Full HD Compact IP Dome Camera



Indoor/Rugged

User Manual

Ver1.4

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1. Introduction

Following high standard of Megapixel IP Camera, the Full HD Compact IP Dome Camera is capable of serving real-time streaming and makes image quality more smoothly.

In addition to MJPEG real time streaming, the Full HD Compact IP Dome Camera develops superior H.264 codec to apply for high resolution digital broadcast. Attributing to the IP Camera's flexible platform, the camera can be applied in various installation locations including shops, stores, banks, parking lots, factories and building surveillance.

With Power over Ethernet (IEEE 802.3af) feature, the need of power outlets could be totally eliminated; likewise installation and cabling cost would be significantly reduced. Additionally, its light weight and compact size offer quick and simple installation on the ceilings or walls of houses and vehicles.

1.1 Features

- Progressive Scan CMOS Sensor
- Full HD 1080p / HD 720p real-time at dual streaming
- H.264 and MJPEG compression
- f = 4 mm, F1.5
- Power over Ethernet (802.3af)
- Motion Detection
- Privacy Masks
- Weatherproof Dongle Cable*
- Weatherproof (IP66 international)
- Micro SD support*
- Security Torx against tampering
- ONVIF Support

Note: Items marked with an asterisk (*) are optional

1.2 Package Contents

Please check the package contains the following items listed below.

	C Partie C P	Contraction of the second seco	
Indoor Camera/	Self-tapping	Plastic Anchors	Security Screw
Rugged Camera (with Cable)	screws (×3)	(×3)	(×1)
Rubber Washer (×1, Casing)			
Rubber Washers (x3, Baseplate)	Security Torx	Quick Guide	CD
(Rugged Camera only)			

1.3 Camera Overview



Designation		Description		
4	Popot Putton	Restore to default setting; press the		
.1	Reset Dullon	button with a proper tool		
2	Lens	Rotate the lens right/left to adjust focus		
3	Focus Fixed Screw	Loosen the screw to adjust the lens		
4	Tilt Fixed Screw	Loosen the screw to adjust tilt angle		

Dimensions





2. Preparations for IP Camera Setup

This chapter provides information about system requirements for IP Dome Camera operation, power and Ethernet connection for Indoor/Outdoor IP Dome Camera and ways to access to the camera.

2.1 System Requirements

To perform the IP Camera via web browser, please ensure your PC is in good network connection, and meet system requirements as described below.

Items	System Requirement
	1. Intel [®] Pentium [®] M, 2.16 GHz or Intel [®] Core [™] 2 Duo,
Personal Computer	2.0 GHz
	2. 2 GB RAM or more
Operating System	Windows VISTA or Windows XP
Web Browser	Microsoft Internet Explorer 6.0 or later
	Firefox
	Chrome
	Safari
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

2.2 Ethernet Connection

Please follow the instructions below to connect Indoor/Rugged IP Dome Camera's Ethernet cable.

2.2.1 Indoor Camera

The Ethernet connector, which is located in the rear of the camera, is shown below:



PoE Connection

Connect the one end of the Ethernet cable to the network port on the camera, and the other end to Power Sourcing Equipment (PSE) like hubs or routers. Check the status of the link indicator and activity indicator LEDs; if the LEDs are unlit, please check the connections.



Green Link Light indicates good network connection. Orange Activity Light flashes for network activity indication.

3. Deleting the Existing DC Viewer

For users who have installed the DC Viewer in the PC previously, please first delete the existing DC Viewer from the PC before accessing to the IP Camera.

Deleting the DC Viewer

Click "Control Panel", and then double click "Add or Remove Programs." In the "Currently installed programs" list, select "DCViewer" and click the button "Remove" to uninstall the existing DC Viewer as shown in the figure below.



Deleting Temporary Internet Files

To improve browser performance, it is suggested to clean up the all the files in the Temporary Internet Files. The procedure is as follows:

STEP 1: Click the "Tools" tab and select the option "Internet Options."

Google - Windows Interne	t Explorer			
http://www.g	google.com/			
File Edit View Favorites	Tools Help			
😭 🏟 🛂 Google	Delete Browsing History			
	Pop-up Blocker 🕨 🕨			
	Phishing Filter			
	Manage Add-ons		$\cap \mathbf{\alpha}$	
	Subscribe to this Feed			_
	Feed Discovery		0	
	Windows Update		-	
	Diagnose Connection Problems			
	Sun Java Console			
	Internet Options			100
		Google Search	I'm Feeling Lucky	/
			100000000000000000000000000000000000000	10 SEC
	Find c	ut where to watch the	World Cup with God	igle Maps
	Advertising Programs	Business Solutions	s About Google	Go to Google
Enables you to change settings				
chables you to change settings.				

STEP 2: Click on "Delete", then tap the "Delete Files" in the "Temporary Internet files" section.

Intern	iet Optio	ns	_	_		
General	Security	Privacy	Content	Connections	Programs	Advanced
Home p	age To crea	ate home	page tabs,	, type each add	fress on its (own line.
	http:	//www.g	oogle.com	М		*
		Use <u>c</u> u	irrent	Use de <u>f</u> ault	Use	<u>b</u> lank
Browsin	ng history				18-18-	
e	Delete and we	temporar eb form inl	y files, hist formation.	ory, cookies, s <u>D</u> elete	aved passw	ords, tings
Search) Chang	e search o	defaults.		Set	tings
Tabs -	Chang tabs.	e how wel	bpages are	e displayed in	Set	tings
Appear	ance I <u>o</u> lors) [Lang	juages 🔵	Fonts	Acc <u>e</u>	ssibility
			0	<hr/> <hr <<="" <hr="" td=""/> <td>ancel] [</td> <td>Apply</td>	ancel] [Apply

Delete Browsing History	
Temporary Internet Files	
Copies of webpages, images, and media that are saved for faster viewing.	Delete files
Cookies	
Files stored on your computer by websites to save preferences such as login information.	Delete cookies
History	
List of websites you have visited.	Delete history
Form data	r
Saved information that you have typed into forms.	Delete forms
Passwords	·
Passwords that are automatically filled in when you log on to a website you've previously visited.	Delete passwords
About deleting browsing history Delete all.	Close

The popup window for confirmation will come out as shown below. Click "OK" to start deleting the files.

Dele	te Files 📃	- 🗆 📈
⚠	Are you sure you want to de temporary Internet Explorer Yes	lete all files? <u>N</u> o

4. Accessing Camera

For initial access to the IP Camera, users can search the camera through the installer program: DeviceSearch.exe, which can be found in "DeviceSearch" folder in the supplied CD.

Device Search Software Setup

Step 1: Double click on the program Device Search.exe (see the icon below); its window will appear as shown below. Then click the "Device Search" button.



Search Method C Local Broad C IP Relay	J dcast	TCP -	0 device	(s) foundl	>h		
4odel	Proj	Name	IP	Port	Netmask	Мас	
						a) ere	

Step 2: The security alert window will pop up. Click "Unblock" to continue.



Device Search

Step 3: Click "Device Search" again, and all the finding IP devices will be listed in the page, as shown in the figure below. The IP Camera's default IP address is: 192.168.0.250.

Search Metho C Local Bro C IP Relay	od adcast	TCP	3 device(s) fo	^{und!} Seal	rch	
Model	Proj	Name	IP	Port	Netmask	Мас
ID-20	ID-20	Full HD IP Camera	192.168.2.204	80	255.255.255.0	00:D0:89:07:9F:08
ICS-20F	ICS-20F	Full HD IP Camera	192.168.2.203	80	255.255.255.0	00:D0:89:08:1D:04
ICS-13	ICS-13	HD IP Camera	192.168.2.201	80	255.255.255.0	00:D0:89:07:9F:D3

Step 4: Double click or right click and select "Browse" to access the camera directly via web browser.

Search Metho C Local Bro C IP Relay	od adcast	TCP	3 device(s) for Device	^{ind!} Seal	rch	
Model	Proj	Name	IP	Port	Netmask	Mac
D-20	ID-20	Full HD IP Camera	192.168.2.204	80	255.255.255.0	00:D0:89:07:9F:08
CS-20F	ICS-20F	Full HD IP Camera	192.168 Detail	Info.	1055 255.255.0	00:D0:89:08:1D:04
CS-13	ICS-13	HD IP Camera	192.168 - Browse Netwo	e 🛑 rk Setuj	255.255.0	00:D0:89:07:9F:D3

Step 5: Then the prompt window of request for entering default username and password (as shown below) will appear for logging in to the IP Dome Camera.

	Gr.
MegapixelIPCamera User name:	2
Password:	Remember my password OK Cancel

The default login ID and password for the Administrator are:

Login ID	Password
Admin	1234



NOTE: ID and password are case sensitive.



NOTE: It is strongly advised that administrator's password be altered for the security concerns. Refer to section <u>5.3.2 Security</u> for further details.

Additionally, users can change the IP Camera's network property, either DHCP or Static IP, directly in the device finding list. Refer to the following section for changing the IP Camera's network property.

Example of Changing IP Camera's Network Property

Users can directly change an IP Camera's network property, ex. from static IP to DHCP, in the finding device list. The way to change the IP Camera's network property is specified below:

Step 1: In the finding device list, click on the IP Camera that you would like to change its network property. On the selected item, right click and select "Network Setup." Meanwhile, record the IP Camera's MAC address, for future identification.

Search Metho C Local Bro C IP Relay	rch - 1.0.0.28 od adcast	CP	3 device(s) for Device			
Model	Proj	Name	IP	Port	Netmask	Мас
ID-20	ID-20	Full HD IP Camera	192.168.2.204	80	255.255.255.0	00:D0:89:07:9F:08
ICS-20F	ICS-20F	Full HD IP Camera	192.168.2.203	80	255.255.255.0	00:D0:89:08:1D:04
ICS-13	ICS-13	HD IP Camera	1921582201 Detail Info. Browse Network Se	lan	255.255.255.0	00:D0:89:07:9F:D3

Step 2: The "Network Setup" page will come out. Select "DHCP," and press "Apply" button down the page.

Network Setup	- 🗆 ×
Device Information	
Model ICS-20F	
Project ICS-20F	
Name Full HD IP Camera	
MAC 00:D0:89:08:1D:04	
Network Property	
C DHCP C Static IP	
IP Address 192.168.2.203	
Gateway 192.168.2.1	
Netmask 255.255.255.0	
DNS 0.0.0	
ApplyClo	

Step 3: Click "OK" on the Note of setting change. Wait for one minute to re-search the IP Camera.

Note		
Control package Please try to re-:	sent. earch the devic OK	e after one minute.

Step 4: Click the "Device Search" button to search all the devices. Then select the IP Camera with the correct MAC address. Double click on the IP Camera, and the login window will come out.

