



POE-100CAM

**POE 1/3 Sharp CCD Dual
Stream IP Camera**

User's Manual



Declaration of Conformity

We, Manufacturer/Importer

OvisLink Corp.

**5F., NO.6, Lane 130, Min-Chuan Rd.,
Hsin-Tien City, Taipei County, Taiwan**

Declare that the product

**1/3 Sharp CCD Dual Stream IP Carema
AirLive POE-100CAM
is in conformity with**

In accordance with 2004/108/EC Directive and 1999/5 EC-R & TTE Directive

Clause

Description

■ EN 55022:2006 Class B

Limits and methods of measurement of radio disturbance characteristics of information technology equipment

**■ EN 61000-3-2:2000+
A2:2005 Class A**

Disturbances in supply systems caused by household appliances and similar electrical equipment "Harmonics"

**■ EN 61000-3-3:1995+
A1:2001+A2:2005**

Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"

**■ EN 55024:1998+A1:2001
+A2:2003**

Information Technology equipment-Immunity characteristics-Limit And methods of measurement

**■ AS/NZS CISPR22:2006
Class B**

Electromagnetic compatibility-requirements for radio disturbance characteristics of information technology equipment

■ CE marking



Manufacturer/Importer

Signature : Albert Yeh

Name : Albert Yeh

Position/ Title : Vice President

(Stamp)

Date : **2008/10/1**

AirLive POE-100CAM CE Declaration Statement

Country	Declaration	Country	Declaration
cs Česky [Czech]	OvisLink Corp. tímto prohlašuje, že tento AirLive POE-100CAM je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.	lt Lietuvių [Lithuanian]	Šiuo OvisLink Corp. deklaruojas, kad šis AirLive POE-100CAM atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
da Dansk [Danish]	Undertegnede OvisLink Corp. erklærer herved, at følgende udstyr AirLive POE-100CAM overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.	nl Nederlands [Dutch]	Hierbij verklaart OvisLink Corp. dat het toestel AirLive POE-100CAM in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
de Deutsch [German]	Hiermit erklärt OvisLink Corp., dass sich das Gerät AirLive POE-100CAM in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.	mt Malti [Maltese]	Hawnhekk, OvisLink Corp, jiddikjara li dan AirLive POE-100CAM jikkonforma mal-ħtiġiġiet essenziali u ma provvedimenti oħraji relevanti li hemm fid-Dirrettiva 1999/5/EC.
et Eesti [Estonian]	Käesolevaga kinnitab OvisLink Corp. seadme AirLive POE-100CAM vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.	hu Magyar [Hungarian]	Az OvisLink Corporation kijelenti, hogy az AirLive POE-100CAM megfelel az 1999/05/CE irányelv alapvető követelményeinek és egyéb vonatkozó rendelkezéseinek.
en English	Hereby, OvisLink Corp., declares that this AirLive POE-100CAM is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	pl Polski [Polish]	Niniejszym OvisLink Corp oświadcza, że AirLive POE-100CAM jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
es Español [Spanish]	Por medio de la presente OvisLink Corp. declara que el AirLive POE-100CAM cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.	pt Português [Portuguese]	OvisLink Corp declara que este AirLive POE-100CAM está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ OvisLink Corp. ΔΗΛΩΝΕΙ ΟΤΙ AirLive POE-100CAM ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.	sl Slovensko [Slovenian]	OvisLink Corp izjavlja, da je ta AirLive POE-100CAM v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
fr Français [French]	Par la présente OvisLink Corp. déclare que l'appareil AirLive POE-100CAM est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE	sk Slovensky [Slovak]	OvisLink Corp týmto vyhlasuje, že AirLive POE-100CAM spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
it Italiano [Italian]	Con la presente OvisLink Corp. dichiara che questo AirLive POE-100CAM è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	fi Suomi [Finnish]	OvisLink Corp vakuuttaa täten että AirLive POE-100CAM tyypinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen
lv Latviski [Latvian]	Ar šo OvisLink Corp. deklarē, ka AirLive POE-100CAM atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.	íslenska [Icelandic]	Hér með lýsir OvisLink Corp yfir því að AirLive POE-100CAM er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
sv Svenska [Swedish]	Härmed intygar OvisLink Corp. att denna AirLive POE-100CAM står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.	no Norsk [Norwegian]	OvisLink Corp erklærer herved at utstyret AirLive POE-100CAM er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.

A copy of the full CE report can be obtained from the following address:

OvisLink Corp.
5F, No.6 Lane 130,
Min-Chuan Rd, Hsin-Tien City,
Taipei, Taiwan, R.O.C.

This equipment may be used in AT, BE, CY, CZ, DK, EE, FI, FR, DE, GR, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, SK, SI, ES, SE, GB, IS, LI, NO, CH, BG, RO, TR

This Air Live product has been designed with safety in mind. However, if not used properly electrical products can cause fires which may lead to serious body injury. To avoid such accidents, be sure to heed the following.

Legal Caution

Video and audio surveillance can be forbidden by laws that vary from country to country. Check the laws in your local region before using this product for surveillance purposes.

Heed the safety precautions

Be sure to follow the general safety precautions and the "Operation Notice."

In case of a breakdown

In case of system breakdown, discontinue use and contact your authorized Air Live dealer.

In case of abnormal operation

- If the unit emits smoke or an unusual smell,
- If water or other foreign objects enter the cabinet, or
- If you drop the unit or damage the cabinet:
 - 1 Disconnect the cable and the connecting cables.
 - 2 Contact your authorized Air Live dealer or the store where you purchased the product.

Operation Notice - Operating or storage location

Avoid operating or storing the camera in the following locations:

- Extremely hot or cold places (Operating temperature: 0 °C to +50 °C [32 °F to 122°F])
- Exposed to direct sunlight for a long time, or close to heating equipment (e.g., near heaters)
- Close to sources of strong magnetism
- Close to sources of powerful electromagnetic radiation, such as radios or TV transmitters
- Locations subject to strong vibration or shock

Ventilation

To prevent heat buildup, do not block air circulation around the device.

Transportation

When transporting the camera, repack it as originally packed at the factory or in materials of equal quality.

Cleaning

- Use a soft, dry cloth to clean the external surfaces of the device. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry.
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface.

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CHAPTER 1. INSTALLATION

1.1 Installation Steps

Follow these steps to install the Air Live POE100CAM on your Ethernet:

1. Check the package contents against the list below.
2. Set the device. See IP Installer User Manual on the available methods.

1.2 Package Contents

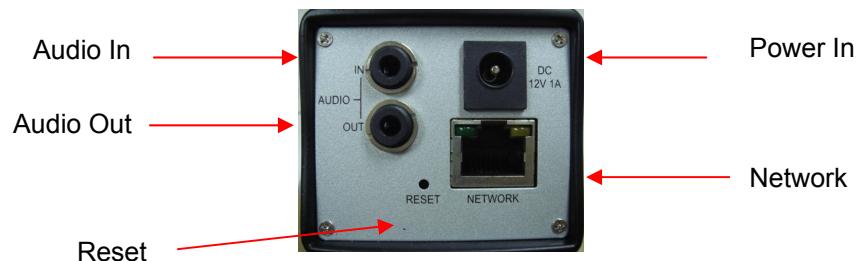
Item	Description
IP Camera	Air Live POE-100CAM IP Camera
Power Adapter	Country-specific
CD	User Manual / IP Installer and Document
Lens	Camera Lens
Camera Stand	Supplied with mounting screw
Printed Document	Quick Installation Guide

1.3 Overview

Body :



Rear Panel :



Note: Press the Reset Button to reboot the camera. Hold the Reset Button for 10 seconds to restore the camera to default.

Chapter 2. Using IP Camera via Mobile Phone

To use IP cameras via mobile phones, please make sure your RTSP is set to “ON”. (Default is “ON”) To change the settings of IP cameras, please see “Settings” for details.

2.1 3G Mobile Phone viewing

For 3G mobile phone viewing, type “<rtsp://<IP>:<PORT>/video.3gp>” into your 3G web browser. <IP> is the IP address of your IP camera, <PORT> is the RTSP port of your IP camera (Default value is 8554.)

Example: <rtsp://100.10.10.1:8554/video.3gp>

Note:

- You can also use RTSP clients (RealPlayer, MPlayer, Windows Media Player, Quicktime...etc.) to view RTSP streaming, just type in “<rtsp://<IP>:<PORT>/video.3gp>” as the Player’s URL

2.2 2.5G Mobile Phone viewing

For 2.5G mobile phone viewing, type “<IP>/mobile.wml” into your 2.5G web browser. <IP> is the IP address of your IP camera.

Chapter 3. Using IP Camera via Web Browser

3.1 System Requirement

To use the product normally, we strongly recommend your computer follows our minimum system requirement
(Computer level lower than this might cause some problems)

Item	Requirements
CPU	Pentium 4 1600MHz (or equivalent AMD)
Graphic Card	64MB RAM graphic cards (or equivalent on-board graphic cards)
RAM	512MB
Operating System	Windows 98, ME (Please see Note) Windows 2000, 2003, XP, Vista
Web Browser	Internet Explorer 6 or later

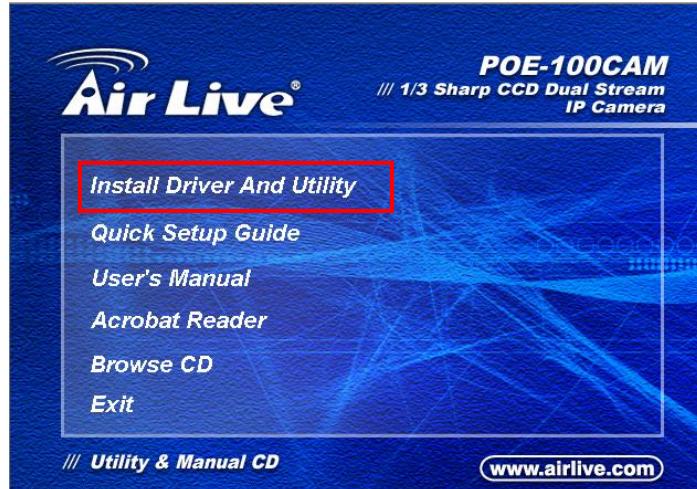
Note:

- If you're using Windows 98 or ME, please install **IP Installer** before using WEB UI to ensure the system runs normally.
- If you can't view the recorded video file (missing video decoder), please install **Xvid codec** while installing Intelligent IP Installer. (For Windows 98, ME or 2000 server, the codec might not work properly. You'll need to download **Xvid codec 1.0** from the internet.)

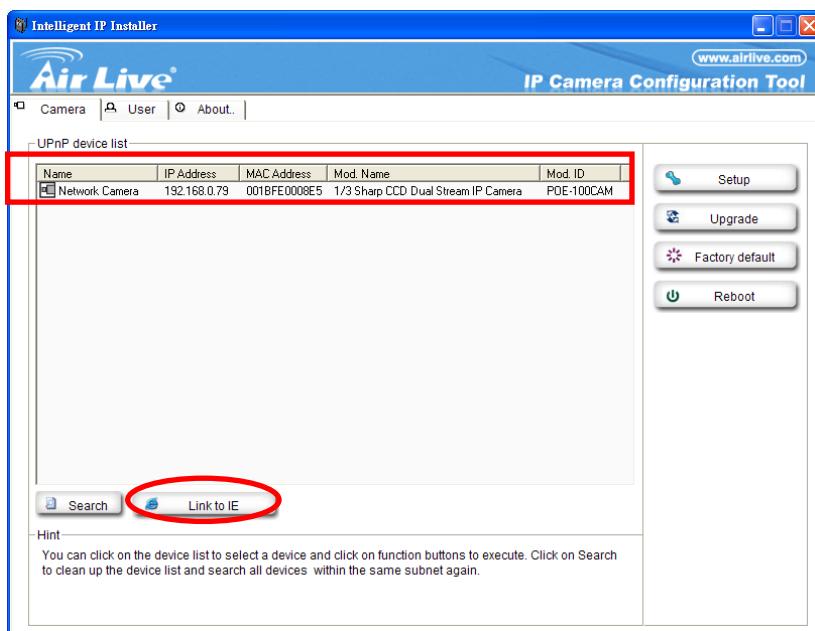
Chapter 4. Initial accessing the IP camera

