

AVer SF2111H-DVR

User Manual



Table of Contents

PREFACE	1
PRODUCT SPECIFICATIONS	1
PACKAGE CONTENTS	4
PRODUCT INSTALLATION	5
MONITOR SETTING	5
HARDWARE INSTALLATION AND I/O PIN ASSIGNMENT	6
POWER OVER ETHERNET (PoE)	10
IP ASSIGNMENT	11
FINDING IP CAMERA BY USING "NXU LITE RECORDING SOFTWARE"	11
FINDING IP CAMERA BY USING "IP INSTALLER"	14
USING DHCP SERVER/ROUTER NETWORK	16
USING NON-DHCP SERVER/ROUTER NETWORK	17
INSTALL ACTIVE X CONTROL	20
USING THE IP CAMERA BROWSER INTERFACE	22
PREVIEW	22
SYSTEM > GENERAL	24
SYSTEM > GENERAL > MAINTENANCE	24
To Upgrade the IP Camera Firmware	25
SYSTEM > GENERAL > DATE & TIME	26
SYSTEM > USER MANAGEMENT	27
SYSTEM > USER MANAGEMENT > ACCOUNT	27
SYSTEM > NETWORK SETTING > SETTING	29
SYSTEM > NETWORK SETTING > SEVER	30
SYSTEM > NETWORK SETTING > DDNS	31
SYSTEM > NETWORK SETTING > OTHER 1	33
SYSTEM > NETWORK SETTING > OTHER 2	35

SYSTEM > ADVANCE > HTTPS	40
SYSTEM > ADVANCE > SNMP	42
SYSTEM > ADVANCE > ACCESS LIST	44
SYSTEM > ADVANCE > QoS/DSCP	45
SYSTEM > IMAGE	46
SYSTEM > IMAGE> OSD	46
SYSTEM > IMAGE > PREFERENCE	47
SYSTEM > IMAGE> ADVANCED	48
SYSTEM > IMAGE> PRIVACY MASK	49
SYSTEM > VIDEO STREAM > GENERAL	50
SYSTEM > VIDEO STREAM > STREAM1	51
SYSTEM > VIDEO STREAM > STREAM2	53
SYSTEM > VIDEO STREAM > STREAM3	55
SYSTEM > AUDIO	56
SYSTEM > SD CARD	57
EVENT > ARRANGEMENT > MOTION	58
EVENT > ARRANGEMENT > PREFERENCE	59
EVENT > SCHEDULE	60
EVENT > DI/DO	61
STATUS INFORMATION	62
NETWORK CONFIGURATION	63
FACTORY DEFAULT	65
TROUBLESHOOTING	66
APPENDIX	67
COPYRIGHT	68
NOTICE	68
WARNING	68
GOVERNING LAW AND YOUR RIGHTS	70

Preface

The SF2111H-DVR is an H.264 2-megapixel; full HD vandal dome camera designed for indoor and outdoor use with a mechanical IR-cut filter and built-in LED IR illuminators. Unique external controls simplify installation allowing easy corrections to focus and zoom after placement. Rated to **IP66**, SF2111H-DVR gives you the flexibility of a camera that can withstand both dust and driving rain, and can continue to provide superior quality video during the day without compromising on nighttime performance

Product Specifications

- Video out support
- 2M-pixel, full HD Definition (1080p) 30fps support
- 3D & 2D Digital Noise Reduction
- Digital Wide Dynamic Range
- 3-Axis Gimbals Adjustments
- Power over Ethernet (PoE)
- H.264/MJPEG/MPEG-4 compression formats
- microSD/SDHC card backup (SD card is an optional part)
- 2-way audio
- 3GPP mobile phone/PDA support
- Free bundled AVer NXU Lite recording software
- IR LED Built in 15 meters available
- Mechanism IR Cut Filter Available

Specifications

Hardware	
CPU	ARM 9, 32-bit RISC
DDR2	256MB
Flash	16M
Image sensor	1/2.7" CMOS (2 Megapixel)
Lens Type	Vari-focal 3~9 mm Megapixel Lens
ICR	Mechanism IR Cut Filter
LED	Built-in 18 IR LED IR Distance-15M
I/O	1 Sensor in /1 Relay out
Video Out	Yes
MIC in	1

Hardware	
Audio Out	1
Power Over Ethernet	Yes
Power Consumption	DC 12V
3-Axis Gimbal Adjustments Angle	Pan: 348° Tilt: 30° ~ 90° Rotation: 360°
Dimensions	126W x 126L x 100D (mm)
Network	
Ethernet	10/100 Base-T
Network Protocol	HTTP, HTTPS, NTP, UPnP, 3GPP (video only), SAMBA, Bonjour ,SNMP, QoS/DSCP, Access list, RTSP, TCP/ IP, UDP, SMTP, FTP, PPPoE, DHCP,DDNS.
System	
Video Resolution	1920x1080, 1280x720, 640x480, 320x240, 176x144
Video Adjust	Brightness, Contrast, Sharpness, Night Mode, D-WDR, Noise reduction.
Triple Streaming	Yes
Image snapshot	Yes
Full screen monitoring	Yes
Privacy Mask	Yes, 3 different areas
Compression format	H.264/ JPEG/ MPEG-4
Video bitrate adjust	CBR, VBR
Motion Detection	Yes, 3 different areas
Triggered action	Mail, FTP, Save to microSD/SDHC card, Relay, NAS
Pre/ Post alarm	Yes (Pre: 5 secs/ Post: 10 secs)

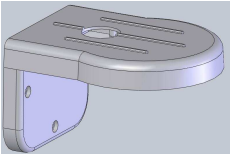
System	
Security	Password Protection, QoS/DSCP, IP address filtering, HTTPS encryption, data transmission
Firmware upgrade	HTTP mode, can be upgraded remotely
Simultaneous connection	Up to 10
Audio	Yes, 2-way (mono)
MicroSD/SDHC card management	
Recording trigger	Motion Detection, IP Check, Network Status (wire Connection only), Schedule, Alarm
Video format	AVI, JPEG
Video playback	Yes
Delete files	Yes
Web browsing requirement	
OS	Windows® XP (32-bit), 7 (32/64-bit) Microsoft® IE 6.0 or above (32-bit only)
Hardware Suggested	Intel® Dual Core 2.53GHz, RAM: 1024MB, Graphics Card: 128MB
Mobil support	iOS 4.3 or above, Android 1.6 or above.

***SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.**

Package contents

Item	Descriptions
	1. SF2111H-DVR
	2. Accessory pack
	3. RJ45 socket
	4. Power Adaptor(DC 12V/1A) (Optional)
	5. CD (User's Manual and Quick Guide included)

Optional accessory

Item	Descriptions
	Vandal Dome L type Bracket for both SF2111H-DVR &SF2012H-DV Weight: 680g (N.W.) Material: Aluminum Color: Silver-beige Package: 24pcs in one carton

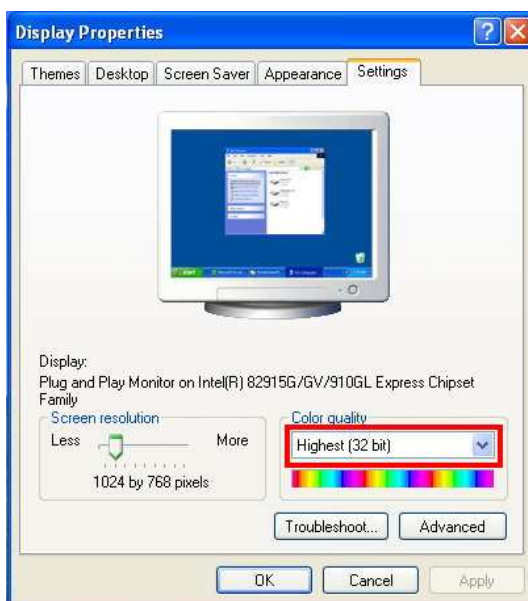
Product Installation

Monitor Setting

1. Right-click on the desktop. Select “ **Properties**”

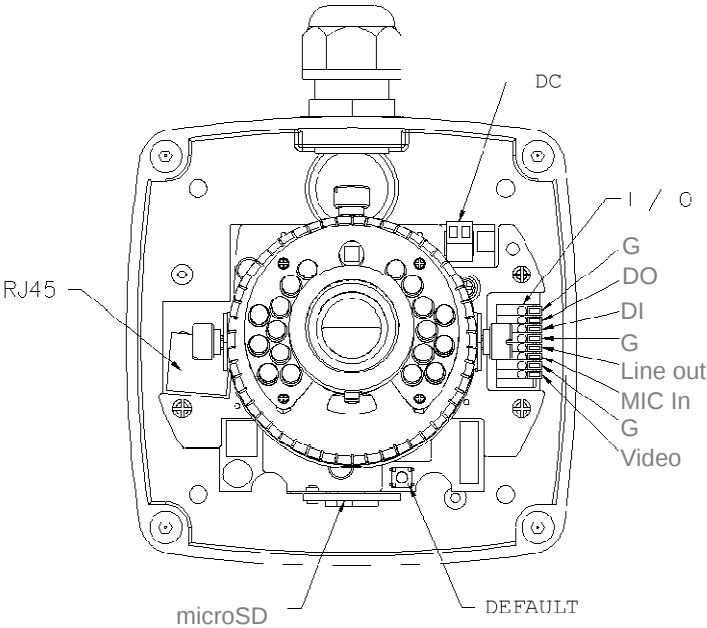


2. Change “Color quality” to “**Highest (32-bit)**”.



Hardware Installation and I/O Pin Assignment

1. Remove the dome cover, and you will see the structure as below.



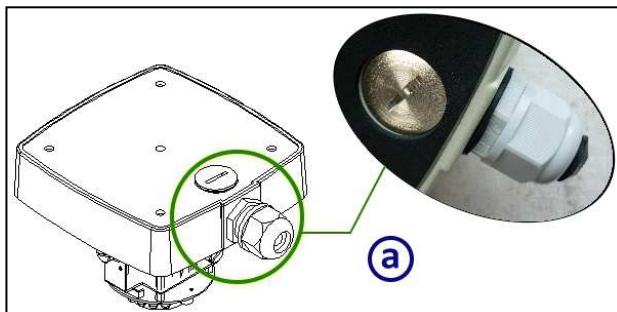
2. Connect power adaptor, then connect the IP camera to PC or network. Set up the network configurations according to the network environment. The following picture shows a DC 12V connector for adapter jack plug.



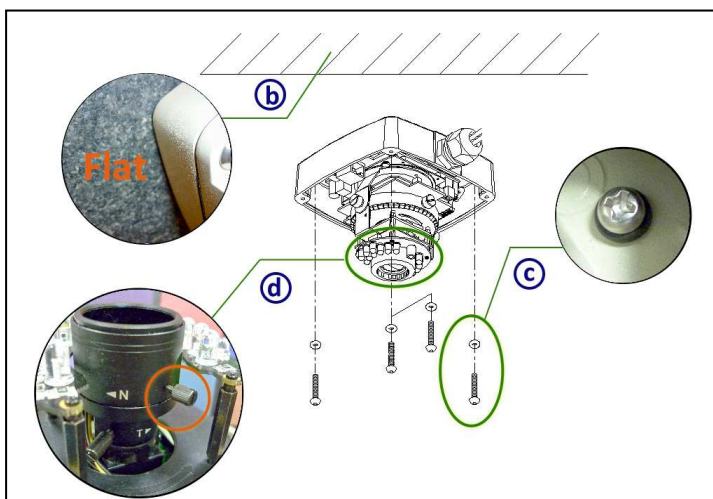
3. Installation Tips

In order to ensure IP66 waterproof level, please install the vandal dome according to the instruction.

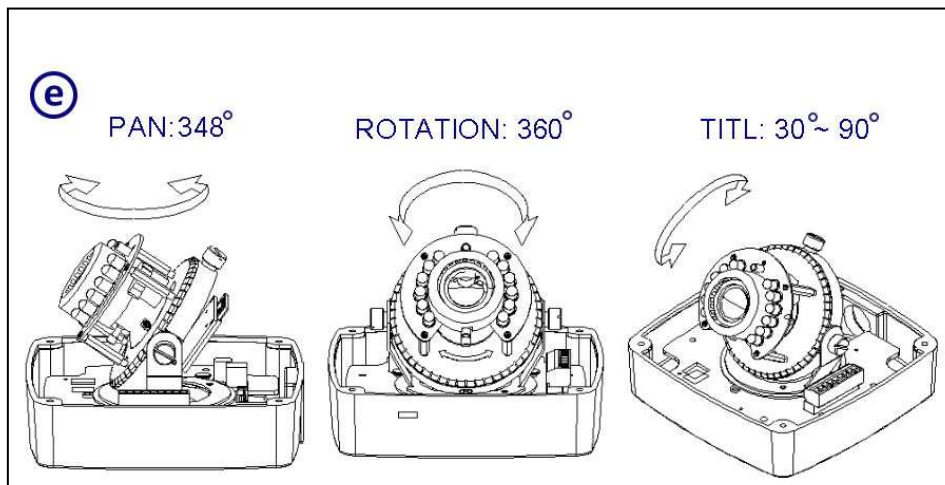
- a. The Unused cable outlet hole must be closed, and the waterproof connector on the used hole must be locked closely



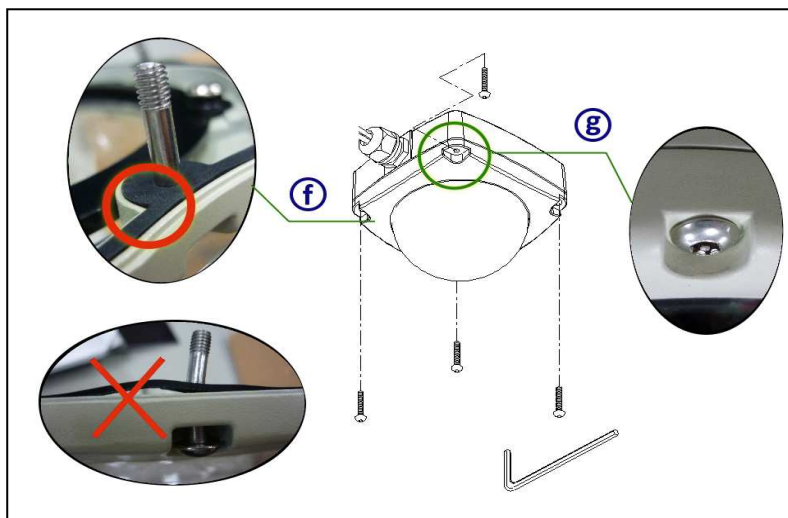
- b. We recommend the bottom of housing be set on the smooth flat and closely seal with the surface.
- c. When you mount the camera housing on the ceiling or wall, please use the screws with the black rubber o-rings. Without the o-ring, the water may seep into the machine.
- d. Turn and loose the control stick, shift right and left to adjust the vari-focal lens until the image becomes clear, then turn and tighten the stick to fix it.



