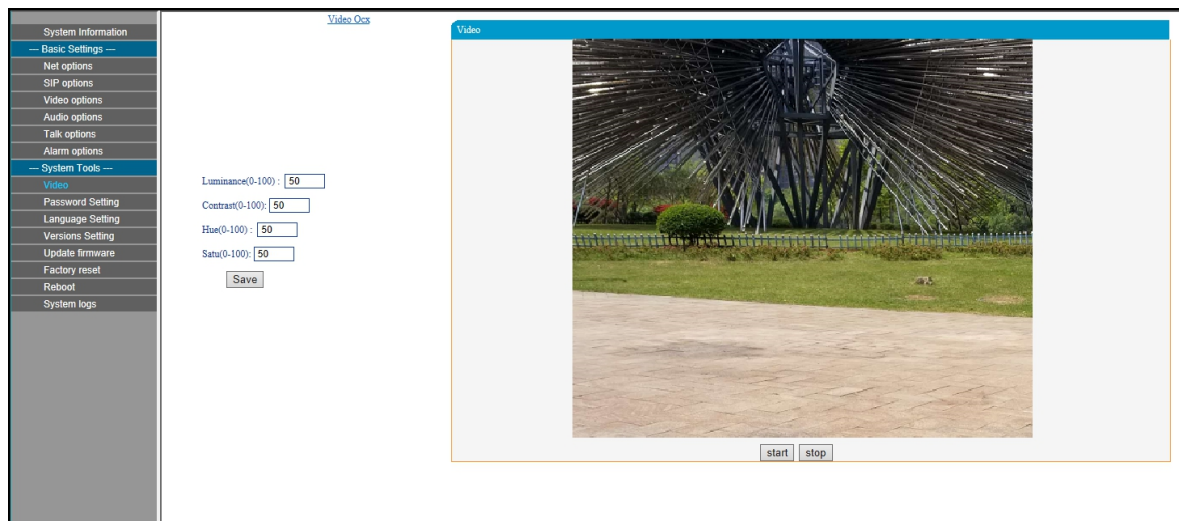
Parameters as follow:

Alarm input	Alarm input 1,2 trigger mode
-------------	------------------------------

	<p>Close circuit alarm: the external device is usually under the open circuit state, the device triggers the alarm under the close circuit situation;</p> <p>Open circuit alarm: the external device is usually under the close circuit state, the device triggers the alarm under the open circuit situation;</p> <p>State change alarm: the alarm will be triggered, when high level becomes low level or low level becomes high level.</p>
Alarm output	<p>Alarm output 1 initial state</p> <p>Normal open: the defaults is open, close be triggered;</p> <p>Normal close: the defaults is close, disconnect be triggered.</p>
POST (power on self test)	After power on, the terminal automatically test the operating status.
Wide dynamic	Enable wide dynamic, the terminal can automatically backlight compensation or strong light suppression according to the situation to ensure the high definition.
Tamper Alarm	<p>Enabled, the machine will automatically alarm if it is dismantled when working normally;</p> <p>Disabled, it will not be available.</p>
Hubbub Alarm	Enabled, if the volume of the surrounding environment of the terminal reaches a certain level and lasts for a certain period of time, the terminal will automatically alarm.
Hubbub alarm trigger volume	The volume of surrounding noise reaches the alarm level
Hubbub alarm trigger time (s)	Continuous time of surrounding noise in seconds

## Video preview

Click "start" on the video preview web page and play the current video of terminal.