Search Method C Local Broadd C IP Relay	cast	CP Project Filter	3 device(s) for Device				
Model	Proj	Name		Port	Netmask	Mac	
D-20	ID-20	Full HD IP Camera	192.168.2.204	80	255.255.255.0	00:D0:89:07:9F:08	
CS-20F	ICS-20F	Full HD IP Camera	192.168.2.203	80	255.255.255.0	00:D0:89:08:1D:04	
CS-13	ICS-13	HD IP Camera	192.168.2.201	80	255.255.255.0	00:D0:89:07:9F:D3	

Step 5: Enter User name and Password to access the IP Camera.

Installing DC Viewer Software Online

For the initial access to the IP Camera, a client program, DC Viewer, will be automatically installed to your PC when connecting to the IP Camera.

If the Web browser doesn't allow DC Viewer installation, please check the Internet security settings or ActiveX controls and plug-ins settings (see <u>Appendix B: Internet Security Settings</u>) to continue the process.

The Information Bar (just below the URL bar) may come out and ask for permission to install the ActiveX Control for displaying video in browser (see the figure below). Right click on the Information Bar and select "Install ActiveX Control..." to allow the installation.

🤌 networ	k HD Camera - Windows In	ternet Explo	rer					
00	 Image: http://192.168.0.250 					• \$7	X Live Search	•
File Edit	View Favorites Tools	Help						
*	🖉 network HD Camera					<u>a</u>	• 🗟 • 🖶 • 🔂 Pag	e 🔹 🎯 Tools 🔹 🔸
🚯 This site	might require the following Activ	eX control: 'Me	gapixel IP Camera	Viewer' from		Install ActiveX Control	en e	-
	Moganival	and some			_	What's the Risk?		
	megapixer	Home	System	Streaming	Camer	Information Bar Help		_

Then the security warning window will pop up. Click "Install" to carry on software installation.

Click "Finish" to close the DC Viewer window when download is finished. For the detailed software download procedure, please refer to <u>Appendix C: DC</u> <u>Viewer Download Procedure</u>.

Once login to the IP Camera, users will see the Home page as shown below:



Administrator/User Privileges

"Administrator" represents the person who can configure the IP Camera and authorize users access to the camera; "User" refers to whoever has access to the camera with limited authority, i.e. entering Home and Camera setting pages.

Image and Focus Adjustment

The image displays on the Home page when successfully accessing to the IP Camera. Adjust zoom and focus as necessary to produce a clear image.

Step 1: Unscrew the IP Dome Camera's cover.



Step 2: Loosen the focus fixed screw, and rotate the lens counter-/clockwise to adjust focus; loosen the tilt fixed screw, and adjust the camera's tilt angle.



5. Configuration & Operation

The IP Camera is provided with a user-friendly browser-based configuration interface, and a free bundled CMS (Central Management System) for video playback and recording. In this chapter, information about main page introduction, system related settings and camera settings will be described in detail.

For further information about CMS software, please refer to <u>6. CMS Software</u> <u>Introduction</u> and CMS user manual.

5.1 Browser-based Viewer Introduction

The figure below shows the Home page of the IP Camera's Viewer Window.



There are five tabs: Home, System, Streaming, Camera and Logout on the top panel.

<u>Home</u>

Users can monitor live video of the targeted area.

System setting

The administrator can set host name, system time, root password, network related settings, etc. Further details will be interpreted in section <u>5.3 System</u> <u>Related Settings</u>.

Streaming setting

The administrator can modify video resolution and rotate type and select audio compression mode in this page.

Camera setting

Users can adjust various camera parameters, including <Exposure>, <White Balance>, <Brightness>, <Sharpness>, <Contrast>, <Saturation>, <Hue> and <TV System>.

<u>Logout</u>

Click on the tab to re-login the IP Camera with another username and password.

5.2 Home Page

In the Home page, there are several function buttons right down the displayed image.



Multiple Languages Support

Multiple languages are supported, including German, English, French, Italian, Russian, etc., for the viewer window interface.

Screen Size Adjustment

Image display size can be adjusted to x1/2 and full screen.

Digital Zoom Control

In the full screen mode, users can implement digital PTZ by rotating the mouse wheel (for zoom in/out), and drag the mouse into any direction.

(on/off)

Speaker button

Press the Speaker button to mute/activate the audio.

Snapshot button

Press the button, and the JPEG snapshots will automatically be saved in the appointed place. The default place of saving snapshots is: C:\. To change the storage location, please refer to section 5.3.12 File Location for further details.

Video Streaming Pause /Restart button

(pause/restart)

Press the stop button to disable video streaming, the live video will be displayed as black. Press the restart button to show the live video again.

Web Recording button (on/off)

Press the Recoding button and the recordings from the Live View will be saved directly to the specified location on the local hard drive, which could be configured in the "File Location" (snapshot) page. The default storage location for the web recording is: C:/. Please refer to section <u>5.3.12 File Location</u> for further details.

5.3 System Related Settings

The figure below shows all categories under the "**System**" tab. Each category in the left column will be explained in the following sections.



NOTE: The "System" configuration page is only accessible by the Administrator.

Megapixel	Home	System	Streaming	Camera	Logout	
System	System					
Security	Host Nam	ne: Mega	PixelCamera			
Network	Time zon	e: GMT+	+00:00 Gambia,	Liberia, Moro	cco, England	•
DDNS						
Mail	Enable	daylight sa	ving time			
FTP		ime offset: [Start data: [01:00:00		un 🗍 Chart	time: 00.00.00
нттр		End date:	Jan 💌 Ist		un End ti	ime: 00:00:00
Motion detection	1	End date. [1011			00.00,00
Tampering	Sync w	ith compute	er time			
Storage management		DC date:	2010/12/06 0	uuu/mm/ddl		
Recording		FC date. [2010/12/00 [y	yyymm/duj		
File location		PC time: [14:07:08 [hh	:mm:ss]		
View log file	🔘 Manual					
View user information	1	Date: [2007/01/01 [y	yyy/mm/dd]		
View parameters		Time: [00:00:00 [hh	:mm:ss]		
Factory default	O Sync w	ith NTP ser	ver			
Software version	1	TP server:	0.0.0.0			[host name or IP address]
Software upgrade	Undat	te interval: [Every bour	7		1
Maintenance	Opua	ce incervair [
		l	Save			

5.3.1 Host Name and System Time Setting

Press the first category: <System> in the left column; the page is shown as below.

Megapixel	Home	System	Streaming	Camera	Logout				
System	System								
Security 🔻	Host Name	Host Name : MegaPixelCamera							
Network 🔻	Time zone	GMT+	00:00 Gambia,	Liberia, Moroo	co, England	•			
DDNS									
Mail	🔲 Enable d	aylight sav	ing time						
FTP	tim	ne oπset: [U	1:00:00		un Chart	time: 00.00.00			
НТТР	50	ant date:	an 💌 Ist		un 💽 Start	ime: 00:00:00			
Motion detection	1	and date.	130			une. 00.00.00			
Tampering	Sync wit	h compute	r time						
Storage management	0 0 1 1 1	DC dates [010/12/06 5						
Recording		FC date.	2010/12/00 [y	yyy/mm/aaj					
File location		PC time: [1	[4:07:08] [hh:	:mm:ss]					
View log file	🔘 Manual								
View user information	1	Date: 2	2007/01/01 [y	yyy/mm/dd]					
View parameters	1	Time: 0	0:00:00 [hh:	:mm:ss]					
Factory default	Sync wit	h NTP serv	er						
Software version	NT	P server: 0	0.0.0			[host name or IP address]			
Software upgrade	Lindata	intonuoli [Tuoru bour -	7		T [user name of Trigger cap]			
Maintenance	opuate	incerval: [1	=very nour' ▼						
			Save						

Host Name

The name is for camera identification. If alarm function is enabled and is set to send alarm message by Mail/FTP, the host name entered here will display in the alarm message.

Time Zone

Select the time zone you are in from the drop-down menu.

Enable Daylight Saving Time

To enable DST, please check the item and then specify time offset and DST duration. The format for time offset is [hh:mm:ss]; for instance, if the amount of time offset is one hour, please enter "01:00:00" into the field.

Sync With Computer Time

Select the item, and video date and time display will synchronize with the PC's.

<u>Manual</u>

The Administrator can set video date, time and day manually. Entry format should be identical with that shown next to the enter fields.

Sync with NTP server

Network Time Protocol (NTP) is an alternate way to synchronize your camera's clock with a NTP server. Please specify the server you wish to synchronize in the enter field. Then select an update interval from the drop-down menu. For further information about NTP, please see the web site: <u>www.ntp.org</u>.

5.3.2 Security

Click the category: <Security>, there will be a drop-down menu with tabs including <User>, <HTTPS>, <IP Filter>, and <IEEE 802.1X>.

Megapixel	Home	System	Streaming	Camera	Logout	7
System	Securit	у				ľ
Security A	Admin	Password				
User HTTPS	Ac Con	lmin password Ifirm password	••••••	Save	e	
IP filter IEEE 802.1X	Add Us	er	22			
Network	-	User name				
DDNS	t	Jser password				
Mail	1	I/O access	🔲 Camera c	ontrol		
FTP		Talk	🔲 Listen	Add		
нттр	Τ					
Motion detection		r name User	• Delete	Edit		
Tampering						
Storage management						
Recording	1					
File location	1					
View log file	1					
View user information	1					
View parameters	1					
Factory default	1					
Software version	1					

5.3.2.1 User

Click the <User> tab under the category <Security> and the page is shown as the figure below.

Megapixel	Home	System	Streaming	Camera	Logout	
System	Security	1				
Security	Admin I	Password				
User						
HTTPS	Ad	min password	•••••			
IP filter	Con	firm password	•••••	[Save		
IEEE 802.1X	Add Us	er				
Network	-	User name				
DDNS	L L	lser password				
Mail	1	I/O access	🔲 Camera c	ontrol		
FTP		Talk	🔲 Listen	Add		
нттр	1					
Motion detection	Manage	User	- Delete	Edit		
Tampering			Delete			
Storage management	1					
Recording	1					
File location	1					
View log file	1					
View user information	1					
View parameters	1					
Factory default						
Software version	1					

Root password

Change the administrator's password by inputting the new password in both text boxes. The input characters/numbers will be displayed as dots for security purposes. After clicking <Save>, the web browser will ask the Administrator for the new password for access. The maximum length of the password is 14 digits.



Add user

Type the new user's name and password and click <Add> to add the new user. Both user name and password can be up to 16 characters. The new user will be displayed in the user name list. There is a maximum of twenty user accounts. Each user can be assigned the privileges of "**Camera control**" and/or "**Listen**".

• I/O access

This item supports fundamental functions that enable users to view video when accessing to the camera.

• Camera control

This item allows the specified User to change camera parameters on the Camera Setting page.

Talk/Listen

Talk and Listen functions allow the appointed user in the local site (PC site) communicating with, for instance, the administrator in the remote site.



NOTE: The Compact IP Dome Camera does not have the Talk function.