Camera installation

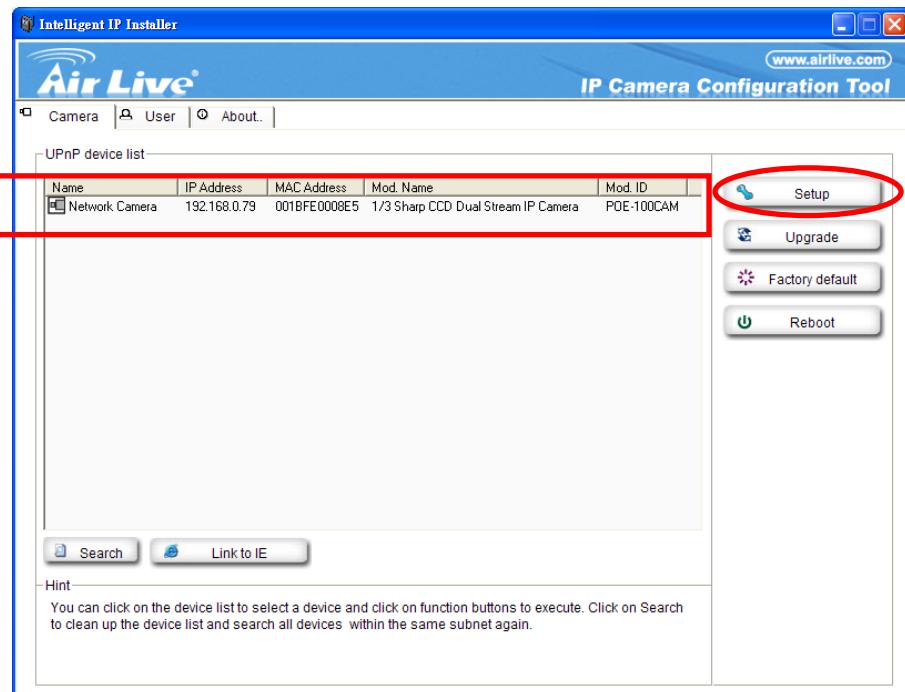
1. Insert CD into your PC/Laptop.
2. Auto Run Screen then shows up, click "Install Driver And Utility" to install the configuration tool software



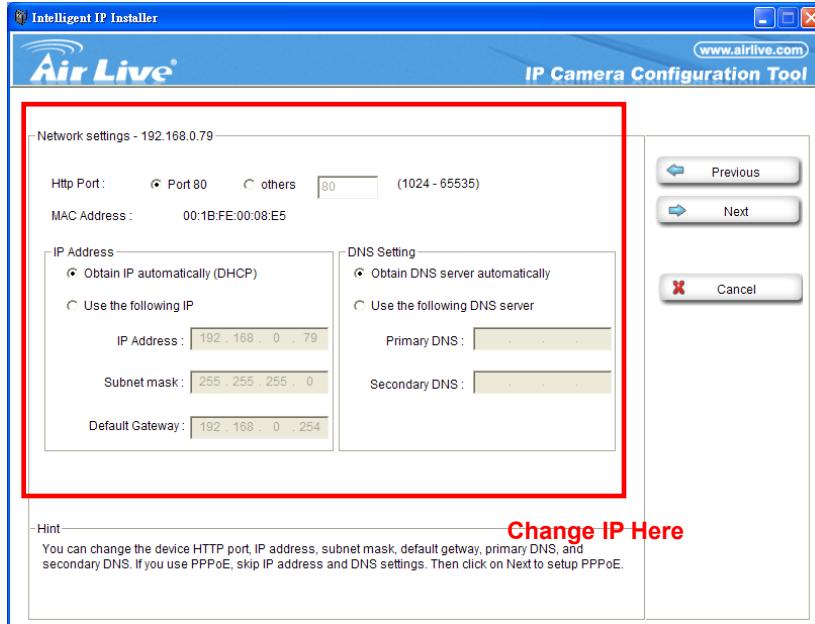
3. After complete installation, Run the configuration tool software
4. The Software scans the network and finds the IP Camera, then list in the dialog box.
5. If the Camera's IP address is in the same IP segment as your LAN, select the founded IP Camera and click "Link to IE" to proceed.



6. If the IP is not in your IP segment, select the founded IP Camera and click "Setup". Note that the text color of the listed IP Camera is red if it is not in same the IP segment with your PC.



7. Follows setup instruction to change the IP address of the IP Camera.



8. At the end of the setup instruction, the IP Camera Reboots
 9. Click the Search button to search again
 10. Click "Link to IE" to proceed.

11. The tool launch your Internet Explorer and prompts up the login dialog
12. Enter default user name and password: admin / airlive

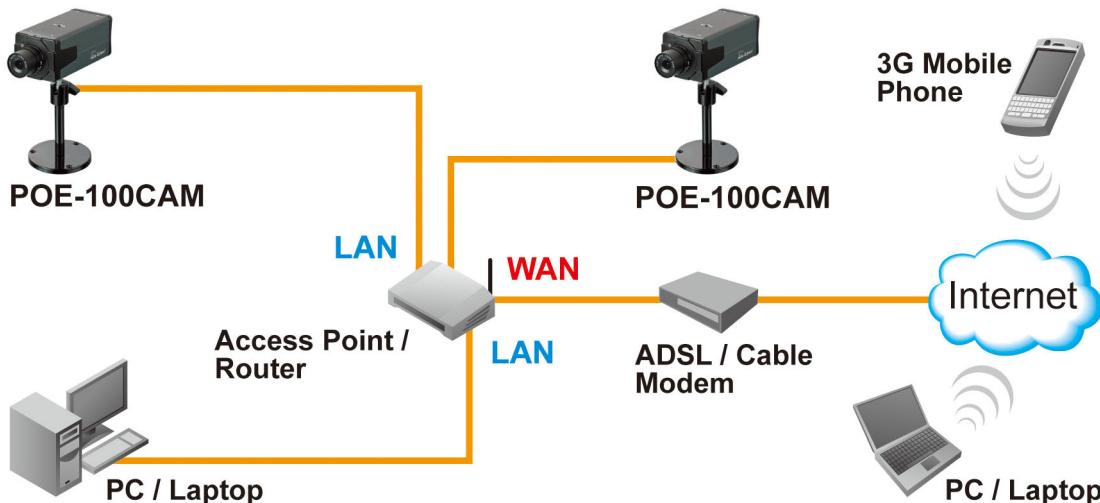


13. After a successful login, the browser asks for ActiveX installation.



Note:

If you need a public IP for your Router, please contact your ISP for the service.



1. Start your web browser, and enter the IP address or host name of the AIR LIVE IP camera in the Location / Address field of your browser.

Note :

- If you only want to view the video without setting page, enter "<http://<IP>/index2.htm>" as your web URL.

2. Use the default account "admin" and default password "airlive".

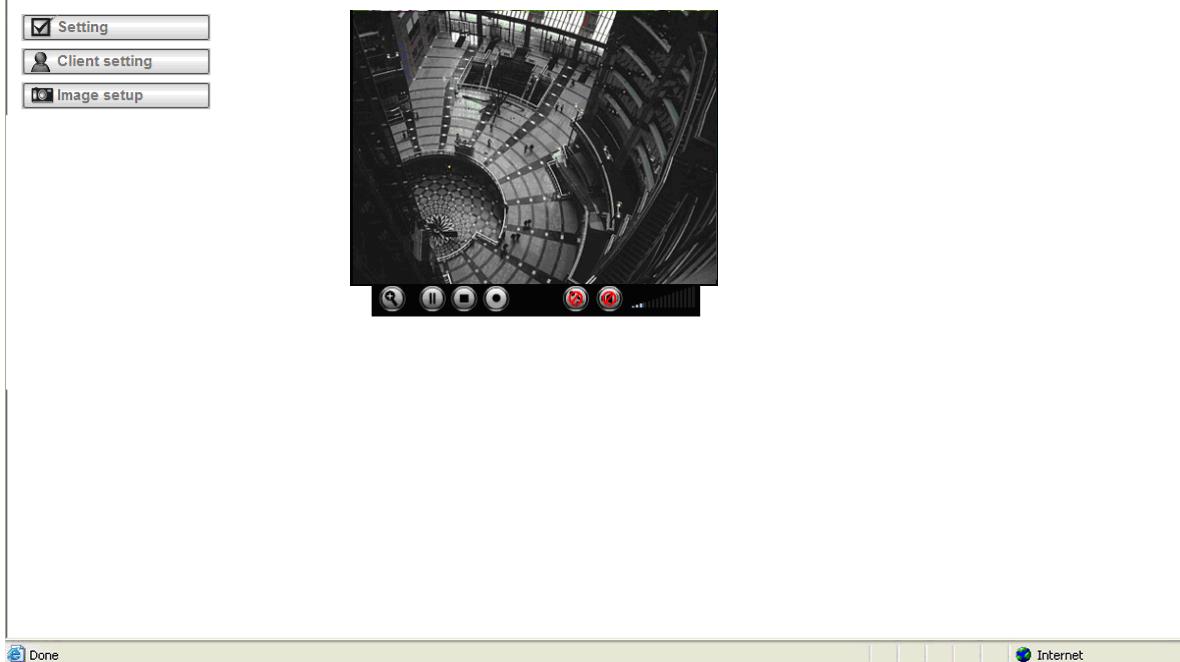
Note :

- The default user name "admin" and the password are set at the factory for the administrator. You can change them in the **Account** Menu under **Setting**.



3. The monitor image will be displayed in your browser.

Chapter 5. Configuration of Main Menu



5.1 Setting



This function is only for the Administrator. Click this button to get into the **Basic** and **Advance settings** menu.

5.2 Client Setting



Mode: Click the pulldown box to choose between MPEG4 and MJPEG video compression mode.

Note : MJPEG streaming is unavailable if RTSP mode is ON.

View Size: Select the desired display image resolution to 640X480 or 320X240.

Protocol: Select the transferring protocol from TCP, UDP, HTTP and Multicast.

Video Buffer: Turn the Video Buffer function On/Off. The Video Buffer function makes the streaming more smoothly in unsteady network environment, but might cause a little delay in live viewing.

5.3 Image Setup



You can use the tool bar to optimize video brightness, contrast, and saturation.



5.4 Live View

Snapshot:

You can capture a still image shot by the camera and save it in your computer.

1. Press  , and a snapshot window will appear.
2. Click “Save” to save the picture in your computer.
3. Click “Close” to return to the view page.

Digital Zoom in / out the image via the monitor window



1. Click  to display the digital zoom in window.
2. Pull the  to adjust the digital zoom range, and it will be showed on the above window.
3. You can use the left click of your mouse to move the  to any where on the window.

Audio buttons :



: Speakers turned on.



: Speakers turned off.



: Microphone turned on.



: Microphone turned off.



: Volume control bar.

Note :

-  It means the speakers of your computer are turned on to transmit the sounds from the connected IP camera(s). Similarly,  means you can broadcast to the connected IP camera(s) via the Ethernet using your microphone.

Video play buttons:



: Pause the current video



: Stop the current video.



: Play the video.



: Record the current video.

Chapter 6. Setting

6.1. Basic

Click the “Basic” folder to display the sub folders, including **System**, **Camera**, **Network**, and **Security**.

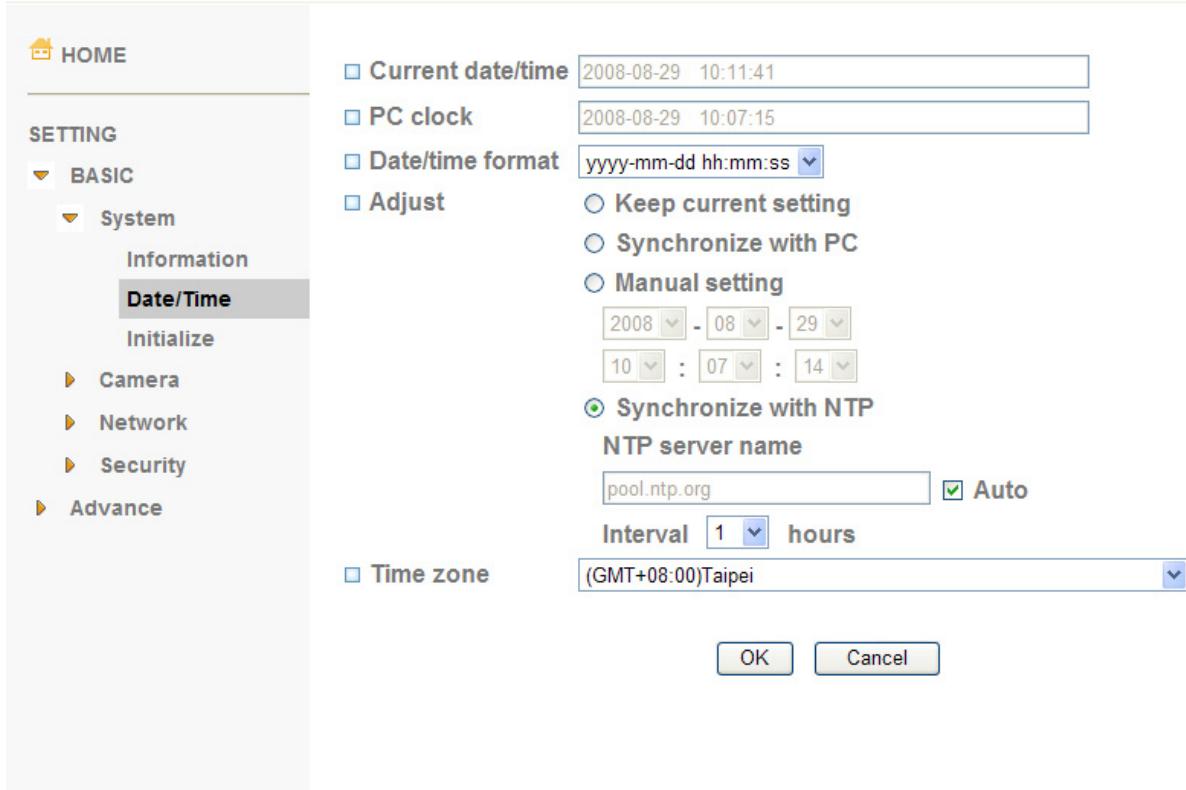
6.2 System

6.2.1 Information

The Information page provides you with product factory information, including Product name, Firmware version, and Web version.

