# 1.3 Megapixel IP Camera

**User Manual** 

# **Table of Contents**

1. Overview										
	1.1 Features									
	1.2	2 Package Contents								
	1.3	IP Surve	eillance System Architecture	5						
2.	Intro	ntroduction of IP Camera								
	2.1	Camera	a Dimensions	6						
	2.2	Connec	tors on the Rear Board	6						
3.	Prepa	arations	for IP Camera Setup	8						
	3.1	1 System Requirements								
	3.2	IP Cam	IP Camera Installation							
	3.3	Accessi	ing IP Camera	10						
4.	IP Ca	mera Co	onfiguration & Operation	15						
	4.1	Browse	r-based Viewer Introduction	15						
	4.2	System	Related Settings	16						
		4.2.1	Host Name and System Time Setting	17						
		4.2.2	Security	17						
		4.2.3	Network	20						
		4.2.4	DDNS	23						
		4.2.5	Mail	24						
		4.2.6	FTP	25						
		4.2.7	Application (Alarm Settings)	25						
		4.2.8	View Log File	27						
		4.2.9	View Parameters	27						
		4.2.10	Factory Default	28						
		4.2.11	Software Version	29						
		4.2.12	Software Upgrade	30						
	4.3	Video a	nd Audio Streaming Settings	34						
		4.3.1	Video Resolution and Rotate Type	34						
		4.3.2	Audio Mode and Bit Rate Settings	36						
	4.4	Camera	a Settings	37						
		4.4.1	Exposure Setting	38						
		4.4.2	White Balance Setting	38						
		4.4.3	Brightness Setting							
		4.4.4	Sharpness Setting	39						
		4.4.5	Contrast Setting	40						
		4.4.6	Digital Zoom Setting	40						
5.	CMS	Software	e Introduction	41						
Ар	pendix	A: Tech	inical Specifications	42						

Appendix B: Internet Security Settings	43
Appendix C: Device Search Software	45

# 1. Overview

The IP Camera features a 1.3 Megapixel progressive scan CCD that delivers unparalleled image quality. Utilizing progressive scan CCD sensor, it produces images of rapid moving objects with minimum motion blurring. Dual streaming enables users to view both MJPEG images and MPEG-4 video to achieve superior image quality and conserve bandwidth. And with ultra high resolution of 700 TVL, users can monitor critical areas with greater detail like nothing before.

## 1.1 Features

### **Image Quality**

- 1/3" Sony progressive scan CCD
- 1.3 Megapixel high definition
- Low light sensitivity 0.2 lux@F1.2

### Application

- Dual streaming: MJPEG & MPEG-4
  - MJPEG up to 1280x960 @15 fps
  - MPEG-4 up to 640x480 @ 30 fps
- Digital zoom: 1x ~ 12x
- Two-way audio
- Image rotation: Flip, Mirror, and 180° rotate
- Free bundled CMS software

### **Easy Installation**

- Compact size & light weight
- Interface: 10/100 Ethernet with RJ-45 connector

# 1.2 Package Contents

Please check the package contains the following items listed below.



1.3 Megapixel IP Camera





DC12V Power Adaptor (DC model only)

C/CS mount lens adaptor



Alarm I/O terminal block



CD (bundled software, documentation)

# **1.3 IP Surveillance System Architecture**

The figure below illustrates the system architecture of the IP Camera. It is capable of MJPEG and MPEG-4 dual streaming for flexible application.



# 2. Introduction of IP Camera

This chapter will provide the camera dimensions for reference before installation. Definition of each connector on the camera's rear board will also be specified.

# 2.1 Camera Dimensions

The IP Camera's dimensions are shown as below.





# 2.2 Connectors on the Rear Board

The diagram below shows the IP Camera's rear board. Definition for each connector will be given as follows.



Connector	Definition			
Power LED	Green link light indicates good power connection.			
Reset button	For system reset			
	Press and hold the Reset button to restore factory			
	default settings.			
DC12V connector	DC 12V power connection			
Video/DC owitch	For Video drive lens/DC drive lens. Set the switch to			
video/DC Switch	"Video" if use a video drive lens, and set it to "DC"			

	when using a DC drive lens.		
I/O terminal	For alarm connection (see section 3.2)		
connector			
Line Out & Line In /	For two-way audio transmission		
Mic In ports			
Network connector	RJ-45 connector for LAN connection		
	Link and activity		
Notwork   EDo	Green link light indicates good network connection		
Network LEDS	Orange activity light flashes for network activity		
	indication.		
Auto iris connector	For use with auto iris lens		

# 3. **Preparations for IP Camera Setup**

This chapter outlines information about system requirements for IP Camera operation, procedures of camera connection, and login to the camera.