- e. Use the 3-Axis bracket to adjust the camera to appropriate angle.



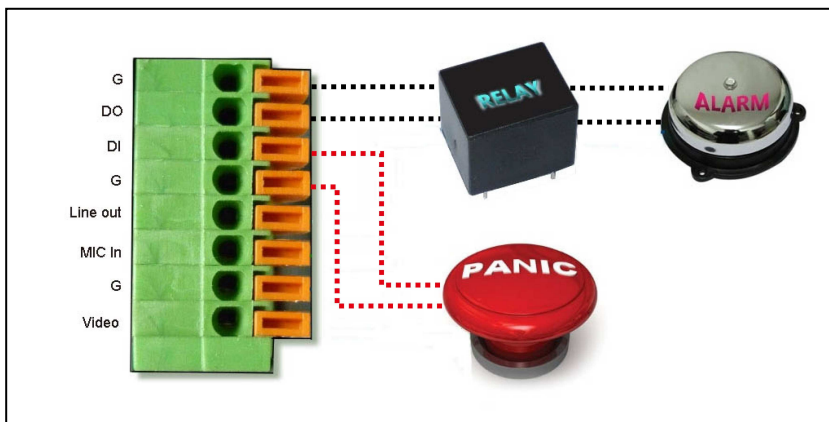
- f. Before you close the dome cover, make sure that the black rubber band sticks to the inside of the cover completely. Crook or uneven rubber band may cause the waterproof defective.
- g. Lock tightly the screws on the dome cover to ensure there's no gap between the lid and base.



4. I/O Interface

I/O Connection

- Please connect the GND & DO pin to the external relay (buzzer) device.
- Please connect the GND & DI pin to the external trigger device.



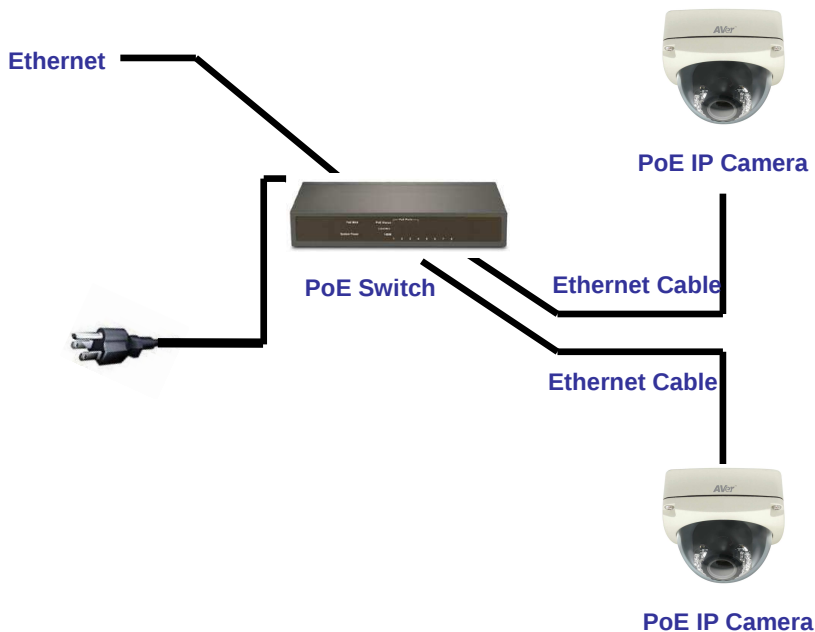
c. I/O PIN definition

- GND (Ground): Initial state is LOW
- DO (Digital Output): DC 5V
- DI (Digital Input): Max. 50mA, DC 5V

Power Over Ethernet (PoE)

Set up the IP camera through Power over Ethernet (PoE). PoE is a technology that integrates power into a standard LAN infrastructure. It enables power to be provided to the network device, such as an IP camera, using the same cable as that used for network connection. It eliminates the need for power outlets at the camera locations.

[Note] 802.3at, 30W PoE Switch is recommended. We recommend users to purchase PoE switch from us to ensure the stability when using the IP Cameras. Please contact sales for more details.



IP Assignment

There are two ways to find IP Camera:

- Finding IP Camera by using “NXU Lite recording software”
- Finding IP Camera by using “IP installer”

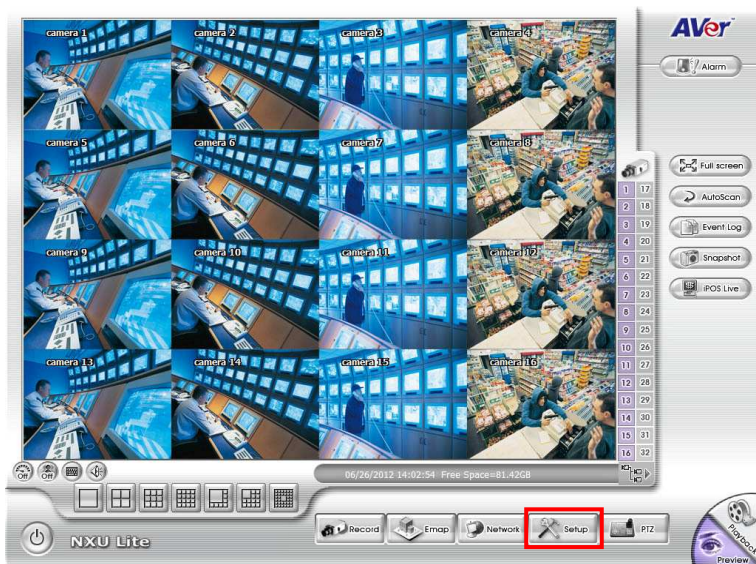
Finding IP Camera by using “NXU Lite recording software”

1. The NXU Lite software is in the attached software CD. Before launching it, please install the software first. During the installing process, users will be required to input a User name and Password for login NXU Lite system. Users can define the User name and Password as wishes. Please refer to NXU Lite user manual for detailed installation instruction.
2. To run the application, double-click  on your PC desktop or click **Start > Programs > DVR > NXU Lite**. For security purpose, some of the features would require you to enter User name and Password before it can be accessed. When the Authorization dialog box appears, key in your User ID and Password. (If this is the first time, enter the one you have registered when installing the software.

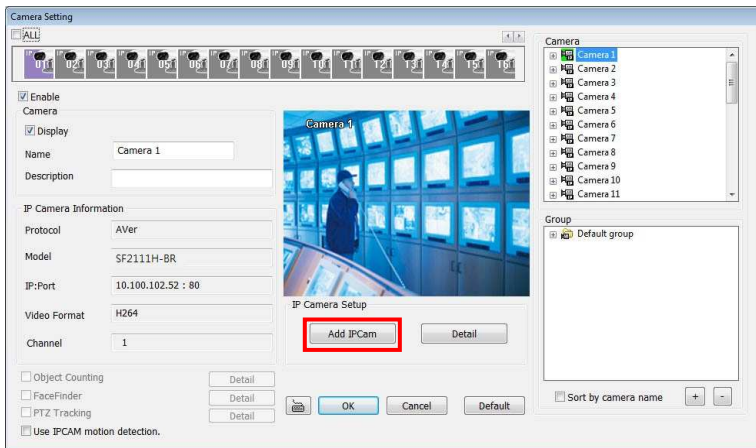


Click it to call out virtual keyboard.

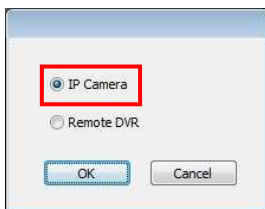
3. Click **"Setup"** button.



4. Click **"Add IPCam"** button.



5. Select **"IP Camera"** item.



6. Key in IP Camera's ID and Password (default is **admin/admin**) and click "**Auto Search**" to find camera.

The 'Add IPCam' dialog box is shown. It has a tab labeled 'Auto Search'. Below the tab are several dropdown menus: 'Protocol' (selected: AVer), 'Model' (selected: SF2111H-BR), 'Video Format' (selected: Auto), and 'Channel' (selected: 1). There is a text field for 'IP Camera Site' with the value '10.100.102.52' and a port field with '80'. Below these are radio buttons for 'URL' and a text field for 'http://'. There is a checked checkbox for 'Authentication' with fields for 'ID' (admin) and 'Password' (masked with dots). At the bottom, there is a checkbox for 'Enable Audio' and buttons for 'Save & Exit', 'Connect', and 'Cancel'. On the right side, there is a section titled 'IP Camera Information' with the text 'F/W: V1.0.28'.

7. In Search Result window, click the IP camera model that user has purchased (**Please ignore ONVIF connection item**); the camera is in red text that is configurable. User can double-click on the camera is in red text and configure the IP camera's setting; even the IP camera is not in the same IP segment. Press "**OK**" to back to previous screen and press "**Connect**" to start live view.

The 'Search Result' window displays a table with the following data:

Item	Protocol	Model	IP Cam	Port
1	AVer	SF2111H-BR	192.168.100.2	80
2	ONVIF	SF2111H-BR	http://192.168.100.2:80/onvif/device_ser...	80

Annotations in the image include:

- A red box pointing to the 'Model' column with the text: "Double-click the IP camera model that user has purchased (ex: SF2111H-BR, SF2111H-DVR)."
- A black box pointing to the 'ONVIF' row with the text: "Please ignore ONVIF protocol selection; NXU Lite doesn't support ONVIF connection."

At the bottom of the window are buttons for 'Searching', 'OK', and 'Cancel'.

Finding IP Camera by using “IP installer”

1. Use the software, “**IP Installer**” to assign the IP address of the IP camera. The software is in the attached software CD.
2. IP installer supports two languages
 - **IPInstallerCht.exe**: Traditional Chinese version
 - **IPInstallerEng.exe**: English version
3. There are 3 kinds of IP configuration.
 - Fixed IP (Public IP or Virtual IP)
 - DHCP (Dynamic IP)
 - DHCP server/router network automatically assigns IP addresses to devices. You can use the **IP Installer** software in the CD to search for the IP camera(s) in the network.
 - Dial-up (PPPoE)
4. Execute IP Installer
5. For Windows® XP (SP2) users, the following message box may appear. Please click “**Unblock**”.



IP Installer configuration:

Device lists:

Server Name	IP Address
IP_Camera	192.168.001.200

☒ Static ☐ DHCP

Name: IP_Camera
 IP: 192 168 1 200
 Netmask: 255 255 255 0
 Gateway: 192 168 1 254
 DNS 1: 168 95 1 1
 DNS 2: 168 95 192 1
 Port1: 80
 MAC: 00:18:1A:0C:1D:EC

Search Device Submit

To Change Device Name, IP address, and Gateway:
 1. Select the device on the left side.
 2. Change network parameter on the right side.
 3. Press Submit button.
 4. Press "Search Device" to re-search again.
 5. Double click the device to open it.

Exit

6. IP Installer will search all IP cameras connected on the LAN. The user can click **"Search Device"** to search again.
7. Click one of the IP cameras listed on the left side. The network configuration for this IP camera will show on the right side. You may change the name of the IP camera to your preference (eg: Office, warehouse) in **"Name"** on the right side.

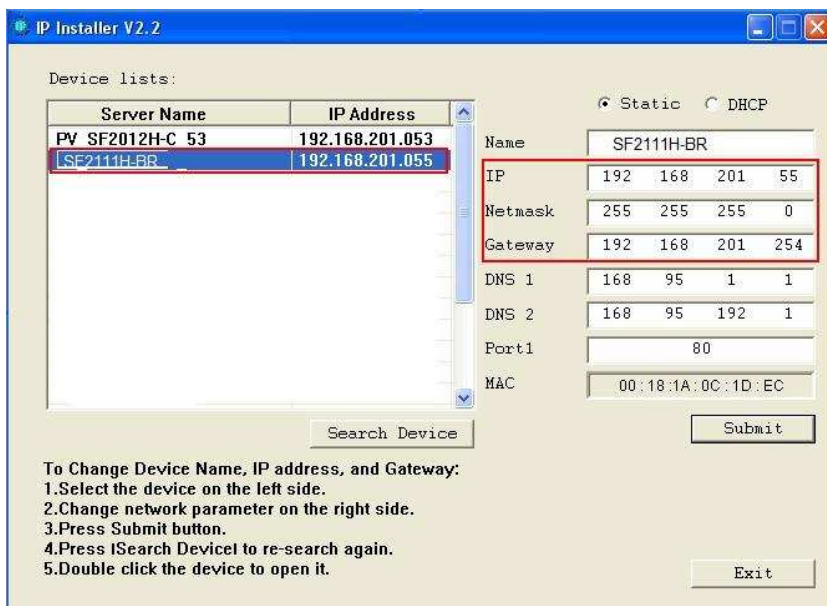
[Note] The server name length has to be less than 15 digits.

Using DHCP Server/Router Network

To use DHCP, please check DHCP and click “**Submit**” then click “**OK**”. It will apply the change and reboot the Device.



Please left-click the mouse twice on a selected IP camera in “Device lists” in IP Installer. Upon doing so, the Internet Explorer browser should open.



Using NON-DHCP Server/Router Network

In Non-DHCP server/router network, the static IP address must be assigned to the device each time when adding another IP camera to the network; the default IP address of the current one must be changed to avoid conflict.

Please make sure the Subnet of the PC's IP address and the IP camera's IP address are the same.