Product name	1/3 Sharp CCD Dual Stream IP Camera
Firmware version	LM.1.6.16.02_sign Fri Aug 22 19:06:23 CST 2008
Web version	LM.1.6.16.02_sign

6.2.2 Day & Time



Current date & time : This displays the current date and time of the device.

PC clock : This displays the date and time of the monitoring PC clock.

Date & time format : Click the pulldown box to select among different time display formats, including yyyy-mm-dd hh:mm:ss (year-month-day hour:minute:second), mm-dd-yyyy hh:mm:ss (month-day-year hour:minute:second), and dd-mm-yyyy hh:mm:ss (day-month-year hour:minute:second).

Adjust : Select one of four time adjusting modes.

Keep current setting : Select this mode to keep the current date and time of the device.

Synchronize with PC : Select this mode to make the date and time of the device the same as the monitoring PC.

Manual setting : Select this mode to manually adjust the date & time of the device.

Synchronize with NTP : Specify the **NTP server name** and the Refresh **Interval** to synchronize the date and time of the device with those of the time server, known as the NTP (Network Time Protocol) server.

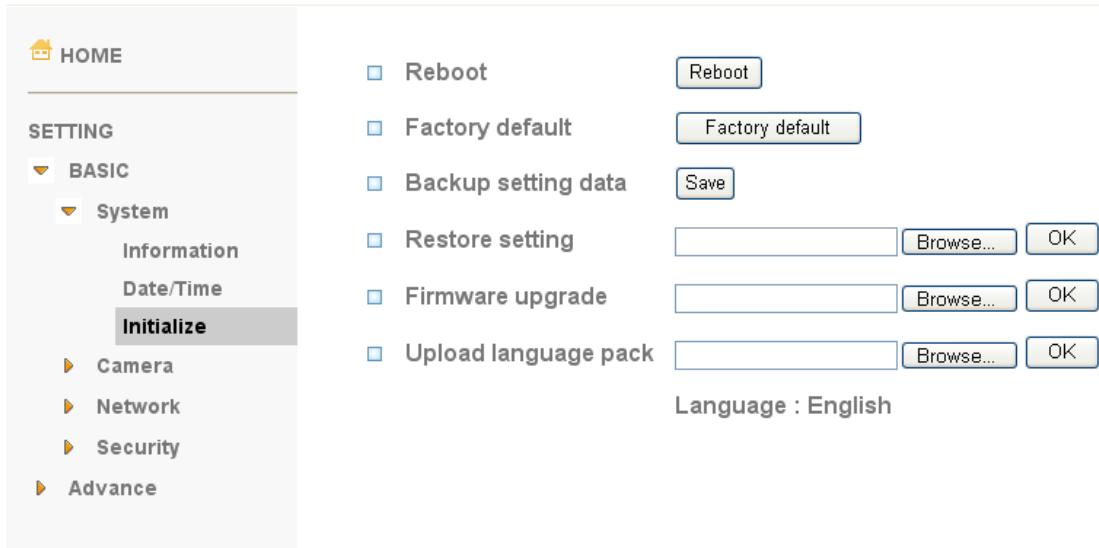
Note:

- The NTP server (Network Time Protocol) is the time server which is an Internet standard protocol (built on top of TCP/IP) that assures accurate synchronization to the millisecond of computer clock times in a network of computers.

NTP server name : Type the host name or IP address of the NTP server, up to 64 characters.

Time zone : Select the time zone and time difference from Greenwich Mean Time in the area where the device is installed from the pulldown box.

6.2.3 Initialize



Reboot : Click this button to reboot the device. A confirmation dialogue will appear. Click **OK** to proceed. It takes about two minutes to reboot the device.

Factory default : Click this button to reset the device to the factory default settings. A confirmation dialogue will appear. Click **OK** to proceed, the network indicator on the device will start to blink. After completing adjustments to the default settings, the device will reboot automatically. Do not turn off the device until the device reboots.

Backup setting data : Save the setting data of the device to a file. Click **Save**, and follow the instructions on the browser to save the setting data file to your specified location.

Restore setting : Load the saved setting data of the device. Click **Browse** and select the file in which the setting data is stored. Click **OK**, and the device is adjusted according to the loaded data and restarted.

Firmware update : Upgrade the device software. Click **Browse** and select the file for upgrading. A confirmation dialogue will appear. Click **OK** to start upgrading. The device will reboot upon completion.

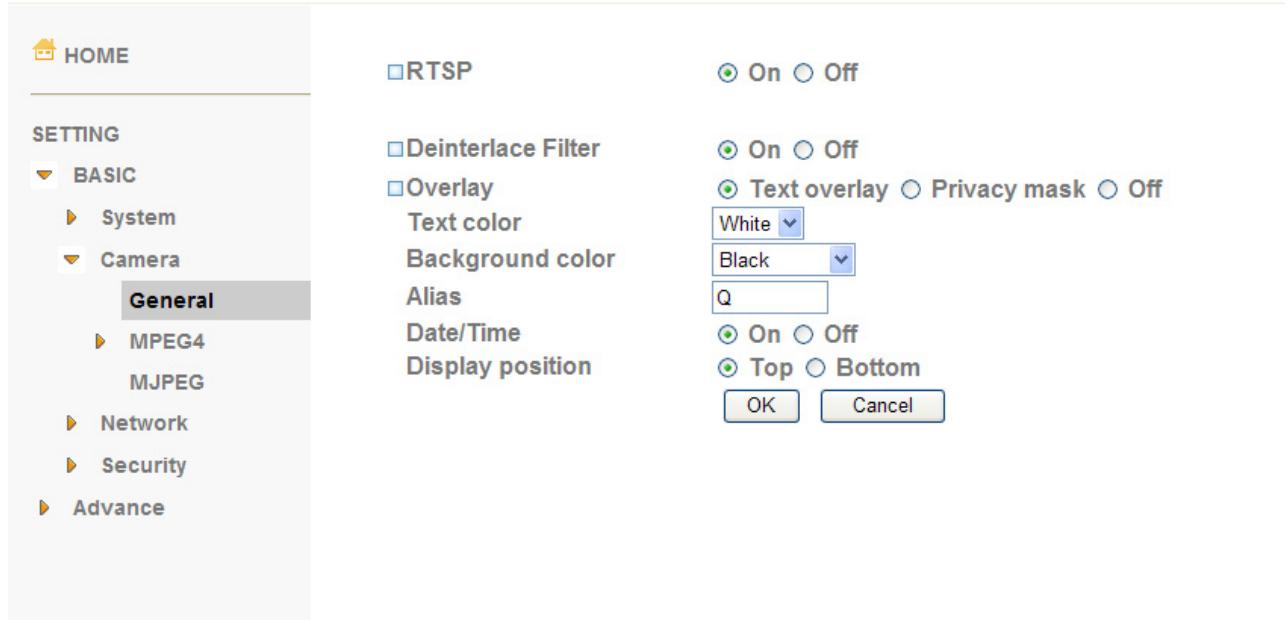
Note:

- Use only upgrade files that are special for this device. Problems may occur otherwise.
- Do not turn off the device power or disconnect the network until the upgrading is completed.

Upload language pack : Upgrade the device language pack. Click **Browse** and select the file for upgrading. A confirmation dialogue will appear. Click **OK** to start upgrading. The upgrade is applied immediately. The default language is “**English**”

6.3 Camera

6.3.1 General



RTSP: Switch the RTSP streaming On/Off.

Note :

- **RTSP:** Real Time Streaming Protocol. RTSP is supported by most of the media clients . (RealPlayer, Media Player, QuickTime, etc...)

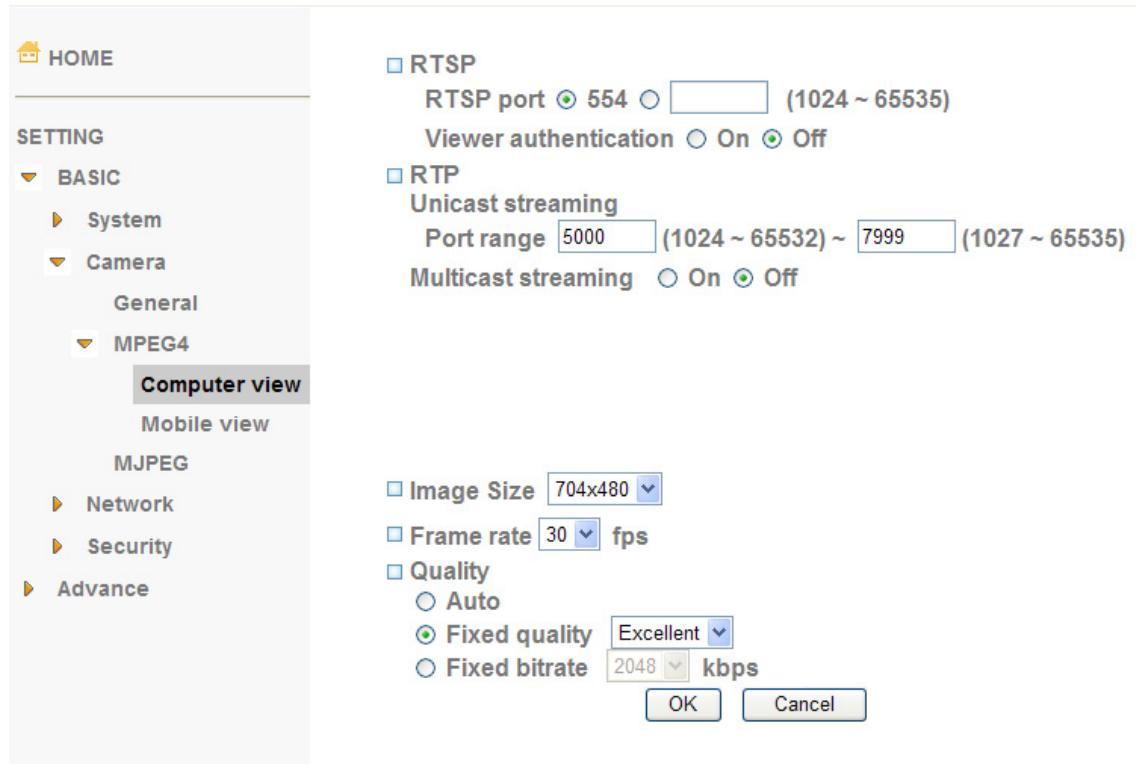
Deinterlace Filter : Switch the deinterlace filter on/off.

Overlay : Select to add Text Overlay or Privacy Mask on/off the display screen.

Text Overlay : Enables users to see some information on the display screen, including Date/Time and user-defined text. You can also change the background color.

Privacy Mask : Enables users to conceal an area of the video image.

6.3.2 MPEG4



6.3.2.1 Computer View

RTSP (If RTSP mode is ON)

RTSP port: Specify the transmission port number of RTSP streaming video. Default value is 554.

Viewer authentication: If the viewer authentication is ON, users viewing through RTSP will be requested to key-in username and password.