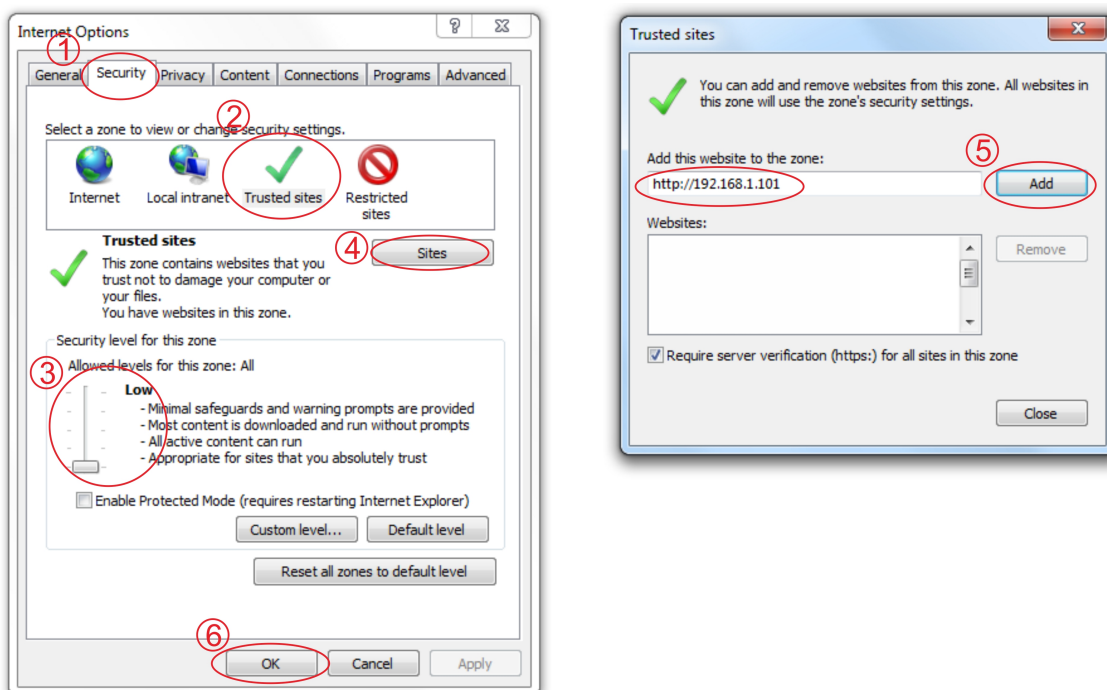
The specific setting methods as follow when using video preview function to install and obtain video software.

Step 1: Install software "IPNBSVideo\_Plugin\_setup":

Step 2: Open browser, click Internet options-security-trusted sites, decrease the safety degree to the lowest(Note: Different system may be different in operation interface, this setting as **win7 for example** )

Step 3: Click "station ",adding the address of IP video intercom terminal to the trusted station in the dialog box, as follow.

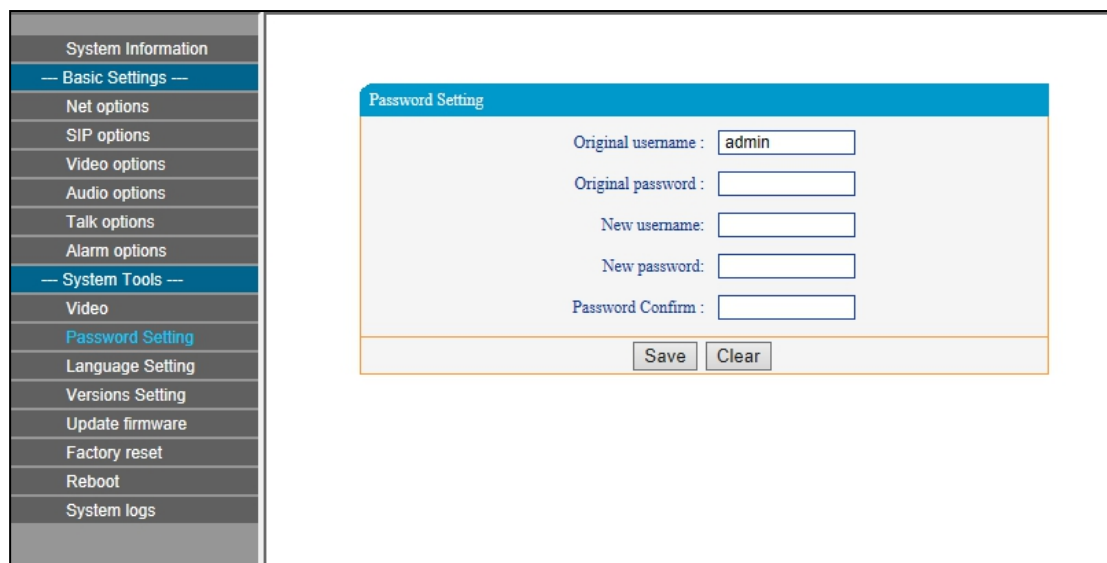




Step 4: reboot browser

## Password settings

Modifying the user-name and password in Web parameter of the Web page.