Manage User

Delete user

To delete a user, pull down the user list, and select the user name you wish to delete. Then click <Delete> to remove it.

Edit user

Pull down the user list and select a user name. Click <Edit> to edit the user's password and privilege.



NOTE: It is required to enter the User password as well as select the function open to the user. When finished, click <Save> to modify the account authority.

http://192.168.7.12	3/lang1/server_editaccount	
2 maps/ 151/1000/1215/14		
User name	[user]	
User password	••••••	
I/O access	Camera control	
🔲 Talk	🔲 Listen	
Save	Close	
Don	Internet	● 100% ▼ = =

User name	[user]	
User password	••••]
☑ I/O access	Camera control	
🔲 Talk	V Listen	
Save	Close	

5.3.2.2 HTTPS

<HTTPS> allows secure connections between the IP Camera and web browser using <Secure Socket Layer (SSL)> or <Transport Layer Security (TLS)>, which ensure camera settings or Username/ Password info from snooping. It is required to install a self-signed certificate or a CA-signed certificate for implementing <HTTPS>.

Click the <HTTPS> tab, and the HTTPS setting page is shown as the figure below.

Megapixel	Home	System	Streaming	Camera	Logout		
System	HTTPS						
Security	Create	self-signed o	ertificate				
User	Create	2					
HTTPS	Install s	signed certifi	cate	_			
IP filter		reate Certific	ate Request				
IEEE 802.1X	Upload	signed certino	Browse	Lipload			
Network	Created	Request	Diomoc	opioad			
DDNS	Subject	•					
Mail	No cer	tificate reques	st created.				
FTP	Prope	erties Rei	move				
нттр	Installed	d Cer <mark>tifica</mark> te	<u></u> 81				
Motion detection	Subject					100	
Tampering	No cer	tificate installe	ed.				
Sterage management	Prope	erties Rei	move			203	
storage management	-						
Recording	-						
File location	-						
View log file							
View user information							
View parameters							
Factory default							
Software version							

To use HTTPS on the IP Camera, a HTTPS certificate must be installed. The HTTPS certificate can be obtained by either creating and sending a certificate request to a Certificate Authority (CA) or creating a self-signed HTTPS certificate, as described below.

Create Self-signed Certificate

Before a CA-issued certificate is obtained, users can create and install a self-signed certificate first.

Megapixel	Home	System	Streaming	Camera	Logout								
System	HTTPS												
Security 🔺	Create	self-signed c	ertificate										
User	Create												
HTTPS		Create Certificate Request											
IP filter	Upload s	bad signed certificate											
IEEE 802.1X		Browse Upload											
Network	Created	Request											
DDNS	Subject	640	6//				i						
Mail	No cer	tificate reques	t created.				l						
FTP	Prope	rties Ren	nove]										
нттр	Installed	l Certificate											
Motion detection	Subject		L				Í						
Tampering	No cer	uncate installe	a.			8							
Storage management	Prope	rues Rei	liove										
Recording													
File location													
View log file													
View user information													
View parameters													
Factory default													
Software version													

Click <Create> button under "Create self-signed certificate" and provide the requested information to install a self-signed certificate for the IP Camera. Please refer to the last part of this section: Provide the Certificate Information for more details.



NOTE: The self-signed certificate does not provide the same high level of security as when using a CA-issued certificate.

Create Certificate Request

Click the "Create Certificate Request" button to create and submit a certificate request in order to obtain a signed certificate from CA.

Megapixel	Home	System	Streaming	Camera	Logout		
System	HTTPS						
Security	Create	self-signed c	ertificate				
User	Create	1					
HTTPS	Install s	signed certifi	cate	_			
IP filter			are				
IEEE 802.1X		ingrica cereme	Browse	Upload			
Network	Created	Request	- CALINE				
DDNS	Subject						-
Mail	No cer	tificate reques	t created.				
FTP	Prope	erties Rer	nove]				
НТТР	Installed	d Certificate					
Motion detection	Subject		3				Ĩ
Tampering	No cer	thicate installe	d.			2]
Storage management	Prope	erties Rer	nove				
Recording							
File location							
View log file	1						
View user information	1						
View parameters							
Factory default							
Software version							

Provide the request information in the create dialog. Please refer to the following <u>Provide the Certificate Information</u> for more details.

When the request is complete, the subject of the Created Request will be shown in the field. Click "Properties" below the Subject field, copy the PEM-formatted request and send it to your selected CA.

When the signed certificate is returned, install it by uploading the signed certificate.

Megapixel	Home	System	Streaming	Camera	Logout	
System	HTTPS					
Security A	Create se	lf-signed ce	ertificate			
User	Create					
HTTPS	Install sig	ned certific	ate	_		
IP filter	Lupload sis	ate Certifica	ite Request			
IEEE 802.1X		grea cerance	Browse	Upload		
Network 🔻	Created R	equest				
DDNS	Subject					
Mail	No certifi	icate request	created.			
FTP	Propert	ies Rem	iove]			
нттр	Installed (Certificate				
Motion detection	Subject	n isen se s	8			
Tampering	No certifi	icate installed	1.			
Storage management	Propert	ies Rem	love			
Recording						
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						

Provide the Certificate Information

To create a Self-signed HTTPS Certificate or a Certificate Request to CA, please enter the information as requested:

🖉 http://192.168.7.12	3/lang1/server_certificate	
🔊 http://192.168.7.1	23/lang1/server_certificate	e.html 🔻
Create Self-Sig	ned Certificate	
Country:		
State or provinc	e:	
Locality:		
Organization:		
Organizational L	Jnit:]
Common Name:		
Valid days:	365 day	s[19999]
	OK Cancel	
	🕘 網際網路	a 100% 🗢

🖉 http://192.168.7.123/lang1/server_createreq	- 8	x
http://192.168.7.123/lang1/server_createrequest.http://192.173/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.168.7.123/lang1/server_createrequest.http://192.183/lang1/server_createrequest.http://192.173/lang1/server_createrequest.http://192.173/lang1/server_createrequest.http://192.173/lang1/server_createrequest.http://192.173/lang1/server_createrequest.http://192.173/lang1/server_createrequest.http://192.173/lang1/	ıtml	
Create Certificate Request		
Country:		
State or province:		
Locality:		
Organization:		
Organizational Unit:		
Common Name:		
OK Cancel		
[] (1) 網際網路	🔍 100%	

• Country

Enter a 2-letter combination code to indicate the country the certificate will be used in. For instance, type in "US" to indicate United States.

• State or province

Enter the local administrative region.

• Locality

Enter other geographical information.

• Organization

Enter the name of the organization to which the entity identified in "Common Name" belongs.

Organization Unit

Enter the name of the organizational unit to which the entity identified in "Common Name" belongs.

Common Name

Indicate the name of the person or other entity that the certificate identifies (often used to identify the website).

• Valid days (Self-signed Certificate Only)

Enter the period in days (1~9999) to indicate the valid period of certificate.

Click "OK" to save the Certificate Information after complete.

5.3.2.3 IP Filter

Using the IP filter, access to the IP Camera can be restricted by denying/allowing specific IP addresses.

Megapixel	Home	System	Streaming	Camera	Logout
System	IP Filter				
Security A	🔲 Enab	le IP filter		13	
User	Deny 🔻	the followin	g IP addresse	s Appl	ly
HTTPS	Filtered	IP Addresses			
IP filter					
IEEE 802.1X					
Network 🔻				Delet	te
DDNS					
Mail					
FTP					-
HTTP	0.0.0.0			Add	
Motion detection					
Tampering					
Storage management					
Recording					
File location					
View log file					
View user information					
View parameters					
Factory default					
Software version					

<u>General</u>

• Enable IP Filter

Check the box to enable the IP Filter function. Once enabled, the listed IP addresses (IPv4) will be allowed/ denied access to the IP Camera.

Select "Allow" or "Deny" from the drop-down list and click the <Apply> button to determine the IP Filter behavior.

• Add/ Delete IP Address

Input the IP address and click the <Add> button to add a new filtered address.

The Filtered IP Addresses list box shows the currently configured IP addresses. Up to 256 IP address entries may be specified.

To remove an IP address from the list, please select the IP and then click the <Delete> button.

5.3.2.4 IEEE 802.1X

The IP Camera is allowed to access a network protected by 802.1X/EAPOL (Extensible Authentication Protocol over LAN).

Users need to contact with the network administrator for gaining certificates, user IDs and passwords

Megapixel	Home	System	Streaming	Camera	Logout	
System	IEEE 80	2.1X/EAP-TLS				
Security A	CA cert	ificate				
User			Browse		Upload	
HTTPS	Upload Client c	d CA certificate	£,			
IP filter		ertificate	Browse	1	Upload	
IEEE 802.1X	Upload	d Client certific	ate.	-		
Network	Private	key				
DDNS			Browse	1	Upload	
Mail	Upload	d Private key.				
FTP	Identity	5			admin	
нттр	Private	kev password				
Motion detection	🗖 Ena	ble IEEE 802.:	1X			
Tampering	1			Save		
Storage management	1					
Recording	1					
File location	1					
View log file	1					
View user information	1					
View parameters	1					
Factory default	1					
Software version	1					

CA Certificate

The CA certificate is created by the Certification Authority for the purpose of validating itself. Upload the certificate for checking the server's identity.

Client Certificate/ Private Key

Upload the Client Certificate and Private Key for authenticating the IP Camera itself.

Settings

 Identity Enter the user identity associated with the certificate. Up to 16 characters can be used.

• Private Key Password

Enter the password (maximum 16 characters) for your user identity.

Enable IEEE 802.1X

Check the box to enable IEEE 802.1X.

Click "Save" to save the IEEE 802.1X/ EAP-TLS setting.
5.3.3 Network

Click the category: < Network>, there will be a drop-down menu with tabs including <Basic>, <QoS>, <SNMP>, and <UPnP>.

Megapixel	Home	System	Streaming	Camera	Logout	
System	Network	c				
Security	Genera	l				
Network	Get IP	address auto	omatically			
Basic	O Use fi	xed IP addres	S	400.450.7	100	
QoS	IP a	adress		192.168.7.	123	
SNMP	Sub	net mask		255.255.25	5.0	
UPnP	Dera	ault gateway		192.168.7.	254	
DDNS	- Prin	andary DNS		0.0.0.0		
Mail	O Use P	PPoE		0.0.0.0		
FTP	Use	r name				
HTTP	Pas	sword				
Motion detection	1			Save		
Tampering	Advanc	ed				
Storage management	Wet	D Server port		80		
Recording	M1D	FG over HTTP	nort	8008		
File location	НТТ	PS port	pore	443		
View log file				Save		
View user information	IPv6 Ad	ldress Config	uration			
View parameters	E	nable IPv6		Address :		
Factory default				Save		
Software version						

5.3.3.1 Basic

Users can choose to connect to the IP Camera with fixed or dynamic (DHCP) IP address. The IP Camera also provides PPPoE (Point-to-Point Protocol over Ethernet) support for users who connect to the network via PPPoE.

