TP-LINK®

User Guide

TL-SC3430

H.264 Megapixel Surveillance Camera



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FCC STATEMENT



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to pro-vide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not in-stalled and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- > Reorient or relocate the receiving antenna.
- > Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- > Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE Mark Warning

(())

This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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Package Contents

The follow items should be found in your package:

- > TL-SC3430 H.264 Megapixel Surveillance Camera
- Power Adapter
- > Mounting Bracket with three screws, a Lock Ring, a Brace and a Base Plate
- > RJ45 Cable
- > Quick Installation Guide
- > Resource CD, including:
 - This User Guide
 - Apllication Guide
 - Other helpful information

Note:

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact your distributor.

Chapter 1 Safety Instructions

> Before you use this product

This product has been designed with safety in mind. However, the electrical products can cause fires which may lead to serious body injury if not used properly. 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.

> Don't open the housing of the product

Don't try to open the housing or remove the covers which may expose yourself to dangerous voltage or other hazards.

> Don't use the accessories not recommend by the manufacturer

> Heed the safety precautions

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

> 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 water (e.g.,near a bathtub, kitchen sink, laundry tub)
- 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

> In case of a breakdown

In case of system breakdown, discontinue use and contact your authorized 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 dealer or the store where you purchased the product.

> Transportation

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

Ventilation

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

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.

Chapter 2 Minimum System Requirement & Product Feature

2.1 System Requirement

For normal operation and viewing of the network camera, it's recommended that your system meet these minimum requirements for proper operation:

ltem	Requirements
CPU	Pentium 4 2.8GHz (or equivalent AMD)
Graphic Card	258 MB RAM graphic cards(or equivalent on-board graphic cards)
RAM	1G
Operating System	Windows 2000, Windows 2003, Windows XP, Windows Vista, Windows 7, and Mac OS X Leopard
Web Browser	Internet Explore 6 or later

P Note:

Please keep updating the latest Windows software and service package. (Ex: Net Framework, Windows Media Player, Enhance ActiveX Security)

2.2 Product Features

These easy-to-follow instructions make setup and operation quick and simple, so you'll also soon be enjoying the benefits of these product features:

	SYSTEM
Resolutions	 H.264 / MPEG-4 / Motion JPEG: 4 resolutions from 1280 x 1024 to 320 x 240 via API and configuration web page 3GPP: 2 resolutions from 320 x 240 to 160 x120 via compatible cellphone.
Screen Resolution	Higher than 1024 * 720 pixels
Compressing format	H.264 / MPEG-4 / Motion JPEG
Frame Rate	Up to 15 fps at 1280 x 1024 Up to 30 fps at 640 x 480
	Rotation: Mirror, Flip, Mirror Flip
Image settings	Brightness / Contrast / Saturation / Sharpness
	Overlay capabilities: time, date, text and privacy image
Image snapshot	Yes
Video Recording	Yes
Full Screen Viewing	Yes
Digital Zoom	10x digital

Two-way (full / half duplex) with built-in microphone
Audio compression: G.711 μ law, a law, and AMR
Support MSN Live View
Through 2.5 WAP, 3GPP, 3G Streaming, and 3G Browser
FTP Client / SMTP / Network Storage
Passward Protecton / HTTPS encryption / IP Filter
Recording image and audio file pre-and-post disconnection up to 5 sec.
Bonjour, TCP/IP, DHCP, PPPoE, ARP, ICMP, FTP, SMTP, DNS, NTP, UPnP, RTSP, RTP, HTTP, TCP, UDP, 3GPP/ISMA RTSP
Up to 10 users
0°C ~ 50 ℃ (32°F ~ 122 °F)
HARDWARE
F1.8, 4.2mm Megapixel board lens
5 φ LEDs x 6
5 M
1 in / 1 out
1
12V DC, 1A, Max 5W

2.3 Physical Overview

2.3.1 Front View



Focus Adjustment Ring: Adjust the focus ring to get a clear image.

Network LED Indicator: It lights up when the IP Camera is well connected to the network. It flashes when there are data being transmitted.

Power LED Indicator: It lights up when the IP Camera is powered on.

Built-in Microphone: The location where the voice from your partner comes out.

2.3.2 Bottom view



- > **Power Connector**: The power connector is where you connect the power adapter.
- > **RESET**: Please take the following steps to reset the camera to its defaults.

Step 1. Make sure the camera is powered on for at least 30 seconds to complete its normal startup.

- Step 2. Keep the camera powered on, then press and hold the **Reset** button for more than 10 seconds. Afterwards release it, and the camera will be restored to factory defaults after rebooting.
- > Audio Out: The Audio Out port is where the speaker is connected.
- LAN (Network Connector): Through this port, you can connect the IP Camera to your computer or the other Ethernet network devices.

Chapter 3 Using IP Camera via Web Browser

3.1 Obain the IP Address

1. Insert the provided CD into your CD-ROM driver. The Setup Wizard will automatically pop up on your computer's screen as shown in the figure below.



Figure 3-1

2. Choose the **Intelligent IP Installer**, and then the next screen appears. Click on **Intelligent IP Installer** to begin the installation.



Figure 3-2

3. After the installation is finished, click **Start > All Programs > TP-LINK >Intelligent IP Installer** to start using the program.

Internet Internet Explorer	 Activate Windows Set Program Access and Defaults Windows Catalog 						
E-mail Outlook Express	🍓 Windows Update						
COOLOCKEXPICITS	C Accessories	•					
MSN.	Games	•					
	m Startup	•					
Windows Media Playe	Internet Explorer						
	MSN						
Windows Messenger	Outlook Express						
	Remote Assistance						
Tour Windows XP	Windows Media Player						
1	🔏 Windows Messenger						
Paint	Windows Movie Maker						
Files and Settings Tra	🛅 Symantec Client Security						
S Wizard	m TP-LINK			TWCU 4.1.2.94	,	1	
All Programs 🜔	m CorelDRAW 9	÷	6	Intelligent IP Instal	er 🕨		Intelligent IP Installer
						6	Intelligent IP Installer Uninst

Figure 3-3

4. The following screen will then display. Click the **Search** button to search Network Cameras in the network; it displays Network Cameras information including IP Address.

Intelligent IP	Installer					
Surveillan	ce Tech.	Innovato	r			
ଦ _{Camera} ାଦ୍ୟ Use						
- UPnP device list	1 1					
Name	IP Address	MAC Address	Mod. Name	Mod. ID		_
Network Camera	192.168.1.100	001BFE007DEE	Day/Night Surveillance Camera	TL-SC3171	Setup	
					😵 Upgrade	
					🗱 🛛 Factory defa	ult
					U Reboot	
Search	🗕 🛛 Link to IE					
Hint	EntriolE					
			ction buttons to execute. Click on § subnet again.	Bearch to clean		

Figure 3-4

3.2 Windows Web Browser

1 Click **Link to IE** button in Figure 3-4 or launch your web browser, and enter the IP address or host name of the IP camera in the Location / Address field of your browser.

about:blank - Microsoft Internet Explorer								
File E	dit View	Favorites	Tools	Help				1
Э Ва	ick - 🔁	- 🗙	2 🗸	Se 🔎	arch 🤸	Favorites	Ø	»
Address	http://1	92.168.1.10	0/		💌 🔁 Go	D Links	» 🤻	2 -

P Note:

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

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

P 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. (Please check "**Setting** \rightarrow **Basic** \rightarrow **Security** \rightarrow **Account**")

H. 264+Mega Camera User name: Password: *****	
User name: 😰 admin	
Password'	~
Remember my password	d

3 The monitor image will be displayed in your browser. In the far left side of main configuration are Setting, Client Setting, and Image Setup. For more details, you can check Chapter 6.2、Chapter 6.3、Chapter 6.4 and Chapter 6.5.



3.3 Mac Web Browser

1 Click the Safari icon, and enter the IP address of the IP camera in the Location / Address field of your browser.

P Note:

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



2 Enter the default account "admin" and default password "admin".



P 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 (Please check "**Setting** \rightarrow **Basic** \rightarrow **Security** \rightarrow **Account**")

3 The monitor image will be displayed in your browser. In the far left side of main configuration are **Setting, Client Setting**, and **Image Setup**. For more details, you can check Chapter 6.2、Chapter 6.3、Chapter 6.4 and Chapter 6.5.



Chapter 4 Operating IP Camera via Mobile Phone

4.1 Mobile Phone Viewing

4.1.1 3G Mobile Phone Streaming Viewing

For 3G mobile phone viewing, type "**rtsp:**//**<IP>:<PORT>**/**video.3gp** " into your 3G Streaming Link. <IP> is the Public IP address of your IP camera; <PORT> is the RTSP port of your IP camera (Default value is 554.) Example: rtsp://100.10.10.1:554/video.3gp

P Note:

You can also use RTSP clients (RealPlayer, VLC, QuickTime Player...etc.) to view RTSP streaming, just type in "**rtsp://<IP>:<PORT>/video.3gp**" as the Player URL.

4.1.2 2.5G Mobile Phone WAP Viewing

For 2.5G mobile phone viewing, type "http://<IP>/mobile.wml" into your 2.5G WAP Browser. <IP> is the Public IP address of your IP camera.

4.1.3 2.5G Mobile Phone Browser Viewing

For 2.5G mobile phone viewing, type "http://<IP>/mobile.htm" into your 2.5G Web Browser. <IP> is the Public IP address of your IP camera.

4.2 Using IP Camera via iPhone

You can use TP-LINK Web User Interface via iPhone. Please follow the setting process below. Then you can use TP-LINK Web UI via iPhone.

1. Select Safari function



3. Enter name and password. Default values are both admin. Then click Log in



2. Enter IP address in your web link.



4. The TP-LINK User Interface and live image will show up in the middle of the screen.



Note: It will show continuous snapshots not a real time video streaming. Therefore, the recording feature is disabled.

Chapter 5 MSN Messenger (Supports up to Windows Live Messenger version 8089)

Please see the following steps to set up the Messenger function.

- 1. **Application of a new MSN account:** You can download MSN software freely and create a new MSN account (e.g. camera at home@msn.com) to use Microsoft Live Messenger.
- 2. Login Account and Password: Go to Setting→Basic→Network→Messenger, set the Messenger to "On". Then, enter the new account (camera at home@msn.com) and password to login.

Note: This account (eg. camera at home@msn.com) is not your commonly used MSN account but a new one applied for IP Camera.

E Home		
SETTING	Messenger	
-BASIC		
+ System	📕 Messenger 💿 On	n 🔿 Off
+ Camera -Network	Protocol	msn
Information		
PPPoE	Login Account	camera at home@msn.com
DDNS	Password	
UPnP		
Bonjour	Re-type password	•••••
IP Notification	Alias	
Messenger	11100	
+ Security +Advanced	Port range	20000 (1024 ~ 65531) ~ 21000 (1028 ~ 65535)
Advanced	Video mode	⊙ Computer view ○ Mobile view
	IP Notification	⊙ On 🔿 Off
	Privacy	⊙ On ◯ Off
	User	
		Add Remove
	Allow list	
		OK Cancel

3. **IP Notification:** Choose "On" at the option of IP Notification. If this feature switches On, camera will send IP notification to the users who are allowed.

+Advanced	IP Notification	⊙ On ◯ Off	
	Privacy	💿 On 🔘 Off	
	User		
		Add Remove	
	Allow list		

- 4. **Privacy & User & Allow List:** Choose "**On**" at the option of Privacy, then User column will appear and be able to build Allow List, so that only the users listed can access the camera via MSN.
- 5. **Log in Working Account:** Use your working account to login in the Messenger software. And add the camera's MSN account (camera at home@msn.com) as a contact.