RTP (If RTSP mode is ON)

Unicast streaming:

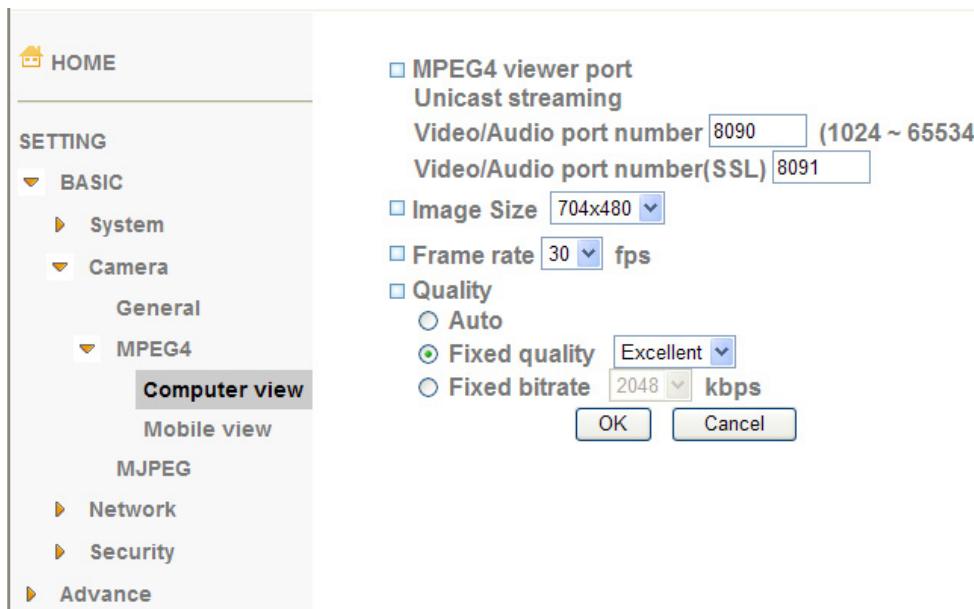
Unicast streaming Video/Audio port range: Specify the transmission port range of RTP streaming video. RTP will select a port randomly from the range.

Multicast streaming:

Multicast address: Specify the multicast server address.

Video / Audio Port: Specify the transmission port number of the video data. Specify an even number from 1024 to 65534.

Time-To-Live: Set the maximum TTL that multicast can pass through.



MPEG4 viewer port (If RTSP mode is OFF)

Unicast streaming Video/Audio port number : Specify the transmission port number of the video data. It is initially set to 8090. Specify an even number from 1024 to 65534.

Image Size : Specify the image size the network camera transmits. You can choose among **704 × 480, 352 × 240** and **176 × 120 for NTSC mode and 704 × 576, 352 × 288 and 176 × 144 for PAL mode.**

Frame rate : Set the frame rate of the MPEG4 image. Selectable values are 5, 10, 15, 20, 25, 30 fps. The unit "fps" stands for "frames sent per second".

Quality

Auto : The quality and bitrate will be automatically decided according to the frame rate.

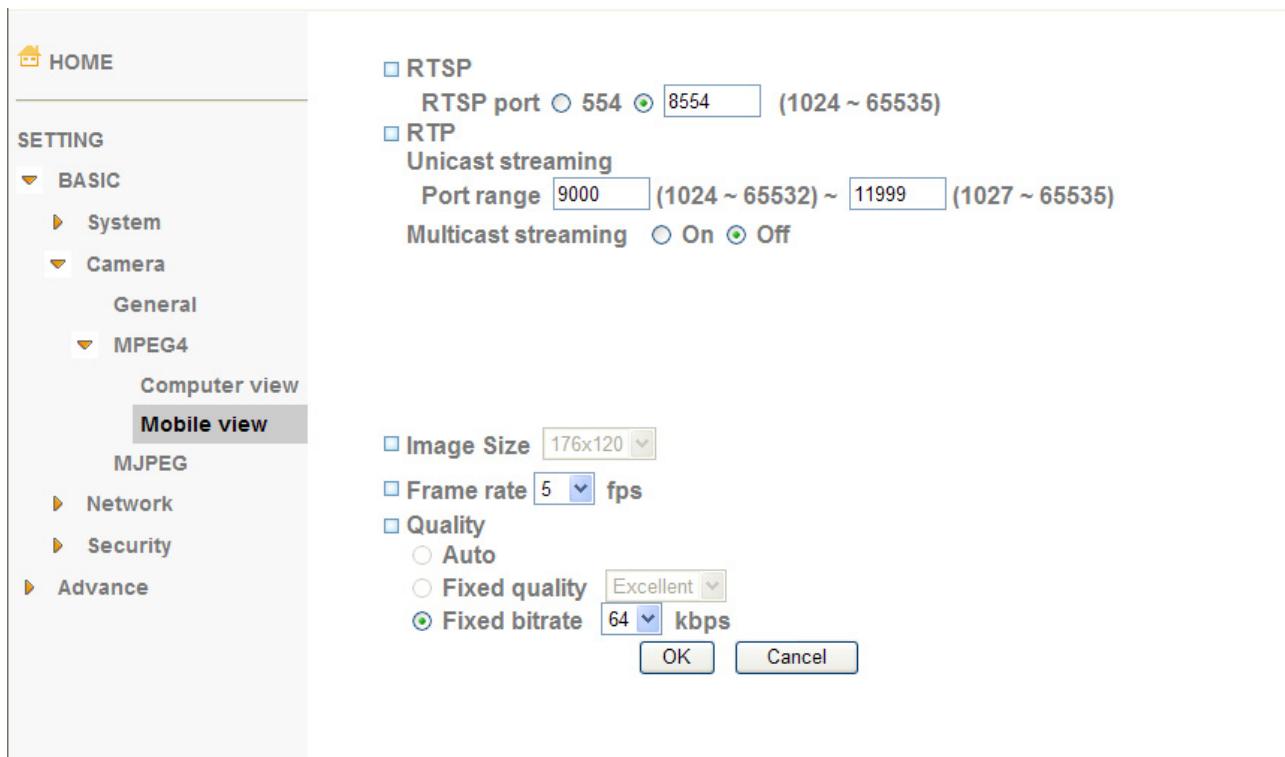
Fixed Quality : The selectable values are Medium, Standard, Good, Detailed and Excellent.

Fixed Bitrate : Set the bit rate of MPEG4 image transmission for a line. Selectable values are 64, 128, 256, 384, 512, 768, 1024, 1280, 1536 and 2048 kbps.

Note :

- The selected frame rate and bit rate are a tentative value. The actual frame rate and bit rate may be different according to the image size, the shooting scene or the network condition.

6.3.2.2 Mobile View



RTSP (If RTSP mode is ON)

RTSP port: Specify the transmission port number of RTSP streaming video. Default value is 8554.

RTP (If RTSP mode is ON)

Unicast streaming:

Unicast streaming Video/Audio port range: Specify the transmission port range of RTP streaming video. RTP will select a port randomly from the range.

Multicast streaming:

Multicast address: Specify the multicast server address.

Video / Audio Port: Specify the transmission port number of the video data. It is initially set to 10000 and 11000. Specify an even number from 1024 to 65534.

Time-To-Live: Set the maximum TTL that multicast can pass through.

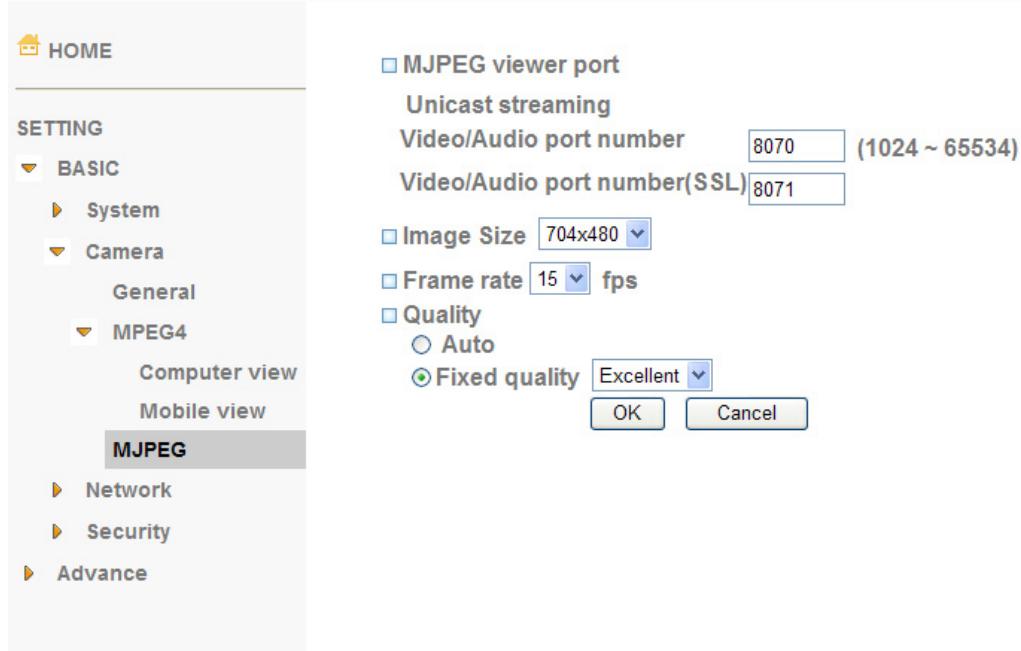
Image Size: The Image size of Mobile view is fixed at 176x120.

Frame rate : Set the frame rate of the MPEG4 image. Selectable values are 5, 10, 15, 20 fps. The unit "fps" stands for "frames sent per second".

Quality

Fixed Bitrate : Set the bit rate of MPEG4 image transmission for a line. Selectable values are 64, 32, and 16kbps..

6.3.3 MJPEG



Note :

- MJPEG settings are unavailable if the RTSP mode is ON, which means the MJPEG streaming is closed.

MJPEG viewer port

Unicast streaming Video/Audio port number : Specify the transmission port number of the video data. It is initially set to 8070. Specify an even number from 1024 to 65534.

Note :

- Unicast streaming :** Specify the transmission port number of the video data and audio data used when UDP (Unicast) is selected with the TCP/UDP transmission switching icon in the main viewer.

Image Size : Specify the image size the network camera transmits. You can choose among **704 × 480, 352 × 240** and **176 × 120 for NTSC mode and 704 × 576, 352 × 288 and 176 × 144 for PAL mode**.

Frame rate : Set the frame rate of the MJPEG image. Selectable values are 5, 10, 15 fps. The unit "fps" stands for "frames sent per second".

Quality

Auto : The quality will be automatically decided.

Fixed quality : The selectable values are Medium, Standard, Good, Detailed and Excellent.

6.4 Network

6.4.1 Information

MAC address : Display the MAC address of the device.

Obtain an IP address automatically (DHCP) : If a DHCP server is installed on the network, to select this while the IP address is assigned by the DHCP server.

Note :

- When you set Obtain an IP address automatically (DHCP), make sure that the DHCP server is working on the network.

Use the following IP address : Select this when a fixed IP address is set.

IP address : Enter the IP address of the device.

Subnet mask : Enter the subnet mask.

Default gateway : Enter the default gateway.

Use the following DNS server address : Select this when you set the fixed address as the IP address of DNS server.

Primary DNS server : Enter the IP address of the primary DNS server.

Secondary DNS server : Enter the IP address of the secondary DNS server, if necessary.

HTTP port number : Select 80 in general situations. If you want to use a port number other than 80, select the text box and enter a port number between 1024 and 65535.

Note :

- When you have set the HTTP port number to a number other than 80 on the Network setting page or in the Setup Program, access the device by typing the IP address of the device on the web browser as follows:

Example: when HTTP port number is set to 2000 → <http://192.168.1.100:2000/>

6.4.2 PPPoE

Use this when you connect the device through PPPoE (Point -to- Point Protocol over Ethernet). PPPoE connection is the protocol that is widely used in xDSL (digital affiliate line such as ADSL, VDSL or SDSL) as the authentication and connection system.

The screenshot shows the 'SETTING' menu on the left with 'BASIC' selected. Under 'BASIC', 'Network' is expanded, and 'PPPoE' is selected. The main panel displays the PPPoE configuration settings:

<input type="checkbox"/> PPPoE	<input checked="" type="radio"/> On	<input type="radio"/> Off
IP address	0.0.0.0	
User ID		
Password		
Re-type password		
<input type="radio"/> Obtain DNS server address automatically		
<input checked="" type="radio"/> Use the following DNS server address		
Primary DNS server	0.0.0.0	
Secondary DNS server	0.0.0.0	

At the bottom right are 'OK' and 'Cancel' buttons.

IP address : The IP address obtained at the PPPoE connecting with network.

User ID : Enter the user ID for authentication necessary for PPPoE connections. Type it up to 64 characters.

Password : Enter the password for authentication necessary for PPPoE connections. Type it up to 32 characters.

Re-type password : Re-type the password to confirm.

Obtain DNS server address automatically : Select this to obtain the address of DNS server automatically.

Use the following DNS server address : Select this when you set the fixed address as the IP address of DNS server.

Primary DNS server : Enter the IP address of the primary DNS server.

Secondary DNS server : Enter the IP address of the secondary DNS server.

6.4.3 DDNS

HOME

SETTING

BASIC

System

Camera

Network

Information

PPPoE

DDNS

UPnP

IP Notification

Security

Advance

DDNS On Off

Server name

User ID

Password

Re-type password

Host name

OK Cancel

Server name : Choose the DDNS Server from the list.