Megapixel	Home	System	Streaming	Camera	Logout	_	
System	Network						
Security 💌	General						
Network 🔺	Get IP	address auto	matically				
Basic	OUse fix	ed IP addres	S	102 168 7	173		
QoS	Subr	net mask		255,255,25	5.0		
SNMP	Defa	ult gateway		192.168.7.	254		
UPnP	Prim	ary DNS		0.0.00			
DDNS	Seco	ndary DNS		0.0.0			
Mail	O Use PF	POE					
FTP	User	name				1	
нттр	Pass	word					
Motion detection				Save			
Tampering	Advance	ed .					
Storage management	PTC	port		554			
Recording	MIDE	G over HTTP	nort	8008			
File location	нтте	Sport		443			
View log file				Save			
View user information	IPv6 Ad	dress Config	uration				
View parameters	E	nable IPv6		Address :			
Factory default				Save			
Software version							

Get IP address automatically (DHCP)

The camera's default setting is "**Use fixed IP address**". Please refer to the previous section <u>4. Accessing Camera</u> for login with the default IP address.

If select "Get IP address automatically", after the IP Camera restarts, users can search it through the installer program: DeviceSearch.exe, which can be found in "DeviceSearch" folder in the supplied CD.



NOTE: Please make the record of the IP Camera's MAC address, which can be found in the label of the camera, for identification in the future.

Use fixed IP address

To setup static IP address, select "**Use fixed IP address**" and move the cursor to the IP address blank (as indicated below) and insert the new IP address, ex. 192.168.7.123; then go to the Default gateway (explained latter) blank and change the setting, ex. 192.168.7.254. Press "Save" to confirm the new setting.

Megapixel	Home	System	Streaming	Camera	Logout	
System	Network	(
Security	General	l.				
Network	🔘 Get IP	address auto	omatically			
Basic	OUse fix	ked IP addres	S			
QoS	IP a	ddress		192.168.7.	123	
SNMP	Sub	net mask		255.255.25	55.0	
liPnP	Defa	ault gateway		192.168.7.	254	
DDNS	Prim	ary DNS		0.0.0.0		
DDNS	Seco	ondary DNS		0.0.0.0	121	
Mail	Use Pl	PPoE				
FTP	Use	r name				
НТТР	Pas	sword				
Motion detection				Save		
Tampering	Advance	ed				
Storage management	vvec	o Server port		80		
Recording	RIS	P port		554		
File location		EG OVER HITP	port	8008		
View log file		PS port		Save		
View user information	IPv6 Ad	Idress Config	uration			
View parameters	E	nable IPv6		Address :		
Factory default				Save		
Software version						

When using static IP address to login to the IP Camera, users can access it either through "DeviceSearch" software (see <u>4. Accessing Camera</u>) or input the IP address in the URL bar and press "Enter".



• IP address

This is necessary for network identification.

Subnet mask

It is used to determine if the destination is in the same subnet. The default value is "255.255.255.0".

• Default gateway

This is the gateway used to forward frames to destinations in different subnet. Invalid gateway setting will fail the transmission to destinations in different subnet.

• Primary DNS

Primary DNS is the primary domain name server that translates hostnames into IP addresses.

• Secondary DNS

Secondary DNS is a secondary domain name server that backups the primary DNS.

<u>Use PPPoE</u>

For the PPPoE users, enter the PPPoE Username and Password into the fields, and click on the "Save" button to complete the setting.

<u>Advanced</u>

• Web Server port

The default web server port is 80. Once the port is changed, the user must be notified the change for the connection to be successful. For instance, when the Administrator changes the HTTP port of the IP Camera whose IP address is 192.168.0.100 from 80 to 8080, the user must type in the web browser "http://192.168.0.100:8080" instead of http://192.168.0.100

RTSP port

The default setting of RTSP Port is 554; the setting range is from 1024 to 65535.

• MJPEG over HTTP port

The default setting of MJPEG over HTTP Port is 8008; the setting range is from 1024 to 65535.

• HTTPS port

The default setting of HTTPS Port is 443; the setting range is from 1024 to 65535.



NOTE: Be aware to assign a different port number for each separate service mentioned above.

IPv6 Address Configuration

With IPv6 support, users can use the corresponding IPv6 address for browsing. Enable IPv6 by checking the box and click "Save" to complete the setting.

5.3.3.2 QoS (Quality of Service)

QoS allows providing differentiated service levels for different types of traffic packets, which guarantees delivery of priority services especially when network congestion occurs. Adapting the Differentiated Services (DiffServ) model, traffic flows are classified and marked with DSCP (DiffServ Codepoint) values, and thus receive the corresponding forwarding treatment from DiffServ capable routers.

Megapixel	Home	System	Streaming	Camera	Logout	1
System	QoS					
Security 🔻	DSCP S	ettings	-			
Network 🔺	Vide	to DSCP	0	_		
Basic	Aud			_		
QoS	Man	lagement DSCI		ave		
SNMP	1					
UPnP	1					
DDNS	1					
Mail						
FTP	1					
нттр	1					
Motion detection	1					
Tampering						
Storage management						
Recording	1					
File location	1					
View log file						
View user information						
View parameters						
Factory default						
Software version						

DSCP Settings

The DSCP value range is from 0 to 63. The default DSCP value is 0, which means DSCP disabled.

The IP Camera uses the following QoS Classes: Video, Audio and Management.

• Video

The class consists of applications such as MJPEG over HTTP, RTP/RTSP and RTSP/HTTP.

Audio

This setting is only available for the IP Cameras that support audio.

Management

The class consists of HTTP traffic: Web browsing.

Click the "Save" button when complete.



NOTE: To enable this function, please make sure the switches/routers in the network support QoS.

5.3.3.3 SNMP (Simple Network Management Protocol)

With Simple Network Management Protocol (SNMP) support, the IP Camera can be monitored and managed remotely by the network management system.

Megapixel	Home	System	Streaming	Camera	Logout	
System	SNMP S	iettings				
Security	SNMP v	1/v2				
Network A	En En	able SNMP v1				
Basic	Read	Community		្រ	public	
QoS	Write	Community		[private	
SNMP						
UPnP	Traps fo	or SNMP v1/v	12			
DDNS	En En	able traps		ſ		
Mail		rap address		l	nublic	
FTP		rap continuations	r	l	рарис	
нттр		Warm start				
Motion detection	1					
Tampering	Sav	e				
Storage management	1					
Recording	1					
File location	1					
View log file	1					
View user information	1					
View parameters						
Factory default						
Software version						

SNMP v1/ v2

• Enable SNMP

Select the version of SNMP to use by checking the box.

Read Community

Specify the community name that has read-only access to all supported SNMP objects. The default value is "public".

• Write Community

Specify the community name that has read/write access to all supported SNMP objects (except read-only objects). The default value is "write".

Traps for SNMP v1/ v2

Traps are used by the IP Camera to send massages to a management system for important events or status changes.

• Enable Traps

Check the box to activate trap reporting.

• Trap address

Enter the IP address of the management server.

• Trap community

Enter the community to use when sending a trap message to the management system.

Trap Option

Warm Start

A Warm Start SNMP trap signifies that the SNMP device, i.e. IP Camera, performs software reload.

Click the "Save" button when complete.

5.3.3.4 UPnP

Megapixel	Home	System	Streaming	Camera	Logout	
System	UPnP					
Security 💌	UPnP Set	tting				
Network 🔺	🗹 Ena	able UPnP				
Basic	🗐 Ena	able UPnP po	ort forwarding			
QoS	Friend	lly name	NV1	02		
SNMP			Sa	ve		
UPnP	1		da -			
DDNS	Í .					
Mail	1					
FTP	1					
HTTP	1					
Motion detection	1					
Tampering	1					
Storage management	1					
Recording	1					
File location						
View log file	1					
View user information	1					
View parameters	1					
Factory default						
Software version	1					
	1					

UPnP Setting

Enable UPnP

When the UPnP is enable, whenever the IP Camera is presented to the LAN, the icon of the connected IP Cameras will appear in My Network Places to allow for direct access as shown below.







NOTE: To enable this function, please make sure the UPnP component is installed on your computer. Please refer to <u>Appendix D: Install UPnP components</u> for UPnP component installation procedure.

• Enable UPnP port forwarding

When the UPnP port forwarding is enabled, the IP Camera is allowed to open the web server port on the router automatically.



NOTE: To enable this function, please make sure that your router supports UPnP and it is activated

• Friendly name

Set the name for the IP Camera for identity.

5.3.4 DDNS

Dynamic Domain Name System (DDNS) allows a host name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated to a static domain name so others can connect to it by name.

Megapixel	Home	System	Streaming	Camera	Logout	
System	DDNS					
Security 🔻	Dynamic Use Dyna	DNS mic DNS If	You Want To	Use Your D	DNS Account.	
Network	Enable	DDNS				
DDNS	Provic	ter		DynDNS o	ra(Dynamic) 💌	
Mail				Dinonoio	(b) (b)	
FTP	Host	name				
нттр	Lisoro	amo/E mail		S		
Motion detection	Usern	iame/c-mail		9e		
Tampering	Passv	vord/Key				
Storage management				Save		
Recording				_ Jave		
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						
Maintenance						

Enable DDNS

Check the item to enable DDNS.

Provider

Select one DDNS host from the provider list.

Host name

Enter the registered domain name in the field.

<u>Username/E-mail</u>

Enter the username or e-mail required by the DDNS provider for authentication.

Password/Key

Enter the password or key required by the DDNS provider for authentication.

5.3.5 Mail

The Administrator can send an e-mail via Simple Mail Transfer Protocol (SMTP) when motion is detected. SMTP is a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified and the message text is transferred. The configuration page is shown as follows:

Megapixel	Home	System	Streaming	Camera	Logout		
System	Mail						
Security 🔻	SMTP					 	
Network 🔻	1st SM	TP (mail) serv	er				
DDNS	1st SM	TP (mail) serv	er port	25			
Mail	1st SM	TP account na	ame				
FTP	1st SM	TP password					
HTTP	1st rec	ipient email a	ddress				
Motion detection	2nd SM	1TP (mail) serv	ver				
Tampering	2nd SM	1TP (mail) serv	ver port	25			
Storage management	2nd SM	1TP account n	ame				
Recording	2nd SM	1TP password					
File location	2nd ree	cipient email a	address	1			
View log file	Sender	email addres	55			 	
View user information				Save		 	
View parameters							
Factory default							
Software version							
Software upgrade							
Maintenance							

Two sets of SMTP can be configured. Each set includes SMTP Server, Account Name, Password and E-mail Address settings. For SMTP server, contact your network service provider for more specific information.

5.3.6 FTP

The Administrator can set as sending alarm message to a specific File Transfer Protocol (FTP) site when motion is detected. Users can assign alarm message to up to two FTP sites. The FTP setting page is shown below. Enter the FTP details, which include server, server port, user name, password and remote folder, in the fields. Press "Save" when finished.