# 3.1 System Requirements

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

Items	Minimum Requirement
Personal	Pentium-III 600MHz processor
Computer	RAM 256 MB
Operating System	Windows 2003, XP
Web Browser	Microsoft Internet Explorer 6.0 or above
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

# 3.2 IP Camera Installation

Please follow the instructions below to complete IP Camera installation.

### **Cable Connection**

Use of Category 5 Ethernet cable is recommended for network connection; to have best transmission quality, cable length shall not exceed 100 meters.

- When connecting through a hub or switch: Connect one end of a <u>straight through</u> CAT5 cable to the RJ-45 connector of the IP camera, and the other end of the cable to the hub or switch.
- When connecting to PC directly: Connect one end of a <u>crossover</u> CAT5 cable to the RJ-45 connector of the IP camera. Then connect the other end of the cable to PC.

### Power up the Camera



Connect the power jack to the IP Camera before plugging in to power socket, to avoid danger of electric shock.

Check over the status of the link indicator and activity indicator LEDs; if the LED is unlit, please check LAN and power connection.



Green link light indicates good network connection. Orange activity light flashes for network activity indication.

### Software Installation

It is required to setup the software program "ipp41\_runtime\_installer", to communicate the PC with IP Camera, and view live video. The program can be found in "Client program" folder in the supplied CD. Double click to execute the program; it will be automatically installed to your PC.



The installation wizard shuts down when installation completed.



### Alarm Application

The camera equips one relay input and one relay output for alarm application. Refer to alarm pin definition below to connect alarm devices to the IP Camera if needed.



Output Spec.:

- Open collector output
- Absolute MAX Voltage: 5.5V
   with pull-up resistor
- Recommended Voltage: 3V ~ 5V with pull-up resistor
- Recommended Pull up resistor is 1.8k~100k Ω for TTL Level at 5V operation.

# 3.3 Accessing IP Camera

To access and configure the IP Camera, users simply login through the Internet Explorer (IE). Before that, users should make sure that the PC is connected to the same network as the camera.

### Camera Default IP

The IP Camera's default IP address is: 192.168.0.250. Therefore, to access the IP camera for the first time, set the PC's IP address as:

IP Address: 192.168.0.XXX Subnet Mask: 255.255.255.0

Follow the procedure to set PC IP address.

Step 1: Enter "Network Connections" on the "Control Panel" or "Network Neighborhood", and double click "Local Area Connections."



Step 2: In the page "Network Connections," double click "Local Area Connection."

🗞 Network Connections 📃 🗌 🔀											
File Edit View Favorites Tools	Ad	vanced Help		27							
🔇 Back 🝷 🕥 🕤 🏂 🎼 Fold	Search ▼ 🔊 > 🏂 Folders 🔎 Search 🗙 🔏 🖺 🔓 🕼 🕼 📝 🛄 ▼										
Address 💊 Network Connections				👻 ラ Go							
	^	Name	Туре	Status 🔼							
Network Tasks 🔅		Broadband									
Create a new connection		<ul> <li>Hinet ADSL @ DynaColor 6F</li> <li>Hinet ADSL</li> </ul>	Broadband Broadband	Disconnect Disconnect							
office network		Dial-up									
Oisable this network device		► IBM Laptop Dial-In Service ► CHT 3G	Dial-up Dial-up	Disconnect Disconnect							
🔌 Repair this connection		▶ YouthWant Free Dial-up	Dial-up	Disconnect 🛓							
Rename this connection		bVR Dial-In Service	Dial-up	Disconnect							
View status of this connection		LAN or High-Speed Internet									
Change settings of this connection		( <sup>(P)</sup> WLAN SuperAG WWware Network Adapter VMnet8 1294 Connection	LAN or High-Speed Internet LAN or High-Speed Internet	Not connec Disabled Connected							
Other Places (*)		Local Area Connection	LAN or High-Speed Internet LAN or High-Speed Internet LAN or High-Speed Internet	Connected Disabled							
🚱 Control Panel		Virtual Drivata Matwork									
My Network Places											
🔲 My Documents	-	2 DvnaColor VPN	Virtual Private Network	Disconnect							
My Computer				1							
broaucom Netxtreme Gigabit Etherhet		roadcom NetXtreme Gigabit Ethernet									

**Step 3:** Select "Internet Protocol (TCP/IP)" and click "Properties" to enter its sub-page.

ieneral Conne	Authentication	Advar	iced					
This co	Broadcom Net	≺treme G he follow	iigabit Etł ving items	iernet		Config	jure	
	Network Monit AEGIS Protoco Internet Protoc	or Driver ol (IEEE ) ol (TCP/	802.1x) v3 IP)	.4.10.0				~
Desc	Install		Uninstal			Proper	ties	
Tra are: dive	nsmission Contr a network protoc erse interconnec	rol Protoc col that p cted netw	col/Interni rovides c /orks.	et Proto ommun	col. The ication a	default across	twide	
✔ Sho ✔ Not	ow icon in notific ify me when this	ation are connect	a when c ion has li	onnecte mited or	d no con	necti∨ity	/	
						-		

**Step 4:** In the IP Address field, enter "192.168.0.XXX." In the Subnet Mask field, enter "255.255.255.0." Then Click "OK" to confirm the setting.