## Language Settings

You can switch Web language between Chinese and English, it can work after restarting the Web page.



System Information	<div>Language Setting</div> <div>Language: English ▾</div> <div>Save</div>
— Basic Settings —	
Net options	
SIP options	
Video options	
Audio options	
Talk options	
Alarm options	
— System Tools —	
Video	
Password Setting	
Language Setting	
Versions Setting	
Update firmware	
Factory reset	
Reboot	
System logs	

## Protocol Settings

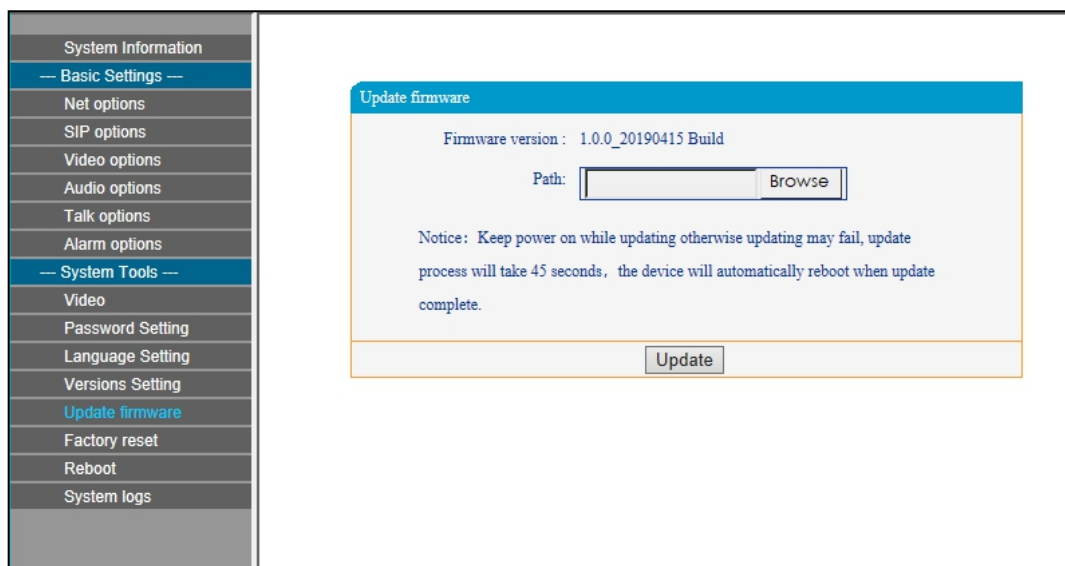
Set the protocol for the normal communication between terminal and server.

In the “Versions Settings” page, “ I (NAS)” is for SPON NAS protocol;“ II (SIP)” is for SIP protocol ( Web page of each protocol is slightly different), settings will be effective after saving and rebooting. Please reboot browser after switching protocol.

System Information	<div>Versions Setting</div> <div>Versions: II(SIP) ▾</div> <div>Save</div>
— Basic Settings —	
Net options	
SIP options	
Video options	
Audio options	
Talk options	
Alarm options	
— System Tools —	
Video	
Password Setting	
Language Setting	
Versions Setting	
Update firmware	
Factory reset	
Reboot	
System logs	

## Firmware upgrade (Note: except special requirement, otherwise do not upgrade firmware)

In the firmware upgrade web page, selecting the upgraded files provided by manufacturer, click “upgrade” to start.(please do not power off during upgrade, it may cause upgrade and device failure)