🚴 Windows Live	Contacts - Add a Contact _ 🔍 🗙
2	Help
<u>G</u> eneral C <u>o</u> ntact	Instant Messaging Address: camera at home@msn.com Example: example@live.com, example@yahoo.com
<u>P</u> ersonal <u>W</u> ork <u>N</u> otes	Personal invitation: Enter a message to send to this contact
	Also send an e-mail invitation to this contact Mobile device: (Used for text messages) Choose a country or region
	Nickname: Group:
	✓ Subscribe to updates for this contact Learn about Windows Live Contacts

6. Check its status. Normally it should be online.



7. The **Camera at home** will show up with its Public IP and Private IP after sending a message of "**Ping**" in the lower key (if the option of IP Notification is "On").

		me@msn. 33.2.196/		rlo@hotr	nall.cor	n>				X
8	B	6	6	Eŋ	-	20				
								4		
							*			
	8 .	(2) 3			.			6		
ping	\Box				[Send		1	2	
						Search				
Last m	essage re	eceived at	8:16 PM	on 8/31/	2009.	1	A		4	

8. Click the camera icon is and select **View a contact's webcam** to view the video.



9. The IP Camera will accept your invitation; the live video will show up in the right screen after few seconds.



10. Click Action button and choose Start Control Panel to use control panel.

🖉 camera at home - Conversation	
File Edit Actions Tools Help	
came Invite contact to join this conversation	U
http:// Send a single file	
Greate a sharing folder	
Send a nudge	
Send a wink webcar Send an e-mail message	
Share the current background	
You C-	Larr Anna 1994 (2007) Article H / 1
sending	
or Control Panel	
R came Start an activity	2
invitatio Play a game	
Request remote assistance	
webcar Personalize Messenger	
Personalize Messenger	
sending Add to contacts	
or CandBlock	
Reamera at home has accepted your	
invitation to start sending webcam.	· · · · · · · · · · · · · · · · · · ·
×	Get accessories
	Lungi
Send	
Search	
🤶 Connection established.	

11. The dialog box will show up with "This application is not part if Window Live Message......" Tick the box of "Don't show me this again" and click **OK**.

👬 Windows Live Messenger 🛛 🔀
This application is not part of Windows Live Messenger. MSN and Microsoft do not accept liability for this application if it causes damage to your computer or results in a violation of your privacy.
Are you sure you want to open this application?
OK Cancel

12. The IP Camera will accept your invitation to start Control Panel.



13. You can click Camera icon

to snapshot then the picture will send to you immediately.



14. You can click paint palette icon showing up with tool bar to set up image. Then, you can use the tool bar to optimize video Brightness $\stackrel{\checkmark}{\leftarrow}$, Contrast $\stackrel{\frown}{\bigcirc}$, Saturation $\stackrel{\frown}{\blacksquare}$ and Hue $\stackrel{\frown}{\blacksquare}$. After the adjustment of all setting, you can still click $\stackrel{\frown}{\Box}$ to make the setting back to the original setting.



Chapter 6 Configuration of Main Menu

In the left side of main configuration are Setting, Client setting, Image setting. For more details, please check Chapter 6.2、 Chapter 6.3、 Chapter 6.4.、 Chapter 6.5.

In the right side, you can control Live View in your main Browser. The functions include: **Snapshot**, **Open digital zoom**, **Audio**, and **Video Play**.



6.1 Live View

6.1.1 Snapshot

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

Symbols	Meaning
٥	a snapshot window appears after clicking the icon
Save	Save the picture captured by snapshot into your computer
Close	Return to the view screen
	full Screen

6.1.2 Digital zoom in / out the image via the monitor window



- Click to display the digital zoom in window.
- Pull the **Wall of the above window**. **T C** to adjust the digital zoom range, and it will be showed on the above window.
- Use the left click of your mouse to move ______ to anywhere in the window area.

6.1.3 Video play buttons

Symbols	Meaning
	Pause the current video
	Play the video
	Stop the current video
۲	Record the current video

Note:

Concerning the recording storage requirement of your hard disk, please refer to the **CHAPTER 9**. **APPENDIX / B. Storage Requirement Table**.

6.1.4 Audio buttons

Symbols	Meaning	Note
<u>.</u>	Speakers turned on	mean the speakers of your computer are turned on to transmit the sounds from the connected IP camera(s)
	Speakers turned off	mean the speakers of your computer are turned off to transmit the sounds from the connected IP camera(s)

1	Mute off	mean you can broadcast to the connected IP camera(s) via the Ethernet using your microphone
N	Mute on	mean you can't broadcast to the connected IP camera(s) via the Ethernet using your microphone
	Volume control bar	mean you can adjust the sound volume by the control bar

6.2 Setting

This function is only for the Administrator. Click "Setting" on the home page of web user interface to get into the **Basic** and **Advanced Settings** menu.



Click **Basic** folder, there are sub-folders including **System, Camera, Network,** and **Security**. Fore more information, you can see Chapter 7.1, Chapter 7.2, Chapter 7.3 and Chapter 7.4.

Click **Advanced** folder, there are sub-folders including FTP Client, SMTP, Network Storage, Schedule, Alarm Buffer, Motion Detection, Audio Detection, and System Log. Fore more information, please see Chapter 9.

6.3 Client Setting

This function is only for the client. Click this button to control **Mode**, **View Size**, **Protocol**, and **Video Buffer**.



6.3.1 Mode

Click the pull-down box to choose video compression mode of **LIVE VIEW** among H.264, MPEG-4, and MJPEG.

Note:

As long as the operating system not able to afford loading under H.264 mode, please downgrade the mode to MPEG-4 or MJPEG.

6.3.2 View Size

Select the desired view size of image resolution among 1/4X, 1/2X, and 1X.

6.3.3 Protocol

Select the transferring protocol among TCP, UDP, and HTTP.

6.3.4 Video Buffer

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

6.4 Image Setup

The tool bar can be adjusted to optimize video Brightness, Contrast, Saturation and Sharpness.



6.4.1 Brightness

The value range is 0~99. The higher value the brightness is, the brighter the image is.

6.4.2 Contrast

The value range is $0\sim99$. The contrast is a measure of a display system, defined as the ratio of white to black that the system is capable of producing. The higher value the contrast is, the more delicate of color you can have.

6.4.3 Saturation

The value range is $0\sim99$. The saturation of a color is determined by a combination of light intensity and how much it is distributed across the spectrum of different wavelengths. The higher value the saturation is, the more colorful the image will be.

6.4.4 Sharpness

The value range is 0~99. It applies image processing techniques to adjust the sharpness of live view. However, higher the value is, more the noise is.

6.4.5 Default

After the adjustment of all setting, you can still click Default to make the setting back to the original setting.

Chapter 7 Setting-Basic

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



7.1 System

Click the folder of System to display the sub-folders including **Information**, **Date / Time, Initialize, and Language**.



7.1.1 Information

The Information screen provides the product factory information which includes **Product Name**, **Firmware Version**.

€ Home	
SETTING -BASIC	Information
-System	Product name H.264+Megapixel Surveillance Camera
Information Date/Time Initialize Language +Camera +Network +Security +Advanced	Firmware version MG.1.6.02_C6sign2 Tue Sep 7 15:16:09 CST 2010

7.1.2 Date / Time

The Date/ Time screen displays all options of time setting.

SIC /stem	Current date/time	1970-01-01 02:09:20	
nformation Date/Time	PC clock	2010-10-20 16:04:06	
nitialize	Date/time format	yyyy-mm-dd hh:mm:ss 💌	
_anguage	Adjust	O Keep current setting	
amera etwork		O Synchronize with PC	
ecurity		O Manual setting	
anced		2010 💌 - 10 💌 - 20 💌	
		16 💌 : 04 💌 : 02 💌	
		Synchronize with NTP	
		NTP server name	
		pool.ntp.org	
		Interval 📘 🖌 hours	
	Time zone	(GMT+08:00)Taipei	~
	🔳 Daylight Saving Tim	e 🔿 On 💿 Off	

- Current Date / Time: This displays the current date and time of this IP Camera.
- **PC Clock:** This displays the date and time of the monitoring PC clock.
- **Date / Time Format:** You can click the pull down box to select different time display formats.

Note:

If you would like the Date / Time information shows on the Live View screen, please check "Setting \rightarrow Basic \rightarrow Camera \rightarrow General \rightarrow Date / Time " to execute the setting.

- Adjust: You can select one of those four adjusting modes for your IP Camera.
 - Keep current setting: Select this mode to keep the current date and time of this IP Camera.
 - **Synchronize:** Select this mode to keep the date and time of this IP Camera is the same as the monitoring PC.
 - Manual setting: Select this mode to adjust manually the date and time of this IP Camera.

- **Synchronize with NTP:** Specify the NTP server name and the Refresh Interval to synchronize the date and time of this IP Camera with those of the time server, known as the NTP server.
- Time Zone: Select the Time Zone format of Greenwich Mean Time among different cities. The time display will be the same as the current date / time option.
- **Daylight Saving Time:** There are two modes to choose for setting up daylight saving time.
 - **By Date:** Set the start and end time by select month, day, hour, and minute.
 - By Week Number: Set the start and end time by select month, week, hour, and minute.

Note:

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

7.1.3 Initialize

ETTING	Initialize	
BASIC		
-System	Reboot Reboot	
Information	Factory default	afault
Date/Time		sadit
	Backup setting data Save	
Language	Restore setting	Browse OK
+Camera		
+Network	Firmware upgrade	Browse OK
+Security	2	
Advanced		

- Reboot: Click this button to reboot this IP Camera. A confirmation dialogue will appear and then click "OK" to execute. It takes one minute to complete the reboot process.
- Factory Default: Click this button to recover this IP Camera to the factory default setting. A confirmation dialogue will appear and then click "OK" to execute. The network indicator on this IP Camera will start to blink. This IP Camera will reboot automatically after completing adjustments to the default setting. Don't turn off this IP Camera until the device reboots.
- **Backup Setting**: You can save the setting data of this IP Camera into a file. Click "Save" and follow the instructions on the browser to save the setting data file to the location you specified.
- Restore Setting: Download the saved setting data of this IP Camera. Click "Browse" and select saved file. Click "OK" and this IP Camera is adjusted according to the loaded data and then restarted.
- Firmware Update: Update the device software. Click "Browse" and select the file for updating. A confirmation dialogue will appear. Click "OK" to start. This IP Camera will reboot upon completion.

Note:

When updating the firmware version, please use the file specific for the model. Otherwise, some problems may occur. Unless the updating completed, please don't turn off the power or disconnect the network.

7.1.4 Language

€ Home	
SETTING	Language
-BASIC	
-System	Upload language pack
Information	Language : English
Date/Time	
Initialize	
+Camera	
+Network	
+Security	
+Advanced	
+Advanced	

Upload Language Pack: Clicking "Browse" and selecting the file for updating, the present language display of WEB User Interface could be changed. A confirmation dialogue will appear. Click "OK", then the update will be applied immediately. The default language is "English."

7.2 Camera

Click the folder of Camera to display the sub folders including **General**, **H.264**, **MPEG4**, **MJPEG**, **3GPP**, **Advanced** and **Playback**.



7.2.1 General

SETTING	General	
-BASIC		
+System	RTSP	RTSP port 💿 554 🔿 (1024 ~ 65535)
-Camera	RTP	
	Unicast streaming	
H.264 MPEG4		Port range 5000 (1024 ~ 65532) ~ 7999 (1027 ~ 65535
MJPEG	Image rotated	None
3GPP Advanced	Audio Codec	AMR Audio 🗸
Playback	🗖 Audio mode	Full duplex Half duplex
+Network	Bit rate	4.75k 🔽
+Security +Advanced	Video clip format	H.264 V
	Text overlay	On ⊙ Off
	Privacy mask	On ⊙ Off

- RTSP: The default value is 554. If the IP Cameras connected with router and installed outside are over 2 sets and all of them need support RTSP, please fill some value in the blank space in the range from 1024 to 65535.
- RTP Unicast Streaming: The default value of port range is 5000 ~ 7999 and can be changed from 1024 to 65535.

Note:

Under Unicast streaming mode, streaming video is delivered from the camera to a single client device.

- Image Rotated: Select the screen display "flip", "mirror", or "flip + mirror."
- Audio Codec: Select one audio codec among G.711 U-law / G.711 A-law / AMR Audio / Off.
 - G.711 U-law: one codec for "Computer Audio", used in North America & Japan areas.
 - G.711 A-law: another codec for "Computer Audio", used in Europe and the rest of the world.
 - AMR Audio: an audio codec of the third generation communication for MOBIL
 - **PHONE.** While the option selected, your mobile phone will receive the audio file from IP Camera. And you can choose the bit rate from 4.75k to 12.2k. However, the usage of this codec will cause frame-rate decreasing.
 - Off: Select Off, audio file won't be transmitted by IP CAM.
- Audio Mode: You can select Full duplex or Half duplex.
 - Full duplex: Select it for simultaneous communication in both direction between the connected administrator and IP CAM. It means both parties can speak and be heard at the same time.
 - **Half duplex:** Select it for communication in both directions, but only one direction at a time (not simultaneously). It means one party begins receiving a signal, it must wait for the transmitter to stop transmitting, before replying. Therefore, once one party speak, he can't hear any voice from the other party, just like the communication by radio set.
- Video Clip Format: Select RECORDING compression format H.264 or MPEG-4.
 - **MPEG-4:** MPEG-4 has the advantage of sending a lower volume of date per time unit across the network (bit-rate) compared to Motion JPEG and therefore provides a relatively high image quality at a lower bit-rate (bandwidth usage).
- **H.264:** H.264 provides higher compression rate than MPEG-4. Thus, H.264 can decrease the bandwidth usage and further apply on 3G. However, H.264 will occupy more system resources than MPEG-4. As long as the operating system appears operating difficulties under H.264 format, please change to select MPEG-4.
- Text Overlay: Some information can be showed on the display screen, such as Date / Time and user-defined text. And the background color can be chosen.
- **Privacy Mask:** A specific area of the video image can be covered.