Internet Protocol (TCP/IP) Propert	ies 🔹 💽								
General									
You can get IP settings assigned autom capability. Otherwise, you need to ask yo appropriate IP settings.	atically if your network supports this our network administrator for the								
Obtain an IP address automatically									
- Use the following IP address: -									
IP address:	192 . 168 . 0 .								
Subnet mask:	255 . 255 . 255 . 0								
Default gateway:									
Obtain DNS server address autom	atically								
Ouse the following DNS server addr	esses:								
Preferred DNS server:									
Alternate DNS server:									
	Advanced								
	OK Cancel								



**NOTE:** XXX can be the number between 1 and 255, except for 250. Additionally, if users want to change the IP address or the IP Camera to obtain the IP address automatically.

### Login ID & Password

After setting the PC's IP address, key in the IP Camera's IP address: "192.168.0.250" in the URL bar and press "Enter". Then the dialogue of request for entering default username and password (as shown below) will prompt for login the IP Camera.

<u> </u>	
networkHDcamera	
<u>U</u> ser name:	1 S
Password:	
	Remember my password

The default login ID and password are like the following:

Login ID	Password
Admin	1234



**NOTE:** The first letter of the default username should be capital.



**NOTE:** It is strongly suggested that Administrator's password be altered for the security concerns. Refer to section **4.2.2 Security** for further details.

### Installing Plug-in

For the initial access to the IP Camera, the web browser shall ask for permission to install a plug-in for display video in browser. Click on "Yes" to allow the installation. If web browser doesn't allow the installation, check the Internet security settings (see **Appendix B**) and lower the security level to continue the process.

Once login in is completed, users will see the Home page shown as below:



### <u>User Privilege</u>

"Administrator" represents the person who can configure the IP Camera and authorize user 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 the zoom and focus pullers on the lens as necessary to produce a clear image.

# 4. IP Camera Configuration & Operation

The IP Camera is provided with a user-friendly browser-based configuration interface, and a free bundled CMS (Central Management System) for record and playback video. 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 **Chapter 5** and CMS user manual.

## 4.1 Browser-based Viewer Introduction

The figure below shows the main page of the IP Camera user interface.

At the bottom of the main page, users can also adjust video size (x1, x1/2 and full screen) and select a kind of video format (MPEG-4 and JPEG).



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

### <u>Home</u>

Under the page, users can monitor live video of the targeted area.

### System setting

Under the item, Administrator can set host name, system time, root password, network related settings, etc. Further details will be interpreted in section **4.2 System Related Settings**.

#### Streaming setting

The Administrator can adjust video resolution and rotate type and select an audio mode.

### Camera setting

The user can adjust various camera parameters, including <EXPOSURE>, <WHITE BALANCE>, <BRIGHTNESS>, <SHARPNESS>, <CONTRAST> and <DIGITAL ZOOM>.

## 4.2 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.

Megapixel	Home	System	Streaming	Camera	Help	
System	System					-
Security	Host Nam	e:	MegaPixelC	Camera		
Network						
DDNS						
Mail	🔘 Sync W	ith Compute	er Time			
FTP		PC dati	∋: 2007/08/10	6 [yyyy/mm/a	dd]	
Application		PC time	e: 14:14:43	[hh:mm:ss]		
View log file	<u></u>					
View user information	S Manual			-		
View parameters		Dati	e: 2007/01/0	1 [yyyy/mm/a	dd]	
Factory default		Tim	e: 00:00:00	[hh:mm:ss]		
Software version		Da	v: Sun 🔽			
Software upgrade		100				
			Save			
	<					~

## 4.2.1 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	Help	
System	System					^
Security	Host Nan	ne :	MegaPixel	Camera		
Network						
DDNS	0					
Mail	O Sync V	Vith Compute	r Time	20		
FTP		PC date	: 2007/08/1	6 [yyyy/mm/a	dd]	
Application		PC time	: 14:18:20	[hh:mm:ss]		
View log file	Manua	1				
View user information			1	<b>-</b>		
View parameters		Date	: 2007/01/0	1 [yyyy/mm/a	dd]	
Factory default		Time	: 00:00:00	[hh:mm:ss]		
Software version		Day	: Sun 🔽			
Software upgrade			Save			
			04/0			
	<					×

### Host Name

The name is for camera identification. If alarm function (see **4.2.7 Application**) is enabled and is set to send alarm message by Mail/FTP, the host name entered here will display in the alarm message.

### 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 field.

### 4.2.2 Security

Click the category: <Security>, and the page is shown as the figure below.