User ID : Enter the user ID for authentication necessary for DDNS connections. Type it up to 64 characters.

Password : Enter the password for authentication necessary for DDNS connections. Type it up to 32 characters.

Re-type password : Re-type the password to confirm.

Host name : Enter the host name that is registered to the DDNS server.

Note :

- When you want to use DDNS function, you need to register an account in DDNS server first.

6.4.4 UPnP

The device includes support for UPnP, which is enabled by default. If also enabled on your computer, the device will automatically be detected and a new icon will be added to "My Network Places." It provides port forwarding for opening a port in a router or firewall in a private network in order to let a party from the outside world contact a user inside.

The screenshot shows the 'UPnP' configuration page. On the left, there's a navigation tree under 'SETTING' with 'BASIC' expanded, showing 'System', 'Camera', 'Network' (with 'Information', 'PPPoE', 'DDNS', and 'UPnP' selected), 'IP Notification', 'Security', and 'Advance'. The main area has a title 'UPnP' with radio buttons for 'On' (selected) and 'Off'. Below it is a section titled 'Turn On UPnP port forwarding' with a checked checkbox. The configuration includes:

Port Type	Default Port	Range
HTTP port	80	(1024 ~ 65535)
SSL Port	443	(1024 ~ 65535)
MPEG4 viewer port	8090	(1024 ~ 65535)
MPEG4 viewer port(SSL)	8091	(1024 ~ 65535)
MJPEG viewer port	8070	(1024 ~ 65535)
MJPEG viewer port(SSL)	8071	(1024 ~ 65535)
MPEG4 RTSP port	Computer view: 8050 Mobile view: 8030	(1024 ~ 65535)

At the bottom are 'OK' and 'Cancel' buttons.

HTTP port : Enter the HTTP port number and default HTTP port is 80.

SSL port: Enter the SSL port number and default SSL port is 443.

MPEG4 viewer port : Enter the MPEG4 viewer port number and default MPEG4 viewer port is 8090.

MPEG4 viewer port(SSL): Enter the MPEG4 SSL viewer port and default is 8091.

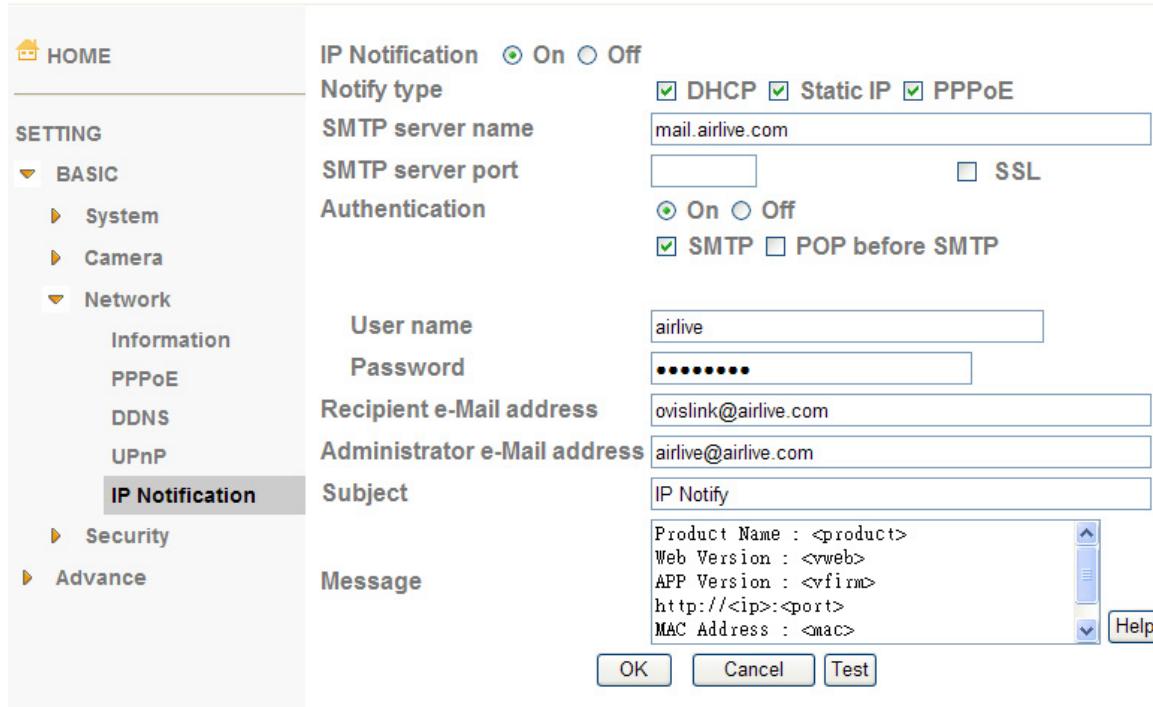
MJPEG viewer port : Enter the MJPEG viewer port number and default MJPEG viewer port is 8070.

MJPEG viewer port(SSL): Enter the MPEG4 SSL viewer port and default is 8071.

MPEG4 RTSP port: Enter the MPEG4 RTSP port, default value is 8050 for computer view, 8030 for mobile view.

6.4.5 IP Notification

When network notify type is set to On, you can send an e-mail notification of the completion of the network setting.



- Notify type :** Select type of DHCP, Static IP and PPPoE will notify.
- SMTP server name :** Type the SMTP server name up to 64 characters, or the IP address of the SMTP server.
- Authentication :** Select the authentication required when you send an email.
- Off:** Select if no authentication is necessary when an email is sent.
- On:** When authentication is necessary an e-mail is sent, select one of the authentication methods from the followings.
- SMTP:** Select if SMTP authentication is necessary when an e-mail is sent.
- POP before SMTP:** Select if POP before SMTP authentication is necessary when an e-mail is sent.

Note :

- When you set to **On**, be sure to select either or both **SMTP** or/and **POP before SMTP**.
- POP server name :** It is necessary when the **POP before SMTP** is selected in **Authentication**. Type the POP (receiving mail) server name up to 64 characters, or type the IP address of the POP server. This setting is necessary when the SMTP server which sends e-mails performs authentication using the POP user account.
- User name, Password :** Type the user name and Password of the user who has the mail account. This setting is necessary when the SMTP server which sends e-mails performs authentication.
- Recipient e-mail address :** Type the recipient e-Mail address up to 64 characters. You can specify up to three recipient E-mail addresses.
- Administrator e-mail address:** Type the Administrator e-Mail address up to 64 characters. This address is used for reply mail and sending system messages from the SMTP server.
- Subject :** Type the subject/title of the e-Mail up to 64 characters. With respect to mail which is sent

according to the IP notification.

- **Message** : Type the text of the E-mail up to 384 characters. Default value provides network information including IP, Port, MAC, Model, Firmware Version and Web Version.

6.5 Security

6.5.1 Account

The device default account and password setting is “admin/admin”. That means everyone might access the device including the configuration as long as the IP address is known. It is necessary to assign a password if the device is intended to be accessed by others. Use this menu to set the user names and passwords of Administrator and up to 9 different users (User 1 to User 9), and the access right of each user.

User ID	User name	Password	Re-type Password	Viewer mode
Administrator	admin	*****	*****	Admin
User 1				Admin
User 2				Admin
User 3				Admin
User 4				Admin
User 5				Admin
User 6				Admin
User 7				Admin
User 8				Admin
User 9				Admin

Viewer authentication On Off

OK Cancel

User name : Set a user name between 5 and 16 characters.

Password : Set a password between 5 and 16 characters.

Re-type password : Re-type the password to confirm.

Viewer Mode : Set a user to **Admin**, **Operator** or **Viewer** mode.

Viewer authentication : Allows any viewer direct access to Live View.

6.5.2 HTTPS

HTTPS is a URI scheme used to indicate a secure HTTP connection. It is syntactically identical to the http:// scheme normally used for accessing resources using HTTP. Using an https: URL indicates that HTTP is to be used, but with a different default TCP port (443) and an additional encryption/authentication layer between the HTTP and TCP. You can use the IP camera through HTTPS easily by using https:// instead of http://.

The screenshot shows the configuration interface for HTTPS. On the left, under 'SETTING' and 'BASIC', the 'HTTPS' option is selected. The main area contains three main sections: 'Create & Install' (with a button to 'Create self-signed certificate'), 'Installed Certificate' (showing 'No certificate installed.' with 'Properties...' and 'Remove' buttons), and 'HTTPS Connection Policy' (a table where each user level has a dropdown set to 'HTTP' with a 'Set Policy' button).

To use the HTTPS encryption, please set up “**Create self-signed certificate**” for the first time you use the HTTPS function, then set up the connection policy for different users, and click “**Set Policy**” to apply the settings.

Create & Install: Create a self-signed certificate for HTTPS to recognize.

Installed Certificate: Display or remove the properties of the installed certificate.

HTTPS Connection Policy: Set HTTPS connection policy for different level of users.

Chapter 7. Advance

7.1 FTP Client

Use this menu to set up for capturing and sending images to an FTP server. By using FTP client function, you can send the image and audio file which has been shot and recorded linked with the external sensor input or with the built-in motion detection function to FTP server. FTP client setting menu is composed of two tabs, **General**, **Alarm sending** and **Periodical sending**.

7.1.1 General

The screenshot shows the 'General' tab of the FTP Client settings. On the left is a navigation tree with 'HOME', 'SETTING', 'BASIC', 'Advance', 'FTP client' (selected), 'General' (selected), and other options like 'SMTP', 'HTTP event', 'Schedule', 'Alarm buffer', 'Motion detection', and 'System Log'. The main area contains the following fields:

- FTP client**: A radio button group where 'On' is selected (indicated by a green dot) and 'Off' is unselected.
- FTP server name**: An input field.
- User name**: An input field.
- Password**: An input field.
- Re-type password**: An input field.
- Passive mode**: A radio button group where 'Off' is selected (green dot) and 'On' is unselected.
- Attached file type**: A radio button group where 'MPEG4' is selected (green dot) and 'JPEG' is unselected.

At the bottom are three buttons: 'OK', 'Cancel', and 'Test'.

FTP client function : To activate the FTP client function, select **On**. The FTP client setting page appears. When you do not wish to use the FTP client function, select **Off**.

Note :

- The frame rate and operability on the main viewer may decrease while a file is being transmitted by the FTP client function.

FTP server name : Type the FTP server name to upload still images up to 64 characters, or the IP address of the FTP server.

User name : Type the user name for the FTP server.

Password : Type the password for the FTP server.

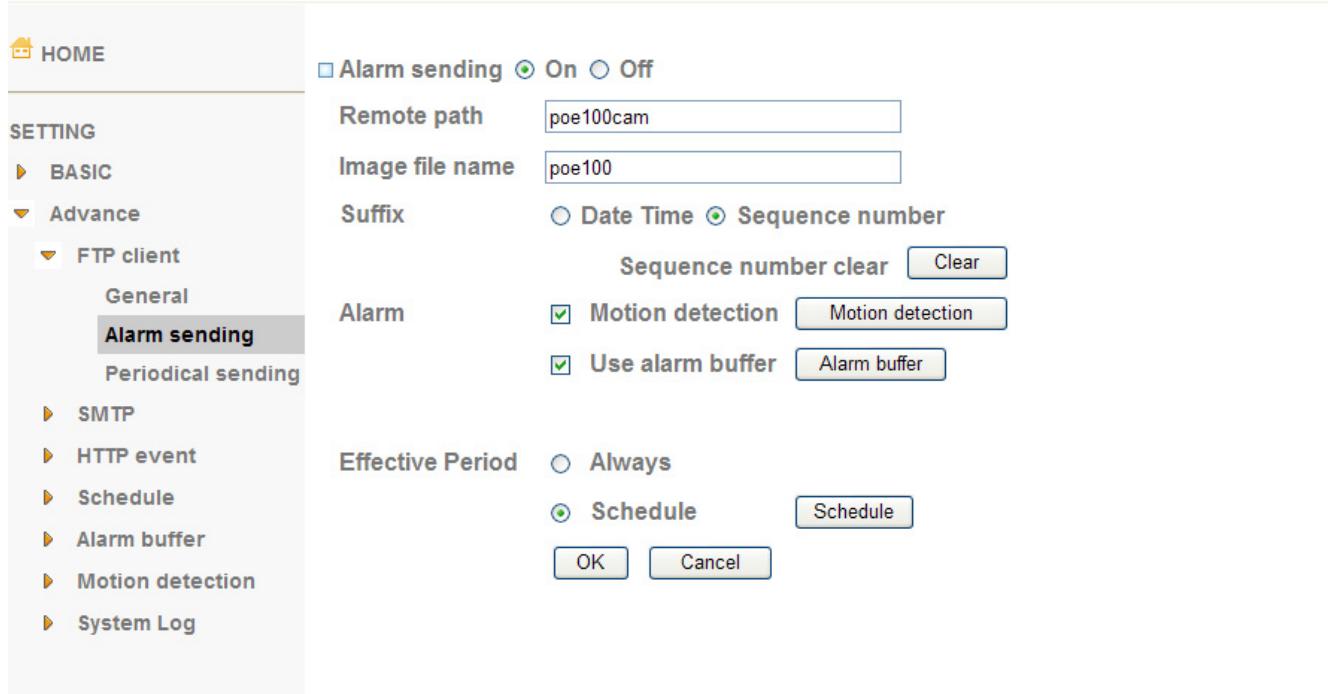
Retype password : To confirm the password, type the same characters as you typed in the Password box.