[Example]

The same Subnet:

IP camera IP address: 192.168.1.200

PC IP address: 192.168.1.100

Different Subnets:

IP camera IP address: 192.168.2.200

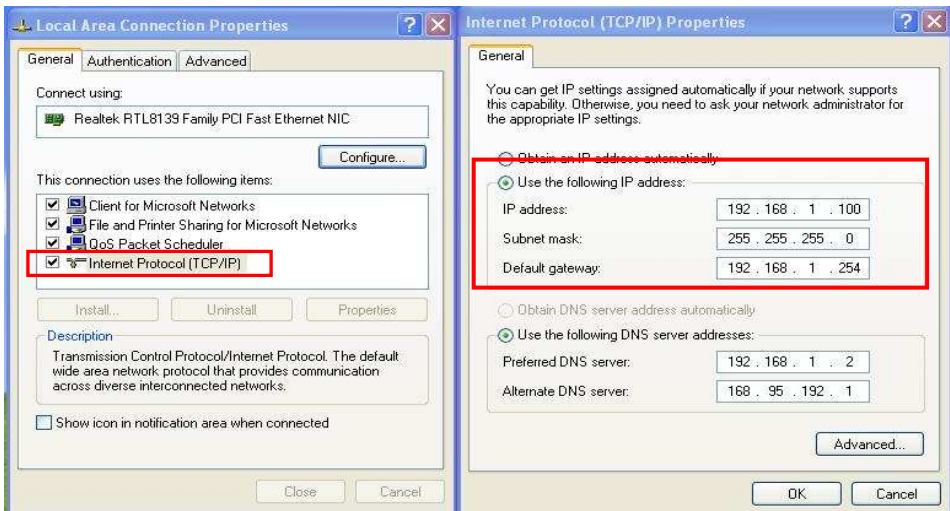
PC IP address: 192.168.1.100

To Change PC IP Address:

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your IP camera and PC have the same Subnet. If not, please change IP camera subnet or PC IP subnet accordingly.

PC's IP address:



IP camera IP addresses:

IP Installer V2.2

Device lists:

Server Name	IP Address
PV_SF2012H-C_53	192.168.201.053
PV_SF2111H-BR	192.168.201.055
PV_SF2012H-C_54	192.168.201.054
PV_SF2012H-C_65	192.168.201.065
PV_SF2012H-C_64	192.168.201.064
PV_SF2012H-C_63	192.168.201.063
PV_SF2012H-C_59	192.168.201.059
PV_SF2012H-C_56	192.168.201.056
PV_SF2012H-C_61	192.168.201.061
PV_SF2012H-C_51	192.168.201.051
PV_SF2012H-C_58	192.168.201.058
PV_SF2012H-C_60	192.168.201.060
PV_SF2012H-C_57	192.168.201.057

Static DHCP

Name PV_SF2111H-BR

IP 192 168 201 55

Netmask 255 255 255 0

Gateway 192 168 201 254

DNS 1 168 95 1 1

DNS 2 168 95 192 1

Port1 80

MAC 00:18:1A:0C:1D:EC

Search Device Submit

To Change Device Name, IP address, and Gateway:
1. Select the device on the left side.
2. Change network parameter on the right side.
3. Press Submit button.
4. Press Search Device to re-search again.
5. Double click the device to open it.

Exit

8. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP camera in "Device lists" in IP Installer. Upon doing so, the Internet Explorer browser should open.

IP Installer V2.2

Device lists:

Server Name	IP Address
IP_Camera	192.168.001.165

Static DHCP

Name IP_Camera

IP 192 168 1 165

Netmask 255 255 255 0

Gateway 192 168 1 254

DNS 1 168 95 1 1

DNS 2 168 95 192 1

Port1 80

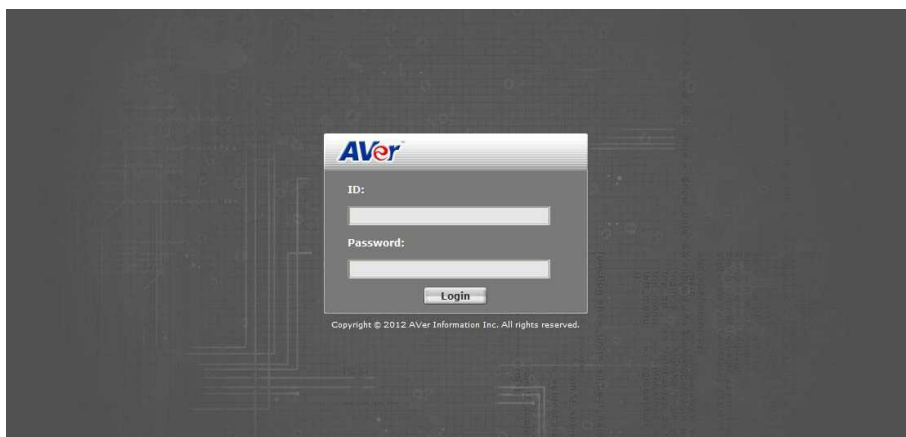
MAC 00:18:1A:0C:1D:EC

Search Device Submit

To Change Device Name, IP address, and Gateway:
1. Select the device on the left side.
2. Change network parameter on the right side.
3. Press Submit button.
4. Press "Search Device" to re-search again.
5. Double click the device to open it.

Exit

9. Then, please key in the default “**User name**” and “**Password**”, both of which are “**admin**”.



Install ActiveX Control

The first time you attempt to view the camera video via Internet Explorer, it will ask you to install the ActiveX component.

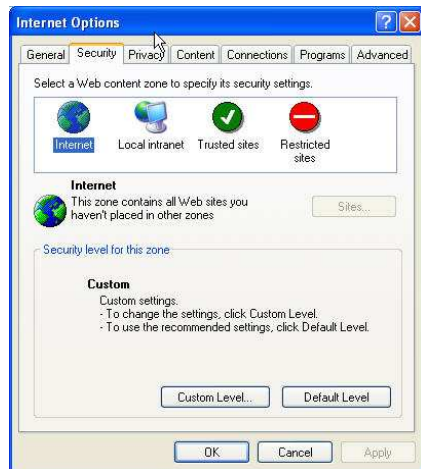
If the installation fails, please check the security settings for the Internet Explorer browser.

1. IE → Tools → Internet Options... → Security Tab → Custom Level... → Security Settings → Download unsigned ActiveX controls → Select **"Enable"** or Prompt.
2. IE → Tools → Internet Options... → Security Tab → Custom Level... → Initialize and script ActiveX controls not marked as safe → Select **"Enable"** or Prompt.

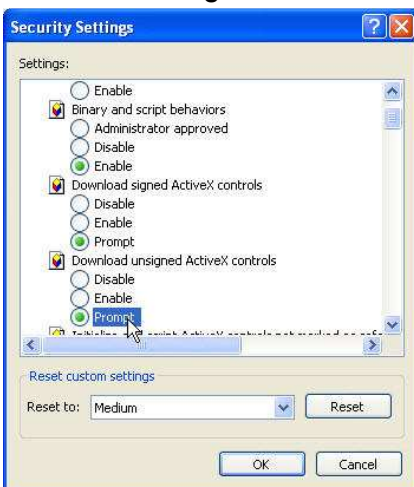
1



2



3

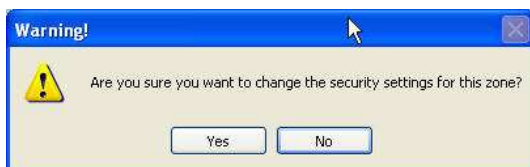


4



5

When the following dialogue box appears, click **“Yes”**.



Using the IP Camera Browser Interface

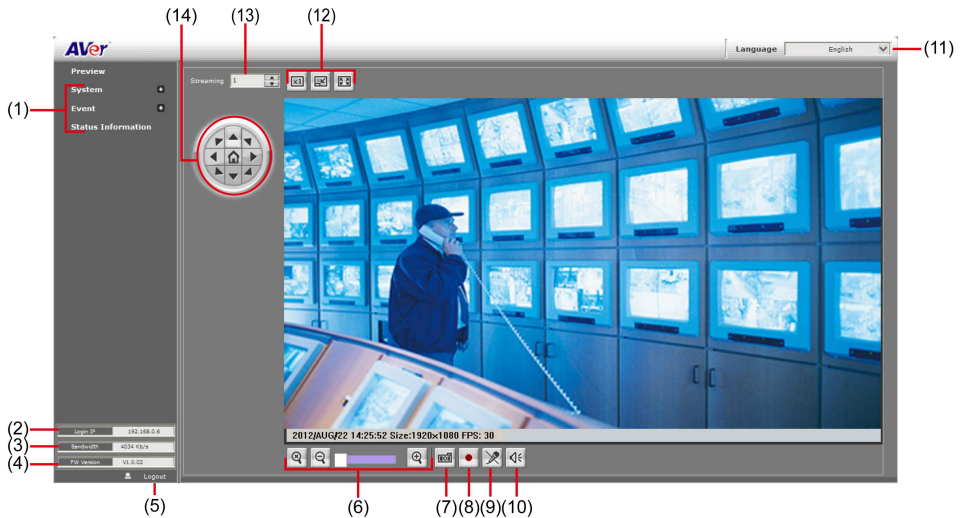
The admin have the full access to the IP camera browser interface. The menu on the left, you can expand and navigate to access all the features.

Preview

Launch the Internet Explorer browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the **ID** and **Password**. The default **ID** and **Password** are both **admin**.



Once connected to the IP camera, the following program interface will appear.



Name	Function
(1) System/Event/Status Information	Set up IP camera's configuration.
(2) Login IP	Show PC's IP address

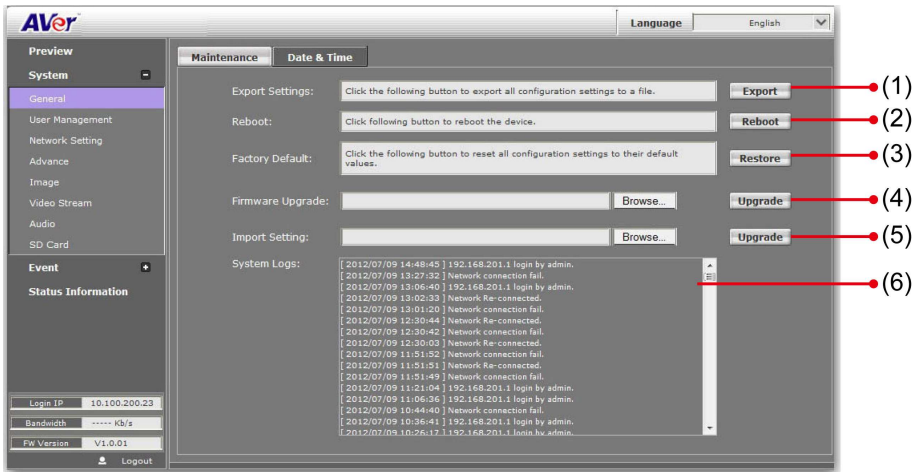
Name	Function
(3) Bandwidth	Show current IP camera's transmitting bandwidth
(4) FW Version	Show IP camera's current firmware version
(5) Logout	Exit the application
(6) Zoom control	 Reset zoom level.
	 Increase zoom level.
	 Decrease zoom level.
	 Use the scroll bar to zoom in or zoom out the video screen
(7) Capture	 Capture and save the image on the screen in *.bmp format
(8) Record	 Start/stop audio and video recording. The recorded video will be saved in *.avi format.
(9) 2-way Talk	 Click the Microphone button to talk to IP camera side from user site. Click this button again to mute this function.
(10) Speaker	 Turn on the PC's speaker so that PC side can hear sound from IP camera side. Click this button again to mute this function.
(11) Language	Select the browser interface language.
(12) Video screen	Change the video screen display.
	 Display the actual video pixel size
	 Display the video screen in compact size.
	 Display the video in full screen mode. Press ESC to exit full screen mode.
(13) Stream	Switch to view the video stream type. The IP camera can send multiple video streams of up to 3 types. To change the video stream setting, go to System > Video Stream. [Notes] When streaming 2 setting in " Video Setting " is closed, there won't have other stream option
(14) Direction Controller	Move the position of the view point while in zoom mode. User has to zoom in first.

System > General

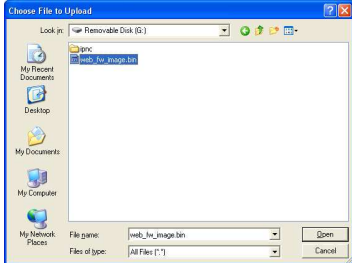
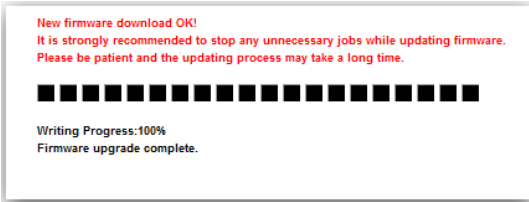
In this section, only admin level is authorized to configure the IP camera system maintenance and the date and time settings.

System > General > Maintenance

In the Maintenance tab, the administrator can check the system event log, upgrade the system firmware, reset the configuration settings without having to change the user management and network settings, reboot, and restore all back to factory default settings.



Name	Function
(1) Export Settings	Upload to save all the configuration settings from the IP camera to computer hard disk.
(2) Reboot	Turn the IP camera off and on again.
(3) Factory default	Set all the configuration settings back to default except the user management and network settings.

Name	Function
(4) Firmware Upgrade	Upgrade the firmware to the latest version.
<u>To Upgrade the IP Camera Firmware</u> 1. Download the file from our website and save it in your computer hard disk. 2. Click Browse. Locate and select the file and click Open. 3. Click Apply. Wait till you see the message "Firmware Upgrade OK!!". You may now click the Internet Explorer browser refresh button or press F5. The login page will appear.	
	
	
(5) Import	Download to replace the current settings with the configuration settings file from the computer hard disk to IP camera.
(6) System log	Display the IP camera system event log.

System > General > Date & Time

In the “Date & Time” tab, **the administrator** can set and update the system’s date and time. After **filling in the correct settings**, click **Apply** to apply the new settings.

The screenshot shows the AVer system's 'Date & Time' configuration page. The left sidebar contains a 'Preview' section with 'System' expanded, showing 'General', 'User Management', 'Network Setting', 'Advance', 'Image', 'Video Stream', 'Audio', and 'SD Card'. Below this is an 'Event' section with 'Status Information'. The main content area is titled 'Maintenance' and 'Date & Time'. It includes fields for 'Current Date & Time' (2012/7/9 14:52:28 Time Zone: GMT+08:00), 'Date Format' (yy/mm/dd, mm/dd/yy, dd/mm/yy), 'Time Zone' (GMT+08:00), and 'Enable Daylight Saving'. The 'Setting Method' section has three options: 'NTP' (with NTP Server, Update, and Time Shift fields), 'Synchronize with PC's time' (with Date and Time fields), and 'Manual' (with Date and Time fields). There is also an option 'The date and time remain the same'. An 'Apply' button is at the bottom right. Red lines with numbers 1 through 4 point to the 'Current Date & Time' field, the 'Date Format' radio buttons, the 'Time Zone' field, and the 'Setting Method' section respectively.