Megapixel	Home	System St	eaming	Camera	Help	
System	Security					^
Security	Root Pass	word				
Network		Root password		••••		
DDNS	C	Confirm password		••••	Save	
Mail						
FTP	Add Llcor					
Application	Aug Oser	User name	•		1	
View log file		User password	1		]	
View user information		🔲 I/O access	🔲 Car	mera control		
View parameters		🔲 Talk	🔲 List	en	Add	
Factory default						
Software version	Manage U	ser				
Software upgrade		User name 🔤	no user	🔽 🖸 Delet	Edit	
						~
	<				>	

### 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.



NOTE: these characters are valid: A-Z, a-z, 0-9, !#\$%&'-.@^\_~

### 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 four types of privileges – "I/O access", "Camera control", "Talk" and "Listen".

• I/O access

This function is disabled.

• Camera control

This item allows the appointed 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, say, the administrator in the remote site.

### 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. When finished, click <Save> to modify the account authority.

🚰 Edit user - Microsoft I:	nternet Explorer	
User name User password	manager	
✓ I/O access	Camera control	
✓ Talk Save	<ul><li>Listen</li><li>Close</li></ul>	

# 4.2.3 Network

Click <Network> in the left column, and the page will display as shown below.

Megapixel	Home	System	Streaming	Camera	Help	
System	Network					^
Security	⊖Get IP a	address auto	matically			
Network	💿 Use fixe	d IP address				
DDNS	General					
Mail	IP add	Iress	19	2.168.7.250		
FTP		entre and entre			-	
Application	Subne	t mask	25	5.255.255.0		
View log file	Defaul	lt gateway	19	2.168.7.254		
View user information	Primar	y DNS	0.0	0.0.0		
View parameters					-	
Factory default	Secon	dary DNS	0.0	1.0.0		
Software version	нттр					
Software upgrade	ΗΤΤΡ β	oort	80			
			s	ave		
	<					~

Users can choose to use fixed IP address or dynamic (DHCP) IP address. The following is descriptions for the two ways of setting IP address.

### Get IP address automatically (DHCP)

The camera's default setting is "Use fixed IP address". Please refer to the previous section **3.3 Accessing IP Camera** for login with the default IP address.

If select "**Get IP address automatically**", users will be requested to perform the installer program: DeviceSearch.exe, which can be found in "DeviceSearch" folder in the supplied CD, whenever the IP camera resets.



**NOTE:** Please make the record of the IP Camera's MAC address, which can be found in the label of the camera. Request for selecting a MAC address will occur during executing DeviceSearch.

The procedure of employing DeviceSearch to login the IP Camera, please refer to **Appendix C**.

### 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. 192.168.7.250; 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	Help	
System	Network					^
Security	🔾 Get IP	address auto	omatically			
Network	💿 Use fix	ed IP addres	s			
DDNS	General					
Mail	IP ad	dress	19	2.168.7.250		
FTP						
Application	Subn	et mask	25	5.255.255.0		
View log file	Defa	ult gateway	19	2.168.7.254		
View user information	Prima	ary DNS	0.0	0.0.0		
View parameters					_	
Factory default	Seco	ndary DNS	0.0	.0.0		
Software version	нттр					
Software upgrade	НТТР	port	80	8		
				Save		
						~
	<					

After setting the camera's new IP address, please go to the PC's TCP/IP setting (see **3.3 Accessing IP Camera**) for resetting as well. The following is the descriptions for each TCP/IP related setting.

• DHCP

This item allows users to obtain a dynamic IP address from DHCP (Dynamic Host Configuration Protocol) server during camera boots up. When using DHCP, the settings are dynamic and they will change every time you power up and power off the camera, depending on your network's setup.

If use DHCP, a dynamic IP will be assigned to the IP camera. In this case, users do not need to configure a static IP, and the Ethernet settings (IP address, Netmask, Gateway and DNS settings) will be read only.

### • IP

The item is used to configure the PC's IP (Internet Protocol) address. The IP address is the identifier for your computer or device on a TCP/IP LAN or WAN.

### Netmask

A Netmask is a 32-bit mask used to divide an IP address into subnets and specify the networks available hosts. Its value is defined by your network administrator. It takes the form as \*\*\*.\*\*\*.\*\*\*, for example, 255.255.255.255.255.

This item allows users to input the value of the Netmask for the PC.

### Gateway

Gateway is a node on a network that serves as an entrance to another network.

### • DNS

DNS is the abbreviation for "Domain Name System", which is an Internet service that translates domain names into IP addresses because domain names are easier to remember.

### <u>General</u>

### • 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 router

This is the gateway used to forward frames to destinations in different subnet. Invalid router 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>HTTP</u>

### HTTP port

This can be other than the default port 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 dome 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".