7.2.2 H.264

🗲 Home	
E Home SETTING -BASIC -System -Camera General H204 MPEG4 MJPEG 3GPP Advanced Playback +Network +Security +Advanced	 H.264 Viewer authentication ● On ● Off Multicast streaming ● On ● Off Multicast address 228.0.0.1 Video port ● Auto ● (1024 ~ 65534) Audio port ● Auto ● (1024 ~ 65534) Time-To-Live 15 (1 to 255) Image Size 1280x1024 ♥ Frame rate 15 ♥ fps Guality Auto Fixed quality Detailed ♥ Fixed bitrate 6M ♥ bps IP interval Auto ♥
	OK Cancel

Viewer Authentication:

- **On**: If the viewer authentication is On, the users will be requested to key-in username and password when using QuickTime Player to have live viewing.
- **Off:** If the viewer authentication is Off, you can have live viewing on computer by QuickTime Player after entering "rtsp://ip:port/video.h264" on the URL column directly.
- Multicasting Streaming (if it's on):
 - Multicast Address: The multicast server address will appear automatically.
 - Video / Audio Port: Specify the transmission port number of the video data, from 1024 to 65535.
 - **Time to Live:** Set the maximum TTL that multicast can pass through.

Note: Time To Live option determines the maximum length of time (measure as the number of

network routers that can be passed before data arrives at its destination or is dropped) within which a multicast packet must reach its destination.

- Image Size: Specify the image size when the network camera transmits. Choose one among 1280 x 1024, 1280 x 720, 640 x 480, and 320 x 240.
- Frame Rate: Set the frame rate of H.264 image. Choose one value among 2, 3, 4, 5, 7, 10, 15, 20, 25, and 30 fps. The unit "fps" stands for "frames per second".

Note:

The frame rate is up to 15 fps at 1280x1024, and up to 30 fps at 640x480. However, if you would like choose frame rate over 15 fps, the IMAGE SIZE of H.264/MPEG-4/MJPEG setting page has to been selected 320x240 or 640x480 at the same time.

> Quality:

- Auto: The quality and bitrate will be adjusted automatically according to the frame rate.
- Fixed Quality: Select the value of quality among Medium, Good, Delicate and Excellent.
- Fixed Bitrate: Set the bitrate of H.264 image transmission for a line. Select one among 64Kbps, 128Kbps, 256Kbps, 384Kbps, 512Kbps, 768Kbps, 1Mbps, 1.5 Mbps, 2 Mbps, 3 Mbps, 4 Mbps, 5 Mbps, and 6 Mbps.

Note:

Concerning how to select the suitable image quality for Fixed Quality or Fixed Bitrate, please refer to the **CHAPTER 9. APPENDIX / A. Frame-rate & Bitrate Table**.

IP Interval: It's the ratio of i-frame & p-frame. Select one among 1, 5, 10, 15, 30, 60, and 120. The ratio smaller, the streaming smoother.

Note:

The IP interval value means a ratio of "P-frame / I-frame " in a certain section of frame sequences. The ratio lower, the live view clear. However, live view will lag if the bandwidth isn't big enough. In this situation, you have to choose another bigger IP interval value to solve the problem.

Note:

If Video Clip Format of General Menu (go "**Setting** \rightarrow **Basic** \rightarrow **Camera** \rightarrow **General**"), which is for recording compression, is chosen H.264, the IP interval option will appear "Auto" automatically and can't select. The limit is for avoiding damaging the recording quality of 5 seconds temporary-saved video recorded on FTP server.

7.2.3 MPEG4

SETTING	MPEG4
-BASIC +System	Viewer authentication 💿 On 🔘 Off
-Camera	📕 Multicast streaming 💽 On 🔿 Off
General H.264	Multicast address 228.0.0.1
MPEG4	Video port 💿 Auto 🔿 🚺 (1024 ~ 65534)
MJPEG 3GPP	Audio port 🧿 Auto 🔿 📃 (1024 ~ 65534)
Advanced	Time-To-Live 15 (1 to 255)
Playback +Network	Image Size 1280x1024
+ Network + Security	Frame rate 15 V fps
+Advanced	Quality
	O Auto
	⊙ Fixed quality Excellent 🖌
	🔿 Fixed bitrate 🛛 🔂 🔛 bps
	IP interval Auto

Viewer Authentication:

- **On**: If the viewer authentication is On, the users will be requested to key-in username and password when using QuickTime Player to have live viewing.
- **Off:** If the viewer authentication is Off, you can have live viewing on computer by QuickTime Player after entering "rtsp://ip:port/video.mp4" on the URL column directly.

Multicasting Streaming (if it's on):

- Multicast Address: Specify the multicast server address.
- Video / Audio Port: Specify the transmission port number of the video data, from 1024 to 65534.
- **Time to Live:** Set the maximum TTL that multicast can pass through.

Note:

Time To Live option determines the maximum length of time (measure as the number of network routers that can be passed before data arrives at its destination or is dropped) within which a multicast packet must reach its destination.

- Image Size: Specify the image size when the network camera transmits. Choose one among 1280 x 1024, 1280 x 720, 640 x 480, and 320 x 240.
- Frame Rate: Set the frame rate of the MPEG-4 image. Choose one from 1, 2, 3, 4, 5, 7, 10, 15, 20, 25, and 30 fps. The unit "fps" stands for "frames per second."

The frame rate is up to 15 fps at 1280x1024, and up to 30 fps at 640x480. However, if you would like choose frame rate over 15 fps, the IMAGE SIZE of H.264/MPEG-4/MJPEG setting page has to been selected 320x240 or 640x480 at the same time.

Quality:

- Auto: The quality and bitratee will be adjusted automatically according to the frame rate.
- Fixed Quality: Select the value of quality among Medium, Good, Delicate and Excellent.
- Fixed Bitrate: Set the bitrate of MPEG-4 image transmission for a line. You can select one value among 64Kbps, 128Kbps, 256Kbps, 384Kbps, 512Kbps, 768Kbps, 1Mbps, 1.5 Mbps, 2 Mbps, 3 Mbps, 4 Mbps, 5 Mbps, and 6 Mbps.

Note:

Concerning how to select the suitable image quality for Fixed Quality or Fixed Bitrate, please refer to the CHAPTER 9. APPENDIX / A. Frame-rate & Bitrate Table.

IP interval: It's the ratio of i-frame & p-frame. You can select one among 1, 5, 10, 15, 30, 60, and 120. The ratio smaller, the streaming smoother.

Note:

The IP interval value means a ratio of "P-frame / I-frame " in a certain section of frame sequences. The ratio lower, the live view clear. However, live view will lag if the bandwidth isn't big enough. In this situation, you have to choose another bigger IP interval value to solve the problem.

Note:

If Video clip format of General Menu, which is for recording compression, is chosen MPEG-4, the IP interval option will appear "Auto" automatically and can't select. The limit is for avoiding damaging the recording quality of 5 seconds temporary-saved video recorded on FTP server.

7.2.4 MJPEG

🗲 Home	
E Home SETTING -BASIC + System -Camera General H.264 MPEG4 MPEG4 3GPP Advanced Playback + Network + Security + Advanced	 MJPEG Viewer authentication On Of Multicast streaming On Of Multicast address 228.0.0.1 Video port Auto O (1024 ~ 65534) Audio port Auto O (1024 ~ 65534) Time-To-Live 15 (1 to 255) Image Size 1280x1024 Frame rate 15 fps Quality Auto Fixed quality Excellent
	Quality Auto
	OK Cancel

Viewer Authentication:

- **On**: If the viewer authentication is On, the users will be requested to key-in username and password when using QuickTime Player to have live viewing.
- **Off:** If the viewer authentication is Off, you can have live viewing on computer by QuickTime Player after entering "rtsp://ip:port/video.mjpg" on the URL column directly.
- Multicasting streaming (if it's on):
 - Multicast Address: Specify the multicast server address.
 - Video / Audio Port: Specify the transmission port number of the video data, from 1024 to 65535.
 - **Time to Live:** Set the maximum TTL that multicast can pass through.

Note:

Time To Live option determines the maximum length of time (measure as the number of network routers that can be passed before data arrives at its destination or is dropped) within which a multicast packet must reach its destination.

- Image Size: Specify the image size when the network camera transmits. Choose among 1280 x 1024, 1280 x 720, 640 x 480, and 320 x 240.
- Frame Rate: Set the frame rate of the MJPEG image. Choose one among 1, 2, 3, 4, 5, 7, 10, 15, 20, 25, and 30 fps. The unit "fps" stands for "frames per second".

Note:

The frame rate is up to 15 fps at 1280x1024, and up to 30 fps at 640x480. However, if you would like choose frame rate over 15 fps, the IMAGE SIZE of H.264/MPEG-4/MJPEG setting page has to been

selected 320x240 or 640x480 at the same time.

- **Quality:**
 - Auto: The quality and bit rate will be adjusted automatically according to the frame rate.
 - Fixed Quality: Select the value of quality among Medium, Good, Delicate and Excellent.
 - Fixed Bitrate: Set the bitrate of MJPEG image transmission for a line. You can select one among 64Kbps, 128Kbps, 256Kbps, 384Kbps, 512Kbps, 768Kbps, 1Mbps, 1.5 Mbps, 2 Mbps, 3 Mbps, 4 Mbps, 5 Mbps, and 6 Mbps.

Note:

Concerning how to select the suitable image quality for Fixed Quality or Fixed Bitrate, please refer to the **CHAPTER 9. APPENDIX / A. Frame-rate & Bitrate Table**.



ITING	3GPP
ASIC	
System	📕 Viewer authentication 🔿 On 💽 Off
Camera	Image Size 160x120
General	
H.264	📕 Frame rate 5 💌 fps
MPEG4	🔲 Quality
MJPEG	🔘 Auto
	◯ Fixed quality Excellent 🔍
Advanced	
Playback	💿 Fixed bitrate 🛛 64K 💌 bps
etwork	IP interval Auto
ecurity	
vanced	
	OK Cancel

- **Viewer Authentication:**
 - **On**: If the viewer authentication is On, the users will be requested to key-in username and password when using QuickTime Player to have live viewing.
 - **Off:** If the viewer authentication is Off, you can have live viewing on computer by QuickTime Player after entering "rtsp://ip:port/video.3gp" on the URL column directly.
- Image Size: Image size for 3GPP is 320 x 240 or160 x 120.
- Frame Rate: Set the frame rate of the 3GPP image. Choose one between 5 or 10 fps.
- Quality:
 - Auto: The quality and bit rate will be adjusted automatically according to the frame rate.
 - **Fixed Quality:** This item here can't be selected.
 - **Fixed Bitrate:** Set the bitrate of 3GPP image transmission for a line. You can select one among 64Kbps, 48Kbps, 32Kbps, 16Kbps.
- IP Interval: It's the ratio of i-frame & p-frame. You can select one among 1, 5, 10, 15, 30, 60, and 120. The ratio smaller, the streaming smoother.

The IP interval value means a RATIO of "P-frame / I-frame " in a certain section of frame sequences. The ratio lower, the live view clear. However, live view will lag if the bandwidth isn't big enough. In this situation, you have to choose another bigger IP interval value to solve the problem.

7.2.6 Advanced



- White Balance: Choose the white balance among Auto, Florescent, Incandescent and Black & White.
- Lighting: The default setting of lighting environment is Auto. However, you may also
- choose 50 or 60 Hz upon the lighting environment of your country.
- **Exposure Mode:** Choose Auto, High Speed Mode, or Manual upon the capture environment.
 - Auto: Choose Auto and you have 3 options to adjust the exposure condition.
 - Back Light Compensate: Click it on and it helps avoid problems in situations where the main subject ends up being too dark, such as when shooting people or other subjects in front of a bright background.
 - Slow Shutter: Click it on and the range of shutter speed will be from 1/5 to 1/120 sec. It will adjust the shutter speed automatically and helpful to capture the clear image when shooting in a dark place.
 - **High Speed Mode:** Choose High Speed Mode and the shutter speed will be close 1/120 sec. as far as possible to help to capture the motion image of sports or high-speed phenomena.
 - Manual: Choose Manual and you can select options, including Shutter Speed and Gain.