Name	Function
(1) Current Date & Time	Display the current date and time.
(2) Date Format	Select the date display format.
(3) Time Zone	Set the local time zone. Check the box next to “Enable Daylight Saving” to enable and setup the start date and end date for daylight saving time.

This screenshot shows the same 'Date & Time' configuration page, but with the 'Enable Daylight Saving' checkbox checked. The 'Date & Time' field now shows 2012/4/2 15:57:18. The 'Date Format' is set to mm/dd/yy. The 'Time Zone' is GMT+08:00. The 'Setting Method' section has 'NTP' selected, with 'pool.ntp.org' as the server. The 'Synchronize with PC's time' option is also visible, with the date set to 2012/4/2 and time to 15:57:41. The 'Manual' option is also visible, with the date set to 2012/4/2 and time to 15:54:58. The 'Apply' button is at the bottom right.

Name	Function
(4) Setting Method	Select the date & time settings method. <u>Sync with current PC</u> – Obtain the date and time setting on the current login computer. <u>Sync with NTP Server</u> – Obtain the date and time setting from NTP server. In the drop-down list, select the NTP host name. <u>Manual</u> – Manually set the date and time. Click “Done” to close the date and time interface.

System > User Management

In this section, only admin level is authorized to create, delete, and edit the account in Account tab and configure the client connection setting in Connection tab.

System > User Management > Account

IP camera supports two different user accounts – Administrator (Admin) and Guest User.

User Type	Access Rights
Admin	Can access all the configuration pages
Guest User	Can only access the preview and status information pages.

■ Anonymous User Login

- ✓ **Yes:** Allow an anonymous user to view the IP camera without logging in.
- ✓ **No:** Need user name & password to access this IP camera

- **Add user:** Enter the user name in “**Username**”, the password in “**Password**”, and re-enter the password in “**Confirm**”. Then, click “**Add/Set**”.
- **User List:** Click **edit** to change the account password. To delete the user account, click **Remove** button.

A screenshot of a 'User Setup' dialog box. It has a title bar 'User Setup'. Below the title bar, there are three labels: 'Username:', 'Password:', and 'Confirm:'. Each label is followed by a text input field. The 'Username' field contains the text 'guest'. The 'Password' and 'Confirm' fields are empty. At the bottom right of the dialog box, there is an 'OK' button.

User Setup

Username: guest

Password:

Confirm:

OK

[Note]

1. The password can't be empty, otherwise, user are not able to login successfully.
2. Please don't use special symbols as user name such as *, %, \$, &.

System > Network Setting > Setting

- **Device Name:** Used to name the IP camera to search more easily for this specific one among all connected IP cameras.

The screenshot displays the AVer IP camera's web management interface. On the left is a sidebar with a 'Preview' section and a 'System' menu. The 'Network Setting' option is highlighted. The main area shows the 'Setting' tab for network configuration. Under 'Network Type', 'Static' is selected. The following fields are populated: IP Address (192.168.201.71), Subnet Mask (255.255.255.0), Gateway (192.168.201.254), Primary DNS (168.95.1.1), and Secondary DNS (168.95.192.1). The 'PPPoE' section has empty fields for Username, Password, and Confirm Password. There is a checkbox for 'Send mail after dialed' which is currently unchecked, and a 'Subject' field with the text 'PPPoE From IP Camera'. An 'Apply' button is located at the bottom right of the configuration area.

- **Network Type:** IP camera supports DHCP, static IP and PPPoE. After completed all settings, click **Apply** to save the configuration.
 - **DHCP:** Using DHCP, IP camera will get all the network parameters from DHCP server automatically.
 - **Static IP:** Please enter the IP address, subnet mask, gateway, Primary DNS, and Secondary DNS.
 - **PPPoE:** Enter the **Username**, **Password** and re-enter Password in **Confirm Password** for the ADSL connection. And then click **Apply** to save the configuration.

System > Network Setting > Sever

Used to send out the video via Email or FTP, or to save on NAS.

The screenshot shows the AVer system configuration interface. The left sidebar contains a menu with 'Preview', 'System', 'General', 'User Management', 'Network Setting' (highlighted), 'Advance', 'Image', 'Video Stream', 'Audio', 'SD Card', 'Event', and 'Status Information'. The main area is titled 'Setting' and has tabs for 'Server', 'DDNS', 'Other 1', 'Other 2', and 'IPv6'. The 'Server' tab is active, showing three sections: 'Mail Setting', 'FTP Setting', and 'NAS Settings'. The 'Mail Setting' section includes fields for 'Login Method' (set to 'Account'), 'Bcc Mail', 'Sender Email Address', 'Recipient Email Address', 'Mail Server', 'Port' (set to 25), 'Account Name', and 'Password'. There are also radio buttons for 'Secure Connect' (TLS and SSL). The 'FTP Setting' section includes fields for 'FTP Server', 'Port' (set to 21), 'Account Name', 'Password', 'Path' (set to '/'), and 'Create the folder' (set to 'Yes'). The 'NAS Settings' section includes fields for 'Location', 'Workgroup', 'Create the folder' (set to 'Yes'), and 'Account Name' and 'Password'. An 'Apply' button is at the bottom right. The bottom status bar shows 'Login IP: 192.168.0.1', 'Bandwidth: ---- Kb/s', 'FW Version: V1.0.00', and a 'Logout' button.

■ **Mail Setting:** Used to send out the video via Email.

- Login Method:** Click drop-down list to select the method to login Email server – “**Account**” or “**Anonymous**”.
- Enter necessary information in “**Bcc Mail**”, “**Sender Email Address**”, “**Recipient Email Address**”, “**Mail Server**”, “**Mail Server Port**”, “**Account Name**”, and “**Password**” columns.
- Click “**Apply**” to save the configuration.

■ **FTP Setting:** Used to send out the video to FTP server.

- Enter necessary information in “**FTP Server**”, “**Account Name**”, “**Password**”, and “**Path**” columns.
- Port:** Select the FTP server port.
- If the user wants to create a new folder on the FTP server to save the video file, select “**Yes**” under the “**Create the folder**”.
- Mode:** Select the FTP transmission mode.
- Click “**Apply**” to save the configuration.

- **NAS Settings:** Used to send out the video to NAS server.
 - Enter necessary information in “**Location**”, “**Workgroup**”, “**Account Name**” and “**Password**” columns.
 - If the user wants to create a new folder on the NAS server to save the video file, select “**Yes**” under the “**Create the folder**”.
 - Click “**Apply**” to save the configuration.

System > Network Setting > DDNS

The IP camera supports DDNS (Dynamic DNS) service.

- Select “**Enabled DDNS**” to enable DDNS function.
- Enter the **Domain Name**, **Account Name**, and **Password** that the user has registered on the DDNS service provider in the appropriate columns.
- Enter the IP refreshing time period in the “**Schedule Update**” column.
- Click “**Apply**” to save the configuration.

[Note] If you set up schedule update to occur too frequently, the IP may be blocked. In general, performing schedule update once a day (1440 minutes) is recommended.

■ Status

- Common warning message:

Updating!

Failed(1), Please check your DNS setting.

Failed(2), Please check your internet connection.

Failed(3), Please check your internet connection.

Failed(6), receiving data failure

- Warning message from different service provider:

✧ Server Provider : dyndns.org

Failed(4), Please check the Dyndns.org.

Error : The system parameter given is not valid.

Error : No user agent was specified.

Error : The username and password pair do not match a real user.

Error : An option available only to credited users was specified.

Error : Not in the form hostname.domain.org or domain.com.

Error : The hostname specified does not exist.

Error : Not under the username specified.

Error : Too many or no hosts specified in an update.

Error : The hostname specified is blocked for update abuse.

Error : DNS error encountered.

Error : DNS Server Error Conditions.

✧ Server Provider : ddns.camddns.com(TW)

Failed(5), The name has already been registered.

✧ Server provider : ddns.ipddn.com(HK)

Failed(5), The name has already been registered

✧ Server provider : www.3322.org.

Failed(4), Please check the www.3322.org.

System > Network Setting > Other 1

The screenshot shows the AVer web interface for network settings. The 'Other 1' tab is selected, displaying the following configuration options:

- HTTP Port:** 80
- HTTPS Port:** 443
- UPnP Support:** ☒ Yes ☐ No
- UPnP Port Forwarding:** ☒ Yes ☐ No
- External HTTP Port:** 80
- External HTTPS Port:** 443
- External RTSP Port:** 554
- RTSP Server:** ☒ Yes ☐ No
- RTSP Port:** 554
- RTP Start Port:** 5000 [1024..9997]
- RTP End port:** 9000 [1027..10000]
- ONVIF:** ☒ v1.02 ☐ v1.01 ☐ Disabled
- Security:** ☒ Yes ☐ No
- RTSP Keepalive:** ☒ Yes ☐ No

The sidebar on the left includes sections for 'Preview', 'System' (General, User Management, Network Setting, Advance, Image, Video Stream, Audio, SD Card), 'Event', and 'Status Information' (Login IP: 192.168.0.1, Bandwidth: ---- Kb/s, FW Version: V1.0.00, Logout).

User may need to assign different port to avoid conflict when setting up IP assignment. Click **Apply** to save the configuration.

- **HTTP Port:** setup web page connecting port and video transmitting port (Default: 80)
- **HTTPS Port:** AVer IP Camera supports encrypted browsing using HTTPS. This is configured on the System > Advance > HTTPS
- **UPnP Support:** This IP camera supports UPnP, if this service is enabled on your computer, the camera will automatically be detected and a new icon will be added to “My Network Places.”
[Note] UPnP must be enabled on your PC.
Please follow the procedure to activate UPnP.
 1. Open the **Control Panel** from the Start Menu.
 2. Select **Add/Remove Programs**.
 3. Select Add/Remove Windows Components and open Networking Services section.
 4. Click **Details** and select **UPnP** to setup the service.
 5. The IP device icon will be added to “**My Network Places**”.
 6. User may double click the IP device icon to access IE browser.
- **UPnP Port Forwarding:** If the IP camera is set up behind the firewall, please select YES to enable it.
- **RTSP Server:** Enable/disable RTSP function. The Real Time Streaming Protocol (RTSP) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers.
- **RTSP Port:** setup port for RTSP transmitting (Default: 554)

- **RTP Start and End Port:** in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.
- **ONVIF:** User can enable ONVIF standard and select the ONVIF version or disable it.
- **Security: Yes** is required account and password to connect with this IP camera through ONVIF protocol. **No** is not required account and password to connect. (Make sure the NVR system supports ONVIF v1.02.)
- **RTSP Keepalive:** To keep connection until remote site disconnects it.

System > Network Setting > Other 2

Multicast Setting (based on the RTSP Server): User can setup two streaming based on the RTSP Server.

The screenshot shows the AVer network configuration web interface. The left sidebar contains a menu with 'System' selected, and sub-items like 'General', 'User Management', 'Network Setting' (highlighted), 'Advance', 'Image', 'Video Stream', 'Audio', and 'SD Card'. Below the menu is a 'Status Information' section showing 'Login IP: 192.168.0.6', 'Bandwidth: ----- K/s', and 'FW Version: V1.0.02'. The main content area has tabs for 'Setting', 'Server', 'DDNS', 'Other 1', 'Other 2' (selected), and 'IPv6'. Under the 'Other 2' tab, there are two sections for 'Multicast Streaming'. 'Multicast Streaming1' has IP Address: 234.5.6.78, Port: 6000, and TTL: 15. 'Multicast Streaming2' has IP Address: 234.5.6.79, Port: 6001, and TTL: 15. Below these are 'Bonjour' and 'LLTD' sections. 'Bonjour' has radio buttons for 'Enabled' (selected) and 'Disabled', and a 'Bonjour Name' field with the value 'IP_Camera' and '@00:18:1A:0C:1D:E0'. 'LLTD' has radio buttons for 'Enabled' (selected) and 'Disabled'. An 'Apply' button is at the bottom right.

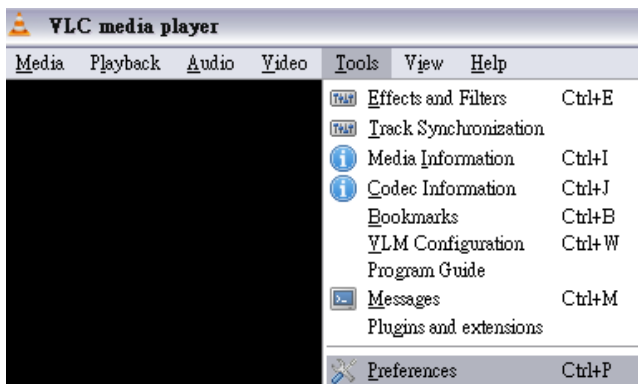
Multicast operation example:

The application is to get the multicast streaming in the LAN environment. Basically, the users operate VLC player, and then you can get the multicast streaming from IP camera.