### 4.2.4 DDNS

Dynamic Domain Name System (DDNS) allows a DNS 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	Help		1
System	DDNS					1	~
Security	Dynam	ic DNS	Val. Wash Ta		DNC Assault		
lletwork			TUU WAIIL TU		DINS ACCOUNT.		
DDHS	📋 Enab	Ie DDNS	(i)				
Mail	Prov	/ider	D	ynDNS.org(D	ynamic) 🚩		
FTP	Hos	t name					
Application							
View log file	Use	rname/E-mail					
View user information	Pas	sword/Key					
View parameters				Save			
Factory default							
Software version							
Software upgrade							
						a	
	<						

### 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.

#### Username/E-mail

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.

### 4.2.5 Mail

The Administrator can set as e-mail via Simple Mail Transfer Protocol (SMTP) when an alarm is triggered. 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	Help		
System	Mail						^
Security	SMTP		82			25	
Hetwork	1st Si	MTP (mail) serv	/er				
DDNS	1st Si	MTP account n	ame				
Mail	1st Si	MTP password					
FTP	1	ainiant an ail -					
Application	ISUTE	icipienc emaira					
View log file	2nd S	MTP (mail) ser	ver				
View user information	2nd S	MTP account r	iame				
View parameters	2nd S	MTP password	I T				
Factory default							
Software version	2nd n	ecipient email	address				
Software upgrade	Sende	er email addre	ss				
				Save			
							_
	<						~

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.

### 4.2.6 FTP

The Administrator can set as e-mail via File Transfer Protocol (FTP) when an alarm is triggered. 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

Megapixel	Home	System	Streaming	Camera	Help		
System Security Network DDHS Mail FTP Application	Home FTP Built- 1st F 1st F 1st F 1st F	in FTP server p TP server TP server port TP user name TP password TP remote fold	oort 21	Camera	Help		
View log file View user information View parameters Factory default Software version Software upgrade	☐ 1 2nd 1 2nd 1 2nd 1 2nd 1 2nd 1 2nd 1 2nd 1	st FTP passive -TP server -TP server port -TP user name -TP password -TP remote fold nd FTP passive	mode	Save			
	<						~

## 4.2.7 Application (Alarm Settings)

The IP Camera equips one relay input and one relay output for cooperating with alarm system to catch events' images. Refer to alarm pin definition below to connect alarm devices to the IP Camera if needed. The alarm configuration page is also shown below.



Output Spec.:

- Open collector output
- Absolute MAX Voltage: 5.5V
   with pull-up resistor
- Recommended Voltage: 3V ~ 5V with pull-up resistor
- Recommended Pull up resistor is 1.8k~100k Ω for TTL Level at 5V operation.



### Alarm Switch

The Administrator can turn on or turn off the alarm function.

### <u>Alarm Type</u>

Select an alarm type, "Normal close" or "Normal open," that corresponds with the alarm application.

### Alarm Output

Define alarm output signal "high" or "low" as the normal alarm output status according to the current alarm application.

### Send Alarm Message by FTP/E-Mail

The Administrator can specify whether to send the alarm message by FTP/E-mail when an event happens.

### 4.2.8 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	Help			
System	System	n log					1	
Security		[16/Aug/2007:: [16/Aug/2007::	10:38:17 GMT] 10:38:01 GMT]	Network Network	interface init interface init	ialized start ialized end	~	
Network		[16/Aug/2007:: [16/Aug/2007::	10:38:01 GMT] 10:38:01 GMT]	Host IP = Subnet M	= 192.168.7.2 1ask = 255.2	250 55.255.0		
DDNS		[16/Aug/2007:: [16/Aug/2007::	10:38:01 GMT] 10:38:01 GMT]	Gateway MAC add	= 192.168.7 ress = 00:D0	.254 :89:00:AC:BE		
Mail		[16/Aug/2007:: [16/Aug/2007::	10:39:00 GMT] 10:50:00 GMT]	connect	oy Admin@19 oy Admin@19	2.168.7.199 2.168.6.68		
FTP		[16/Aug/2007::	10:57:00 GMT]	connect	oy Admin@19	2.168.6.88		
Application								
View log file								
View user information								
View parameters								
Factory default								
Software version								
Software upgrade							_	
		C					×	

### 4.2.9 View Parameters

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

Megapixel	Home	System	Streaming	Camera	Help								
System	Paramet	ter list											
Security	M	ega Pixel Can	nera Initial Cor	nfiguration Fi	le	<u>^</u>							
Network		[Camera setting]											
DDNS	==	exposure mode = <auto></auto>											
Mail	e>	knosure value	= <1>										
FTP		hite balance i	mode = <auto< th=""><th>&gt;</th><th></th><th></th></auto<>	>									
Application		hite balance :	/alue = <1>										
View log file	br	iohtness valu	ie = <1>										
View user information	sh	naroness valu	e = <1>										
View parameters		ontrast value	= <1>										
Factory default	di	aital zoom va	lue = <1>										
Software version													
Software upgrade	[s	;ystem] =======											
	h	ost name = <	MegaPixelCam	iera>		~							
						2							

# 4.2.10 Factory Default

The factory default setting page is shown as below.