Passive mode : Set whether you use the passive mode of FTP server or not when connecting to FTP server. Select **On** to connect to FTP server using the passive mode.

Attached file type : Set attached file type to MJPEG or MPEG.4

7.1.2 Alarm sending

Set to forward the image and audio file to the specified FTP server linked with the alarm detection by the external sensor input or by the built-in motion detection function. Select **On** to send the image and audio file to FTP server linked with the alarm detection.

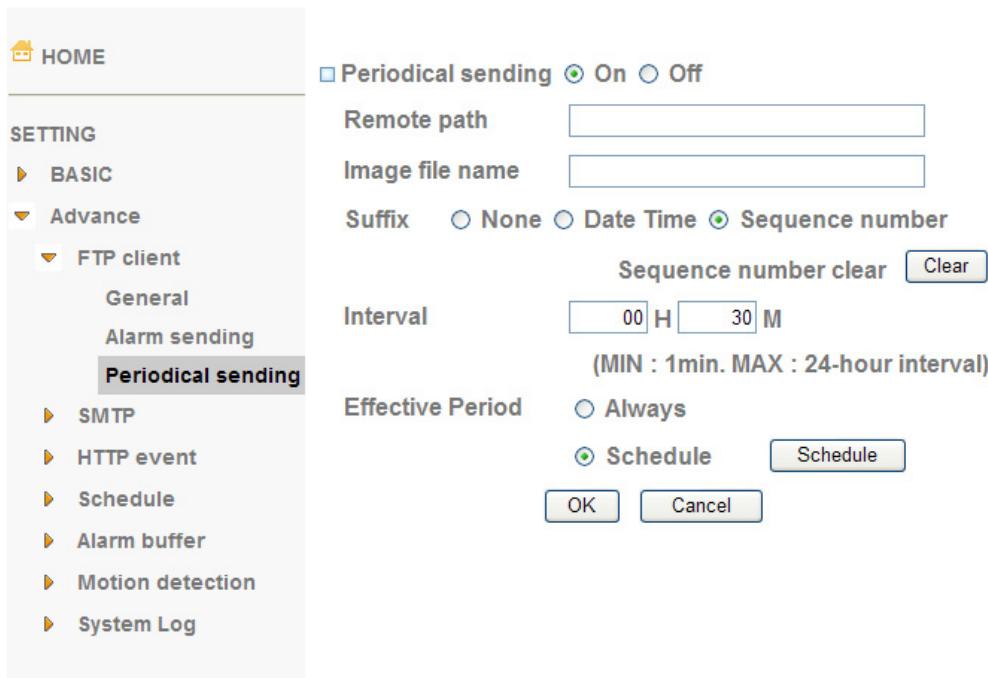


- **Remote path** : Type the path to the destination in FTP server up to 64 characters.
 - **Image file name** : Type the file name you want to assign to the images when sending to the FTP server. You can use up to 10 alphanumeric characters, - (hyphen) and _ (underscore) for naming.
 - **Suffix** : Select a suffix to add to the file name:
Date & time: The date & time suffix is added to the Image file name. The date/time suffix consists of lower two-digits of year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits), second (2 digits), and consecutive number (2 digits), thus 14-digit number is added to the file name.
Sequence number: A consecutive number of 10 digits between 0000000001 and 4294967295 and two fixed digits 00 is added to the Image file name.
 - **Motion Detection** : Click it on for using **Motion Detection** function as a sensor. You can set the motion detection function page.
- Note :**
- **Motion Detection** works only when the Video mode is set to **MPEG4** and the **Cropping** is set to **Off**.
 - **Alarm Buffer** : Select **Use alarm buffer** when you forward the image/ audio of before and after the alarm detection (pre-alarm, post-alarm). If you do not select it, only the image of the moment of the alarm detection is forwarded. Click **Alarm buffer** to display the Alarm buffer setting menu. For details, see “Setting the Alarm Buffer — Alarm buffer setting Menu on page.
 - **Effective period** : Set the period when the periodical sending is effective.
 - **Always** : The periodical sending is always effective.

- **Schedule** : You can specify the period when the periodical sending is effective in the schedule setting in the other section. Click **Schedule** and the setting menu for the effective period is displayed.

7.1.3 Periodical sending

You can set to send an image file to FTP server periodically by selecting **On** to send the image file to FTP server linked with setting period.



- **Remote path** : Type the remote path up to 64 characters.
- **Image file name** : Type the file name of the image sent to FTP server up to 10 alphanumeric characters, - (hyphen) and _ (under score).
- **Suffix** : Select a suffix to be added to the file name sent to FTP server.
- **None** : The name of the sent file will be the Image file name.
- **Date & time** : The date & time suffix is added to the Image file name. The date & time suffix consists of lower two-digits of year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits) and second (2 digits), and consecutive number (2 digits), thus 14-digit number is added to the file name.
- **Sequence number** : A **consecutive** number is added to the Image file name.
- **Sequence number clear** : Click **Clear** and the suffix of the sequence number returns to 1.
- **Interval** : Set the periodical sending is effective interval. Min value is 1 min and Max value is 24 hour.
- **Effective period** : Set the period when the periodical sending is effective.

Always : The periodical sending is always effective.

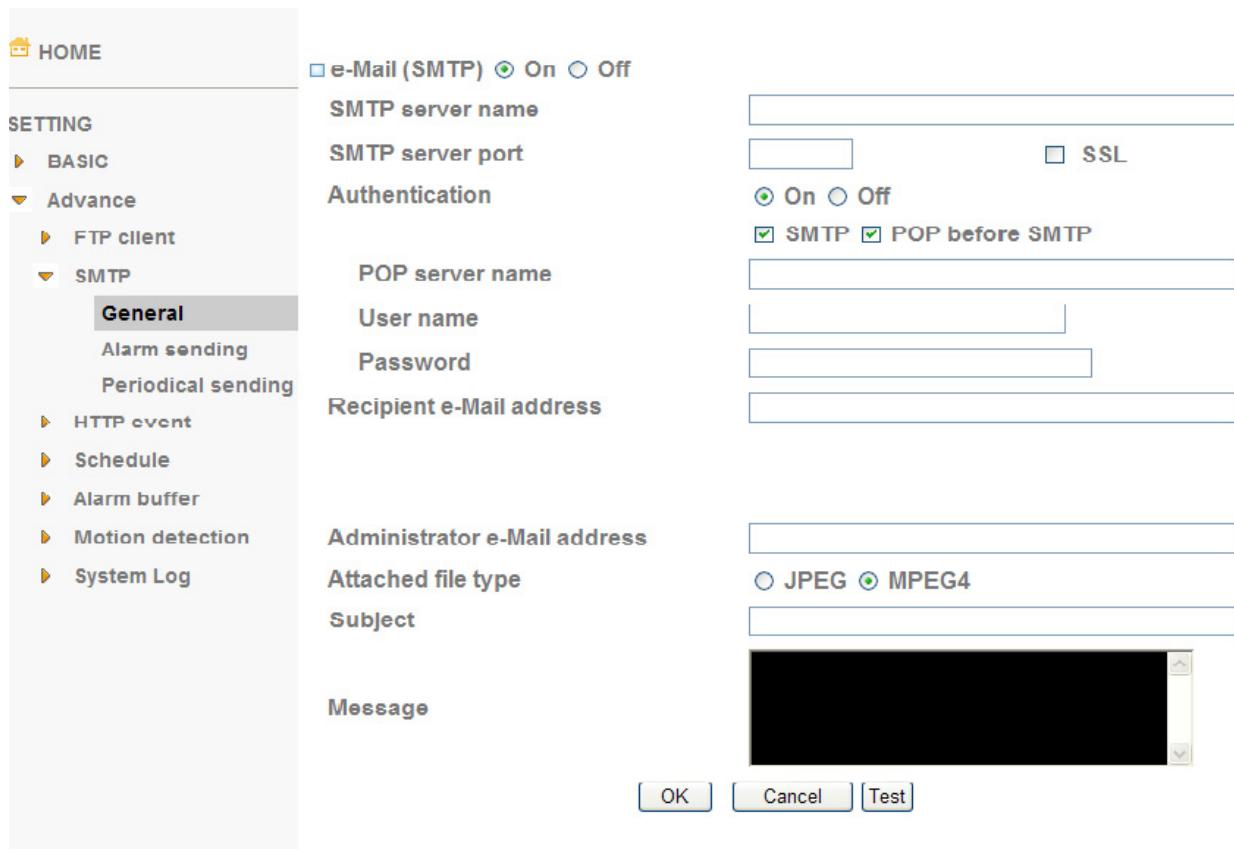
Schedule : You can specify the period when the periodical sending is effective in the schedule setting in the other section. Click **Schedule** and the setting menu for the effective period is displayed.
("Setting the Schedule — Schedule setting Menu" on page 34)

7.2 SMTP

Set the SMTP menu when you want to send an image via e-mail. By using Mail (SMTP) function, you can send a mail with attached image which has been shot linked with the external sensor input or with the built-in motion detection function. The image file can also be sent periodically. E-Mail (SMTP) setting menu is composed of three tabs, **General**, **Alarm sending** and **Periodical sending**.

7.2.1 General

Select **On** when you use the SMTP function. The common setting options are displayed below. If you do not wish to use the e-Mail (SMTP) function, select **Off** and click **OK**.



Note :

- During transmission of an image file via mail, the frame rate and operation performance of the monitor image of the main viewer decline.
- While the camera video mode is set to **MPEG4**, the image of the composite video signal output from the video output connector of the camera may be distorted during mail transmission.
- You cannot send an audio file by using the mail sending function.
- **SMTP server name** : Type the SMTP server name up to 64 characters, or the IP address of the SMTP server.
- **Authentication** : Select the authentication required when you send an email.
- **Off**: Select if no authentication is necessary when an email is sent.
- **On**: When authentication is necessary an e-mail is sent, select one of the authentication methods from the followings.
- **SMTP**: Select if SMTP authentication is necessary when an e-mail is sent.
- **POP before SMTP**: Select if POP before SMTP authentication is necessary when an e-mail is sent.

Note :

- When you set to **On**, be sure to select either or both **SMTP** or/and **POP before SMTP**.

POP server name : It is necessary when the **POP before SMTP** is selected in **Authentication**. Type the POP (receiving mail) server name up to 64 characters, or type the IP address of the POP server. This setting is necessary when the SMTP server which sends e-mails performs authentication using the POP user account.

User name, Password : Type the user name and Password of the user who has the mail account. This setting is necessary when the SMTP server which sends e-mails performs authentication.

Recipient e-mail address : Type the recipient e-Mail address up to 64 characters. You can specify up to three recipient E-mail addresses.

Administrator e-mail address : Type the Administrator e-Mail address up to 64 characters. This address is used for reply mail and sending system messages from the SMTP server.

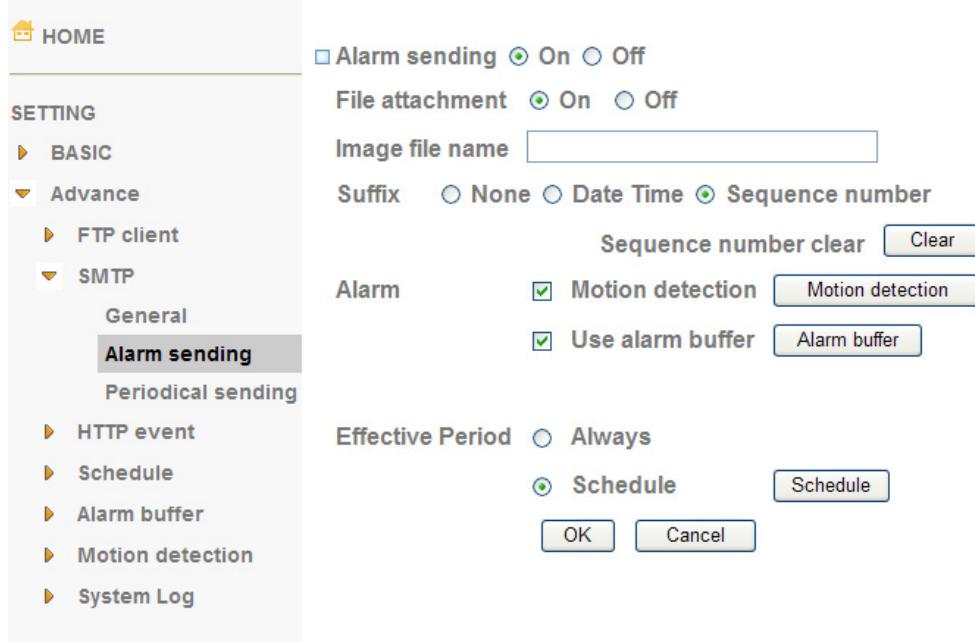
Attached File Type: Select to attach the file as JPEG or MPEG4.