System F Security F Network F	TP TP Built-ir 1st FT	n FTP server j				
Security F Network V	TP Built-ir 1st FT	FTP server				
Network 🔻	1st FT	1 FIP server				
	1St FI		port 2	21	1	
DDNS	1 of FT	P server	. F	21		
Mail	1et FT	P server port	- <u>L</u>	21		
FTP	1st FT	P password			 	
НТТР	1st FT	P remote fold	ter [
Motion detection	🔲 1s	t FTP passive	e mode			
Tampering	2nd FT	P server				
Storage management	2nd FT	P server por	t 🖸	21		
Recording	2nd FT	'P user name				
File location	2nd FT	P password				
View log file	2nd FT	'P remote fol	der 🗌			
View user information	🗌 2n	d FTP passiv	e mode	-		
View parameters			L	Save		
Factory default						
Software version						
Software upgrade						
Maintenance						

5.3.7 HTTP

A HTTP Notification server can listen for notification messages from IP Cameras by triggered events. The HTTP setting page is shown below. Enter the HTTP details, which include server, user name, and password in the fields. <Alarm> triggered and <Motion Detection> notifications can be sent to the specified <HTTP> server.

Megapixel	Home	System	Streaming	Camera	Logout		
System	HTTP						
Security 🔻	нттр						
Network 💌	1st HT	TP server					
DDNS	1st HT	TP user name					
Mail	1st HT	TP password					
FTP	2nd H	ITP server					
НТТР	2nd H	ITP user name					
Motion detection	2nd U						
Tampering	200 H	rip password					
Storage management				Save			
Recording							
File location							
View log file							
View user information							
View parameters							
Factory default							
Software version							
Software upgrade							
Maintenance							

Please refer to 5.3.8 Motion Detection / 5.3.9 Tampering for HTTP Notification settings.

5.3.8 Motion Detection

Motion Detection function allows detecting suspicious motion and triggering alarms when motion volume in the detected area reaches/exceeds the determined sensitivity threshold value.



In the Motion Detection setting page, there is a frame (**Motion Detection Window**) displayed on the Live View Pane. The Motion Detection Window is for defining the motion detection area. To change the size of the Motion Detection Window, move the mouse cursor to the edge of the frame and draw it outward/inward. Moving the mouse to the center of the frame can shift the frame to the intended location.

Up 10 Motion Detection Windows can be set. Press the "add" button under the Live View Pane to add a Motion Detection Window. To cancel a Motion Detection Window, move the mouse cursor to the selected Window, and click on the "delete" button.

If Motion Detection function is activated, the pop-off window (Motion) with indication of motion will be shown.



When motion is detected, the signals will be displayed on the Motion window as shown below.

Motion		X
4	LUA	
	0.000	
-11	MUVI	_

Detailed settings of Motion Detection are described as follows:

Motion Detection

You will be able to turn on/off Motion Detection in System section. Default setting is Off.

Motion Detection Setting

Users could adjust various parameters of Motion Detection in this section.

- Sampling pixel interval [1-100]: The default value is 10, which means system will take one sampling pixel for every 10 pixel.
- Detection level [1-100]: The default level is 10. The item is to set detection level for each sampling pixel; the smaller the value, the more sensitive it is.

• Sensitivity level [1-100]:

The default level is 80, which means if 20% or more sampling pixels are detected differently, system will detect motion. The bigger the value, the more sensitive it is. Meanwhile, when the value is bigger, the red horizontal line in the motion indication window will be lower accordingly.

 Time interval (sec) [0-7200]: The default interval is 10. The value is the interval between each detected motion.

Triggered Action (Multi-option)

The Administrator can specify alarm actions that will take when motion is detected. All options are listed as follows:

Record stream to SD Card

Select this item, and the Motion Detection recording will be stored in Micro SD/ SDHC card when motion is detected.



NOTE: Please make sure the local recording (with Micro SD/ SDHC card) is activated so that this function can be implemplemented. See section <u>5.3.11 Recording</u> for further details.

• Send Alarm Message by FTP/E-Mail

The Administrator can select whether to send an alarm message by FTP and/or E-Mail when motion is detected.

• Upload Image by FTP

Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When motion is detected, event images will be uploaded to the appointed FTP site.

FTP address	FTP1 🔻
Pre-trigger buffer	5 frames 💌
Post-trigger buffer	5 frames 🔻
Continue image uplo Opload for 1	ad sec
O Upload during the tri	igger active
Turner former	Max _ for

• Upload Image by E-Mail

Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When motion is detected, event images will be sent to the appointed e-mail address.

🔽 Upload image by E-Mail	
E-Mail address	E-Mail 1 💌
Pre-trigger buffer	5 frames 💌
Post-trigger buffer	5 frames 💌
🔲 Continue image upl	oad
() Upload for 1	sec
O Upload during the t	rigger active
Image frequence	Max. 🚽 fps



NOTE: Make sure SMTP or FTP configuration has been completed. See section <u>5.3.5 Mail</u> and <u>5.3.6 FTP</u> for further details.

• Send HTTP notification

Check this item, select the destination HTTP address, and specify the parameters for event notifications by <Motion Detection> triggered. When an alarm is triggered, the notification can be sent to the specified HTTP server.

Send HTTP notification		
HTTP address	HTTP1	-
Custom parameters		

File Name

The uploaded image's filename format can be set in this section. Please select the one that meets your requirements.

<u>Save</u>

Click the Save button to save all the Motion Detection settings mentioned above.

5.3.9 Tampering

Tempering Alarm function helps the IP Camera against tampering such as deliberate redirection, blocking, paint spray, and lens cover, etc through video analysis and reaction to such events by sending out notifications or uploading snapshots to the specified destination(s).

Megapixel	Home	System	Streaming	Camera	Logo	put				
System	Tampering Alarm									
Security 🔻	Tamperi	ng Alarm								
Network 💌	0 0									
DDNS	Tamperi	Tampering Duration								
Mail	Triggere	Minimum duration 20 sec								
FTP	Re	cord stream to	sd card		 s	Send message by FTP				
HTTP	Se Se	nd message by	/ E-Mail		E (Upload image by FTP				
Motion detection	🔲 Up	load image by	E-Mail		m s	Send HTTP notification				
Tampering	File Nam	e								
Storage management	File nar	ne : [image.jpg date/time suff	ix							
Recording	O Add	sequence num	ber suffix (no	maximum valu	ie)					
File location		sequence num	nber suffix up to	o O ar	nd then	n start over				
View log file	0000	n write								
View user information	Save	J								
View parameters										
Factory default										
Software version										
Software upgrade										
Maintenance										

Detection of camera tampering is achieved by measuring the differences between the older frames of video (which are stored in buffers) and more recent frames.

Tampering Alarm

You will be able to turn on/off Tampering Alarm function in Tampering Alarm setting page. The default setting is Off.

Tampering Duration

Minimum Tampering Duration is the time for video analysis to determine whether camera tampering has occurred. Minimum Duration could also be interpreted as defining the Tampering threshold; longer duration represents higher threshold. Settable Tampering Duration time range is from 10 to 3600 seconds.

Triggered Action (Multi-option)

The Administrator can specify alarm actions that will take when tampering is detected. All options are listed as follows:

• Record stream to SD Card

Select this item, and the Tampering Alarm recording will be stored in Micro SD/ SDHC card when tampering is detected.



NOTE: Please make sure the local recording (with Micro SD/SDHC card) is activated so that this function can be implempnted. See section <u>5.3.11 Recording</u> for further details.

• Send Alarm Message by FTP/E-Mail

The Administrator can select whether to send an alarm message by FTP and/or E-Mail when tampering is detected.

• Upload Image by FTP

Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When tampering is detected, event images will be uploaded to the appointed FTP site.

FTP1 🔽								
5 frames 💌								
5 frames 💌								
Continue image upload								
sec								
 Upload during the trigger active 								
Max. 🕶 fps								
r								

• Upload Image by E-Mail

Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When tampering is detected, event images will be sent to the appointed e-mail address.





NOTE: Make sure SMTP or FTP configuration has been completed. See section <u>5.3.5 Mail</u> and <u>5.3.6 FTP</u> for further details.

• Send HTTP notification

Check this item, select the destination HTTP address, and specify the parameters for HTTP notifications. When the Tampering Alarm is triggered, the HTTP notifications can be sent to the specified HTTP server.



File Name

The uploaded image's filename format can be set in this section. Please select the one that meets your requirements.

<u>Save</u>

Click the Save button to save all the Tampering Alarm settings mentioned above.

5.3.10 Storage Management

Users can implement local recording to the Micro SD/SDHC card up to 16GB. This page shows the capacity information of the Micro SD card and a recording list with all the recording files saved on the memory card. Users can also format the SD card and implement automatic recording cleanup through the setting page.

To implement Micro SD card recording, please go to the "Recording" page (see <u>5.3.11 Recording</u>) for activation.

NOTE: Please format the Micro SD/SDHC card when using for the first time. Formatting will also be required when a memory card already being used on one camera and later transferred to another camera with different software platform.

Megapixel	Home	System	Streaming	Camera	Logout					
System	Storage Management									
Security 🔻	Device	information								
Network 🔻	Device	Device type: SD card								
DDNS	Free s	space:	0 KB		Total siz	ze:	0 KB			
Mail	Device	settina	NO		Full:		NO			
FTP	Forma	at device :	Format]						
HTTP	Disk cle	anup setting								
Motion detection	🗐 En	able automati	ic disk cleanup							
Tampering	Remove recordings older than:									
Storage management	Ren	Remove oldest recordings when disk is: 85 % full								
Recording	Sa	Save								
File location	Recordi	Recording list								
View log file	FileN	ame		Size						
View user information	1									
View parameters	1									
Factory default		1								
Software version	Re	move	Sort	download						
Software upgrade										
Maintenance	1									

Device information

When users insert the Micro SD/SDHC card, the card information such as the memory capacity and status will be shown at Device Information section.

For the memory card being successfully installed, its status shall be shown at "Device information" section in the Storage Management page.

Device setting

Press the "Format" button to format the memory card.

Disk cleanup setting

Users can enable automatic recordings cleanup by specifying the time and storage limits

Recording List

Each video file on the Micro SD/SDHC card will be listed in the Recording list as shown below. The maximum file size is 60 MB (60 MB per file).

When the recording mode is set as "Always" (consecutive recording) and the Micro SD/ SDHC card recording is also allowed to be enabled by events triggered, once events occur, the system will immediately implement events recording to the memory card. Then the IP Camera will return to the regular recording mode after events recording.

FileName			Size
M 20100514 14	12625.avi	3783 KB	*
M 20100514 14	2637.avi	3542 KB	
M 20100514 14	3873 KB	Ξ	
M 20100514 15	4357 KB	-	
R_20070103_17	2925.avi	49634 KB	*
Remove	Sort	download	

Remove

To remove a file, select the file first, and then press the "Remove" button.