Megapixel	Home	System	Streaming	Camera	Help	
System	Factory	default				
Security						
Network	System	will restart ar	ngs and lose a nd need install	ny changes? er program t	o setup netwo	ork.
DDNS						
Mail	Set D	efault				
FTP						
Application	Reboot	the system.				
View log file		_				
View user information	Reboo	t				
View parameters						
Factory default						
Software version						
Software upgrade						

### Set Default

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

### <u>Reboot</u>

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

### 4.2.11 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	Help		
System	Softwar	e version					^
Security	1						
Network	1						
DDNS							
Mail	The soft	ware version	is <b>Z2007081</b>	6			
FTP							
Application	1						
View log file							
View user information							
View parameters							
Factory default							
Software version							
Software upgrade							
							_
							(270)
	<						

# 4.2.12 Software Upgrade

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

Megapixel	Home	System	Streaming	Camera	Help		î
System	Upgrad	e					^
Security	Follow	These Steps 7	To Do The Sof	tware Upgra	ade		
Network							
DDNS	Step1:						
Mail	Se	elect the binar	y file you wan	t to upgrade			
FTP	us Iuli	erland.jffs2 🚩 mage					
Application	Step <sub>car</sub>	meraFw erland.iffs2					
View log file		se Fre progra	m to upload th	e binary file	- userland.j	fts,cameraFw or uImage	
View user information	Step3:		1			Pet)	
View parameters		lick the upgrad	ae button to st	art the upgr	ade proces	S	
Factory default		Ingrade					
Software version		pgrade					
Software upgrade							
							<u></u>
	<						~



**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: Type the IP Camera's FTP address in the URL bar of the Web browser to login to the FTP site. The address is identical to the IP Camera's IP address; the prefix ftp:// should be set before the address, ex. ftp://192.168.7.250. Then enter the User name and password, which are identical with the ones used when login to the IP Camera, to connect to the FTP site.

2 ftp://192.168.7.250/	
File Edit View Favorites Tools Help	
S Back - Search 🌮 Folders	
ddress 👰 ftp://192.168.7.250/	💌 🄁 Go
og On As	
<ul> <li>Bither the server does not allow anonymous logins or the e-mail address was not accepted.</li> <li>FTP server: 192.168.7.250</li> <li>User name:</li></ul>	
Log on anonymously	
Log On Cancel	

**Step 2:** Copy the upgrade file, ex. userland.jffs2, from the source and paste it to the FTP site.

👰 ftp://192.168.7.250/		
File Edit View Favorites Tools H	telp	an a
🚱 Back 🝷 🕥 - 🏂 🔎 Sea	ch 🎼 Folders 🛄 🕶	
Address ftp://192.168.7.250/		💌 🄁 Go
Other Places       Internet Explorer         Internet Explorer       My Documents         Shared Documents       My Network Places	comm.log userland.jffs2	
<		



**NOTE:** Since it is allowed to upgrade one file at a time, please put only one upgrade file in the FTP site when executing software upgrade.

**Step 3:** Go back to the IP Camera's "Software upgrade" page. In the section: Step1, pull down the upgrade binary file list and select the one about to upgrade.

Megapixel	Home	System	Streaming	Camera	Help		
System System Security Network DDNS DDNS Mail FTP Application View log file View user information View parameters Factory default Software version Software upgrade	Home Upgrad Follow Step 1: Se Us Step 2: Us Step 3: Cl	System	To Do The Soft y file you want n to upload th le button to st	Camera tware Upgrade t to upgrade e binary file art the upgr	Help ade - userland.jffs, ade process	cameraFw or uImage	

**Step 4:** Press "Upgrade" in the section: Step3. The system will then check whether the upgrade file exists or not. Then the upgrade status bar will display on the page. When it runs to 100%, the upgrade process is finished.

Megapixel	Home	System	Streaming	Camera	Help	
System	Upgrade	e Now				
Security	1					
Network	System	Is During Up	grade Proces	S,	The Dana	
DDNS	Please	Don't Power-	on the syste	em Ana Char	ge the Page.	
Mail						
FTP				Upgrade now	Please wait	
Application						
View log file				7	%	
View user information						
View parameters						
Factory default						
Software version						
Software upgrade						
						12
						>

Step 5: Close the Web browser and login to the IP Camera again.

# 4.3 Video and Audio Streaming Settings

Press the tab "Streaming" in the top of the page, and the two items: Video and Audio will display in the left column. The Administrator can configure specific video resolution, video rotate type, audio transmission mode and audio streaming here. Further details of these settings will be specified in the following sections.