- Shutter Speed: The default value is 1/30 sec. and you can select the value among 1/4, 1/6, 1/12, 1/30, 1/60, and 1/120 sec.
- ✓ Gain: The default value is 2 and the value is adjustable among 0~9. It will influence the brightness of the image. The more the value is, the brighter the image is. However, the higher gain value might cause more noise.

7.2.7 Playback

Clicking the button of "Open Files" and select the video file recorded previous, you can look for the desired image. Then, you can have the live view in the screen. The function of each button is as below illustration:



7.3 Network

Click the folder of Network to display the sub folders including **Information**, **PPPoE**, **DDNS**, **UPnP**, **Bonjour**, **IP Notification** and **Messenger**.



7.3.1 Information

Display the MAC address of the device.

€ Home		
SETTING -BASIC	MAC address	00:18:FE:00:08:A2
+ System + Camera	💿 Obtain an IP address	automatically (DHCP)
-Network	🚫 Use the following IP a	lddress
Information		
PPPoE		
DDNS UPnP		
Bonjour IP Notification	Obtain DNS server ac	Idress automatically
Messenger	O Use the following DNS	3 server address
+ Security		
+Advanced		
	HTTP port number	○ 80 ⊙ 1234 (1024 to 65535)
		OK Cancel

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

€ Home					
SETTING	-	2			
-BASIC	MAC address	00:1B:FE:00:0B	:A2		
+System	🔿 Obtain an IP address aut	omatically (DHCP)			
+ Camera	 We are a set of the set of the				
-Network	Ose the following IP addr	ess			
Information	IP address		192 . 168	. 1	. 100
PPPoE	Subnet mask		255 . 255	. 255	
DDNS	Cabilet Mask		200 , 200	. 200	
UPnP	Default gateway		192 . 168	. 1	. 1
Bonjour					
IP Notification					
Messenger	O Use the following DNS se	rver address			
+ Security	Primary DNS server		192.168.1.1		
+Advanced	Secondary DNS server		0.0.0.0		
	UTTR nort number	0.00 0 4004	(10014-055	20	
	HTTP port number	○ 80 ⊙ 1234	(1024 to 655	30)	
	а.	ОК	Cancel		

- > Use the following IP address: Select this option when the 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.
 - When you have set the HTTP port number to a number other than 80 on the Network Setting screen 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 <u>http://192.168.1.100:2000/</u>

Note:

- 1) The IP Camera needs to be rebooted after it finishes changing the network setting completely.
- 2) If you connect the IP Camera with your computer directly, the default network domain of camera is 192.168.1.xx

7.3.2 PPPoE

If your ISP provides Dynamic IP with authentication by username and password, type all PPPoE information in this part. When using the PPPoE function, you need to turn on the DDNS or IP Notification function at same time.

NG	PPPoE	
IC		
stem	PPPoE 💿 On 🔿 Off	
nera	IP address 0.0.0	1.0
vork	User ID	
ormation	Oserib	
	Password	
NS		
nP	Re-type password	
njour	 Obtain DNS server address autom 	natically
Notification	 Use the following DNS server add 	rocc
essenger		
urit y		
nced		

- > **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.

Home		
TTING	PPPoE	
BASIC		
+System	PPPoE 💿 On 🔘 Off	
+Camera	IP address	0.0.0.0
-Network		
Information	User ID	
	Password	
DDNS		
UPnP	Re-type password	
Bonjour	🔿 Obtain DNS server address	automatically
IP Notification	 Use the following DNS serv 	er address
Messenger		
Security	Primary DNS server	192 . 168 . 1 . 1
Advanced	Secondary DNS server	0.0.0.0

- **Primary DNS server:** Enter the IP address of the primary DNS server.
- Secondary DNS server: Enter the IP address of the secondary DNS server.

- 1) PPPoE (Point-to-Point Protocol over Ethernet): PPPoE is a network protocol for encapsulating Point-to-Point Protocol frames insider Ethernet frames. PPPoE connection is used mainly with ADSL service where individual users connect to the ADSL transceiver (modem) over Ethernet work. It also widely used in XDSL (digital affiliate line such as ADSL, VDSL or SDSL)
- 2) The IP Camera needs to be rebooted after it finishes changing the network completely. For more details, please refer to <u>Section 7.1.3 Initialize</u>,
- 3) The IP Camera with Intelligent IP Installer can't be founded after PPPoE is active, but you can get the IP address of the camera by IP Notification function. For the details, please refer to <u>Section</u> <u>7.3.6 IP Notification.</u>
- 4) If the IP Notification function is not configured to report the IP address of the camera, you can reset the camera to its factory default settings by pressing the Reset button. Then the camera can be found by Intelligent IP Installer.

7.3.3 DDNS (Dynamic DNS)

DDNS is a system which allows the domain name data held in a name server to be updated in real time. The most common use for DDNS is allowing an internet domain name to be assigned to a computer with a varying / dynamic IP Address. This makes it possible for other sites on the internet to establish connection to the machine without needing to track the IP Address themselves.

ETTING -BASIC +System	DDNS	
+ System		
	📕 DDNS 💽 On 🔘 (Off
+Camera -Network	Server name	http://www.dyndns.org 💌
Information PPPoE	User ID	ipcamera
DDNS	Password	•••••
UPnP Bonjour	Re-type password	•••••
IP Notification	Host name	ipcamera.homeip.net
Messenger + Security	Periodical Update	 Auto
Advanced		🔿 Periodical 🧧 🗹 min

- 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.

How to apply DDNS username and Host name? You can apply DDNS username and Host name by the following steps:

1. Login <u>http://www.dyndns.org</u>, click the Creat Account.

	About	Services	Account	Support	word? - Create Account	
		TO YOUR V indows, now availa		New to Take a tour DNS Set DNS for sta MailHop Ensure relia	DynDNS? and see what we do rvices titc and dynamic IP address Services uble email delivery Search	
		namic Network Service		main Registration S		
Resources	Se	ervices	Support	-	About DynDNS	
What is DNS?	Se	e rvices DNS Hosting	Support 24/7 Pre	mier Support	About DynDNS Company Facts	
What is DNS? DNS Tools	Se	e rvices DNS Hosting Free Dynamic DNS	Support 24/7 Pre DNS Upd	mier Support ate API	About DynDNS Company Facts Technologies	
What is DNS?	ns E	e rvices DNS Hosting	Support 24/7 Pre DNS Upd Update C	mier Support ate API	About DynDNS Company Facts	

2. Input all information and follow step by step with DynDNS.

🔿 Dyr	IDNS.	User: Pass: Logi
	About Services	Account Support News
ly Account	Create Your DynDNS Accou	nt
Create Account	E Contraction of the second	
ogin	Please complete the form to create your free [lynDNS Account.
ost Password?	-User Information	
	Username:	
Search	Email Address:	Instructions to activate your account will be sent to the email address provided.
	Confirm Email Address:	
Search	Password:	Your password needs to be more than 5 characters and cannot be the same as your usernam Do not choose a password that is a common word, or can otherwise be easily guessed.
	Confirm Password:	
	- About You (optional) Providing this information will help us to better needs. Thanks for your help!	understand our customers, and tailor future offerings more accurately to your
	How did you hear about us:	 We <u>do not sell</u> your account information to anyone, including your em address.
	Details:	

3. Login with new account and click $\textbf{Account} \rightarrow \textbf{My Hosts} \rightarrow \textbf{Add Host Services.}$

About Services Account Support News My Account Account Settings Account Settings Image: Search News My Zenck My Zenck My Zenck My Zenck My Zenck Search My Hotst Add tons Services My Hotst My Hotst Multipgrades Add tons Services My Hotst My Lenck My Zenck Search My Hotst Add tons Services My Hotst My Lenck Multipgrades Add tons Services Multipgrades Multipgrades Contact Manager Multipgrades Add Renew Services Multipgrades Multipgrades Multipgrades Search Securit Cattrians Services Multipgrades Multipgrades Multipgrades Add Renew Services Multipgrades Multipgrades Multipgrades Segurt Signer Sync Expirations Freferences Multipgrades	DynDN	NS.					Logged In User: Sunny <u>My Services</u> - <u>My Cart</u> - <u>Log Ou</u>
My Account Account Summary for Sum My Services My Services Account Settings My Services. Billing View, modify, purchase, and diete your services. Update your billing information, complete a purchase, and view invoices. Update your email ad set preferences, and your account. My Cart My Zones View Shopping Cart Change Email Address Add Zone Services Add Host Services Order History Change Isemane My Hosts Add Host Services Billing Profile and Vouchers Contact Manager Add Host Services Auto Renew Services Mailing Lists Mailhop Outbound Succ Expirations Preferences Still Certificates Sync Expirations Prefere		About	Services	Account	Support	News	
My Services My Services Billing Account Settings Billing If Y Cart View, modify, purchase, and delete your services. Update your billing information, complete a purchase, and view invoices. Update your services. If Y Cart Search My Hosts Actour Setvices View Shopping Cart Change Email Address Search Add Zone Services Active Services Change Email Address My Hosts Order History Change Username Add Host Services Billing Profile and Vouchers Contact Manager Actount Upgrades Renew Setvices Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Sync Expirations Preferences		Increase	your update abus	e threshold. Cons	ider an <u>Account Upgr</u>	ade.	
Account Settings My Services Billing Account Settings Billing View, modify, purchase, and delete your services. Update your billing information, complete a purchase, and view invoices. Update your email ad set preferences, and your account. My Cart My Zanes View Shopping Cart Change Email Address Add Zone Services Active Services Change Password My Hosts Order History Change Username Add Host Services Billing Profile and Vouchers Contact Manager Account Upgrades Renew Setvices Malling Lists Mallhop Outbound Auto Renew Settings Move Services Set Certificates Sync Expirations Preferences SSL Certificates Sync Expirations Preferences	ount Ar	ccount Summ	ary for Sur	nny			
Account Settings View, modify, purchase, and delete your services. Update your billing information, complete a purchase, and view invoices. Update your billing information, complete a purchase, and view invoices. Update your email ad set preferences, and your account. W Cart My Cares View Shopping Cart Change Email Address Search Add Zone Services Active Services Change Desword My Hosts Order History Change Username Add Host Services Billing Profile and Vouchers Contact Manager Account Upgrades Renew Services Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Sync Expirations Preferences Recursive DNS DNS Change Distance							
Billing Information, complete a purchase, and view invoices. Set preferences, and your account. My Cart My Zones View Shopping Cart Change Email Address Add Zone Services Active Services Change Password Search My Hosts Order History Change Username Search Add Host Services Billing Profile and Vouchers Contact Manager Search Add Host Services Renew Services Mailing Lists Network Monitoring Sync Expirations Preferences SSL Certificates Sync Expirations Preferences SSL Certificates Disc Change Password	t Settings	And the second second second				Accoun	
My Zones Mew Shopping Cart Change Email Address Search Add Zone Services Active Services Change Dassword Search My Hosts Order History Change Username Add Host Services Billing Profile and Vouchers Contact Manager Account Upgrades Renew Services Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Close Account Close Account		and the second s		infor	mation, complete a	ces.	set preferences, and delete
Search My Hosts Order History Change Username Add Host Services Billing Profile and Vouchers Contact Manager Search Add Host Services Mailing Lists Account Upgrades Renew Services Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Close Account Recursive DNS Contact Manager		My Zones		View Shoppin	<u>a Cart</u>	Change	e Email Address
My Hosts Order History Change Username Add Host Services Billing Profile and Vouchers Contact Manager Add Host Services Renew Services Mailing Lists Account Upgrades Renew Services Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Close Account Recursive DNS Contact Manager		Add Zone Services		Active Service	5	Change	e Password
Search Account Upgrades Renew Services Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Close Account Recursive DNS Close Account	ch 🔤	My Hosts		Order History		Change	e Username
Account Upgrades Renew Services Mailing Lists MailHop Outbound Auto Renew Settings Move Services Network Monitoring Sync Expirations Preferences SSL Certificates Close Account Recursive DNS Close Account		Add Host Services		Billing Profile	and Vouchers	Contac	t Manager
Network Monitoring Sync Expirations Preferences SSL Certificates Close Account Recursive DNS Close Account	2n	Account Upgrades		Renew Servic	es	Mailing	Lists
SSL Certificates Close Account Recursive DNS Close Account	1	MailHop Outbound		Auto Renew S	ettings	Move S	Services
Recursive DNS	1	Network Monitoring		Sync Expiratio	ns	Prefere	ences
	2	SSL Certificates				Close A	Account
Support	E	Recursive DNS					
	2	Support					
DNS Service Level Agreement		DNS Service Level A	greement				