• Sort

Press the "Sort" button, and the files in the Recording list will be listed in name and date order.



NOTE: The capital letter A/M/R appears in the very beginning of name denotes the sort of the recording: A stands for Alarm; M stands for Motion; R stands for regular recording.

• Download:

To open/download a video clip, select the file first, and then press the "download" button below the Recording list field. The selected file window will pop up as shown below. Click on the AVI file to directly play the video in the player or download it to a specified location.



5.3.11 Recording

In the Recording setting page, users can specify the recording schedule that fits the present surveillance requirement.

Megapixel	Home	System	Streaming	Camera	Logout	-					
System	Recording										
Security 🔻	Recordin	Recording Schedule									
Network 🔻	Oisal	Disable									
DDNS	© Alwa	O Always									
Mail	Only	Only during time frame									
FTP	Start	Start time : 00:00 Duration : 00:00									
НТТР	Save	cine : [correct									
Motion detection											
Tampering	1										
Storage management	1										
Recording											
File location											
View log file	1										
View user information	1										
View parameters	1										
Factory default											
Software version											
Software upgrade	1										
Maintenance											

Activating Micro SD/SDHC Card Recording

Two types of schedule mode are offered: Always and Time Frame setting. Users can setup the time frame to fit the recording schedule or choose "Always" to activate Micro SD/SDHC Card Recording all the time.

Please click on the "Save" button for confirming the schedule mode.

Terminating Micro SD/SDHC Card Recording

Select "Disable" to terminate the recording function.

5.3.12 File Location

Users can specify a storage location for the snapshots and live video recording. The default setting is: C:\. Once confirm the setting, press "Save," and all the snapshots and recording will be saved in the designate location.



NOTE: Please make sure the selected file path contains valid characters such as letters and numbers.

Megapixel	Home	System	Streaming	Camera	Logout	
System	File Loca	ation				
Security 🔻	Set the c	lestination o	f snapshot ph	otos and rec	co <mark>r</mark> ded video i	files
Network 💌	All f	iles stored at	3	C:\		Select
DDNS	Sa	ive				
Mail						
FTP						
НТТР						
Motion detection						
Tampering						
Storage management						
Recording						
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						
Maintenance						

5.3.13 View Log File

Click on the link to view the system log file. The content of the file provides useful information about configuration and connections after system boot-up.

Megapixel	Home	System	Streaming	Camera	Logout			
System	Syster	n log						
Security .		[Mon Jan 100 [Mon Jan 100	:00:00 2007] - :00:01 2007] -	-Network int	erface initialize	ed start ed end	*	
Network	·	[Mon Jan 1 00 [Mon Jan 1 00	:00:01 2007] -	-Host IP = 1	92.168.7.123 k = 255.255.2	55.0		
DDNS		[Mon Jan 1 00	:00:01 2007] -	-Gateway =	192.168.7.254	05:21:00		
Mail		[Mon Jan 1 00	:00:31 2007] -	-connect by	Admin@::ffff:19	92.168.7.84		
FTP		[Mon Jan 100 [Mon Jan 103	:12:05 2007] -	-connect by	Admin@::ffff:19	92.168.7.84		
нттр		[Mon Dec 6 15	:23:51 2010]	connect by	Admin@::ffff:1	92.168.7.28		
Motion detection	1							
Tampering	1							
Storage management	1							
Recording	1							
File location	1							
View log file								
View user information		4						
View parameters								
Factory default	1							
Software version	1							
Software upgrade	1							

5.3.14 View User Information

The Administrator can view each added user's login information and privileges (see <u>5.3.2 Security</u>).

View User Login Information

All the users in the network will be listed in the "User information" zone, as shown below. As the figure below shows:

User: 4321

It indicates that one user's login username is: User, and the password is: 4321.

Megapixel	Home	System	Streaming	Camera	Logout	
System	User info	rmation				
Security 🔻	Us	min:1234 er:4321				-
Network 🔻						
DDNS						
Mail						
FTP						
HTTP						
Motion detection						
Tampering						
Storage management						
Recording						
File location						
View log file						
View user information	4					•
View parameters			ſ	get user infor	mation	
Factory default				get user pri	vacy	
Software version						
Software upgrade						
Maintenance						

View User Privilege

Press "get user privacy" down the page, and the Administrator can view each user's privileges.

Megapixel	Home	System	Streaming	Camera	Logout	
System	User info	rmation				
Security 🔻		er:1:1:0:1				•
Network 💌						
DDNS						
Mail						
FTP						
HTTP						
Motion detection						
Tampering						
Storage management						
Recording						
File location						
View log file						
View user information	4					
View parameters				aet user infor	mation	
Factory default				get user pr	ivacy	
Software version						
Software upgrade						
Maintenance						

As the figure above shows:

User: 1:1:0:1

1:1:0:1= I/O access : Camera control : Talk : Listen (see 5.3.2 Security)

🗹 I/O access	Camera control			
🔲 Talk	🗹 Listen			

Therefore, it denotes the user is granted privileges of I/O access, Camera control and Listen.

5.3.15 View Parameters

Click on this item to view the entire system's parameter setting.

Megapixel	Home	System	Streaming	Camera	Logout							
System	Paramet	Parameter list										
Security	M	Mega Pixel Camera Initial Configuration File										
Network 💌	==											
DDNS	=	exposure mode = <auto></auto>										
Mail	e/	exposure mode = <auto> min shutter speed = <8> fixed shutter speed = <56></auto>										
FTP	m											
НТТР	fix											
Motion detection	W	hite balance i	mode = <auto< td=""><td>></td><td></td><td></td><td></td><td></td></auto<>	>								
Tampering	w	hite balance i	rgain = <57>									
Storage management	w	hite balance l	ogain = <54>									
Recording	br	ightness valu	ie = <128>									
File location	sh	sharpness value = <0> contrast value = <64>										
View log file	co											
View user information		• •• ••					*					
View parameters												
Factory default	1											
Software version	1											
Software upgrade	1											
Maintenance	1											

5.3.16 Factory Default

The factory default setting page is shown as below. Follow the instructions to reset the IP Camera to factory default setting if needed.



Set Default

Click on the "Set Default" button to recall the factory default settings. Then the system will restart in 30 seconds.



NOTE: The IP address will be restored to default.

<u>Reboot</u>

Click on the "Reboot" button, and the system will restart without changing current settings.

5.3.17 Software Version

The current software version is displayed in the software version page, which is shown as the figure below.

Megapixel	Home	System	Streaming	Camera	Logout	
System	Software	version				
Security 🔻						
Network 🔻						
DDNS						
Mail						
FTP						
НТТР						
Motion detection	The softwa	are version is	d2010113	INS		
Tampering						
Storage management						
Recording						
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						
Maintenance						

5.3.18 Software Upgrade

Software upgrade can be carried out in the "Software Upgrade" page, as shown below.

Megapixel	Home	System	Streaming	Camera	Logout						
System	Upgrade										
Security 🔻	Follow T	Follow These Steps To Do The Software Upgrade									
Network 🔻											
DDNS	Step1:	Step1:									
Mail	Uplo	Upload the binary file									
FTP			Brows	se							
нттр	Step2:										
Motion detection	Selec	t binary file y	ou want to up	ograde							
Tampering	usei	rland.jffs2	*								
Storage management	Step3:										
Recording	Click	the upgrade	button to sta	rt the upgra	de process						
File location		Upgrade									
View log file	Up										
View user information	1										
View parameters	1										
Factory default	1										
Software version	1										
Software upgrade											
Maintenance											

1

NOTE: Make sure the upgrade software file is available before carrying out software upgrade.

The procedure of software upgrade is like the following:

Step 1: Click "Browse" and select the binary file to be uploaded, ex. Userland.jffs2.





NOTE: Do not change the upgrade file name, or the system will fail to find the file.

- Step 2: Pull down the upgrade binary file list and select the file you want to upgrade; in this case, select "userland.jffs2."
- **Step 3:** Press "Upgrade". The system will first check whether the upgrade file exists or not, and then begin to upload the upgrade file. Subsequently, the upgrade status bar will display on the page. When it runs to 100%, the upgrade process is finished.

ge.

After the upgrade process is finished, the viewer will return to Home page.

Step 4: Close the video browser.

- **Step 5:** Click "Control Panel", and then double click "Add or Remove Programs." In the "Currently install programs" list, select "DCViewer" and click the button "Remove" to uninstall the existing DC Viewer.
- **Step 6:** Open a new web browser, re-login the IP Camera, and then allow the automatic download of DC Viewer.

5.3.19 Maintenance

Users can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the IP Camera.

Megapixel	Home	System	Streaming	Camera	Logout	
System	Maintena	nce)				
Security 💌	Export Fi	les				
Network 🔻	Export	configuratio	n files	Export		
DDNS	Upload Fi	les				
Mail	Select	configuratio	n files		Browse Uple	bad
FTP	CLOCOVID-OL-					
нттр						
Motion detection						
Tampering						
Storage management						
Recording						
File location						
View log file						
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						
Maintenance						

Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Press the "Export" button, and the popup File Download window will come out as shown below. Click "Save" and specify a desired location for saving the configuration file.


<u>Upload</u>

To copy an existing configuration file to the IP Camera, please first click on "Browse" to select the configuration file, and then press the "Upload" button for uploading.

5.4 Video and Audio Streaming Settings

Press the tab "Streaming" in the top of the page, and the configurable video and audio items will display in the left column. In Streaming, the Administrator can configure specific video resolution, video compression mode, video protocol, audio transmission mode, etc. Further details of these settings will be specified in the following sections.

5.4.1 Video Resolution and Rotate Type

Megapixel	Home System Streaming Camera	Logout
Video Format	Video Format	
Video Compression	Video Resolution :	
Video OCX Protocol	MJPEG + H.264 -	(205-2)
Video Frame Skip	H.264 720p (30fps) + MIPEG 720p H 264 720p (30fps) + MIPEG D1 (30fps)	(Surps)
Video Ma <mark>s</mark> k	H.264 720p (30fps) + MIPEG DI (3 0 H.264 720p (30fps) + MIPEG CIF (3)	30fps)
Audio	H.264 720p (30fps) + MJPEG VGA (30fps)
	H.264 720p (30fps) + MJPEG QVGA	(30fps)
	Note : Image attachment by FTP or E-mail will be avail Text Overlay Settings : Include date Include t Save Video Rotate Type : Normal video Flip video Mirror video Iso degree Save GOV Settings : H.264-1 GOV Length : 30 H.264-2 GOV Length : 30 Save	lable only while MJPEG streaming is selected. time

The video setting page is shown below:

Video Format

The IP Camera provides various video resolution like the following:

- H.264 720p (30fps) + MJPEG 720p (30fps)
- H.264 720p (30fps) + MJPEG D1 (30fps)
- H.264 720p (30fps) + MJPEG CIF (30fps)
- H.264 720p (30fps) + MJPEG VGA (30fps)
- H.264 720p (30fps) + MJPEG QVGA (30fps)
- MJPEG 1080p (30/15fps)

- MJPEG SXGA (30fps)
- H.264 720p (30fps) + H.264 D1 (30fps)
- H.264 720p (30fps) + H.264 CIF (30fps)
- H.264 720p (30fps) + H.264 VGA (30fps)
- H.264 720p (30fps) + H.264 QVGA (30fps)
- H.264 720p (30fps) + H.264 QVGA (30fps Baseline)
- H.264 1080p (30/15fps)
- H.264 SXGA (30fps)

Click "Save" to confirm the setting.