### 4.3.1 Video Resolution and Rotate Type

Megapixel	Home	System	Streaming	Camera	Help	
Video	Video					^
Audio	Video R	esolution :				
		💿 Jpeg Qu	uad VGA (15fp	s) + MP4 VG/	A (15fps)	
		O Jpeg VC	6A (30fps) + M	IP4 VGA (30fp	os)	
		O Jpeg VC	6A (30fps) + M	IP4 QVGA (30	)fps)	
		O Jpeg VC	6A (30fps) + M	IP4 CIF (30fp	s)	
		O Jpeg VC	6A (30fps) + M	1P4 QCIF (301	fps)	
		Save				
	Video R	otate Type :				
		💿 Normal	video			
		🔘 Flip vide	90			
		O Mirror v	ideo			
		🔿 180 de	gree rotate			
		Save				
						~
	<	Save				

The video setting page is show as below:

### Video Resolution

The IP Camera provides various video dual streaming formats like the following:

- Jpeg Quad VGA (15fps) + MP4 VGA (15fps)
- Jpeg VGA (30fps) + MP4 VGA (30fps)
- Jpeg VGA (30fps) + MP4 QVGA (30fps)
- Jpeg VGA (30fps) + MP4 CIF (30fps)
- Jpeg VGA (30fps) + MP4 QCIF (30fps)

Click "Save" to confirm the 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 inversed both vertically and horizontally.

Click "Save" to confirm the setting.

## 4.3.2 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	Help	
Video	Audio					<u>^</u>
Audio	Transmi	ssion Mode:				
	OF	ıll-duplex (Tall	k and listen si	multaneously	1)	
	⊙на	əlf-duplex (Tal	k or listen, no	it at the sami	e time)	
	O Si	mplex (Talk or	nly)			
	Osi	mplex (Listen	only)			
	💿 Di	sable				
	Bit Rate:	uLAW	*			
		Save				
	<					×

### **Transmission Mode**

### • Full-duplex (Talk and Listen simultaneously)

In the Full-duplex mode, the local and remote sites can communicate with each other simultaneously, i.e. both sites can speak and be heard at the same time.

### • Half-duplex (Talk or Listen, not at the same time)

In the Half-duplex mode, the local/remote site can only talk or listen to the other site at a time.

### • Simplex (Talk only)

In the Talk only Simplex mode, the local/remote site can only talk to the other site.

### • Simplex (Listen only)

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

### Disable

Select the item to turn off the audio transmission function.

### Bit Rate

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

# 4.4 Camera Settings

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



# 4.4.1 Exposure Setting

Exposure	
O Auto	
🔿 Manual	1 🕑
	SET

The exposure is the amount of light received by the image sensor and is determined by the width of lens diaphragm opening (iris adjustment), 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.

Two modes, Auto Mode and Manual Mode, are available.

#### Auto Mode

In this mode, the camera's Brightness, Shutter Speed, IRIS and AGC (Auto Gain Control) control circuits work together automatically to get consistent video output level.

#### Manual Mode

In this mode, users can select a number between 1 and 11, which represents shutter speed ranging from 1/4 to 1/10000 sec; bigger number means slower shutter. Once change the setting, press <SET> to confirm the new setting.

### 4.4.2 White Balance Setting



A digital 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.

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

In this mode, white balance works within its color temperature range and calculates the best-fit white balance.

### Indoor/outdoor Mode

Select for indoor or outdoor mode.

### Manual Mode

In this mode, users can change the White Balance value manually. Users can select a number between  $1 \sim 11$ , and press <SET> to confirm the new setting.

### 4.4.3 Brightness Setting

Brightness	1	4
	S	ΕT

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

### 4.4.4 Sharpness Setting

Sharpness	1	~
	S	ET

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

# 4.4.5 Contrast Setting

Contrast	1	~
	S	ET

Camera image contrast level is adjustable; please select ranging from 1 to 11.

# 4.4.6 Digital Zoom Setting

Digital Zoom	x1	~
	SE	Т

The camera's digital zoom is adjustable from x1 to x12 at VGA resolution. Press <SET> to confirm the new setting.

# 5. CMS Software Introduction

Central Management System (CMS) offers a powerful interface for a simple and centralized monitoring solution of your video surveillance equipments.

It gives the user access to monitor multiple IP cameras and DVRs, and allows the user to simultaneously monitor 64 sites per group (up to 10 groups) within several clicks.

One administrator and up to 3 users (depends on the product you bought) are allowed to access the remote DVR unit simultaneously through the CMS.

Please find CMS software and its user manual in folder "CMS software" in the attached CD.