4. Type domain in the **Hostname** field and select **sub-domain**.

My Account	Add New Hostname				↑ Host Service
My Services Account Upgrades SLA Premier Support	Note: You currently don't have Acc consider buying Accoun <mark>t</mark> upgrade t				
Zone Services Host Services MailHop Outbound Recursive DNS Network Monitoring SSL Certificates Renew Services Auto Renew Settings Sync Expirations	Hostname: Wildcard: Service Type:	 Yes, alias "*.hostna Host with IP address WebHop Redirect Offline Hostname 		▼ ne settings. 2	
Account Settings Billing My Cart Otems	IP Address:	Use auto detected IP ad		_	
Search	Mail Routing:	Yes, let me configure	re Email routing.	Create Host	

5. After typing information, check your DDNS service

🔿 Dyn	DNS					Logged In User: Sunny My Services - My Cart - Log Ou
	About	Services	Accou	int Support	News	
	Access 1	to more domains, <u>Pr</u>	emium Don	nains. Consider an <u>Account</u>	Upgrade.	
My Account	Host Service	s				
My Services Account Upgrades SLA Premier Support Zone Services Host Services	and a second sec	upgrade. Each upgr	ade allows	you to create 20 additional		ts in this service, you must nal feature <u>s</u> .
MailHop Outbound	Hostn	ame	Service	Details		Last Updated
Recursive DNS Network Monitoring	cmos.dyndns.org	ŀ	lost	61.137.216.170	May.	29, 2010 6:41 AM
SSL Certificates	inc.dyndns.org	ŀ	lost	202.114.6.36	May.	29, 2010 3:22 PM
Renew Services Auto Renew Settings Sync Expirations	» Bulk Update IP Address » Host Update Logs.	s And Service Type,				
Sync Expirations						
Account Settings						
Account Settings						

6. Type your DDNS User ID, Password and Host name in **Setting** → **Network** → **DDNS**. After completing setting, reboot IP Camera.

E Home	
SETTING	DDNS
-BASIC	
+System	DDNS 💿 On 🔿 Off
+Camera	
-Network	Server name http://www.dyndns.org 😪
Information	UserID
PPPoE	
DDNS	Password
UPnP	
Bonjour	Re-type password
IP Notification	Host name
Messenger	
+Security	Periodical Update 💿 Auto
+Advanced	🔿 Periodical min
	OK Cancel

7.3.4 UPnP (Universal Plug and Play)

If you have a Router to access to internet and the Router supports UPnP IGD function, you need to turn on the UPnP Port Forwarding function.

€ Home	
SETTING	UPnP
-BASIC	
+System	UPnP 💿 On 🔿 Off
+Camera	Ammunia Annual Annual
-Network	Turn On UPnP port forwarding
Information	HTTP port 💿 80 🔿 🚺 (1024 ~ 65535)
PPPoE	
DDNS	SSL Port 💿 443 🔿 📃 (1024 ~ 65535)
UPnP	
Bonjour	RTSP Port 💿 554 🔿 (1024 ~ 65535)
IP Notification	
Messenger	
+Security	OK Cancel
+Advanced	
3325036013429	

- **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.
- **RTSP Port:** Enter the RTSP port, default value is 554 for computer view.

UPnP (Universal Plug and Play): UPnP is a set of computer network protocol. It allows devices to connect seamlessly and simplify the implementation of networks in the home and corporate environments.

7.3.5 Bonjour

Bonjour, also known as zero-configuration networking, enables automatic discovery of computers, devices, and services on IP networks. Bonjour uses industry standard IP protocols to allow devices to automatically discover each other without the need to enter IP addresses or configure DNS servers.

€ Home	
SETTING -BASIC + System + Camera -Network Information PPPoE DDNS UPnP Bonjour IP Notification Messenger + Security + Advanced	Bonjour On Off Device name TP-LINK-001BFE000BA2 OK Cancel

> **Device Name**: Enter Device Name you wish.

Note:

How to use Bonjour in your Windows Browser UI? Please check the link below: <u>http://www.apple.com/support/downloads/bonjourforwindows.html</u>

7.3.6 IP Notification

Once IP Notification is set to "On", the camera will automatically send an e-mail notification to tell users its updated network parameters if the network settings about IP address, network connection type, HTTP port or wireless connection is changed or completed. (Some settings will take effect after rebooting.)

BASIC	194 1941 1944		
System	📕 IP Notification 💿 On 🔘 🖉	Dff	
Camera	Notify type	DHCP Static IP PPPoE	
Network	SMTP server name		
Information PPPoE	SMTP server port	(1 ~ 65535)	SSL
DDNS	Authentication	⊙ On ○ Off	
UPnP	Admentication		
Bonjour		SMTP 🔲 POP before SMTP	
IP Notification			
Messenger	User name		
Security	Password		
ldvanced	Recipient e-Mail address		
	Administrator e-Mail addres	s	
	Subject		
	Maaaaaa	Product Name : <product> http://<ip>:<port> MAC Address : <mac></mac></port></ip></product>	~
	Message	MAC Address : (mac/	I He

- Notify Type: You can select the notify type among DHCP, Static IP, and PPPoE. When the network settings related to the chosen notify type are changed, an e-mail notification will be sent to inform you of the updated network information of the camera.
- SMTP Server Name: Type the SMTP server name up to 64 characters, or the IP address of the SMTP server.
- SMTP Server Port: You can set port number from 1~65535 according to your mail server. The default value is 25.
 - Security setting: Tick SSL box if the mail server you use has security restriction.

If you use g-mail as your mail server, you should set 25 as your port number and tick SSL box.

- > 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 for sending an e-mail, there are three options: SMTP, POP before SMTP or Both.

ETTING BASIC	IP Notification			
+ System + Camera - Network Information PPPoE	 IP Notification On O Ot Notify type SMTP server name SMTP server port 	f DHCP Static IP PPPoE (1 ~ 65535)	SSL	
DDNS UPnP Bonjour IP Notification Messenger + Security	Authentication POP server name User name Password	On Off SMTP POP before SMTP		
Advanced	Recipient e-Mail address Administrator e-Mail address Subject	Product Name : <product></product>		
	Message	http:// <ip>:<port> MAC Address : <mac></mac></port></ip>	2	Help

- **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.
 - 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.

7.3.7 Messenger

Messenger function provide an easy-connect feature. User can easy to know what camera's private and public IP address is.

The second secon

€ Home			
SETTING	Messenger		
-BASIC	-		
+System	🔳 Messenger 💽 On	◯ Off	
+Camera	Protocol	-	
-Network	1 1010001	msn	
Information PPPoE	Login Account		
DDNS	Password		
UPnP	1 435 0014		
Bonjour	Re-type password		
IP Notification	Alias		
Messenger	Alido		
+ Security + Advanced	Port range	20000 (1024 ~ 65531) ~ 21000	(1028 ~ 65535)
Auvanceu	Video mode	💿 Computer view 🔿 Mobile view	
	IP Notification	⊙ On ◯ Off	
	Privacy	💿 On 🔿 Off	
	User		
		Add Remove	
	Allow list		
		OK Cancel	

- **Protocol**: support MSN only.
- Login Account: Camera will use this account to login MSN server. This MSN account should be applied form <u>http://www.msn.com</u>.
- **Password**: password for this msn account.
- **Re-type Password**: re-type password to double confirm.
- Alias: This alias will display on MSN like the following which display in red frame.
- **Port Range**: Camera will select one port from this port range for video transmission.
- **Video Mode**: You can choose to receive video streaming from Computer view(MPEG-4)
- or Mobile view (3GPP).
- IP Notification: Switch the IP notification On / Off. If this feature switches On, camera will send IP notification to the users who are allowed.
- Privacy: Switch privacy On / Off. When privacy turns on, only those users in allow list can access the camera
- **User**: Input to this blank to edit allow list.
- > Allow List: When privacy turns on, only those users in allow list can access the camera.

7.4 Security

Click the folder of Security to display the sub folders including Account and HTTPS.



7.4.1 Account

The device fault account and password setting is "admin / admin". That means everyone who knows IP address can access the device including all configuration. It is necessary to assign a password if the device is intended to be accessed by others.

n	User ID	User name	Password	Re-type Password	Viewer m	nodi
- rk	Administrator	admin	•••••	••••	Admin	1
ty						
unt PS	User 1				Admin	•
lter	User 2				Admin	
	User 3				Admin	
	User 4				Admin	
	User 5				Admin	
	User 6				Admin	1
	User 7				Admin	•
	User 8				Admin	
	User 9				Admin	

- **User Name**: Set a user name between 4-16 characters.
- Password: Set a password between 4-16 characters.
- **Re-type Password**: Re-type the password to confirm.
- Viewer Mode: Set the user mode among Admin, Operator, and Viewer. Different viewer mode has different limits of authority.
 - The Admin mode has all authority of configuration.

- The Operator mode can not only view the Live View but also control the PTZ (only for PTZ models).
- The Viewer mode only can view the Live View.
- Viewer Authentication: Select whether the authentication is needed when users access to live view.
 - **On:** Authentication is required to let different users have different levels of permission to access the camera view.
 - Off: Authentication is not required to access the camera. Check Off and select one (among Admin, Operator and Viewer) from the pull-down list as the permission, then all users can view directly the video with the default permission without entering username and password.

* If you want to have a higher authority than the default, you can key in appropriate username and password in the diag box that pops up when performing advanced operations that are only allowed by the higher authority.

7.4.2 HTTPS

HTTPS is a URL 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/ 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://.

Home			
TTING	Information		
ASIC	🗖 Create & Install		
+System	Create self-signed o	ertificate	
+Camera			
+Network	🗖 Installed Certificate		
-Security	Subject Name		
Account	No certificate installed.		
	Properties Remov	e	
IP Filter			
Advanced	HTTPS Connection Policy		
	Administrator	HTTP	
	Operator	HTTP	
	Viewer	НТТР	
	Set Policy		

- **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.
- To use the HTTPS encryption, please set up "Create self-signed certificate" for the first time you use the HTTPS function, and then set up the connection policy for different users.

System	Create & Install	🚰 Create self-signed certificate Web Page Dialog
amera	Create self-signed certificate	Create self-signed certificate
+Network -Security Account HTTPS IP Filter •Advanced	Installed Certificate Subject Name No certificate installed. Properties Remove HTTPS Connection Policy Administrator Operator Viewer HTT Viewer HTT Set Policy	P Organizational Unit

When enable HTTPS with RTSP on mode, the IP Camera only protect the setting such as username and password and do not protect video and audio. When enable HTTPS with RTSP off mode, the IP Camera will protect all setting including video and audio.

7.4.3 IP Filter

IP Filter provides the function of controlling the range of IP address, similar with firewall service. This feature can only be applied to the users with the right of Operator or Viewer except the Admin users.

€ Home SETTING	IP Filter	
-BASIC +System +Camera +Network	■ IP Filter ⊙On Off ■ Allow Range	
-Security Account HTTPS	Start IP Address End IP Address	
+Advanced	 Allow Range List 0.0.0.0 ~ 255.255.255.255 	Delete
	Deny Range	
	Start IP Address End IP Address	Add
	Deny Range List (Empty)	Delete
		OK Cancel

- > **IP Filter:** Select if you would like to have IP filter function.
- Allow Range: The default range is from 0.0.0.0 to 255.255.255.255. Enter the "Start IP address" and "End IP address" in the range, then you can add a new allow range in allow range

list.

- Allow Range List: Except the default range 0.0.0.0~255.255.255.255, the list allows to add four more sets of allow range at most.
- Deny Range: You can define the deny range by entering "Start IP address" and "End IP address"
- **Deny Range List**: You can define not more than five sets of deny range in the list.

Chapter 8 Setting-Advanced

Click the folder of Advanced to display the sub folders including **FTP client**, **SMTP**, **Network storage**, **Schedule**, **Alarm buffer**, **Motion detection**, **Audio detection**, and **System Log**.