Please follow the steps to obtain the multicast streaming in the following steps:

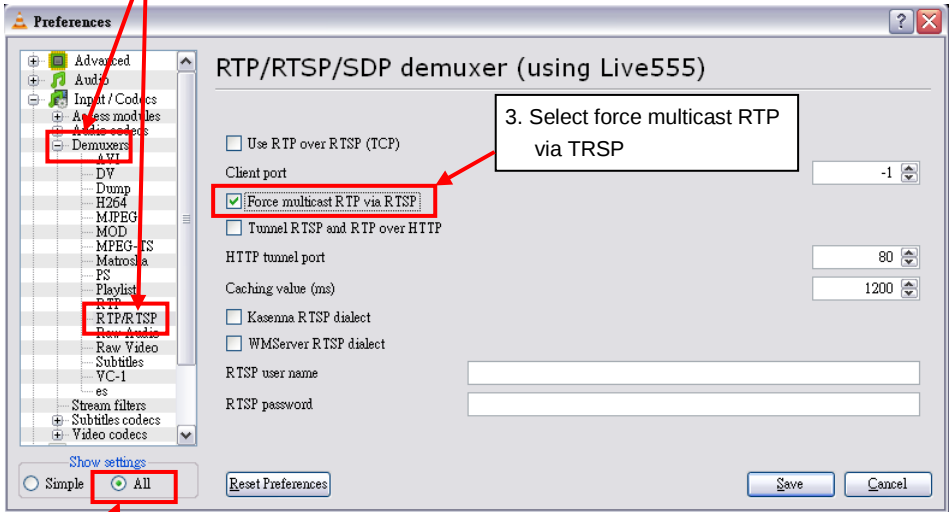
Step 1:

1. Implement VLC player (please download from the internet)
2. Select /tools/preferences



Step 2:

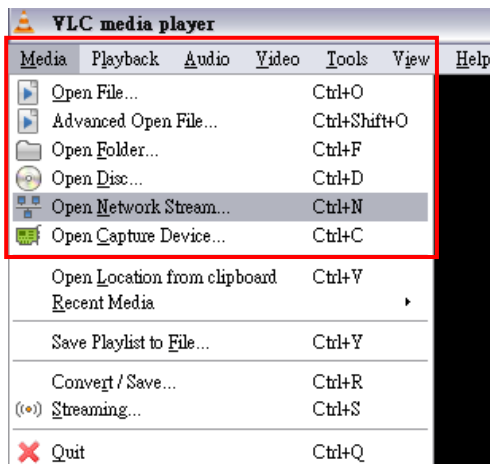
2. Select Demuxers and
RTP/RTSP



1. Select all

Step 3:

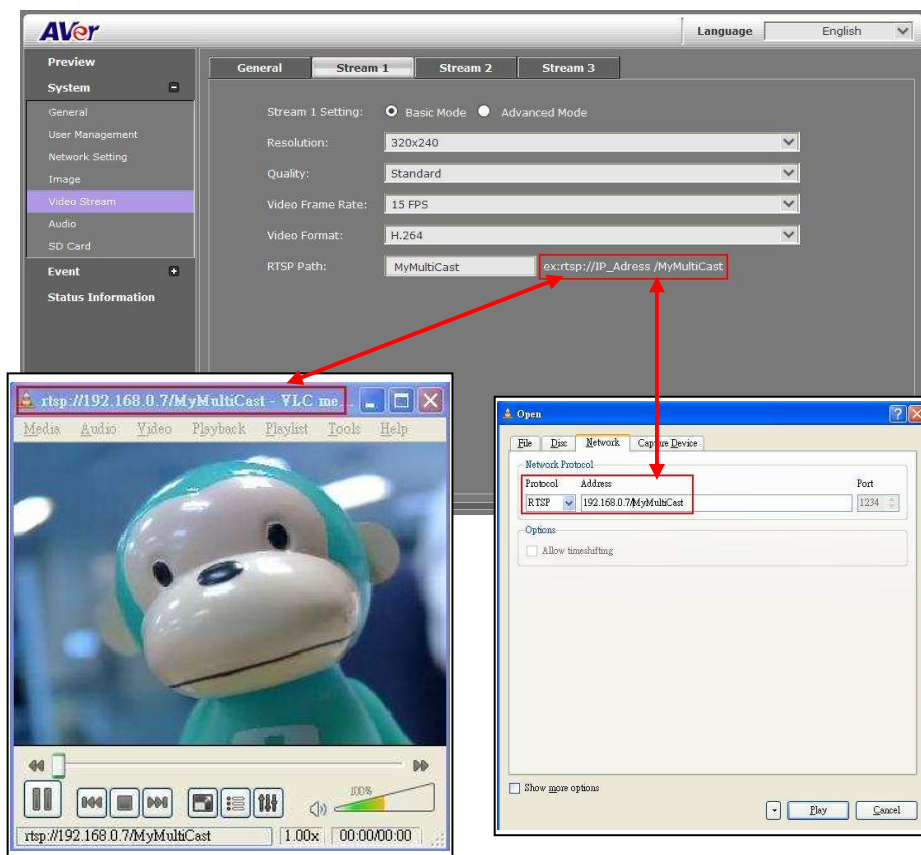
Select Media/open network stream



Step 4:

Input **rtsp://[IPCAM Address] / [RTSP Path]**

The URL address should be the same as the RTSP path in Video Stream (System-->Video Stream)



[Notice]

- a. If the received image is not from the required IP camera, please adjust the value. (Change either IP Address or Port number)

The screenshot shows the AVer network settings interface. The left sidebar contains a menu with 'Network Setting' selected. The main area has tabs for 'Setting', 'Server', 'DDNS', 'Other 1', 'Other 2', and 'IPv6'. Under the 'Setting' tab, there are sections for 'Multicast Streaming1', 'Multicast Streaming2', 'Bonjour', and 'LLTD'. The 'Multicast Streaming1' section has fields for 'IP Address' (234.5.6.78), 'Port' (6000), and 'TTL' (15). The 'Multicast Streaming2' section has fields for 'IP Address' (234.5.6.79), 'Port' (6001), and 'TTL' (15). The 'Bonjour' section has radio buttons for 'Enabled' and 'Disabled', and a 'Bonjour Name' field with the value 'IP_Camera'. The 'LLTD' section has radio buttons for 'Enabled' and 'Disabled'. At the bottom right is an 'Apply' button. The bottom status bar shows 'Login IP: 192.168.0.6', 'Bandwidth: ----- Kb/s', 'FW Version: V1.0.02', and a 'Logout' button.

- b. If the Multicast stream you use doesn't support RTSP Keepalive, please select NO.

The screenshot shows the AVer network settings interface. The left sidebar contains a menu with 'Network Setting' selected. The main area has tabs for 'Setting', 'Server', 'DDNS', 'Other 1', 'Other 2', and 'IPv6'. Under the 'Setting' tab, there are sections for 'HTTP Port', 'HTTPS Port', 'UPnP Support', 'UPnP Port Forwarding', 'External HTTP Port', 'External HTTPS Port', 'External RTSP Port', 'RTSP Server', 'RTSP Port', 'RTP Start Port', 'RTP End Port', 'ONVIF', 'Security', and 'RTSP Keepalive'. The 'RTSP Server' section has radio buttons for 'Yes' and 'No'. The 'RTSP Port' field has the value 554. The 'RTP Start Port' field has the value 5000. The 'RTP End Port' field has the value 9000. The 'RTSP Keepalive' section has radio buttons for 'Yes' and 'No'. At the bottom right is an 'Apply' button. The bottom status bar shows 'Login IP: 192.168.0.1', 'Bandwidth: ----- Kb/s', 'FW Version: V1.0.00', and a 'Logout' button.

- **Bonjour:** This function enables MAC systems to link to this IP Camera. Please key in the name here.(Safari supports Bonjour protocol)
- **LLTD:** If your PC supports LLTD, enable this function then you can check the connection status, properties, and device position (like IP address) of this IP Camera in the network map. In the computer running Windows Vista or Windows 7, you can find LLTD through the path **Start → Control Panel→ Network and internet→ Network and Sharing Center→ Click “ See full map”**.

The screenshot displays the AVer network configuration web interface. The left sidebar contains a menu with options: Preview, System, General, User Management, Network Setting (highlighted), Advance, Image, Video Stream, Audio, SD Card, Event, and Status Information. The main content area is titled 'Setting' and includes tabs for Server, DDNS, Other 1, Other 2, and IPv6. Under the 'Setting' tab, there are sections for 'Multicast Streaming1', 'Multicast Streaming2', 'Bonjour', and 'LLTD'. The 'Multicast Streaming1' section shows IP Address: 234.5.6.78, Port: 6000, and TTL: 15. The 'Multicast Streaming2' section shows IP Address: 234.5.6.79, Port: 6001, and TTL: 15. The 'Bonjour' section has radio buttons for 'Enabled' (selected) and 'Disabled', and a 'Bonjour Name' field with the value 'IP_Camera' and a MAC address '@00:18:18:1A:0C:1D:EC'. The 'LLTD' section has radio buttons for 'Enabled' (selected) and 'Disabled'. At the bottom right of the main area is an 'Apply' button. The bottom status bar shows 'Login IP: 192.168.0.6', 'Bandwidth: ---- Kb/s', 'FW Version: V1.0.02', and a 'Logout' button.

Setting	Server	DDNS	Other 1	Other 2	IPv6
Multicast Streaming1					
IP Address:		234.5.6.78			
Port:		6000			
TTL:		15			
Multicast Streaming2					
IP Address:		234.5.6.79			
Port:		6001			
TTL:		15			
Bonjour					
☒ Enabled ☐ Disabled					
Bonjour Name:		IP_Camera @00:18:18:1A:0C:1D:EC			
LLTD					
☒ Enabled ☐ Disabled					
Apply					

Login IP: 192.168.0.6
 Bandwidth: ---- Kb/s
 FW Version: V1.0.02
 Logout

System > Advance > HTTPS

AVer

Preview

System

General

User Management

Network Setting

Advance

Image

Video Stream

Audio

SD Card

Event

Status Information

Login IP192.168.0.1

Bandwidth----- Kb/s

Fw VersionV1.0.00

Logout

LanguageEnglish

HTTPS

SNMP

Access list

QoS/DSCP

Created Request

SubjectC=TW , ST= , L= , O= , OU= , CN=

Date2012/Jun/17 17:05:07

Content

Remove

Installed Certificate

SubjectC=TW , ST= , L= , O= , OU= , CN=

DateMar 14 08:45:42 2038 GMT

Content

Remove

Connection Types

Http&Https

HTTPS (Hypertext Transfer Protocol Secure): Https can help protect streaming data transmission over the internal on the higher security level. You can select the connection type. "Https" means user cannot connect the camera via Http protocol. The HTTPS path will be: "https :/(IP address)"/. If you select "Http & Https", both the Http and HTTPS path can be used to access the camera

Connection Types

Http

Http

Https

Http&Https

Remove the existing setting: Before setting new request, please remove old secure identification. Select "Http" connection type and click "Remove".

Created Request

SubjectC=TW , ST= , L= , O= , OU= , CN=

Date2012/Jun/17 17:05:07

Content

Remove

Installed Certificate

SubjectC=TW , ST= , L= , O= , OU= , CN=

DateMar 14 08:45:42 2038 GMT

Content

Remove

Created Request: Setting the secure identification and apply it.

Create Request	Country:	
	State or province:	
	Locality:	
	Organization:	
	Organizational Unit:	
	Common Name:	
		Apply

There are two ways to set Certificate- Install Signed Certificate or Create Self-Signed Certificate.

Install Signed Certificate	Signed Certificate:		Browse
Apply			
Create Self-Signed Certificate	Country:		
	State or province:		
	Locality:		
	Organization:		
	Organizational Unit:		
	Common Name:		
	Validity:		Days
Apply			

System > Advance > SNMP

SNMP (Simple Network Management Protocol) provides a simple framework for administering networked hardware. To manage the IP camera, you have to prepare a MIB browser or similar tools first. SNMPv1, SNMPv2c, and SNMPv3 can be enabled simultaneously.

The screenshot shows the Aver IP camera web interface. The sidebar on the left contains navigation links: General, User Management, Network Setting, Advance (highlighted), Image, Video Stream, Audio, SD Card, Event, and Status Information. The main content area has tabs for HTTPs, SNMP, Access list, and QoS/DSCP. The SNMP tab is active, showing the 'SNMP Setting' section. It includes checkboxes for enabling SNMPv1, SNMPv2c, and SNMPv3. For each protocol, there are fields for 'Write Community', 'Read Community', 'Write Security Name', 'Read Security Name', 'Authentication Type' (MD5 or SHA), and 'Encryption Type' (DES or AES). There are also fields for 'Authentication Password' and 'Encryption Password'. At the bottom, there are options for 'SNMPv1/v2c Trap' and 'Trap Address', and a 'Trap Event' section with checkboxes for 'Network Disconnected', 'V3 Authentication Failed', 'Cold Start', and 'Setting Changed'. An 'Apply' button is at the bottom right.

- **SNMPv1 and SNMPv2:** The term "Community name" in SNMPv1 and SNMPv2c can be roughly regarded as key. The person who has the community name has the authority to read or edit the information of IP camera via SNMP. Check the box to enable SNMPv1 or SNMPv2c protocol, and specify the community name for write (read and write) and read (read-only). The user who uses read community name to access the IP camera cannot modify any data of this camera.

This is a close-up of the 'SNMP Setting' section for SNMPv1 and SNMPv2c. It shows two checkboxes for enabling the protocols. Below them are two text input fields: 'Write Community' with the value 'write' and 'Read Community' with the value 'public'.

- **SNMPv3:** For data security reason, the authentication and encryption assurances are added when developing SNMPv3. The user has to give not only the security name (the same as "community name" in v1&v2c, or sometimes we call it "context name") but the password in order to access the IP camera. Please set security name, authentication type, authentication password, encryption type, encryption password of write and read respectively. The password must be 8–64 bits in length. Different from in SNMPv1 and v2c, the user have to create a account when using SNMPv3. In the account parameters, key in the security name and password you set in the camera to get accessing.

The image shows a configuration window titled "SNMPv3". It contains two sections for "Write" and "Read" security. Each section has fields for "Security Name", "Authentication Type" (MD5 or SHA), "Authentication Password", "Encryption Type" (DES or AES), and "Encryption Password". In the "Write" section, "Security Name" is "write", "Authentication Type" is MD5, and "Encryption Type" is DES. In the "Read" section, "Security Name" is "public", "Authentication Type" is MD5, and "Encryption Type" is DES.

- **SNMPv1/v2cTrap:** Trap is a mechanism that allows the managed device to send messages to manager instead of waiting passively for polling from the manager. Specify the trap event. When those events happen, the camera will send the ring message to the Trap Address, which is usually the manager's IP address. Trap Community means the community that can receive the trap message.
 - **Cold Start:** The camera starts up or reboots.
 - **Setting changed:** The SNMP setting is changed.
 - **Network Disconnected:** The network connection was broken down. (The camera will send trap messages after the network being connected again)
- **V3 Authentication Failed:** A SNMPv3 user account tries to get authentication but failed. (Due to incorrect password or community)
- **SD Insert / Remove:** A microSD/SDHC card is inserted or removed.

The image shows a configuration window titled "SNMPv1/v2c Trap". It contains three fields: "Trap Address", "Trap Community" (set to "public"), and "Trap Event". The "Trap Event" section has four checkboxes: "Cold Start", "Setting Changed", "Network Disconnected", and "V3 Authentication Failed".

System > Advance > Access list

You can deny an IP address or a range of IP address so that they cannot access the IP camera. Tick the "enable" box, key in the IP address you want to deny, select "deny" then click "Add" to add it to the list. You can also choose to deny a range of IP address but allow one or several IP address of them. Take the picture above for example, IP address 192.168.50.151~161 is not allowed to connect to the camera, but only 192.168.50.159 can access. Note: In the list "allow" condition must be ranked before "deny" condition. For example, if we exchange the sequence, set "Deny: 192.168.50.151 ~ 192.168.50.161" for the first item and "Allow: 192.168.50.159" for the second item in the list, the IP "192.168.50.159" turns out to be denied by the camera because the "deny" condition has the priority according to our ranking way.