Text Overlay Settings

Users can select the items to display data including date/time/text on the live video pane. The maximum length of the string is 20 alphanumeric characters.

Click "Save" to confirm the Text Overlay setting.

Video Rotate Type

Users can change video display type if necessary. Selectable video rotate types include Normal, Flip, Mirror and 180 degree. Differences among these types are illustrated as below.

Suppose the displayed image of IP Camera is shown as the figure below.



To rotate the image, users can select "Flip", for instance. Then the displayed image will be reversed as shown below.



The following is descriptions for different video rotate type.

• Flip

If select <Flip>, the image will be rotated vertically.

• Mirror

If select <Mirror>, the image will be rotated horizontally.

• 180 Degree

Selecting <180 Degree> will make the image 180° counter-/clockwise inversed.

Click "Save" to confirm the setting.

GOV Settings

Users can set the GOV length to determine the frame structure (I-frames and P-frames) in a video stream for saving bandwidth. Longer GOV means decreasing the frequency of I-frames.

Click "Save" to confirm the GOV setting.

5.4.2 Video Compression

Users can specify the values for MJPEG/ H.264 compression in the video Compression page (see the figure below), depending on the application.



MJPEG Q (Quality) factor

Higher value implies higher bit rates and higher visual quality. The default setting of MJPEG Q factor is 35; the setting range is from 1 to 70.

H.264-1/ H.264-2 bit rate

The default setting of H.264-1/ H.264-2 is 4096 kbps; the setting range is from 64 to 8192 kbps.

Display Compression Information

Users can also decide whether to display compression information on the Home page.

Click "Save" to confirm the setting.

CBR Mode Setting



The CBR (Constant Bit Rate) mode could be the preferred bit rage mode if the bandwidth available is limited. It is important to take account of image quality while choosing to use CBR mode.

5.4.3 Video OCX Protocol

In the Video OCX protocol setting page, users can select RTP over UDP, RTP over TCP, RTSP over HTTP or MJPEG over HTTP, for streaming media over the network. In the case of multicast networking, users can select the Multicast mode. The page is shown as follows.

Megapixel	Home	System	Streaming	Camera	Logout						
Video Format	Video O	CX Protocol									
Video Compression	Video OCX protocol setting :										
Video OCX Protocol	RTP RTP	over UDP	D)								
Video Frame Skip	© RTS	P over HTTP	P)								
Video Mask	© мјр	EG over HTTP									
Audio	O Mult	icast mode									
	Μ	Iulticast IP Ad	dress	0.0.0							
	Ν	Iulticast H.264	I-1 Video Port	0							
	M	lulticast H.264	I-2 Video Port	0							
	Μ	Iulticast MJPE	3 Video Port	0							
	M	Iulticast Audio	Port	0							
	M	Iulticast TTL		1							
	Save										
	Note:										
	This	page only app	olies to video	streams goir	ng to a DC Viewer						

Video OCX protocol setting options include:

- RTP over UDP / RTP over RTSP(TCP) / RTSP over HTTP / MJPEG over HTTP
- Multicast Mode
 Enter all required data, including multicast IP address, H.264 video port,
 MJPEG video port, audio port and TTL into each blank.

Click "Save" to confirm the setting.

5.4.4 Video Frame Skip

Video frame skipping is for saving bandwidth if necessary. The setting page is shown as below.

Megapixel	Home	System	Streaming	Camera	Logout						
Video Format	Video F	rame Skip									
Video Compression	No	No skipping, default									
Video OCX Protocol	🔘 Fra	me skipping a	at 2 frame inte	rnal							
Video Frame Skip	© Fra	© Frame skipping at 3 frame internal									
Video Mask	0 Fra	me skipping :	at 4 frame inte	rnal							
Audio	0 Fra	me skipping : me skipping :	at 10 frame int	ernal							
	© Fra	me skipping :	at 15 frame int	ernal							
	Save]									
		_									

Video Frame Skip options include:

- No skipping, default
- Frame skipping at 2 frame internal
- Frame skipping at 3 frame internal
- Frame skipping at 4 frame internal
- Frame skipping at 5 frame internal
- Frame skipping at 10 frame internal
- Frame skipping to 15 frame internal

Click "Save" to confirm the setting.



NOTE: Higher frame skipping rate will decrease video smoothness.

5.4.5 Video Mask



Active Mask Function

• Add a Mask

Check a Video Mask checkbox, and a red frame will come out in the Live Video pane at the right side. Use the mouse to drag and drop to adjust the mask's size and place it on the target zone.



NOTE: It is suggested to set the Video Mask twice bigger than the object.

Cancel a Mask

Uncheck the checkbox of the Video Mask meant to be deleted, and the selected mask will disappear from the Live Video pane instantly.

Mask Setting

Mask color

The selections of Mask color include red, black, white, yellow, green, blue, cyan, and magenta.

• Type

Select to change the mask type as solid or transparent.

Click "Save" to confirm the setting.

5.4.6 Audio Mode and Bit Rate Settings

The audio setting page is show as below. In the Audio page, the Administrator can select one transmission mode and audio bit rate.

Megapixel	Home	System	Streaming	Camera	Logout	
Video Format	Audio					
Video Compression	Transmi	ssion Mode:				
Video OCX Protocol	O Sim	plex (Listen o	nly)			
Video Frame Skip	Server G	Gain Setting:				
Video Mask	Input o	iain: 3	•			
Audio	Bit Rate:	uLAV	v 🔸			

Transmission Mode

• Simplex (Listen only)

In the Listen only Simplex mode, the local/remote site can listen to the other site.

• Disable

Select the item to turn off the audio transmission function.

Server Gain Setting

Set the audio input gain levels for sound amplification. The audio gain values are adjustable from 1 to 6. The sound will be turned off if the audio gain is set to "Mute".

Bit Rate

Selectable audio transmission bit rate include 16 kbps (G.726), 24 kbps (G.726), 32 kbps (G.726), 40 kbps (G.726), uLAW (G.711) and ALAW (G.711). Both uLAW and ALAW signify 64 kbps but in different compression formats. Higher bit rate will let higher audio quality and require bigger bandwidth.

Click "Save" to confirm the setting.

5.5 Camera Settings

The figure below is the camera configuration page. Details of each parameter setting are described as follows.



5.5.1 Exposure Setting

The Exposure pull-down menu is shown as follows:

Exposure Full aut	:0	1
Min shu	tter spee	ed
	1/4	•
⊖ Fixed S	hutter	
	1/180	-
	1/100	/

The exposure is the amount of light received by the image sensor and is determined by the width of lens diaphragm opening, the amount of exposure by the sensor (shutter speed) and other exposure parameters. With this item, users can define how the Auto Exposure function works.

Each exposure mode is specified as follows:

Full Auto Mode

In this mode, the camera's Shutter Speed, IRIS and AGC (Auto Gain Control) control circuits work together automatically to get consistent video output level. The shutter speed range is from 1 (1/1.5) to 1/30 (1/25) sec. with 6 (5) options. Users could select suitable shutter speed according to the environmental illuminance.

Fixed Shutter Mode

In this mode, fixed shutter speed could be selected from the dropdown menu. The shutter speed range is from 1/10000 to 1 (1/1.5) sec. with 19 (18) options. Users could select suitable shutter speed according to the environmental illumination.

5.5.2 White Balance Setting

The White Balance pull-down menu is shown as follows:

wł	ite Balance	
۲	Auto	
0	ATW	
0	Manual	
	Rgain: 57	[0127]
	Bgain: 54	[0127]
		\checkmark

A camera needs to find reference color temperature, which is a way of measuring the quality of a light source, for calculating all the other colors. The unit for measuring this ratio is in degree Kelvin (K). Users can select one of the White Balance Control modes according to the operating environment. The following table shows the color temperature of some light sources for reference.

Light Sources	Color Temperature in K
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

Auto Mode

The Auto Balance White mode is suitable for environment with light source having color temperature in the range roughly from 2700 ~ 8000K.

ATW Mode (Auto Tracking White Balance)

With Auto Tracking White Balance function, the white balance in a scene will be automatically adjusted while temperature color is changing. The ATW Mode is suitable for environment with light source having color temperature in the range roughly from 2450 ~ 10500K.

Manual Mode

In this mode, users can change the White Balance value manually. Users can select a number between 0 ~127 of "Rgain/ Bgain" item to gain the red/ blue illuminant on the Live Video Pane. Press < $\sqrt{}$ > to confirm the new setting.

5.5.3 Brightness Setting



Users can adjust the image's brightness by adjusting the item. To increase video brightness, select a bigger number. Press < $\sqrt{}$ > to confirm the new setting.

5.5.4 Sharpness Setting



Increasing the sharpness level can make the image looked sharper; especially enhance the object's edge. Press $< \sqrt{>}$ to confirm the new setting.

5.5.5 Contrast Setting



Camera image contrast level is adjustable; please select ranging from -6 to +19. Press < $\sqrt{}$ > to confirm the new setting.

5.5.6 Saturation Setting



Camera image saturation level is adjustable; please select ranging from -6 to +19. Press < $\sqrt{}$ > to confirm the new setting.

5.5.7 Hue Setting



Camera image hue level is adjustable; please select ranging from -12 to +13. Press < $\sqrt{}$ > to confirm the new setting.

5.5.8 TV System Setup



Select the video format that matches the present TV system. Press < $\sqrt{}$ > to confirm the new setting.

5.6 Logout

Press the tab "Logout" in the top of the page, and the login window will pop up. This enables login with another user name.



6. CMS Software Introduction

The IP Camera bundles Central Management System (CMS) software. Offering powerful functionalities via intuitive interface, it is a centralized monitoring solution of your video surveillance equipments.

It gives the user access to monitor multiple IP Cameras and Digital Video Recorders (DVRs), and allows the user to simultaneously monitor 16 sites per group (up to 10 groups) within several clicks.

For further information on CMS software, please refer to the supplied CD.



Note: The free bundle CMS is a function-limited software. For additional features, please purchase a licensed CMS.