8.1 FTP Client

Use this menu to set up for capturing and sending a image or video clip to an FTP server. By using FTP client function, you can send files 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 three tabs, **General**, **Alarm Sending** and **Periodical Sending**.



8.1.1 General

Select **On** when you use FTP function. The FTP client Setting screen appears. Select **Off**, when you do not wish to use the FTP client function.

Note:

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

TING	General
SIC	
vanced	FTP client 💽 On 🔿 Off
ſP client General	FTP server name
Alarm sending Periodical sending	User name
TP	Password
vork storage	
edule	Re-type password
rm buffer ion detection	Passive mode 🔿 On 💿 Off
io detection	Attached file type 🛛 💿 Snapshot 🔿 Video clip
tem Log	

- 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 Mmode: 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: You can choose snapshot or video clip for alarm sending. Select "Snapshot," one snapshot will be transmitted to the specified FTP server while motion detection / audio detection triggered. Select "Video clip," one 5-seconds video clip will be transmitted.
- Test: After setting the FTP server information, you can tick the test key to test if the connection between IP CAM and FTP server works.

8.1.2 Alarm Sending

Set to forward a snapshot or video clip 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 file to FTP server linked with the alarm detection.

€ Home		
SETTING +BASIC	Alarm sendi	ng
-Advanced -FTP client	Alarm sending	On 🔿 Off
General	Remote path	
Alarm sending Periodical sending	Image file name	
+SMTP	Suffix	💿 Date Time 🔘 Sequence number
+Network storage		
Schedule Alarm buffer		
Motion detection	Alarm	Motion detection
Audio detection		Audio detection
System Log		
		Network link down
	Effective Period	 Always
		O Schedule
	-	OK Cancel

- **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 files when sending to the FTP server. You can use up to 10 alphanumeric characters, (hyphen) and _ (underline) 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 1 and 4294967295 and two fixed digits 00 is added to the Image file name.
 - Sequence number clear: Click Clear and the suffix of the sequence number returnsto 1.
- > Alarm
 - **Motion Detection**: Click it on for using **Motion Detection** function as a sensor. You can set motion detection function at the motion detection function screen.

You can set motion detection at motion detection screen. (Please go "Setting \rightarrow Advanced \rightarrow Motion Detection \rightarrow Setting") For more details, you can check Chapter 9.6.

• Audio Detection: Click it on for using Audio Detection function as a sensor. You can set audio detection function at the audio detection function screen.

Note:

You can set audio detection at audio detection screen. (Please go "Setting \rightarrow Advanced \rightarrow Audio

Detection \rightarrow **Setting**") For more details, you can check **Chapter 9.7**.

Network Link Down: Click it on to receive a snapshot or a video clip while network link down. If Attached File Type (go "Setting → Advanced → FTP Client → General") was clicked as video clip, you can use Alarm Buffer function as a sensor. It's for recording audio file in the IP CAM before and after disconnected network.

Note:

You can set alarm buffer at alarm buffer screen. (Please go "Setting \rightarrow Advanced \rightarrow Alarm Buffer \rightarrow Setting") For more details, you can check Chapter 9.5.

- **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.

Note:

You can set schedule function at schedule screen. (Please go "Setting \rightarrow Advanced \rightarrow Schedule \rightarrow Setting") For more details, you can check Chapter 9.4.

8.1.3 Periodical Sending

Select **On**, you can set to send an image file to FTP server periodically.

€ Home	
SETTING	Periodical sending
+BASIC	
-Advanced	🔳 Periodical sending 💿 On 🔿 Off
-FTP client	
General	Remote path
Alarm sending Periodical sending	Image file name
+SMTP	Suffix 🛛 🔿 None 💿 Date Time 🔿 Sequence number
+Network storage	
Schedule	
Alarm buffer	Interval 00 H 30 M
Motion detection	Interval 00 H 30 M
Audio detection	(MIN : 1 min. MAX : 24-hour interval)
System Log	Effective Period 💿 Always
	O Schedule
	OK Cancel

- **Remote Path**: Type the path to storage location of FTP server which you have authorized.
- Image File Name: Type the file name of snapshot or video clip 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 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. Please check "Setting → Advanced → Schedule →Setting".

Note:

You can set schedule function at schedule screen. (Please go "Setting \rightarrow Advanced \rightarrow Schedule \rightarrow Setting") For more details, you can check Chapter 9.4.

8.2 SMTP

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



8.2.1 General

Select **On** when you use the SMTP function. The common setting options are displayed below. Select **Off**, if you do not wish to use the E-mail (SMTP) function.

Note:

The Setting of general part will be the same as IP Notification. (Please check "Setting \rightarrow Basic \rightarrow Network \rightarrow IP Notification")

€ Home			
SETTING	General		
+BASIC -Advanced +FTP client	🗖 e-Mail (SMTP) 💿 On 🔿 Off		
-SMTP	SMTP server name	smtp.abchk.com	
General Alarm sending	SMTP server port	25 (1 ~ 65535)	🗖 SSL
Periodical sending	Authentication	On O Off	
+Network storage Schedule		SMTP V POP before SMTP	
Alarm buffer	POP server name		
Motion detection Audio detection	Username		
System Log	Password		
	Recipient e-Mail address		
	Administrator e-Mail address		
	Attached file type	💿 Snapshot 🔿 Video clip	
	Subject	test	
	Message 	×	
		OK Cancel Test	

- SMTP Server Name: Type the SMTP server name up to 64 characters, or the IP address of the SMTP server.
- SMTP Server Port: You can set port number from 1~65535 according to your mail server. The default value is 25.
 - Security setting: Tick SSL box if the mail server you use has security restriction.

If you use g-mail as your mail server, you should set 25 as your port number and tick SSL box.

- 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 when 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: You can choose snapshot or video clip for alarm sending. Select "Snapshot," one snapshot will be transmitted to the administrator's e-mail address while motion detection / audio detection triggered. Select "Video Clip," one 5-seconds video clip will be transmitted.
- 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.)
- Test: After setting the SMPT server information, you can tick the test key to test if the connection between IP CAM and the SMPT server works.

8.2.2 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. Select On to send the image file to SMTP server linked with the alarm detection.

E Home	Alarm sending
+BASIC -Advanced +FTP client -SMTP General Alerm sending Periodical sending +Network storage	 Alarm sending On Off File attachment On Off Image file name Suffix None Date Time Sequence number Clear
Schedule Alarm buffer Motion detection Audio detection System Log	Alarm Motion detection Motion detection Audio detection Network link down
	Effective Period 🔿 Always
	OK Cancel

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 file attached to 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: 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.
- > Alarm
 - **Motion Detection**: Click it on for using **Motion Detection** function as a sensor. You can set motion detection function at the motion detection function screen.

You can set motion detection at motion detection screen. (Please go "Setting \rightarrow Advanced \rightarrow Motion Detection \rightarrow Setting") For more details, you can check Chapter 9.6.

• Audio Detection: Click it on for using Audio Detection function as a sensor. You can set audio detection function at the audio detection function screen.

Note:

You can set audio detection at audio detection screen. (Please go "Setting \rightarrow Advanced \rightarrow Audio Detection \rightarrow Setting") For more details, you can check Chapter 9.7.

Network Link Down: Click it on to receive a snapshot or a video clip while network link down. If Attached File Type was clicked as video clip (go "Setting → Advanced → FTP Client → General"), you can using Alarm buffer function as a sensor. It's for recording audio file in the IP CAM before and after disconnected network.

Note:

You can set alarm buffer at alarm buffer screen. (Please go "Setting \rightarrow Advanced \rightarrow Alarm Buffer \rightarrow Setting") For more details, you can check Chapter 9.5.

- **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.

Note:

You can set schedule function at schedule screen. (Please go "Setting \rightarrow Advanced \rightarrow Schedule \rightarrow Setting") For more details, you can check Chapter 9.4.

8.2.3 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.

€ Home	
SETTING +BASIC	Periodical sending
-Advanced	Periodical sending <i>On</i>
+FTP client -SMTP	Image file name
General Alarm sending	Suffix 🛛 🔿 None 🔿 Date Time 💿 Sequence number
Periodical sending	Sequence number clear Clear
+Network storage Schedule	Interval 00 H 30 M
Alarm buffer	(MIN : 1min. MAX : 24-hour interval)
Motion detection Audio detection	Effective Period 🛛 🔿 Always
System Log	Schedule Schedule
	OK Cancel

- 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.
 - **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 effective interval of periodical sending. 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. Please check "Setting → Basic → Advanced → Schedule → Setting."

You can set schedule function at schedule screen. (Please go "Setting \rightarrow Advanced \rightarrow Schedule \rightarrow Setting") For more details, you can check Chapter 8.4.

8.3 Network Storage

Network storage provides the storage function for saving image files to the specified computer and folder connected with the operating computer.

🗲 Home
SETTING
+BASIC
-Advanced
+FTP client
+SMTP
General
Alarm sending
Periodical recording
Schedule
Alarm buffer
Motion detection
Audio detection
System Log

8.3.1 General

Select On if you would like to use the network storage function. Then choose one protocol between Windows network (SMB/CIFS) and Unix network (NFS).

Protocol- Unix Network (NFS):

General	
🔳 Network storage 💿 On (O Off
nt Distant	
Protocol	Unix network (NFS)
storage Network storage location	VPCamera001BFE000BA2
ending (for example: my_nas:\fold	der)
cal recording	
2	
iffer	
etection	
tection	
og	
	OK Cancel Test

- **Network storage location:** Type the IP or name of specified computer and folder. For example, //IP/folder name or // my_nas:/folder name.
- Protocol- Windows network (SMB/CIFS):

€ Home	
SETTING	General
+BASIC -Advanced	
+FTP client	🔳 Network storage 💿 On 🔘 Off
+FTP client +SMTP	Protocol Windows network (SMB/CIFS)
-Network storage General	Network storage location NPCamera001BFE000BA2
Alarm sending	(for example: \\my_nas\folder)
Periodical recording Schedule	Workgroup
Alarm buffer	User name
Motion detection Audio detection	Password
System Log	Re-type password
	OK Cancel Test

- Network Storage Location: Type the IP or name of specified computer and folder. For example, \\IP\folder name or \\my_nas:\folder name.
- Workgroup: Type the name of workgroup which the operating computer belongs.
- User Name: Type the name of workgroup. (If none, please leave it blank.)
- **Password**: Type the password for workgroup. (If none, please leave it blank.)
- Re-type password: Re-type password for workgroup.

If the recording video file is assigned to be stored in a low-speed device (ex. low-speed USB storage disk), there might be some problems to complete the storage.

How to set up the network sharing?

In the following description, we take Windows XP for example to explain how to set up the network sharing. The detailed setup is different in various operation systems. If you have any trouble in setting the network sharing, please ask the Technical Support of Microsoft for help.

You can create a simple Samba network sharing drive on your Windows PC by right-clicking a folder, selecting **Sharing and Security...**, and selecting **Share this folder**. Enter a **Share name** you would like to use for the folder, and then check the below box for **Allow network users to change my files**. After completing the corresponding configurations of the camera, you can click the **Test** button to test your settings.

8.3.2 Alarm Sending

Set to transmit the snapshot or video clip file with connection to the alarm detection by the external sensor input or by the built-in motion detection function. Select On to send the file to network storage location linked with the alarm detection.
ng
On O Off
O Date Time Sequence number Clear Clear
Motion detection Motion detection
Audio detection Audio detection Audio detection Audio detection
5 🗸 Sec (5 - 60)
O Always
Schedule Schedule

- Alarm Sending: Select On to set to send mail with connection to the alarm detection.
- Image File Name: Type the file name you want to assign to the file 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
 - **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.
- > Alarm:
 - **Motion Detection**: Click it on for using **Motion Detection** function as a sensor. You can set motion detection function at the motion detection function screen.

Note:

You can set motion detection at motion detection screen. (Please go "Setting \rightarrow Advanced \rightarrow Motion Detection \rightarrow Setting") For more details, you can check Chapter 9.6.

• Audio Detection: Click it on for using Audio Detection function as a sensor. You can set audio detection function at the audio detection function screen.

Note:

You can set audio detection at audio detection screen. (Please go "Setting \rightarrow Advanced \rightarrow Audio Detection \rightarrow Setting") For more details, you can check Chapter 9.7.

• Network Link Down: Click it on to receive a video clip while network link down. It's for

recording video file in the IP CAM before and after disconnected network.

Note:

You can set alarm buffer at alarm buffer screen. (Please go "Setting \rightarrow Advanced \rightarrow Alarm Buffer \rightarrow Setting") For more details, you can check Chapter 9.5.