Aver

LanguageEnglish

Preview

System

General

User Management

Network Setting

Advance

Image

Video Stream

Audio

SD Card

Event

Status Information

Login IP192.168.201.1

Bandwidth-----Kb/s

FW VersionV1.0.00

HTTPsSNMPAccess listQoS/DSCP

Enable ip address filter

IPv4 Setting

allowdeny

add

address: single

IPv4 List

No.	IP Address	Filter	Action
1			remove
2			remove
3			remove
4			remove
5			remove
6			remove
7			remove
8			remove
9			remove
10			remove

Allow admin IP address always access this device

Admin IP Address:

Apply

System > Advance > QoS/DSCP

QoS/DSCP (Quality of Server/Differentiated Services Code-point) specifies a simple mechanism for classifying and managing network traffic and provide QoS on IP networks. DSCP is a 6-bit in the IP header for packet classification purpose. The number 0~63 for Live Stream, Event / Alarm, and Management represent the ratio that the bandwidth is divided. For example, if you set 5, 10, and 20 for the three items, then the bandwidth of the three items is 5:10:20. There is no difference between setting "0, 0, 0" or "63, 63, 63" because under these two settings the three items will get equal bandwidth (1/3).

HTTPS	SNMP	Access list	QoS/DSCP
QoS/DSCP Setting			
☒ Enable QoS/DSCP			
Live Stream:		0	(0~63)
Event / Alarm:		0	(0~63)
Management:		0	(0~63)
Apply			

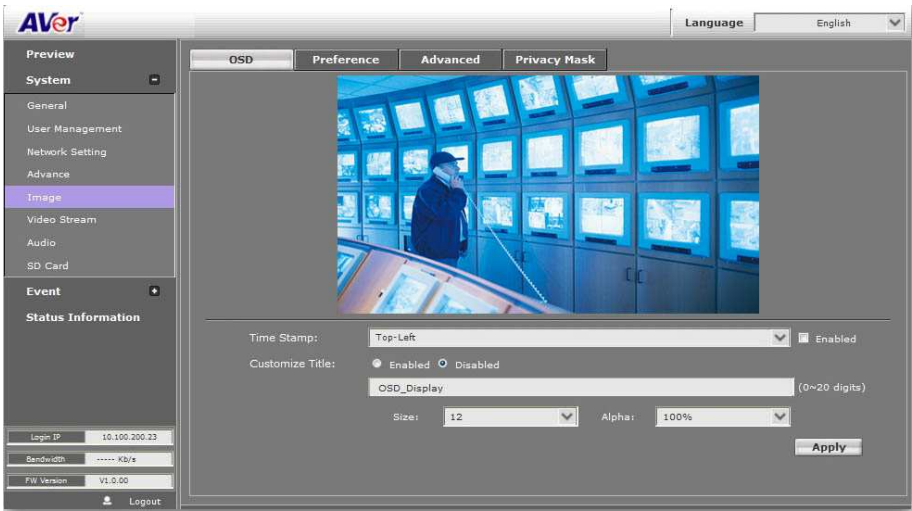
System > Image

Admin and operator levels can adjust the Image setting. There are 5 tabs: OSD, Preference, Exposure, Advanced, and Privacy Mask

System > Image> OSD

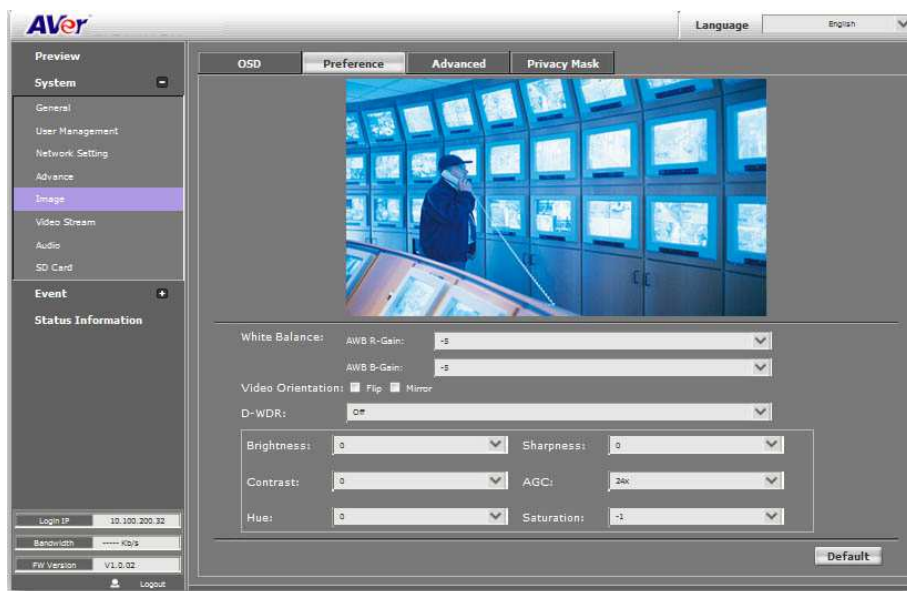
In OSD tab, you can enable/disable overlaying time stamp and text title. After completing the setting, click Save to apply the new setting and Cancel to keep the new setting.

- **Time Stamp:** Mark **Enable** check box and select a position where date and time stamp / text to display on video screen.
- **Customize Title:** Click **Enabled** can adjust the OSD contents which are including **Size** and **Alpha** of text.



System > Image > Preference

In Preference tab, you can tune the IP camera white balance, change the video orientation, and adjust the brightness and contrast.



- **White Balance:** Adjust white balance value.
- **Video Orientation:** To **Flip** or **Mirror** the video on screen.
- **D-WDR:** This function is able to reduce the contrast in the view to avoid the dark zones resulting from over and under exposure.
- Adjust "**Brightness**", "**Contrast**", "**Hue**", "**Saturation**" to get clear video.

System > Image> Advanced

Click **Default** button will back to factory default setting.

The screenshot shows the AVer camera web interface. The top bar includes the AVer logo and a Language dropdown set to English. The left sidebar contains navigation links: Preview, System, General, User Management, Network Setting, Advance, Image (highlighted), Video Stream, Audio, SD Card, Event, and Status Information. The main content area is titled 'Advanced' and features a live video feed of a person in a control room. Below the feed, the following settings are visible:

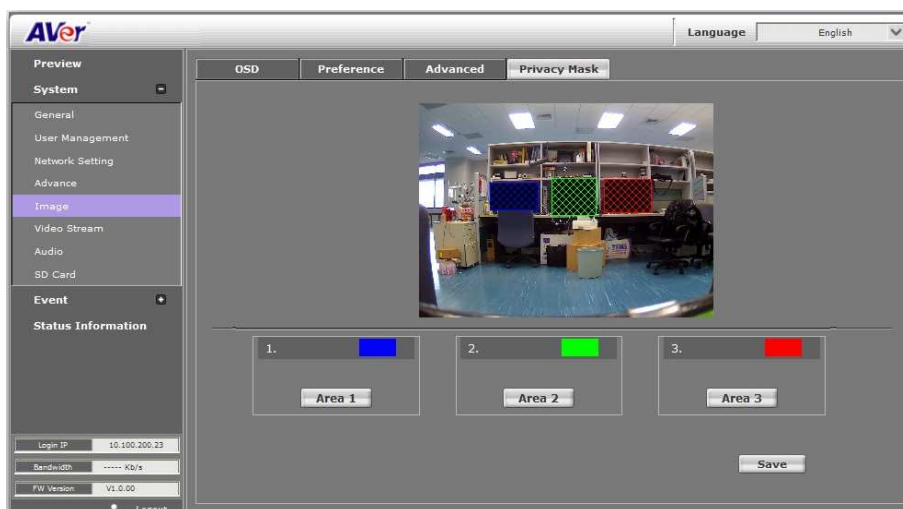
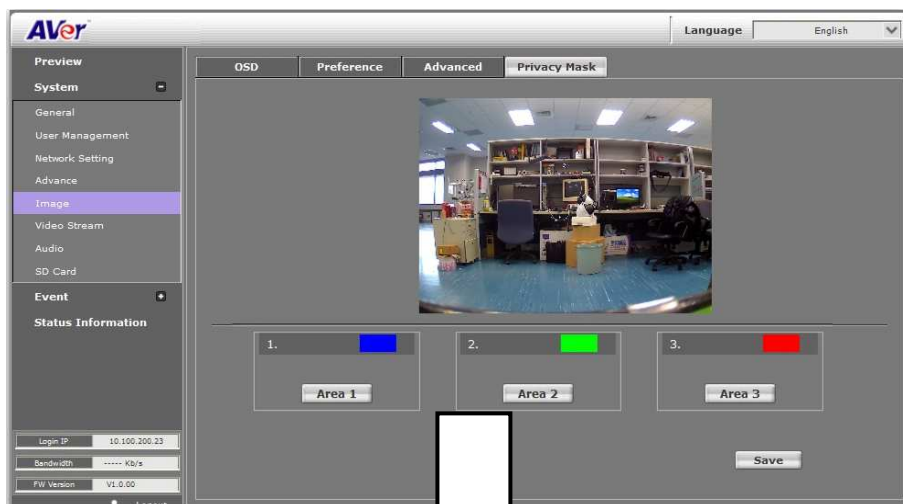
- Sense-Up:** 1/15
- Shutter Time:** Outdoor
- IR Cut Filter:** ☐ Color Mode, ☒ Light Sensor Mode, ☐ B/W Mode, ☐ Schedule Mode (Night from 17:00 to 05:00), ☐ DI Trigger Mode. A **Save** button is next to the Schedule Mode.
- Denoise:** 3D: 5, 2D: 3
- Day Lux:** 7 lux
- Night Lux:** 3 lux
- Current Lux:** over 55 lux

At the bottom right, there are **Refresh** and **Default** buttons. The bottom status bar shows Login IP: 192.168.107.130, Bandwidth: ---- Kb/s, FW Version: V1.0.03, and a Logout button.

- **Sense-UP:** The main purpose of sense-up is to provide a camera technology that does not rely on artificial light to see in very low light conditions. By The shutter stays open longer, allowing more light into the camera and seeing better in low light. This setting altogether when there is a moving object in the image and the faster the object moves, the worse the image appears (blurriness).
- **Shutter Time:** Adjust the shutter time level to get the best image quality.
- **IR Cut Filter:** Select the IR cut filter mode – Color Mode, Light Sensor Mode, B/W Mode, Schedule Mode, or DI Trigger Mode. When you choose "Light Sensor Mode", the image will be turned to black and white at night in order to keep clear. To set light sensor mode, appoint a lux standard of switching D/N here. Current lux value is provided for reference. Under "Times Mode" the switch time of Color / Black and white is according to the given time. You can also control it by choosing "Color" or "B/W".
- **Denoise:** This function is able to filter the noise and blur from the image and show a clearer view. "3D" and "2D" are two different de-noising approaches. 3D denoise analyzes successive pictures to detect the noise places while 2D denoise analyzes only single picture.

System > Image> Privacy Mask

For the security purpose, there are three areas can be setup for privacy mask. Click Area # (Area 1, Area 2, Area 3) button first and drag a area on the image screen. Then, click **Save** button to save the setting.



System > Video Stream > General

- **Input Resolution:** Select the video resolution that is the maximum resolution supported in Stream 1 and Stream 2.
- **Video System:** Select the video format.
- **TV Output:** Select the video format of TV Output. (depending on different models)

Aver

LanguageEnglish

Preview

System

General

User Management

Network Setting

Advance

Image

Video Stream

Audio

SD Card

Event

Status Information

Login IP10.100.200.23

Bandwidth----- K/s

FW VersionV1.0.01

Logout

GeneralStream 1Stream 2Stream 3

Video System:NTSC

TV Output:Auto

Apply

System > Video Stream > Stream1

■ Basic Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 5 resolutions can be chosen -- 1920x1080, 1280x720, 640x480, 320x240, 176x144.
- **Profile:** Profiles are different compression way of H.264. High profile provides better coding efficiency. Note that some devices do not support every profile. For example, iPhone4 only supports Main profile.
- **Quality:** There are 5 levels to adjust – Best, High, Standard, Medium, and Low. The higher the quality is, the bigger the file size is. Also not good for internet transmitting.
- **Video Frame Rate:** The video refreshing rate per second.
- **Video Format:** H.264 or JPEG.
- **RTSP Path:** It's a URL address.

The screenshot shows the AVer system configuration interface. On the left is a sidebar with a menu: Preview, System, General, User Management, Network Setting, Advance, Image, Video Stream (highlighted), Audio, SD Card, Event, and Status Information. The main area is titled 'Stream 1' and contains the following settings:

- Stream 1 Setting:** Basic Mode (selected), Advanced Mode
- Resolution:** 1920x1080
- Profile:** Baseline
- Quality:** Best
- Video Frame Rate:** 30 FPS
- Video Format:** H.264
- RTSP Path:** v1, exrtsp://IP_Address /v1

At the bottom right of the main area is an 'Apply' button. At the bottom of the sidebar, there are fields for Login IP (192.168.201.1), Bandwidth (---- KB/s), FW Version (V1.0.00), and a Logout button.

■ Advanced Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 5 resolutions can be chosen -- 1920x1080, 1280x720, 640x480, 320x240, 176x144.
- **Profile:** Profiles are different compression way of H.264. High profile provides better coding efficiency. Note that some devices do not support every profile. For example, iPhone4 only supports Main profile.
- **Rate Control:** There are CBR (Constant Bit Rate) and VBR (Variable Bit Rate) to use.
 - ✓ **CBR:** 32Kbps~8Mbps (the higher the CBR is, the better the video quality is).

✓ **VBR:** 1(Low) ~10(High) – Compression rate, the higher the compression rate, the better the picture quality is; vise versa. The balance between VBR and network bandwidth will affect picture quality. Please carefully select the VBR rate to avoid picture breaking up or lagging.