# **Appendix A: Technical Specifications**

Camera		
Image Sensor		⅓" Sony progressive CCD
Picture Elements		1280(H) x 960 (V), 1.3M CCD
Resolution		>700 TVL
Minimum Illumination		0.2 lux @ F1.2
Shutter Speed		1/4 ~ 1/10000 sec.
White Balance		Manual / ATW (1500 ~ 15000K)
Lens		Video drive & DC drive (selectable)
Operation		·
Video Compression		MPEG-4 / MJPEG
Video Streaming		Simultaneous MPEG-4 and MJPEG video stream (dual stream)
Resolution		MPEG-4: VGA, QVGA, CIF, QCIF MJPEG: 1280x960(4 VGA), VGA
Frame Rate		MPEG-4 30fps@VGA, MJPEG 15fps@1280x960
Image Setting	Brightness	Manual
	Exposure	Auto / Manual
	Sharpness	Manual
	Contrast	Manual
	White Balance	Auto / Manual / Indoor / Outdoor
	Digital Zoom	1x ~ 12x
	Rotation	Flip, Mirror, and 180° Rotate
Audio		Line out, Line in/mic in
Alarm		1 Relay In, 1 Relay Out
Network		
Interface		10/100 Ethernet (RJ-45)
Protocol		IP, TCP, UDP, ICMP, FTP, SMTP, DHCP, HTTP, Telnet and IGMP
Password Levels		User and Administrator
Internet Browser		Internet Explorer (6.0+)
User Account		20
Mechanical		
Lens Mounting		C or CS Mount
Connectors	Power	DC Jack
	Ethernet	RJ-45
	Audio	Stereo phone jack, ∅ 3.5mm
	Alarm	4 pins terminal block, pitch 3.5mm
	Auto Iris	Video drive & DC drive
LED Indicator		Power, Link, ACT
General		
Operating Temperature		0°C ~ 50°C Humidity: 10% to 90%, no condensation
Power Source		DC12V
Power Consumption		4.2W (max. 350mA@DC12V)
Certificate		CE, FCC, RoHS compliant
Dimension		125 x 70 x 52 mm (L x W x H) (w/o lens)

# **Appendix B: Internet Security Settings**

Please follow the steps below to set the Internet security settings appropriately.

Step 1: Start the Internet Explorer (IE).



**NOTE:** Windows IE provides the ActiveX component that is required when using the programs mentioned above.

- **Step 2:** Select <Tools> from the main menu of the browser, then <Internet Options>, and then click the <Security> tab.
- **Step 3:** Select <Trusted sites> and click <Custom Level> in the Security Level area.

Internet Options
General Security Privacy Content Connections Programs Advanced
Select a zone to view or change security settings.
🛛 🔮 🍕 🗸 🚫
Internet Local intranet Trusted sites Restricted sites
Trusted sites This zone contains websites that you Sites
trust not to damage your computer or your files. You have websites in this zone.
Security level for this zone
<b>Custom</b> Custom settings. - To change the settings, click Custom level. - To use the recommended settings, click Default level.
Custom level Default level
Reset all zones to default level
OK Cancel Apply

The Security Settings screen is displayed as below:



**Step 4:** Under "All ActiveX controls and plug-ins", set all items to <Enable> or <Prompt>.



**NOTE:** If all ActiveX controls and plug-ins items are set to <Enable>, the web browser will permit the user to login in the Home page directly without any request. If these items are set to <Prompt>, several prompts of request for accepting ActiveX controls and plug-ins shall appear during login in.

**Step 5:** Click <OK> to accept the settings and close the <Security> screen.

**Step 6:** Click <OK> to close the Internet Options screen.

# **Appendix C: Device Search Software**

The procedure of employing DeviceSearch to login the IP Camera is like the following:

- **Step 1:** Select "Get IP address automatically, and the message of system restart will display in the page.
- **Step 2:** Double click on the program Device Search.exe (see the icon below); its window will appear as below.



Device Search - 1.0.0.8							
					Device Search		
Model	Proj	Name	IP	Port	Netmask	Mac	

**Step 3:** Press the button "Device Search", as shown in the figure above. Then all IP devices in the network will be listed in the zone down the Device Search button.

	Search - 1.0.(	).8				
					Device	Search
Model	Proj	Name	IP	Port	Netmask	Mac
DG216T	DVR	DVR	192.168.7.138	80	255.255.255.0	00:D0:89:00:C2:AF
NH060	NH060	MegaPixelCamera	192.168.7.240	80	255.255.255.0	00:D0:89:00:AC:B0
NH060	NH060	MegaPixelCamera	192.168.7.243	80	255.255.255.0	00:D0:89:00:AC:C1

- **Step 4:** Check the IP Camera's MAC address; then select the IP address followed with the designate MAC. Double click or right click and select "Browse" to connect with the camera directly via web browser.
- **Step 5:** The dialogue of requesting for entering User name and Password should pop out. Enter the correct user name and password to login in the IP Camera.