- **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.

Note:

You can set schedule function at schedule screen. (Please go "Setting \rightarrow Advanced \rightarrow Schedule \rightarrow Setting") For more details, you can check Chapter 9.4.

8.3.3 Periodical recording

E Home		
SETTING	Periodical re	cording
+BASIC	-	
-Advanced	Periodical record	ing 💿 On 🔿 Off
+FTP client		
+SMTP	Image file name	Record
-Network storage General	Suffix	🔘 Date Time 💿 Sequence number
Alarm sending		Sequence number clear Clear
Periodical recording Schedule	File size	10 (1~50 MB)
Alarm buffer Motion detection	Cyclic size	1024 (100~1024000 MB)
Audio detection	Recording time	O Always
System Log		Schedule Schedule
	(OK Cancel

You can set up to transmit image files to the network storage location periodically by selecting On.

- Image file name: Type the file name you want to assign to the file transmitted to the network storage location. You can use up to 10 alphanumeric, (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) 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.
- File Size: The file size of image or video clip transmitted to the network storage location can't over 50MB.

- Cyclic Size: The total amount of files transmitted to the network storage location has to be in the range from 100 to 1024000MB.
- **Recording Time:** Set the period when the periodical recording is effective.
 - Always: The periodical recording is always effective.
 - **Schedule**: You can specify the period when the periodical recording is effective in the Schedule setting in the other section.

Note:

You can set schedule function at schedule screen. (Please go "Setting \rightarrow Advanced \rightarrow Schedule \rightarrow Setting"). For more details, you can check Chapter 9.4.

8.4 Schedule

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, e-Mail (**SMTP**), Record, and Alarm out setting menu setting menu.

€ Home						
SETTING +BASIC	Sche	dule				
-Advanced	🔳 So	hedule sele:	ction			FTP - Alarm
+FTP client +SMTP	Start t	time 🛛 🔽	: 00 🛩	- End tim	ne 24 💌 : O	
-Network storage General	Mon	(Empty)	~	Add	Delete	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Alarm sending Periodical recording	Tue	(Empty)	~	Add	Delete	
Schedule Alarm buffer	Wed	(Empty)	v	Add	Delete	
Motion detection Audio detection	Thu	(Empty)	~	Add	Delete	
System Log	Fri	(Empty)	~	Add	Delete	
	Sat	(Empty)	~	Add	Delete	
	Sun	(Empty)	v	Add	Delete	
	🔽 Use	e the same ti	ime sch	edule ever	ry day.	
						OK Cancel

- Schedule Selection: Select the list box to specify the schedule you want to set.
 - FTP -Alarm / FTP Periodical / E-mail (SMTP) -Alarm / E-mail (SMTP) –Periodical / Record –Alarm / Record –Periodical
- 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.

8.5 Alarm Buffer

When you click **Alarm Buffer** on the Advanced mode menu, the Alarm buffer setting menu appears. You can set in this menu to enable alarm buffer function connected with **FTP Client**, **SMTP**, **and Network Storage**.

	Alarma harffan	
TTING	Alarm buffer	
ASIC	552	
dvanced	Recording capacity	
FTP client	Pre-alarm period	5 Sec.
SMTP	Post-alarm period	5 Sec.
Network storage		
General	Recording time	
Alarm sending	Pre-alarm period	5 Sec.
Periodical recording	Post-alarm period	5 Sec.
Schedule		
Alarm buffer	OK Cancel	
Motion detection		
Audio detection		
System Log		

Use alarm buffer function for recording audio and video file in the IP Camera before and after disconnected network. After re-connecting, these files will transmit to **FTP client**, **SMTP**, and **Network storage**. You can set the pre-alarm and post-alarm period up to 5 seconds in Alarm Buffer function screen.

8.6 Motion Detection

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 Client**, **SMTP**, **and Network Storage**.



- Threshold: It means the extent which the alarm will be triggered. The default value is 50 and the value range is 0~100. The larger the value, the higher the threshold.
- Sensitivity: It means that how often the sensor will scan the image different. The higher sensitivity it is and the more frequently it scans. The default value is 50 and the value range is 0~100. The larger the value, the higher the sensitivity.
 - 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.

8.7 Audio Detection

The **Audio detection** has Threshold and Sensitivity inputs which you can adjust sequentially. Audio Detection function can support to **FTP Client**, **SMTP**, **Network Storage**, **and HTTP Event**.



Click it on for using **Audio Detection** function as a sensor. You can set audio detection function at the audio detection function screen.

- Threshold: It means the extent which the alarm will be triggered. The default value is 50 and the value range is 0~100. The larger the value, the higher the threshold.
- Sensitivity: It means that how often the sensor will scan the image different. The higher sensitivity it is and the more frequently it scans. The default value is 5 and the value range is 1~10. The larger the value, the higher the sensitivity.

8.8 System Log

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

🗲 Home		
SETTING	System Log	
+BASIC		
-Advanced		
+FTP client	Remote Log	
+SMTP	Enable remote log	
-Network storage		
General		
Alarm sending		
Periodical recording		
Schedule	OK Cancel	
Alarm buffer		
Motion detection	Current Log	
Audio detection	-	
System Log	Jan 1 00:00:09 <info> SYS: log started Jan 1 00:00:22 <info> WDT: watchdog start</info></info>	-
	Jan 1 00:00:23 <info> WDT: check list update</info>	
	Jan 1 00:00:30 <notice> NET: Starting network</notice>	
	Jan 1 00:00:30 <notice> NET: MAC = 00:18:FE:00:08:A2</notice>	
	Jan 1 00:00:30 <notice> NET: Network type = DHCP</notice>	
	Jan 1 00:00:30 <notice> NET: Host IP = 192.168.1.100</notice>	
	Jan 1 00:00:30 <notice> NET: Subnet Mask = 255.255.255.0</notice>	
	Jan 1 00:00:30 <notice> NET: Gateway = 192.168.1.1</notice>	
	Jan 1 00:00:30 <notice> NET: Primary DNS = 192.168.1.1 Jan 1 00:00:32 <info> RTSP: h264 over HTTP from 192.168.1.91</info></notice>	
	Jan 1 00:00:33 <info> WDT: check list update</info>	
	Jan 1 00:00:42 <info> WDT: check list update</info>	
	Jan 1 00:57:24 <info> RTSP: h264 over HTTP from 192.168.1.91</info>	
	Jan 1 01:00:30 <notice> NET: Starting network</notice>	
	Jan 1 01:00:31 <notice> NET: MAC = 00:18:FE:00:08:A2</notice>	
	Jan 1 01:00:31 <notice> NET: Network type = DHCP</notice>	
	Jan 1 01:00:31 <notice> NET: Host IP = 192.168.1.100</notice>	
	Jan 1 01:00:31 <notice> NET: Subnet Mask = 255.255.255.0</notice>	20
	Jan 1 01:00:31 <notice> NET: Gateway = 192.168.1.1</notice>	

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

Chapter 9 Appendix

A. Frame-rate and Bitrate Table – Help to set IPCamera with your network environment to access Internet.

Base on your network upload environment to choose the suitable 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 256Kb situation.

A.1 Mega Mode

A.1.1. H.264 @ 15fps / kbps

Quality	1280*1024	1280*720	640*480	320*240
				320 240
Excellent	1500	1200	180	50
Detailed	400	250	100	30
Good	250	100	80	20
Standard	100	60	50	15
Medium	80	50	40	10

A.1.2. H.264 @ 10fps / kbps

Quality	1280*1024	1280*720	640*480	320*240
Excellent	1000	800	120	30
Detailed	280	100	70	20
Good	170	70	55	15
Standard	70	40	30	10
Medium	55	30	20	8

A.1.3. H.264 / kbps, fps

Image-Size	Bitrate Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
1280*1024	6144	15	6300	15
1280*1024	6144	10	6300	10
1280*1024	2048	15	2200	15
1280*1024	2048	10	2200	10
1280*1024	512	15	550	15
1280*1024	512	10	550	10
1280*720	6144	15	6300	15
1280*720	6144	10	6300	10
1280*720	2048	15	2200	15
1280*720	2048	10	2200	10
1280*720	512	15	550	15
1280*720	512	10	550	10
640*480	6144	15	6300	15
640*480	6144	10	6300	10
640*480	2048	15	2200	15
640*480	2048	10	2200	10
640*480	512	15	550	15
640*480	512	10	550	15
320*240	6144	15	5100	15
320*240	6144	10	3600	10

320*240	2048	15	2200	15
320*240	2048	10	2200	10
320*240	512	15	550	15
320*240	512	10	550	10

A.1.4. MPEG 4@ 15fps / kbps

Quality	1280*1024	1280*720	640*480	320*240
Excellent	2700	2000	300	100
Detailed	1100	800	200	80
Good	500	350	150	60
Standard	350	250	100	40
Medium	300	200	80	35

A.1.5. MPEG4@ 10fps / kbps

Quality	1280*1024	1280*720	640*480	320*240
Excellent	1800	1400	200	80
Detailed	800	550	120	60
Good	350	250	100	40
Standard	250	180	80	30
Medium	200	140	60	25

A.1.6. MPEG4 / kbps, fps

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
1280*1024	6144	15	5500	13
1280*1024	6144	10	6300	10
1280*1024	2048	15	2200	15
1280*1024	2048	10	2200	10
1280*1024	512	15	550	15
1280*1024	512	10	550	10
1280*720	6144	15	6300	15
1280*720	6144	10	6300	10
1280*720	2048	15	2200	15
1280*720	2048	10	2200	10
1280*720	512	15	550	15
1280*720	512	10	550	10
640*480	6144	15	6300	15
640*480	6144	10	6300	10
640*480	2048	15	2200	15
640*480	2048	10	2200	10
640*480	512	15	550	15
640*480	512	10	550	10
320*240	6144	15	2200	15
320*240	6144	10	1800	10
320*240	2048	15	2200	15
320*240	2048	10	1800	10
320*240	512	15	550	15
320*240	512	10	550	10

A.1.7. MJPEG @ 15fps / kbps

Quality	1280*1024	1280*720	640*480	320*240
Excellent	22000	16000	6000	2200
Detailed	12000	7000	3000	1200
Good	7000	5000	2500	1000
Standard	5500	4000	2000	800
Medium	4000	3000	1200	500

A.1.8. MJPEG@ 10fps / kbps

Quality	1280*1024	1280*720	640*480	320*240
Excellent	15000	11000	4000	1500
Detailed	8000	5000	2000	800
Good	5000	3500	1800	700
Standard	4000	3000	1500	600
Medium	3000	2000	800	350

A.1.9. MJPEG / kbps, fps

Image-Size	Quality Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
1280*1024	Excellent	15	22000	15
1280*1024	Excellent	10	15000	10
1280*1024	Good	15	7000	15
1280*1024	Good	10	5000	10
1280*1024	Medium	15	4000	15
1280*1024	Medium	10	3000	10
1280*720	Excellent	15	16000	15
1280*720	Excellent	10	11000	10
1280*720	Good	15	5000	15
1280*720	Good	10	3500	10
1280*720	Medium	15	3000	15
1280*720	Medium	10	2000	10
640*480	Excellent	15	6000	15
640*480	Excellent	10	4000	10
640*480	Good	15	2500	15
640*480	Good	10	1800	10
640*480	Medium	15	1200	15
640*480	Medium	10	800	10
320*240	Excellent	15	2200	15
320*240	Excellent	10	1500	10
320*240	Good	15	1000	15
320*240	Good	10	700	10
320*240	Medium	15	500	15
320*240	Medium	10	350	10

A.2 VGA Mode

A.2.1 H.264 @ 30fps / kbps

Quality	640*480	320*240
Excellent	600	60
Detailed	120	40

Good	60	30
Standard	50	25
Medium	40	20

A.2.2 H.264@15 fps / kbps

Quality	640*480	320*240
Excellent	400	40
Detailed	80	30
Good	40	25
Standard	30	20
Medium	25	15

A.2.3 H.264 / kbps, fps

Image-Size	Bitrate Setting	Frame-Rate	Current Bitrate	Current
intage cize	Bhrate cetang	Setting	our one bladto	Frame-Rate
640*480	6144	30	6300	30
640*480	6144	15	6300	15
640*480	2048	30	2200	30
640*480	2048	15	2200	15
640*480	512	30	550	30
640*480	512	15	550	15
320*240	6144	30	6300	30
320*240	6144	15	5500	15
320*240	2048	30	2200	30
320*240	2048	15	2200	15
320*240	512	30	550	30
320*240	512	15	550	15