- **Video Frame Rate:** The video refreshing rate per second.
- **GOP Size:** It means "**Group of Pictures**".
- **Video Format:** H.264 or JPEG
- **RTSP Path:** It's a URL address

The screenshot displays the AVer system configuration web interface. On the left is a sidebar menu with options: Preview, System (selected), General, User Management, Network Setting, Advance, Image, Video Stream (highlighted), Audio, SD Card, Event, and Status Information. The main area is titled 'Stream 1' and contains the following settings:

- Stream 1 Setting: ☒ Basic Mode ☐ Advanced Mode
- Resolution: 1920x1080
- Profile: Baseline
- Rate Control: ☐ CBR ☒ VBR
- Video Bitrate: 3Mbps
- Video Frame Rate: 30 FPS
- GOP Size: 1 X FPS (with a note 'GOP = 30' to the right)
- Video Format: H.264
- RTSP Path: v1 (with a placeholder 'ex:rtsp://IP_Address /v1')

An 'Apply' button is located at the bottom right of the settings area. At the bottom of the sidebar, there are status fields: Login IP (192.168.201.1), Bandwidth (----- Kbit/s), FW Version (V1.0.00), and a Logout button.

System > Video Stream > Stream2

■ Basic Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 5 resolutions can select -- 1920x1080, 1280x720, 640x480, 320x240, 176x144.
- **Profile:** Profiles are different compression way of H.264. High profile provides better coding efficiency. Note that some devices do not support every profile. For example, iPhone4 only supports Main profile.
- **Quality:** There are 5 levels to adjust – Best, High, Standard, Medium, and Low. The higher the quality is, the bigger the file size is. Also not good for internet transmitting
- **Video Frame Rate:** The video refreshing rate per second.
- **Video Format:** H.264 or JPEG
- **RTSP Path:** It's a URL address

The screenshot shows the AVer system configuration interface. On the left is a sidebar with a menu: Preview, System, General, User Management, Network Setting, Advance, Image, Video Stream (highlighted), Audio, SD Card, Event, and Status Information. The main area has tabs for General, Stream 1, Stream 2 (selected), and Stream 3. Under the Stream 2 tab, there are radio buttons for Stream 2 Setting: Basic Mode (selected), Advanced Mode, and Close. Below these are several dropdown menus: Resolution (320x240), Profile (Main), Quality (Standard), Video Frame Rate (30 FPS), and Video Format (H.264). The RTSP Path is set to v2, with a placeholder example: ex:rtsp://IP_Address/v2. An Apply button is at the bottom right. At the bottom of the sidebar, there are status fields: Login IP (192.168.201.1), Bandwidth (---- Kb/s), and FW Version (V1.0.00), along with a Logout button.

■ Advanced Mode

Click **Apply** to save the configuration.

- **Resolution:** There are 5 resolutions can select -- 1920x1080, 1280x720, 640x480, 320x240, 176x144.
- **Profile:** Profiles are different compression way of H.264. High profile provides better coding efficiency. Note that some devices do not support every profile. For example, iPhone4 only supports Main profile
- **Rate Controls:** CBR or VBR
- **Video Bitrate:** Select the bitrate of video.
- **Video Frame Rate:** The video refreshing rate per second.
- **Video Format:** H.264 or JPEG.
- **RTSP Path:** It's a URL address

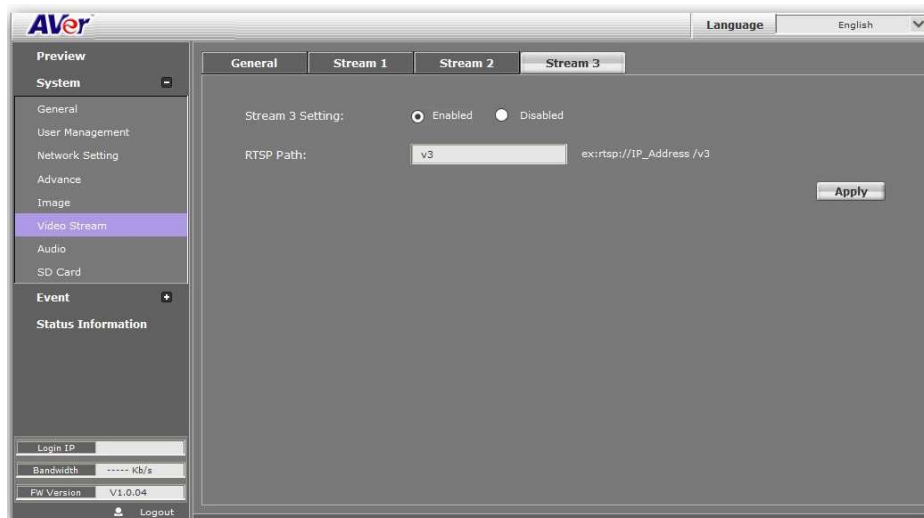
The screenshot displays the AVer software interface. On the left is a sidebar menu with categories: Preview, System (with a minus icon), General, User Management, Network Setting, Advance, Image, Video Stream (highlighted in purple), Audio, SD Card, Event (with a plus icon), and Status Information. The main area has tabs for General, Stream 1, Stream 2 (selected), and Stream 3. Under the Stream 2 tab, the 'Stream 2 Setting' section shows three radio buttons: 'Basic Mode' (selected), 'Advanced Mode' (unselected), and 'Close' (unselected). Below this, several settings are listed with dropdown menus: Resolution (320x240), Profile (Main), Rate Control (radio buttons for CBR and VBR, with CBR selected), Video Bitrate (1Mbps), Video Frame Rate (30 FPS), GOP Size (1 X FPS), and Video Format (H.264). To the right of the GOP Size dropdown, it says 'GOP = 30'. The RTSP Path is shown as 'v2' followed by a text input field containing 'ex:rtsp://IP_Address / 3g'. At the bottom right of the main area is an 'Apply' button. At the bottom of the sidebar, there is a 'Login IP' field showing '192.168.201.1', a 'Bandwidth' field showing '----- Kb/s', a 'Firmware Version' field showing 'V1.0.00', and a 'Logout' button.

- **Close:** To close the stream 2. Click **Apply** to save the configuration.

System > Video Stream > Stream3

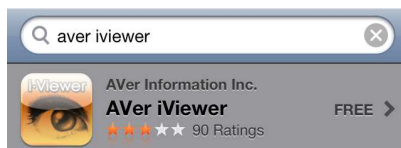
3GPP Streaming is designed for mobile viewing.

- **Stream 3 Setting:** Enable or Disable 3GPP Streaming.
- **3GPP Path:** It's a URL address.



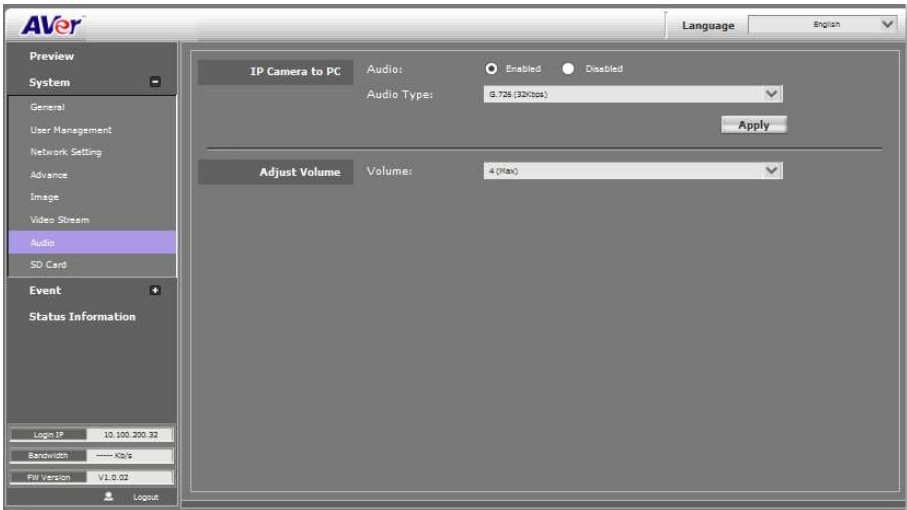
[Note]

1. 3GPP mode video spec: 320x240 resolutions, 15FPS, MPEG4 format. (Audio: AMR)
2. To get the best mobile viewing quality, please download AVeriViewer (AndroidViewer) from the Apple App store or Google Play. iViewer takes video from Stream 1 or Stream 2, not from 3GPP streaming.



System > Audio

IP camera supports 2-way audio (mono). User can send audio from IP camera built-in MIC (depending on different models) to remote site; User can also send audio from remote site to IP camera's external speaker.



- a. IP camera to PC: select “**Enable**” to start this function.
- b. In live video screen, click  button to start chatting. Press again to mute. Click  button to turn on or off the speaker of PC.



[Note] The Audio will not be smooth when enable SD/SDHC card recording function simultaneously.

System > SD Card

The screenshot displays the AVer system's web interface for SD Card management. The sidebar on the left contains the following menu items: Preview, System, General, User Management, Network Setting, Advance, Image, Video Stream, Audio, SD Card (highlighted), Event, and Status Information. The main panel is titled 'SD Card' and includes a 'Language' dropdown set to 'English'. Under 'SD Card documents', it shows 'No SD card'. The 'SD Card Control' section features an 'Auto Deletion' dropdown set to 'Off' with a note '(Keep 1/ 2/ 3/ 4...days)'. The 'Format' section contains a 'Format' button and a warning box stating 'WARNING!!! All File will be deleted!'. An 'Apply' button is located at the bottom right. The bottom status bar displays 'Login IP: 10.100.200.23', 'Bandwidth: ---- Kb/s', 'FW Version: V1.0.00', and a 'Logout' button.

Please insert microSD/SDHC card before use it. Make sure pushing microSD/SDHC card into the slot completely.

[Note] The use of the microSD/SDHC card will affect the operation of the IP camera slightly, such as affecting the frame rate of the video.

Event > Arrangement > Motion

Motion Detection: IP camera allows 3 areas motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD/SDHC card. To set up the motion area 1, click **"Area 1"** button. Using mouse to drag and draw the area. The same operation for area 2 and 3. (The higher the sensitivity value is, the more sensitive to trigger event.)



Event > Arrangement > Preference

The screenshot displays the AVer camera web interface. On the left is a sidebar with a menu: Preview, System, Event, Arrangement (highlighted), Schedule, DI/DO, and Status Information. Below the menu is a status bar showing 'Login IP: 192.168.0.5', 'Bandwidth: ----- K/s', and 'FW Version: V1.0.33'. The main content area has two tabs: 'Motion' and 'Preference' (selected). Under the 'Preference' tab, there is a live video feed of a room. Below the feed are three sections: 'Record File' with 'File Format' set to 'AVI File(with Record Time Setting)', 'Pre Alarm' set to '5 sec', and 'Post Alarm' set to '5 sec'; 'Network Connected' with a 'Save to SD card' checkbox; and 'Network IP Check' with 'IP Check' set to 'Enabled', 'IP Address' set to 'www.google.com', 'Interval' set to '30 sec', and another 'Save to SD card' checkbox. An 'Apply' button is at the bottom right.

Record File:

- **File Format:** IP camera allows 3 different types of recording file to change its record size. When motion/alarm is triggered, there are 3 different types of record mode.
 - AVI File (With Record File Setting)
 - JPEG Files (With Record File Setting), only with MJPEG compression format.
 - Single JPEG (Single File with Interval Setting) (JPEG photo).
- **Pre Alarm and Post Alarm:** Setups for video start and end time when motion detected, I/O, or other devices got triggered.

[Note] Pre/Post Alarm record time is base on record time setting and IP camera built-in Ram memory. Limited by IP camera built-in Ram Memory, When information is too much or video quality set too high, it will cause recording frame drop or decrease on post alarm recording time.

Network Connected: When the network is down, it will save the video to local SD/SDHC card.

[Note] This function is only enabled in wire connection.

Network IP check: When the connection is down, it records the **video** to SD/SDHC card. Make sure the video recording is continuous. To use this function, key in the IP address of the PC which has recording software installed. Enable the function of “**Save to SD card**”, then click “**Apply**”.

[Note] The interval of two video files on SD/SDHC card is fixed with 30 seconds.

Event > Schedule

- **Schedule:** After complete the schedule setup, the camera data will be recorded according to the schedule setup.
- **Snapshot:** After enable the snapshot function; user can select the storage position of snapshot file, the **Interval time** of snapshot and the reserved **File Name** of snapshot.

AVer

LanguageEnglish

Preview

System

Event

Arrangement

Schedule

DI/DO

Status Information

All	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Mon.																								
Tue.																								
Wed.																								
Thu.																								
Fri.																								
Sat.																								
Sun.																								

Schedule Setup.

Snapshot:

☒ Yes☐ No

Snapshot:

☐ E-mail☐ FTP☐ Save to SD card☐ Samba

Interval:

10

Second(s)

File Name:

Snapshot

Apply

Login IP:192.168.0.5

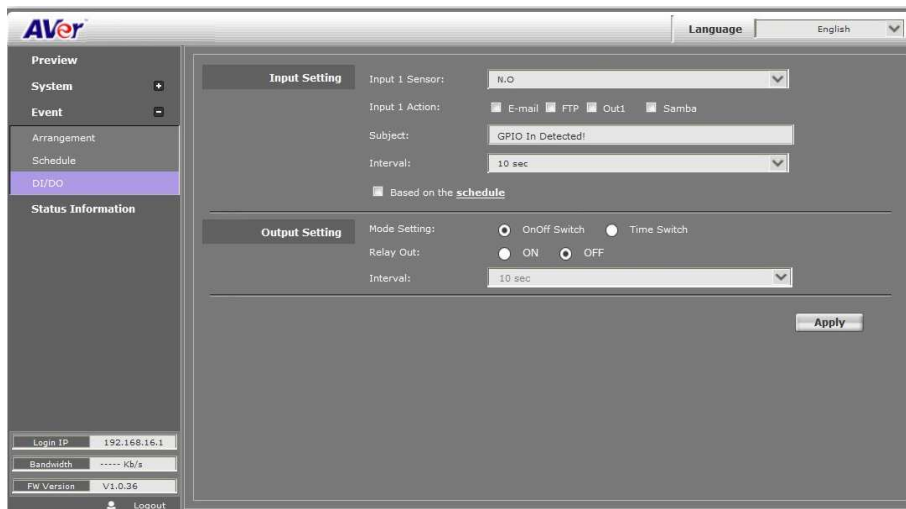
Bandwidth:***** Kb/s

FW Version:V1.0.33

Logout

Event > DI/DO

IP camera supports 1 input/1 output (depending on different models). When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD/SDHC card.



CAUTION!!