Subject : Type the subject/title of the e-Mail up to 64 characters. With respect to mail which is sent according to the alarm detection when **Alarm sending** of the alarm tab is set to **On**, the characters standing for the sensor type added to the subject.

Message : Type the text of the E-mail up to 384 characters. (A line break is equivalent to 2 characters.)

7.2.2 Alarm sending

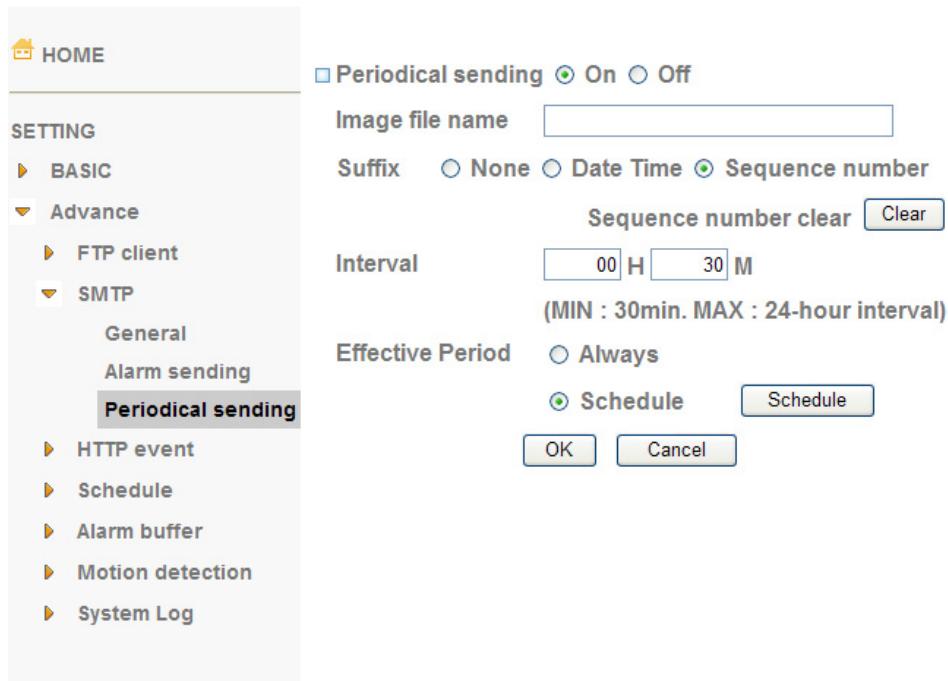
Set to send the mail with connection to the alarm detection by the external sensor input or by the built-in motion detection function.



- **Alarm sending** : Select **On** to set to send mail with connection to the alarm detection.
- **File attachment** : Set whether an image file is attached to the mail sent or not. When **On** is selected, the image file made by the settings below is attached. When **Off** is selected, only the message is sent.
- **Image file name** : Type the file name you want to assign to the image to attach a mail. You can use up to 10 alphanumeric, - (hyphen) and _ (underscore) for naming.
- **Suffix** : Select a suffix to add to the file name:
None: No suffix is added. The Image file name is assigned to the image to be sent via an e-Mail.
Date & time: The date & time suffix is added to the Image file name. The date/time suffix consists of lower two-digits of year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits), second (2 digits), and consecutive number (2 digits), thus 14-digit number is added to the file name.
Sequence number: A consecutive number of 10 digits between 0000000001 and 4294967295 and two fixed digits 00 is added to the Image file name.
- **Motion Detection** : Click it on for using **Motion Detection** function as a sensor. You can set the motion detection function page.
Note :
Motion Detection works only when the Video mode is set to **MPEG4** and the **Cropping** is set to **Off**.
- **Alarm Buffer** : Select **Use alarm buffer** when you forward the image/ audio of before and after the alarm detection (pre-alarm, post-alarm). If you do not select it, only the image of the moment of the alarm detection is forwarded. Click **Alarm buffer** to display the Alarm buffer setting menu. For details, see "Setting the Alarm Buffer — Alarm buffer setting Menu on page.

7.2.3 Periodical sending

You can set to send an image file by SMTP server periodically by selecting **On** to send the image file by SMTP server linked with setting period.



- Image file name :** Type the file name of the image sent by SMTP up to 10 alphanumeric characters, - (hyphen) and _ (under score).
- Suffix :** Select a suffix to be added to the file name sent by SMTP.
 - None :** The name of the sent file will be the Image file name.
 - Date & time :** The date & time suffix is added to the Image file name. The date & time suffix consists of lower two-digits of year (2 digits), month (2 digits), date (2 digits), hour (2 digits), minute (2 digits) and second (2 digits), and consecutive number (2 digits), thus 14-digit number is added to the file name.
 - Sequence number :** A consecutive number is added to the Image file name.
- Sequence number clear :** Click **Clear** and the suffix of the sequence number returns to 1.
- Interval :** Set the periodical sending is effective interval. Min value is 30 min and Max value is 24 hour.
- Effective period :** Set the period when the periodical sending is effective.
 - Always :** The periodical sending is always effective.
 - Schedule :** You can specify the period when the periodical sending is effective in the schedule setting in the other section. Click **Schedule** and the setting menu for the effective period is displayed. ("Setting the Schedule — Schedule setting Menu" on page 34)

7.3 HTTP Event

Use this menu to set up for capturing and sending images to an HTTP server. By using HTTP client function, you can send the image and audio file which has been shot and recorded linked with the external sensor input or with the built-in motion detection function to HTTP server. HTTP client setting menu is composed of two tabs, **General** and **Alarm sending**.

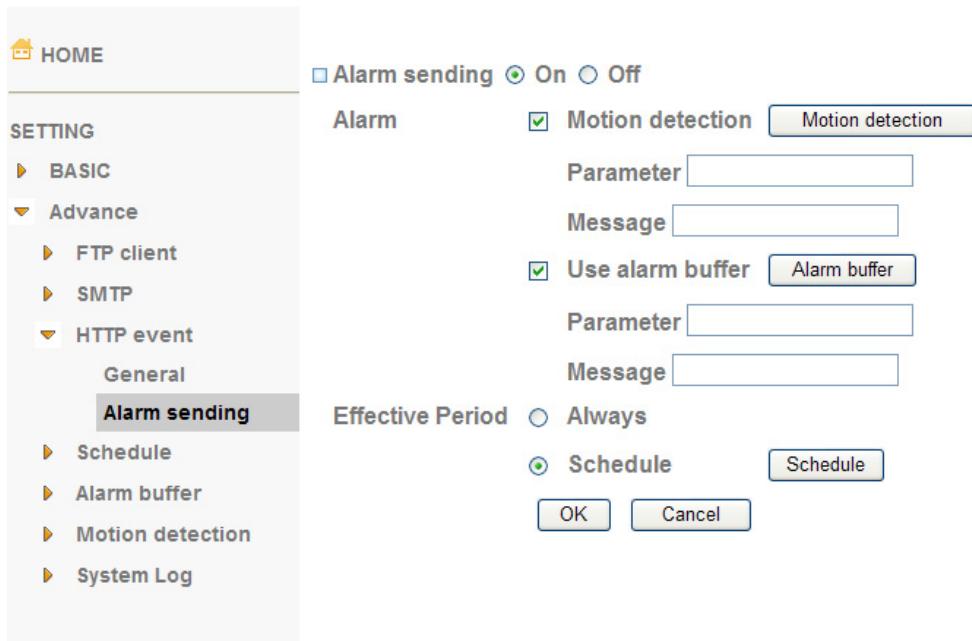
7.3.1 General

The screenshot shows the configuration interface for the HTTP event. On the left, there's a sidebar with a tree view of settings. Under 'SETTING', 'HTTP event' is expanded, and its 'General' tab is selected. Other tabs like 'Alarm sending', 'Schedule', 'Alarm buffer', 'Motion detection', and 'System Log' are also listed. On the right, there's a form for 'HTTP event' configuration. It includes a radio button group for 'On' (selected) and 'Off'. Below that are input fields for 'URL' (empty), 'Port' (set to 80), 'User ID' (empty), 'Password' (empty), 'Proxy server name' (empty), 'Proxy port number' (empty), 'Proxy user ID' (empty), and 'Proxy password' (empty). At the bottom right of the form are three buttons: 'OK', 'Cancel', and 'Test'.

HTTP event: Set up the HTTP server URL, port, user id, password, and proxy server settings.

7.3.2 Alarm sending

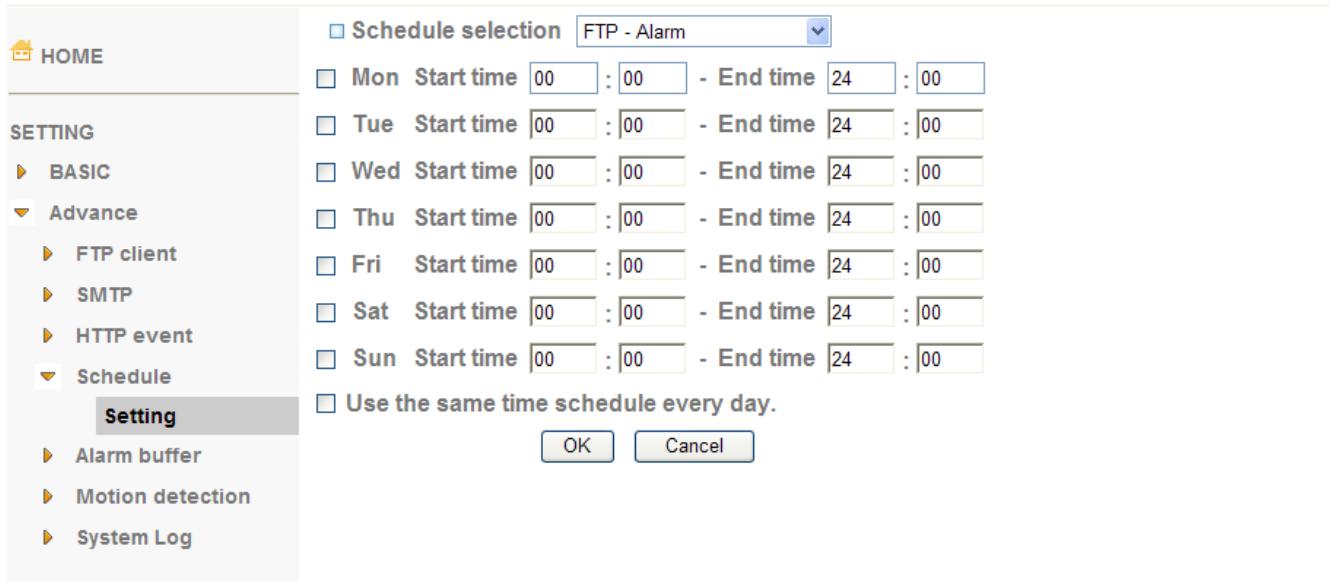
Set to send the mail with connection to the alarm detection by the external sensor input or by the built-in motion detection function.



- **Alarm sending** : Select **On** to set to send mail with connection to the alarm detection.
- **Motion Detection** : Click it on for using **Motion Detection** function as a sensor. You can set the motion detection function page.
Note :
 - **Motion Detection** works only when the Video mode is set to **MPEG4** and the **Cropping** is set to **Off**.
- **Alarm Buffer** : Select **Use alarm buffer** when you forward the image/ audio of before and after the alarm detection (pre-alarm, post-alarm). If you do not select it, only the image of the moment of the alarm detection is forwarded. Click **Alarm buffer** to display the Alarm buffer setting menu. For details, see "Setting the Alarm Buffer — Alarm buffer setting Menu on page.
- **Effective period** : Set the period when the periodical sending is effective.
Always : The periodical sending is always effective.
Schedule : You can specify the period when the periodical sending is effective in the schedule setting in the other section. Click **Schedule** and the setting menu for the effective period is displayed.

7.4 Schedule

When you click **Schedule** on the Advanced mode menu, the Schedule setting menu appears. This is the same menu as the setting menu which is displayed when you click **Schedule** to set Effective period and Schedule in FTP client setting menu, e-Mail (SMTP) setting menu, Alarm out setting menu and so on. Example: When setting e-Mail (SMTP) (the alarm sending) in the Schedule setting menu.