Appendix A: Technical Specifications

Camera		Full HD Real-time	Full HD		
Image Sensor		1/2.7" Progressive CMOS			
Picture Elements		1920(H) x	x 1080(V)		
Minimum Illumination		0.1 lux	@ F 1.6		
Shutter Speed		1~ 1/10000 sec.			
White Balance		Manual / A	WB / ATW		
Lens					
Fixed Lens		F 1.5 / f =	= 4.0 mm		
FOV		78	8°		
Operation					
Video Compression		H.264/I	MJPEG		
Video Streaming		Simultaneous H Simultaneous	I.264 + MJPEG H.264 + H.264		
Recolution	H.264	Full-HD 1080p/ HD 720p/ S	XGA/ D1/ VGA/ QVGA/ CIF		
Resolution	MJPEG	Full-HD 1080p/ HD 720p/ S	XGA/ D1/ VGA/ QVGA/ CIF		
Frame Rate		Full HD 25 / 30 fps	HD 25 / 30 fps Full HD 15 fps		
Brightness		Mar	nual		
	Exposure	Auto / Manual			
	Sharpness	Manual			
	Contrast	Manual			
	White Balance	Auto / Manual			
Image Setting	Saturation	Manual			
	Hue	Manual			
	Digital Zoom	Sup	port		
	Motion detection	On /	/ Off		
	Privacy Mask	Sup	port		
	Privacy Mask Type	Transpare	ent, Color		
Audio	One-way Audio; Optional	Mic	c in		
	Compression	G.711 /	/ G.726		
Event Notification		HTTP, FT	P, SMTP		
Multiple Languages		English, French, Ger Simplified Chi	man, Italian, Korean, nese, Russian		
Network					
Interface		10/100Mbps E	thernet (RJ-45)		
Protocol		IPv4/ v6, TCP/IP, UDP, RTP, FTP, SMTP, DHCP, PPPoE, UF	RTSP, HTTP, HTTPS, ICMP, PnP, IGMP, SNMP, QoS, ONVIF		
Password Levels		User and Administrator			
Internet Browser		Internet Explorer (6.0+),	Chrome, Firefox, Safari		
User Account		20			
Security		HTTPS,	IP Filter		
Mechanical					
Lens Mounting		M12 Boa	ard Lens		

Connectors	Ethernet	RJ-45		
	Micro SD; optional	SDHC support		
General				
Operating Temperature		-20° ~ 50°C Humidity: 10% to 90%, No Condensation		
Power Source		PoE		
Power Consumption		3.8W		
Weatherproof Standard Rugged Type		IP66		
Regulatory		CE, FCC, RoHS Compliant		
Dimension		Ø110.2 x 47.7 mm (4.3 x 1.9 inches)		
Weight		180 g (0.40 lbs)		

Appendix B: Internet Security Settings

If ActiveX control installation is blocked, please either set Internet security level to default or change ActiveX controls and plug-ins settings.

Internet Security Level: Default

- Step 1: Start the Internet Explorer (IE).
- Step 2: Select < Tools> from the main menu of the browser. Then Click < Internet Options>.

🥖 MSN.com - Windows Intern	et Explorer				<u>s</u>	- C -X-
GOV Khttp://www.m	isn.com/?st=1			• +7	X Live Search	P -
File Edit View Favorites	Tools Help					
😪 🏟 📢 MSN.com	Delete Browsing History			<u>}</u>	💌 🔝 💌 🖶 👻 🔂 Page 🕶 🌘	🕽 Tools 🔻 🕨
Hotmail Messenger Bing	Pop-up Blocker Phishing Filter Manage Add-ons)))				ŝ.
msn	Subscribe to this Feed Feed Discovery Windows Undate	÷.		bing	Web Search	E
News Entertai	Diagnose Connection Problems.		Lifestyle	More	Make MSN my homepage	Set
Wednesday, May 26, 2010	Internet Options					

Step 3: Click the <Security> tab, and select <Internet>.



Step 4: Down the page, press "Default Level" (see the figure above) and click "OK" to confirm the setting. Close the browser window, and open a new one later when accessing the IP Camera.

ActiveX Controls and Plug-ins Settings

Step 1~3: Refer to the previous section above.

Step 4: Down the page, press "Custom Level" (see the figure below) to change ActiveX controls and plug-ins settings.



The Security Settings screen is displayed as below:

iettings			
👔 Act	iveX controls and plug-ins	201	
	Allow previously unused Acti	veX controls to	run without prom
100 E	Disable		
-	Enable		
1	Allow Scriptlets		
	Disable		
	C Enable		
Lab	Prompt	15	
	Automatic prompting for Act	iveX controls	
	Disable		
(a)			
	Binary and script behaviors		
	Auministrator approved Disable		
	 Disable Enable 		
	Dicplay video and animation	on a wahnana t	hat does not use 🔻
4	m		۰.
*Takes e	ffect after you restart Interr	net Explorer	
eset cud	tom settings		
	com soccings		
eset to:	Medium-high (default)	•	R <u>e</u> set

Step 5: Under "ActiveX controls and plug-ins", set ALL items (as listed below) to <Enable> or <Prompt>.

ActiveX controls and plug-ins settings:

- 1. Automatic prompting for ActiveX controls
- 2. Binary and scrip behaviors
- 3. Download signed ActiveX controls
- 4. Download using ActiveX controls
- 5. Initialize and script ActiveX not marked as safe
- 6. Run ActiveX controls and plug-ins
- 7. Script ActiveX controls marked safe for scripting
- **Step 6:** Click <OK> to accept the settings and close the <Security> screen.
- **Step 7:** Click <OK> to close the Internet Options screen.
- Step 8: Close the browser window, and restart a new one later for accessing the IP Camera.

Appendix C: DC Viewer Download Procedure

The procedure of DC Viewer software download is specified as follows.

Step 1: In the DC Viewer installation page, click "Next" for starting installing.



Step 2: Setup starts. Please wait for a while until the loading bar runs out.

🔁 DCViewe	er - InstallShield Wizard 📃 💷 🛲
Installing The prog	DCViewer ram features you selected are being installed.
	Please wait while the InstallShield Wizard installs DCViewer. This may take several minutes. Status:
InstallShield	< Back Next > Cancel

Step 3: Click "Finish" to close the DC Viewer installation page.



Then, the IP Camera's Home page will display as follows:



Appendix D: Install UPnP Components

Please follow the instructions below to install UPnP components.

Step 1: Go to "Start", click on "Control Panel", and then double click "Add or Remove Programs".



Step 2: Click on "Add/Remove Windows Components" in the Add or Remove Programs page..

👌 Add or Rem	ove Programs			0	x
5	Currently installed programs:	Show up <u>d</u> ates	Sort by: Name	8	•
C <u>h</u> ange or Remove	🕶 μTorrent		Size	0.21MB	*
Programs	🔀 Alky for Applications (Windows XP)		Size	2.65MB	
0	Atomic Alarm Clock 5.4		Size	5.14MB	
Add New	CCleaner (remove only)		Size	0.98MB	3
<u> </u>	🔗 Gadget Installer		Size	0.41MB	8
F	😕 IconPackager		Size	88.62MB	E
Add/Remove	🐼 IZArc 3.81		Size	9.30MB	5
<u>W</u> indows Components	🚳 Java(TM) 6 Update 5		Size	137.00MB	8
components	週 Microsoft .NET Framework 1.1				
1	🔀 Microsoft .NET Framework 2.0 Service Pack 2		Size	185.00MB	8
Set Pr <u>og</u> ram	🔀 Microsoft .NET Framework 3.0 Service Pack 2		Size	178.00MB	5
Access and Defaults	🔀 Microsoft .NET Framework 3.5 SP1		Size	28.22MB	
	📴 Microsoft Office 2007 Recent Documents Gadget		Size	0.46MB	
	B Microsoft Office Professional Edition 2003		Size	204.00MB	
	😼 Microsoft User-Mode Driver Framework Feature Pack 1.0				
	🔀 Microsoft Visual C++ 2005 Redistributable		Size	5.21MB	
	🚳 Microsoft Windows 筆記本檢視器		Size	3.77MB	
	Open Command Prompt Shell Extension				
	提 PL-2303 USB-to-Serial		Size	1.04MB	
	Renesas Flash Development Toolkit (v4.05)		Size	78.67MB	

Step 3: Select "Networking Services" from the Components list in the Windows Components Wizard window, and then click "Details".

Windows Components Wiza	ard		
Windows Components You can add or remove comp	ponents of Windows XP.		E
To add or remove a compone part of the component will be Details.	nt, click the checkbox. A sha installed. To see what's inclu	ided box means that or ded in a component, cli	ıly ck
Components:			
🗹 📢 MSN Explorer		20.7 MB	*
Retworking Services		0.3 MB	
🔲 🚉 Other Network File ar	nd Print Services	0.0 MB	
🗹 醚 Outlook Express		0.0 MB	
🔽 🔤 Undate Boot Certifica	ites	0.0 MB	¥
Description: Contains a varie	tv of specialized, network-rela	ted services and protoc	ols.
	,,		
Total disk space required:	56.5 MB	Detaile	
Space available on disk:	14365.1 MB	Details.	
	< Back	Next >	Cancel

Step 4: Select "UPnP User Interface" in the Networking Services' subcomponents list and then click "OK".

Networki	ng Services				x	
To add or ren of the compor	nove a compone nent will be insta nts of Networkir	ent, click the check alled. To see what's ng Services:	box. A shaded box r included in a compo	neans that only nent, click Deta	part iils.	
🛛 🖳 Internet Gateway Device Discovery and Control Client			0.0 MB			
🗆 🧾 Peer-	Peer-to-Peer			0.0 MB		
🗆 📃 🖳 RIP L	🗆 📮 RIP Listener			0.0 MB		
🗆 📃 🥃 Simpl	Image: Simple TCP/IP Services			0.0 MB		
🗹 🛃 UPnF	⁹ User Interface			0.2 MB		
					÷	
Description:	Displays icons network. Also,	in My Network Plac opens the required	es for UPnP device: Windows Firewall po	s detected on th orts.	ie	
Total disk spa	ace required:	56.5 MB		Dataile		
Space availal	Space available on disk: 14365.1 MB			Decails.		
			ОК	Cancel		

Step 5: Click "Next" in the Windows Components Wizard page.

Vindows Components Wizard				
/indows Components You can add or remove components of W	′indows XP.			J.
To add or remove a component, click the part of the component will be installed. To Details.	checkbox. A) see what's in	shaded box m cluded in a co	neans that or omponent, cli	ily ck
Components:				
🗹 📢 MSN Explorer			20.7 MB	*
🔽 🚉 Networking Services			0.3 MB	
🗆 🗖 👌 Other Network File and Print Serv	ces		0.0 MB	
🗹 醚 Outlook Express			0.0 MB	
🔽 🖾 Undate Boot Certificates			0.0 MR	Ŧ
Description: Contains a variety of special	zed, network-	related service	es and protoc	cols.
Total disk space required: 56.5	MB		Details	
Space available on disk: 14365.2	MB			
	< Back	Next		Cance
	•			

Step 6: Click "Finish" to complete installation.