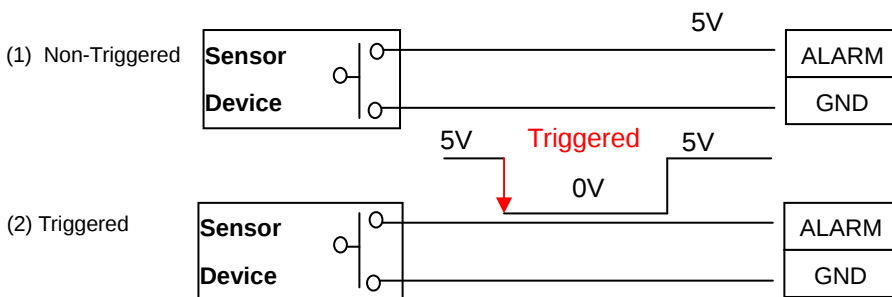
Please connect to propriety relay box to reduce the risk of electric shock & damaged.

Input Setting:

Input 1 sensor: This is to set the relay status while sensor is not yet triggered.

Input 1 action: Send the triggered video clips or photos to the selected method.

Subject: This is the subject while sending files via e-mail.



Output Setting:

Mode setting:

OnOff Switch: Relay status is based on sensor triggered times.

Time Switch: To restore the original relay status after the interval time.

[Note]GPIO pin define please refer to the part of Front / Back plane & I/O port pin assignment.

Ground (G)	ALARM INPUT: Normal: 5V (The voltage differential from ALM_IN pin & Ground) Active: 0V (Short the pin of ALM_IN and Ground pin)
DI	
DO	RELAY OUTPUT: MAX: 50 mA, DV 5V
Ground(G)	

Status Information

Click **Apply** button to save the configuration.

The screenshot shows the AVer configuration web interface. On the left is a sidebar with 'Preview', 'System', 'Event', and 'Status Information' (selected). The main area has two tabs: 'Networking info' and 'Product info'. The 'Networking info' tab shows fields for IP Address (192.168.0.5), MAC Address (00:18:1A:0C:1D:EC), Interface (Ethernet), RTSP 1 Path, RTSP 2 Path, and GPP Path. The 'Product info' tab shows fields for Server Name (IP_Camera), LED Indicator (ON), Company (AVer), Model (SF2111H-DVR), FW Version (V1.0.02), and BuildTime (2012/08/09 16:13:49 CST). There is a 'Status Bar' checkbox and an 'Apply' button at the bottom right. A bottom status bar shows Login IP, Bandwidth, FW Version, and a Logout button.

■ **Networking Info:** Displays network information of the IP camera.

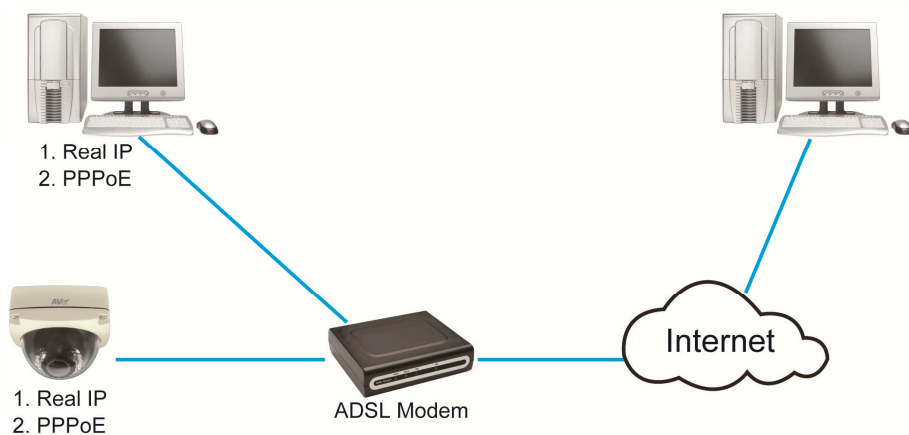
■ **Product Info:**

Server Name: Assigns a name to the IP camera and the name shows on the IP Installer. Also, displays the related information of the IP camera. Mark **Status Bar** to display the Server Name of IP camera on preview interface.

LED indicator: To disable or enable the LED indicator on the IP camera. Only SF2111H-BR/DR/DVR has this function

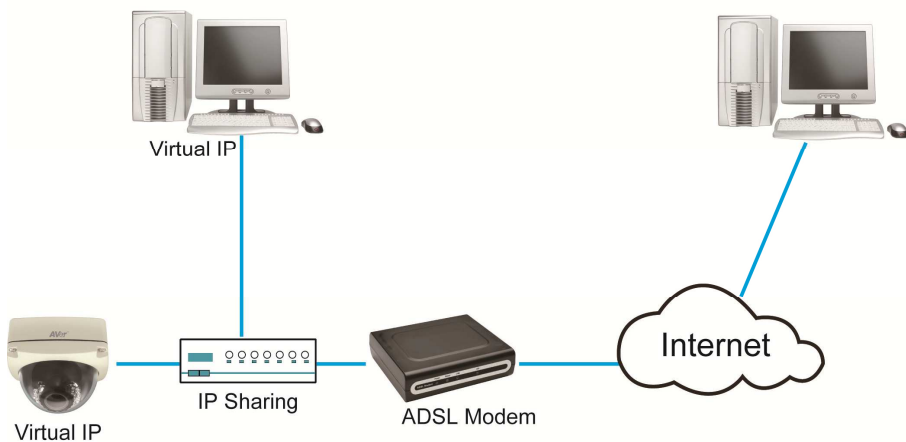
Network Configuration

■ Configuration 1



- a. Internet Access: ADSL or Cable Modem
- b. IP address: More than one real IP
- c. IP camera and PC connect to the internet
- d. For fixed real IP, set up the IP into IP camera and PC. For dynamic IP, start PPPoE.

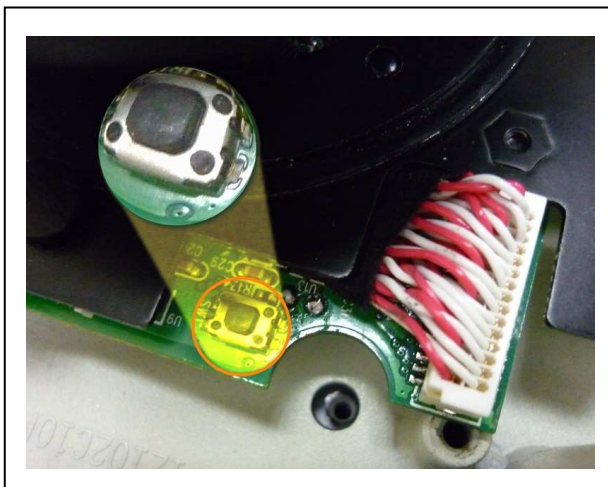
■ Configuration 2



- a. Internet Access : ADSL or Cable Modem
- b. IP address : one real IP
- c. IPcamera and PC connect to the internet
- d. Device needed : IP sharing
- e. Use virtual IP, set up port forwarding in IP sharing.(Please refer to Network Setting→Other 1→UPnP Port Forwarding)

Factory Default

1. To recover the default IP address and password, please follow the following steps.
2. Remove power and Ethernet cable, press and hold the button for 10 sec. Please refer to the picture below.



3. Connect power and Ethernet cable to the camera again. Power on the camera. Don't release the button during the system booting.
4. It will take around 30 seconds to boot the camera.
5. Release the button when camera finishes proceed.
6. Re-login the camera using the default IP (<http://192.168.1.200>) or DHCP, and user name (admin), password (admin).

Troubleshooting

Here are some useful tips on how to solve some common problems.

Problem	Solution
I forgot the account and password for SF2111H-DVR. How can I go back to default setting?	Please refer to the manual of “ Factory Default setting” description.
I can't find a way to force day mode and night mode. Is this possible and how.	We don't provide this function due to the limitation of hardware.
I recorded video file in H.264 file format but failed to playback on Media Player (V.9).	Default Windows Media Player doesn't have H.264 decoder so that you can't playback the file successfully. Please install K-Lite program in advance or install KMPlayer or VLC program to playback the video file. You can search those free programs on Internet.

Appendix

SF2111H-DVR is compliant with microSD/SDHC card and to ensure recording quality, and please use memory cards over 2G and Class 4 above (Max. 32G)

MicroSD/SDHC card	SD/SDHC
Transcend SDHC class4 16GB	Transcend SDHC Class 4 16GB
Transcend SD class4 16GB	Transcend SD Class 4 16GB
Transcend SDHC class4 32GB	Transcend SDHC Class 4 32GB
Transcend SD class4 32GB	Transcend SD Class 4 32GB
Transcend SD class6 4GB	Transcend SD Class 6 4GB
Transcend SDHC class6 4GB	Transcend SDHC Class 6 4GB
Transcend SD class6 8GB	Transcend SD Class 6 8GB
Transcend SDHC class6 8GB	Transcend SDHC Class 6 8GB
Transcend SD class6 16GB	Transcend SD Class 6 16GB
Transcend SDHC class6 16GB	Transcend SDHC Class 6 16GB
Transcend SDHC class10 4GB	Transcend SDHC Class10 4GB
Transcend SDHC class10 8GB	Transcend SDHC Class10 8GB
Transcend SDHC class10 16GB	Transcend SDHC Class10 16GB
SanDisk SDHC class4 4GB	SanDisk SDHC Class 4 4GB
SanDisk SDHC class4 8GB	SanDisk SDHC Class 4 8GB
SanDisk SDHC class4 16GB	SanDisk SDHC Class 4 16GB
SanDisk SDHC class4 32GB	SanDisk SDHC Class 4 32GB

- SF2111H-R/SF2111H-D: SDHC/SD card
- SF2111H-B/SF2111H-DVR: microSDHC/SD card

COPYRIGHT

© 2012 AVer Information Inc. All rights reserved.

All rights of this object belong to AVer Information Inc. Reproduced or transmitted in any form, or by any means without the prior written permission of AVer Information Inc. is prohibited. AVer Information Inc. reserves the rights to modify its products, including their specifications and any other information stated herein without notice. The official printout of any information shall prevail should there be any discrepancy between the information contained herein and the information contained in that printout. "AVer" is a trademark owned by AVer Information Inc. Other trademarks used herein for description purpose only belong to each of their companies.

NOTICE

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. THE INFORMATION CONTAINED HEREIN IS TO BE CONSIDERED FOR REFERENCE ONLY.

WARNING

TO REDUCE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. WARRANTY VOID FOR ANY UNAUTHORIZED PRODUCT MODIFICATION.



THE MARK OF CROSSED-OUT WHEELED BIN INDICATES THAT THIS PRODUCT MUST NOT BE DISPOSED OF WITH YOUR OTHER HOUSEHOLD WASTE. INSTEAD, YOU NEED TO DISPOSE OF THE WASTE EQUIPMENT BY HANDING IT OVER TO A DESIGNATED COLLECTION POINT FOR THE RECYCLING OF WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT. FOR MORE INFORMATION ABOUT WHERE TO DROP OFF YOUR WASTE EQUIPMENT FOR RECYCLING, PLEASE CONTACT YOUR HOUSEHOLD WASTE DISPOSAL SERVICE OR THE SHOP WHERE YOU PURCHASED THE PRODUCT.

Limited Warranty

AVer Information, Inc. ("AVer") warrants that the applicable product ("Product") substantially conforms to AVer's documentation for the product and that its manufacture and components are free of defects in material and workmanship under normal use. "You" as used in this agreement means you individually or the business entity on whose behalf you use or install the product, as applicable. This limited warranty extends only to You as the original purchaser. Except for the foregoing, the Product is provided "AS IS." In no event does AVer warrant that You will be able to operate the Product without problems or interruptions, or that the Product is suitable for your purposes. Your exclusive remedy and the entire liability of AVer under this paragraph shall be, at AVer's option, the repair or replacement of the Product with the same or a comparable product. This warranty does not apply to (a) any Product on which the serial number has been defaced, modified, or removed, or (b) cartons, cases, batteries, cabinets, tapes, or accessories used with this product. This warranty does not apply to any Product that has suffered damage, deterioration or malfunction due to (a) accident, abuse, misuse, neglect, fire, water, lightning, or other acts of nature, commercial or industrial use, unauthorized product modification or failure to follow instructions included with the Product, (b) misapplication of service by someone other than the manufacturer's representative, (c) any shipment damages (such claims must be made with the carrier), or (d) any other causes that do not relate to a Product defect. The Warranty Period of any repaired or replaced Product shall be the longer of (a) the original Warranty Period or (b) thirty (30) days from the date of delivery of the repaired or replaced product.

Limitations of Warranty

AVer makes no warranties to any third party. You are responsible for all claims, damages, settlements, expenses, and attorneys' fees with respect to claims made against You as a result of Your use or misuse of the Product. This warranty applies only if the Product is installed, operated, maintained, and used in accordance with AVer specifications. Specifically, the warranties do not extend to any failure caused by (i) accident, unusual physical, electrical, or electromagnetic stress, neglect or misuse, (ii) fluctuations in electrical power beyond AVer specifications, (iii) use of the Product with any accessories or options not furnished by AVer or its authorized agents, or (iv) installation, alteration, or repair of the Product by anyone other than AVer or its authorized agents.

Disclaimer of Warranty

EXCEPT AS EXPRESSLY PROVIDED OTHERWISE HEREIN AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, AVER DISCLAIMS ALL OTHER WARRANTIES WITH RESPECT TO THE PRODUCT, WHETHER EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, INCLUDING WITHOUT LIMITATION, SATISFACTORY QUALITY, COURSE OF DEALING, TRADE USAGE OR PRACTICE OR THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT OF THIRD PARTY RIGHTS.

Limitation of Liability

IN NO EVENT SHALL AVER BE LIABLE FOR INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, PUNITIVE, OR CONSEQUENTIAL DAMAGES OF ANY NATURE INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, DATA, REVENUE, PRODUCTION, OR USE, BUSINESS INTERRUPTION, OR PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES ARISING OUT OF OR IN CONNECTION WITH THIS LIMITED WARRANTY, OR THE USE OR PERFORMANCE OF ANY PRODUCT, WHETHER BASED ON CONTRACT OR TORT, INCLUDING NEGLIGENCE, OR ANY OTHER LEGAL THEORY, EVEN IF AVER HAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. AVER'S TOTAL, AGGREGATE LIABILITY FOR DAMAGES OF ANY NATURE, REGARDLESS OF FORM OF ACTION, SHALL IN NO EVENT EXCEED THE AMOUNT PAID BY YOU TO AVER FOR THE SPECIFIC PRODUCT UPON WHICH LIABILITY IS BASED.

Governing Law and Your Rights

This warranty gives you specific legal rights; You may also have other rights granted under state law. These rights vary from state to state.