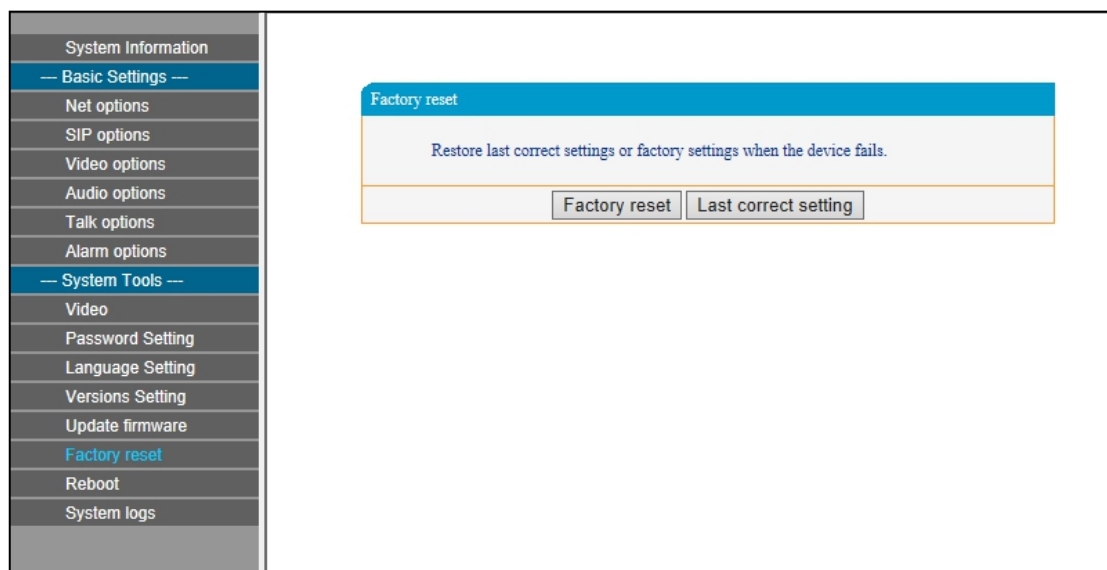


## Reset to Defaults

Restore to factory: all parameters were restored to factory settings.

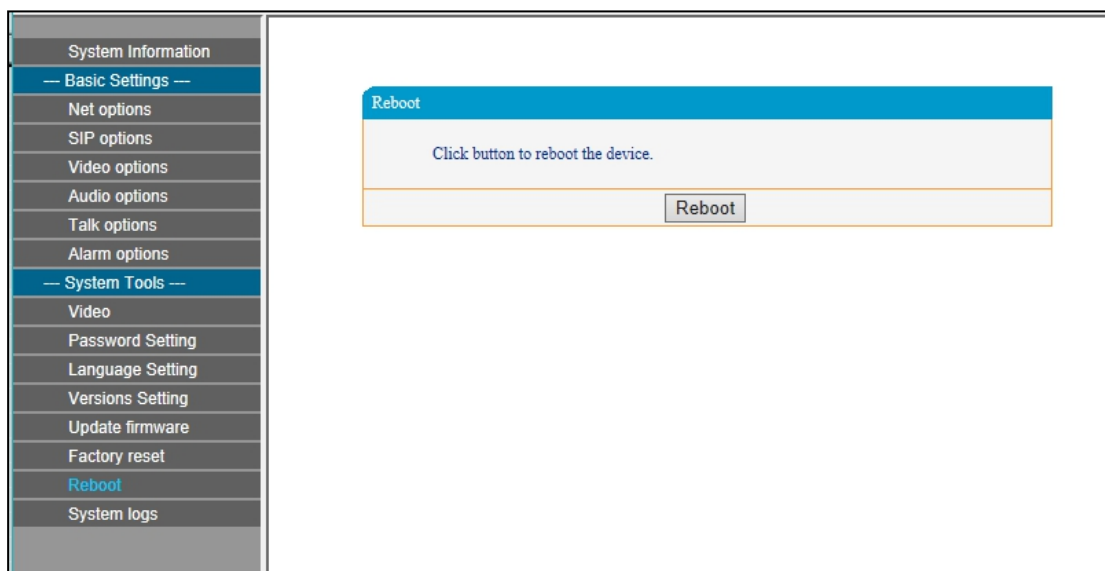
Last correct configuration: restore to the last parameter that login to the server.