A.2.4 MPEG4 @ 30fps / kbps

Quality	640*480	320*240
Excellent	1000	120
Detailed	400	80
Good	200	60
Standard	150	50
Medium	120	40

A.2.5 MPEG4@ 15fps / kbps

Quality	640*480	320*240
Excellent	600	80
Detailed	250	50
Good	150	40
Standard	100	30
Medium	80	20

A.2.6 MPEG4 / kbps, fps

Image-Size	Bitrate Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
640*480	6144	30	6300	30
640*480	6144	15	6300	15

640*480	2048	30	2200	30
640*480	2048	15	2200	15
640*480	512	30	550	30
640*480	512	15	550	15
320*240	6144	30	5100	30
320*240	6144	15	2800	15
320*240	2048	30	2200	30
320*240	2048	15	2200	15
320*240	512	30	550	30
320*240	512	15	550	15

A.2.7 MJPEG @ 30fps / kbps

Quality	640*480	320*240
Excellent	13000	4500
Detailed	6500	2500
Good	5000	2000
Standard	4000	1600
Medium	2500	1000

A.2.8 MJPEG@ 15fps / kbps

Quality	640*480	320*240
Excellent	7000	2500
Detailed	3500	1500
Good	2800	1200
Standard	2100	1000
Medium	1400	700

A.2.9 MJPEG / kbps, fps

Image-Size	Bitrate Setting	Frame-Rate Setting	Current Bitrate	Current Frame-Rate
640*480	Excellent	30	13000	30
640*480	Excellent	15	7000	15
640*480	Good	30	5000	30
640*480	Good	15	2800	15
640*480	Medium	30	2500	30
640*480	Medium	15	1400	15
320*240	Excellent	30	4500	30
320*240	Excellent	15	2500	15
320*240	Good	30	2000	30
320*240	Good	15	1200	15
320*240	Medium	30	1000	30
320*240	Medium	15	700	15

B. Storage Requirement Table - Help to set Recording Storage System.

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

B.1 Mega Mode

B.1.1 H.264 Storage Requirement GB / channel / day @ 15fps

Quality 1280*1024 1280*720 640*480 320*240	5		, 0		
	Quality	1280*1024	1.30/1* 7.3/1	640*480	320*240

Excellent	50	45	10	4.2
Detailed	16.6	13	8.3	2.5
Good	13	8.3	6.7	1.7
Standard	8.3	5	4.2	1.3
Medium	6.7	4.2	3.4	1

B.1.2 H.264 Storage Requirement GB / channel / day @ 10fps

-	•			
Quality	1280*1024	1280*720	640*480	320*240
Excellent	45	22.5	6.7	2.5
Detailed	12.5	8.3	5.9	1.7
Good	8.3	5.9	4.6	1.3
Standard	5.9	3.4	2.5	1.3
Medium	4.5	2.5	2.1	0.7

B.1.3 MPEG4 Storage Requirement GB / channel / day

Image-Size	Bitrate Setting	Frame-Rate Setting	Storage Requirement
1280*1024	6144	15	522.9
1280*1024	6144	10	522.9
1280*1024	2048	15	182.6
1280*1024	2048	10	182.6
1280*1024	512	15	45.7
1280*1024	512	10	45.7
1280*720	6144	15	522.9
1280*720	6144	10	522.9
1280*720	2048	15	182.6
1280*720	2048	10	182.6
1280*720	512	15	45.7
1280*720	512	10	45.7
640*480	6144	15	522.9
640*480	6144	10	522.9
640*480	2048	15	182.6
640*480	2048	10	182.6
640*480	512	15	45.7
640*480	512	10	45.7
320*240	6144	15	423.3
320*240	6144	10	298.8
320*240	2048	15	182.6
320*240	2048	10	182.6
320*240	512	15	45.7
320*240	512	10	45.7

B.1.4 MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	1280*1024	1280*720	640*480	320*240
Excellent	133	83	25	8.3
Detailed	58.1	42	17	6.7
Good	42	25	12.5	5
Standard	30	21	8.3	3.4
Medium	25	17	6.7	3

B.1.5 MPEG4 Storage Requirement GB / channel / day @ 10fps

-				
Quality	1280*1024	1280*720	640*480	320*240
Excellent	92	58.1	17	6.7
Detailed	42	30	10	5
Good	30	17	8.3	3.4
Standard	21	12.5	6.7	2.5
Medium	17	10	5	2

B.1.6 MPEG4 Storage Requirement GB / channel / day

Image-Size	Quality Setting	Frame-Rate Setting	Storage Requirement
1280*1024	6144	15	431.6
1280*1024	6144	10	522.9
1280*1024	2048	15	182.6
1280*1024	2048	10	182.6
1280*1024	512	15	45.7
1280*1024	512	10	45.7
1280*720	6144	15	522.9
1280*720	6144	10	522.9
1280*720	2048	15	182.6
1280*720	2048	10	182.6
1280*720	512	15	45.7
1280*720	512	10	45.7
640*480	6144	15	522.9
640*480	6144	10	522.9
640*480	2048	15	182.6
640*480	2048	10	182.6
640*480	512	15	45.7
640*480	512	10	45.7
320*240	6144	15	182.6
320*240	6144	10	149.4
320*240	2048	15	182.6
320*240	2048	10	149.4
320*240	512	15	45.7
320*240	512	10	45.7

B.2 VGA Mode

B.2.1. H.264 Storage Requirement GB / channel / day @ 30fps

,	
640*480	320*240
21	5
10	3.4
5	2.5
4.2	2.1
3.4	1.7
	640*480 21 10 5 4.2

B.2.2. H.264 Storage Requirement GB / channel / day @ 15fps

Quality	640*480	320*240
Excellent	12.5	3.4
Detailed	6.7	2.5
Good	3.4	2.1

Standard	2.5	1.7
Medium	2.1	1.3

B.2.3. H.264 Storage Requirement GB / channel / day

Image-Size	Bitrate Setting	Frame-Rate	Current Bitrate	Storage
inage-0ize	Dirac Setting	Setting		Requirement
640*480	6144	30	6300	522.9
640*480	6144	15	6300	522.9
640*480	2048	30	2200	182.6
640*480	2048	15	2200	182.6
640*480	512	30	550	45.7
640*480	512	15	550	45.7
320*240	6144	30	6300	522.9
320*240	6144	15	5500	456.5
320*240	2048	30	2200	182.6
320*240	2048	15	2200	182.6
320*240	512	30	550	45.7
320*240	512	15	550	45.7

B.2.4. MPEG4 Storage Requirement GB / channel / day @ 30fps

Quality	640*480	320*240
Excellent	50	10
Detailed	25	6.7
Good	16.7	5
Standard	12.5	4.2
Medium	10	3.4

B.2.5. MPEG4 Storage Requirement GB / channel / day @ 15fps

Quality	640*480	320*240
Excellent	33.2	6.7
Detailed	16.7	4.2
Good	12.5	3.4
Standard	8.3	2.5
Medium	6.7	1.7

B.2.6. MJPEG Storage Requirement GB / channel / day

Imaga Ciza	Frame-Rate	Storage		
Image-Size	Bitrate Setting	Setting	Current Bitrate	Requirement
640*480	6144	30	6300	522.9
640*480	6144	15	6300	522.9
640*480	2048	30	2200	182.6
640*480	2048	15	2200	182.6
640*480	512	30	550	45.7
640*480	512	15	550	45.7
320*240	6144	30	5100	423.3
320*240	6144	15	2800	232.4
320*240	2048	30	2200	182.6
320*240	2048	15	2200	182.6
320*240	512	30	550	45.7

320*240	512	15	550	45.7

C. System Requirement – Help to setup System

C.1. 16 Channel IPCamera with CIF Performance

Equipment Configuration

Software:	MainConsole Version 2.6.4 Professional
CPU:	Intel Core 2 Quad Q6600 @ 2400 MHz
Memory:	1024 MB (2 x 512 DDR2-SDRAM)
Ethernet:	Marvell Yukon 88E8052 PCI-E ASF Gigabit Ethernet Controller
Hard Disk:	ST3250620A (250 GB)
Graphic card:	ATI Technologies Inc Radeon X1300 Series
Operating System:	Windows XP Professional SP2

Results from Test with a Resolution of 352×240

320x240	Quality	Frame Rate	CPU Load	Bandwidth
16 IP camera	Good	20	65%	40~50 Mbps
16 IP camera	Excellent	20	67%	40~50 Mbps

C.2. 16 Channel IPCamera with D1 Performance

Equipment Configuration

Software:	MainConsole Version 2.6.4 Professional
CPU:	AMD Athlon 64*2 @3600+MHz
Memory:	2048 MB (2 x 1024 DDR2-SDRAM)
Ethernet:	VIA Rhine II Fast Ethernet Adapter
Hard Disk:	ST3250620A (250 GB)
Graphic card:	ATI Technologies Inc EAX1600 Series
Operating System:	Windows XP Professional SP2 x64

Results from Test with a Resolution of 704×480 CCD IPCamera

704x480	Quality	Frame Rate	CPU Load	Bandwidth
16 IP camera	Excellent	30	95%	15~20 Mbps

Results from Test with a Resolution of 640×480 CMOS IPCamera

640x480	Quality	Frame Rate	CPU Load	Bandwidth
16 IP camera	Excellent	30	95%	10~15 Mbps

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

Clause	Description
EN 60950-1: 2001	Safety of Information Technology Equipment
EN 50392: 2004	Generic standard to demonstrate the compliance of electronic and electrical
	apparatus with the basic restrictions related to human exposure to
	electromagnetic fields (0 Hz - 300 GHz)
EN 300 328 V1.6.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband
(2004-11)	transmission systems; Data transmission equipment operating in the 2,4 GHz
	ISM band and using wide band modulation techniques; Harmonized EN
	covering essential requirements under article 3.2 of the R&TTE Directive
EN 301 489-17 V1.2.1	Electromagnetic compatibility and Radio spectrum Matters (ERM);
(2002-08) and EN 301	ElectroMagnetic Compatibility (EMC) standard for radio equipment and
489-1 V1.5.1 (2004-11)	services; Part 17: Specific conditions for 2,4 GHz wideband transmission
	systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

©Česky [Czech]	[<i>Jméno výrobce</i>] tímto prohlašuje, že tento [<i>typ zařízení</i>] je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede <i>[fabrikantens navn]</i> erklærer herved, at følgende udstyr <i>[udstyrets typebetegnelse]</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt <i>[Name des Herstellers]</i> , dass sich das Gerät <i>[Gerätetyp]</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab <i>[tootja nimi = name of manufacturer]</i> seadme <i>[seadme tüüp = type of equipment]</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, <i>[name of manufacturer]</i> , declares that this <i>[type of equipment]</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español	Por medio de la presente [nombre del fabricante] declara que el [clase de equipo]

[Spanish]	cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
∎Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ [name of manufacturer] ΔΗΛΩΝΕΙ ΟΤΙ [type of equipment] ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Imation Français [French]	Par la présente [nom du fabricant] déclare que l'appareil [type d'appareil] est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente [nome del costruttore] dichiara che questo [tipo di apparecchio] è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo [name of manufacturer / izgatavotāja nosaukums] deklarē, ka [type of equipment / iekārtas tips] atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo <i>[manufacturer name]</i> deklaruoja, kad šis <i>[equipment type]</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
M Nederlands [Dutch]	Hierbij verklaart [<i>naam van de fabrikant</i>] dat het toestel [<i>type van toestel</i>] in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]	Hawnhekk, <i>[isem tal-manifattur]</i> , jiddikjara li dan <i>[il-mudel tal-prodott]</i> jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, <i>[gyártó neve]</i> nyilatkozom, hogy a <i>[típus]</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Polski [Polish]	Niniejszym <i>[nazwa producenta]</i> oświadcza, że <i>[nazwa wyrobu]</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	[Nome do fabricante] declara que este [tipo de equipamento] está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	<i>[Ime proizvajalca]</i> izjavlja, da je ta <i>[tip opreme]</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	<i>[Meno výrobcu]</i> týmto vyhlasuje, že <i>[typ zariadenia]</i> spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
ffiSuomi [Finnish]	[Valmistaja = manufacturer] vakuuttaa täten että [type of equipment = laitteen tyyppimerkintä] tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar <i>[företag]</i> att denna <i>[utrustningstyp]</i> står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av

	direktiv 1999/5/EG.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.