7.4.1 Setting

Schedule selection

Select the list box to specify the schedule you want to set. **e-Mail (SMTP) – Alarm**, **e-Mail (SMTP) – Periodical**, **FTP – Alarm**, **FTP – Periodical**, **HTTP event – Alarm**, **Alarm output – Alarm** or **Alarm output – Timer**, can be selected.

Mon (Monday) to Sun (Sunday)

The time period on the right of the checked day is the effective period of the schedule.

Start time, End time

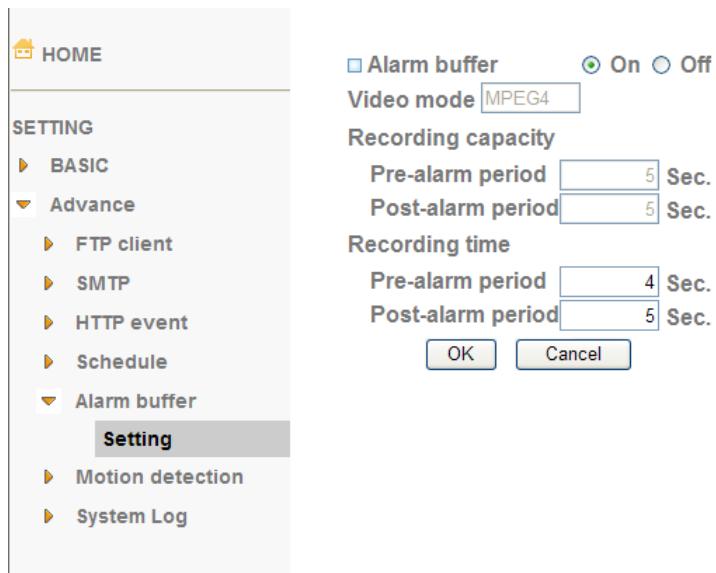
Specify the **Start time** and the **End time**.

Use the same time schedule every day

When this is checked, the **Start time** and **End time** set to **Mon** (Monday) are applied to all days. In this case, the **Start time** and **End time** of the other days than **Mon** (Monday) cannot be input.

7.5 Alarm Buffer

You can set the Pre-alarm image and audio (the image and audio before the alarm detection) and the Post - alarm image and audio. These can be set when **Alarm sending** FTP client setting menu or Image memory setting menu is set to **On**, and besides when **Use alarm buffer** is selected.



7.5.1 Setting

Alarm buffer: To activate the Alarm buffer function, select **On**. The basic setting options are displayed below. When you do not use the Alarm output function, select **Off**.

Recording capacity

Pre-alarm period : Display the maximum recording capacity of image/audio before the alarm detection.

Post-alarm period : Display the maximum recording capacity of image/audio after the alarm detection.

Recording time

Set the recording time for the Pre-alarm image/audio and Post alarm image/audio.

Pre alarm period : Type it with recording time of the image/audio before the alarm detection.

Post alarm period : Type it with recording time of the image/audio after the alarm detection.

Note :

- The value of Recording capacity differs depending on Image size, Bitrate (for MPEG4) and Image quality (for MPEG4 and MJPEG) in the camera setting menu.

7.6 Motion Detection

When you click **Motion Detection** on the Advance mode menu, the Motion Detection setting menu appears. There are three Motion Detection functions as sensors to set for different detecting zones. Each one has Threshold and Sensitivity inputs which you can adjust to specific zone sequentially. Motion Detection function can support to FTP, SMTP and Alarm output for capturing and sending images or starting alarm output.



Click it **On** when you use the Motion Detection function and detecting zone appears for adjusting and moving. The common setting options are displayed below. If you do not wish to use the Motion Detection function, click it **Off** and press **OK**.

Motion Detection 1: Click it on for using **Motion Detection 1** function as a sensor. You can adjust and move the detecting zone by using mouse.

Motion Detection 2: Click it on for using **Motion Detection 2** function as a sensor. You can adjust and move the detecting zone by using mouse.

Motion Detection 3: Click it on for using **Motion Detection 3** function as a sensor. You can adjust and move the detecting zone by using mouse.

Threshold: You can use the tool bar to set up-limit value. When detecting zone signals are over setting value, it would carry on assigned work.

Sensitivity : You can use the tool bar to set down-limit value. When detecting zone signals are over setting value, it would carry on assigned work.

Carry out the following steps :

1. Click **On** to Motion Detection 1 choose one of eight orders.
2. A detecting zone 1 appears and use mouse to adjust and move the zone boundaries and position.
3. Use tool bar to set **Threshold** and **Sensitivity** value.
4. Follow the steps to set the other Motion Detection.
5. Click the **OK** to save the setting.

Note :

- Be careful! Motion Detection function don't work with Patrol function at same time.

7.7 System Log

The System Log function allows users to review any changes and events happened. The system starts logging automatically after started.

Remote Log: Enables user to send the log data to a specified log server.

HOME

SETTING

- **BASIC**
- ▼ **Advance**
 - **FTP client**
 - **SMTP**
 - **HTTP event**
 - **Schedule**
 - **Alarm buffer**
 - **Motion detection**
 - ▼ **System Log**
- Setting**

Remote Log

Enable remote log

Server name

Server Port 514 (1024 ~ 65535)

OK **Cancel**

Current Log

```
Jan 1 00:00:10 <info> > SYS: log started
Jan 1 00:00:39 <info> > ALARM: Motion Detection Event Receive
Aug 29 10:54:51 <info> > NET: Starting network...
Aug 29 10:54:51 <info> > NET: MAC = 00:1B:FE:00:08:E5
Aug 29 10:54:51 <info> > NET: Network type = DHCP
Aug 29 10:54:52 <info> > ALARM: Alarm Buffer Event Receive
Aug 29 10:54:52 <info> > WDT: watchdog start
Aug 29 10:55:00 <info> > ALARM: Motion Detection Event Receive
Aug 29 10:55:21 <info> > RTSP: HTTP from 192.168.0.110
Aug 29 10:55:30 <info> > ALARM: Motion Detection Event Receive
Aug 29 10:55:33 <info> > RTSP: Close from 192.168.0.110
```

APPENDIX A – FRAME RATE & BIT RATE TABLE

This chapter provides tables that helps you to optimize your IP camera with your network environment. Base on your network upload environment to choose the best Image-Quality setting.

For example, if the network environment is ADSL 256Kb(upload) / 2Mb(download), the most fluent Image-Quality needs to set up under 256 Kb situation.

A.1. NTSC CCD IPCamera

A.1.1. MPEG4 @ 30fps / kbps

Quality	704*480	352*240	176*120
Excellent	2000	800	200
Detailed	850	250	80
Good	450	150	60
Standard	350	110	50
Medium	250	90	40

A.1.2. MPEG4 / kbps, fps

Image-Size	Bitrate Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704*480	2048	30	1800	25
704*480	2048	15	2100	16
704*480	1536	30	1500	30
704*480	1536	15	1700	16
704*480	1024	30	1050	30
704*480	1024	15	1100	16
704*480	512	30	520	30
704*480	512	15	650	16
352*240	1536	30	1500	30
352*240	1536	15	1600	16
352*240	1024	30	1100	30
352*240	1024	15	1100	16
352*240	512	30	530	30
352*240	512	15	600	16
176*120	1024	30	1000	30
176*120	1024	15	900	16
176*120	512	30	530	30
176*120	512	15	550	16
176*120	128	30	150	30
176*120	128	15	150	16

A.1.3. MJPEG @ 15fps / kbps

Quality	704*480	352*240	176*120
Excellent	7500	2800	1000
Detailed	5000	1500	700
Good	3500	1000	500
Standard	2000	800	400
Medium	1300	500	300

A.1.4. MJPEG / kbps, fps

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704*480	Excellent	15	7500	11
704*480	Excellent	5	4000	5
704*480	Good	15	3500	13
704*480	Good	5	1500	5
704*480	Medium	15	1300	13
704*480	Medium	5	550	5
352*240	Excellent	15	2800	12
352*240	Excellent	5	1200	5
352*240	Good	15	1000	12
352*240	Good	5	450	5
352*240	Medium	15	500	12
176*120	Medium	5	220	5
176*120	Excellent	15	1000	15
176*120	Excellent	5	400	5
176*120	Good	15	500	15
176*120	Good	5	200	5
176*120	Medium	15	300	15
176*120	Medium	5	100	5

A.2. PAL CCD IPCamera

A.2.1. MPEG4 @ 25fps / kbps

Quality	704*576	352*288	176*144
Excellent	1800	400	100
Detailed	600	150	50
Good	400	100	40
Standard	300	80	30
Medium	200	60	20

A.2.2. MPEG4 / kbps, fps

Image-Size	Bitrate Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704*576	2048	25	2000	23
704*576	2048	15	2100	16
704*576	1536	25	1600	25
704*576	1536	15	1700	16
704*576	1024	25	1100	25
704*576	1024	15	1200	16
704*576	512	25	550	25
704*576	512	15	650	16
352*288	1536	25	1500	25
352*288	1536	15	1600	16
352*288	1024	25	1100	25
352*288	1024	15	1100	16
352*288	512	25	550	25
352*288	512	15	600	16
176*144	1024	25	1000	25
176*144	1024	15	1000	16
176*144	512	25	550	25
176*144	512	15	600	16
176*144	128	25	150	25
176*144	128	15	150	16

A.2.3. MJPEG @ 15fps / kbps

Quality	704*576	352*288	176*144
Excellent	7800	1700	650
Detailed	4300	1000	450
Good	2500	650	350
Standard	1300	450	250
Medium	1000	300	180

A.2.4. MJPEG / kbps, fps

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
704*576	Excellent	15	7800	11
704*576	Excellent	5	4000	5
704*576	Good	15	2500	11
704*576	Good	5	1200	5
704*576	Medium	15	1000	11
704*576	Medium	5	500	5
352*288	Excellent	15	1700	11
352*288	Excellent	5	900	5
352*288	Good	15	650	11
352*288	Good	5	330	5
352*288	Medium	15	300	11
352*288	Medium	5	160	5
176*144	Excellent	15	650	12
176*144	Excellent	5	300	5
176*144	Good	15	350	12
176*144	Good	5	150	5
176*144	Medium	15	180	12
176*144	Medium	5	75	5

APPENDIX B – STORAGE REQUIREMENT TABLE

This chapter provides tables that helps you set your recording storage system.

Please refer to the following table to find out the capability for recording into your hard disk.

B.1 MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	704*480	352*240	176*120
Excellent	21.1	8.4	2.1
Detailed	9.0	2.6	0.8
Good	4.7	1.6	0.6
Standard	3.7	1.2	0.5
Medium	2.6	0.9	0.4

B.2 MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	704*480	352*240	176*120
Excellent	10.5	4.2	1.1
Detailed	4.5	1.3	0.4
Good	2.3	0.8	0.3
Standard	1.8	0.6	0.2
Medium	1.3	0.5	0.2

B.3 MPEG4 Storage Requirement GB / channel / day

Image-Size	Bitrate Setting	Frame-Rate Setting	Storage Requirement
704*480	2048	30	23.0
704*480	2048	15	22.1
704*480	1536	30	18.5
704*480	1536	15	17.9
704*480	1024	30	11.1
704*480	1024	15	11.6
704*480	512	30	5.5
704*480	512	15	6.9
352*240	1536	30	15.8
352*240	1536	15	16.9
352*240	1024	30	11.6
352*240	1024	15	11.6
352*240	512	30	5.6
352*240	512	15	6.3
176*120	1024	30	10.5
176*120	1024	15	9.5
176*120	512	30	5.6
176*120	512	15	5.8
176*120	128	30	1.6
176*120	128	15	1.6

B.4 MJPEG Storage Requirement GB / channel / day @ 15fps

Quality	704*480	352*240	176*120
Excellent	79.1	29.5	10.5
Detailed	52.7	15.8	7.4
Good	36.9	10.5	5.3
Standard	21.1	8.4	4.2
Medium	13.7	5.3	3.2

B.5 MJPEG Storage Requirement GB / channel / day

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate
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704*480	Excellent	15	79.1
704*480	Excellent	5	42.2
704*480	Good	15	36.9
704*480	Good	5	15.8
704*480	Medium	15	13.7
704*480	Medium	5	5.8
352*240	Excellent	15	29.5
352*240	Excellent	5	12.7
352*240	Good	15	10.5
352*240	Good	5	4.7
352*240	Medium	15	5.3
176*120	Medium	5	2.3
176*120	Excellent	15	10.5
176*120	Excellent	5	4.2
176*120	Good	15	5.3
176*120	Good	5	2.1
176*120	Medium	15	3.2
176*120	Medium	5	1.1