Above settings will be effective after rebooting.



## Reboot Device

Part of modified parameters in the web page will be effective after rebooting.



Some settings will be effective after rebooting.

## System Log

Terminal can record device application condition and make the log, user can browse the system log in web page.

System Information

Basic Settings

Net options

SIP options

Video options

Audio options

Talk options

Alarm options

System Tools

Video

Password Setting

Language Setting

Versions Setting

Update firmware

Factory reset

Reboot

System logs

System logs

Index	Log content
1	Thu Jan 1 00:00:05 1970[RECORD ]init video static
2	Thu Jan 1 00:00:05 1970[RECORD ]create timer ok = 0
3	Thu Jan 1 00:00:06 1970[INFO ][CSipUA::set_local_addr()] : m_contact_ip(192.168.4.102)
4	Thu Jan 1 00:00:06 1970[RECORD ]create timer ok = 0
5	Thu Jan 1 00:00:06 1970[INFO ][CSipUA::register server()] : contact(sip:1@192.168.4.102:5060)
6	Thu Jan 1 00:00:07 1970[INFO ]noise alarm vol:10, time:5
7	Thu Jan 1 00:00:07 1970[INFO ]----->TS_IDLE RECORD BEGIN
8	Thu Jan 1 00:00:10 1970[RECORD ]Onvif server started!
9	Thu Jan 1 00:00:10 1970[INFO ]get terminal name
10	Thu Jan 1 00:00:10 1970[INFO ]get terminal name

1

Refresh

## Other Functions

In addition to above function, IP HD intercom terminal could coordinate with the server to accomplish the timing ringing, real-time broadcasting and the timing broadcasting all these functions, for the details please refer to the server software operation instruction.

## Basic Functions

### Initiate Intercom

Press **【CALL】** button, can directly call the terminal named by server;

After completing the above operation, if the called terminal is free, the terminal will play the waiting tone and wait for the other party to answer, and the called terminal will play the ring tone. If the called terminal is busy or refuses to answer, the terminal will play a busy tone.

**Note: the default call TD number is 001 intercom terminal. You can call several calling target, when the called target is busy, it can automatically call next target.**

### Receive Intercom

Manual answer or automatic answer can be set on the web page

### Receive Broadcast

Automatically answer without pressing any button.

## Fault Exclude

### Terminal can not login to the server?

1. Check the server software and main control computer is normally open or not. It must close all the firewall before open the service software, (including the systemic firewall and other antivirus software.).
2. Check the network connection is normally working or not. When the terminal is power on, the network port green indicator light will be normal on, and orange indicator light will rapidly short flicker, it means the cable hard-link is normal. If the network port green indicator light is not light up, there is network hard-link problem, please check the cable and switch which is connected the terminal, check if there is any damage and poor contact abnormal working.
3. Check the terminal IP setting. Checking the terminal ID NO, server IP, local IP and gateway IP these parameters is correct or not.

### Why it appears "terminal network services (UDP) start fail" warning within the process of start server software?

Appearing this warning information, it's usually the local network connection has been disconnected, please connect the local network cable well and exit the software, then restart it.

### When terminal appear abnormal, it still can not wok after reboot ?

Forced factory reset, the specific method is : click and hold left button till 8 seconds the talk light flashing, then loosen the talk button and restart the terminal after the talk light normally on green light ( please do not use it except the special situation).

### Web display abnormal?

Emptying the cache or change the browser.

### How to modify the account number and password to login the web page?

1. Click the password setting of the web page.
2. Please input previous user name and password under the original user name and password respectively.
3. Input the new user name and password in the new one.
4. Input the new password in the command confirmation.
5. Click for save.
6. The new user name and password will be workable after restarted the equipment.

## Copyright statement

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www.spon.com.cn  
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