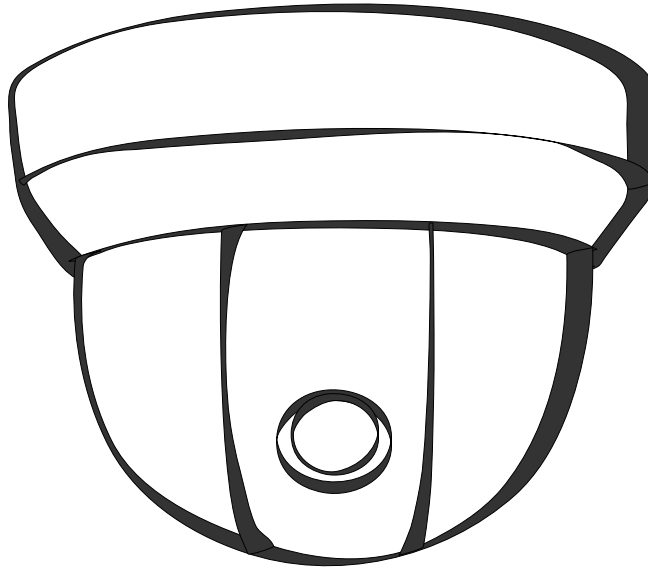


NETWORK CAMERA

User Manual



Notice of Use

This manual is designed for administrators and users of the network camera. Please read it carefully before use. All requirements should be followed before using this camera.

- We are not responsible for any technical or typographical errors and reserves the rights to change the product and manuals without notice.
- Keep this document for future reference.
- Please make sure the power source is 12V DC / 24V AC / PoE. Only connect to the camera to this required power system.

Caution: For heater model, the power source must be 24V DC / 24V AC.

- The camera must be installed on a solid mounting surface.
- Keep the camera and other accessories dry.
- We are not responsible for any damage caused by inappropriate use.

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1. Overview

1.1 Key Features

High Definition Images

Clear and detailed HD quality images in all conditions. Unlike traditional megapixel cameras, HD offers higher resolutions and better frame rates at an international industry standard. Blurry images are reduced and individuals and objects of interest come through in perfect clarity.

Triple Streaming

The Network Dome Camera is a high performance HD camera designed to show extreme image detail. H.264/MPEG4/MJPEG triple streaming allows you to choose the appropriate codec for your bandwidth. Using a video player (VLC player...etc), you can view your RTSP stream from anywhere.

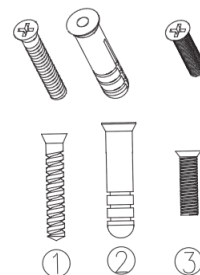
Cost-saving H.264 Support

The Network Dome Camera supports the H.264 compression standard. H.264 greatly reduces the size of video compared to MJPEG and MPEG4 without compromising image quality. Storage and bandwidth needs are reduced. Plus, H.264 is expected to become the video standard of choice, so your camera is future proofed.

1.2 Package Contents

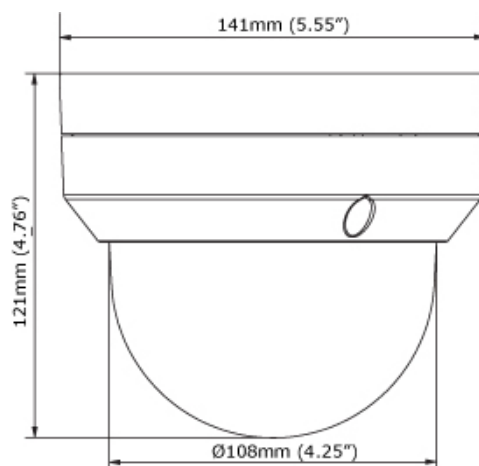
The Network Dome Camera package includes these items:

- Network Dome Camera x1
- Quick Start Guide x1
- CD-ROM x1
- Guide Pattern Sticker x1
- RJ-45 Female / Female Coupler x1
- Accessories:
 - 1. Flat Head Screw (Tapping Type) x3
 - 2. Plastic Anchor x3
 - 3. Flat Head Screw (Machine Type) x3

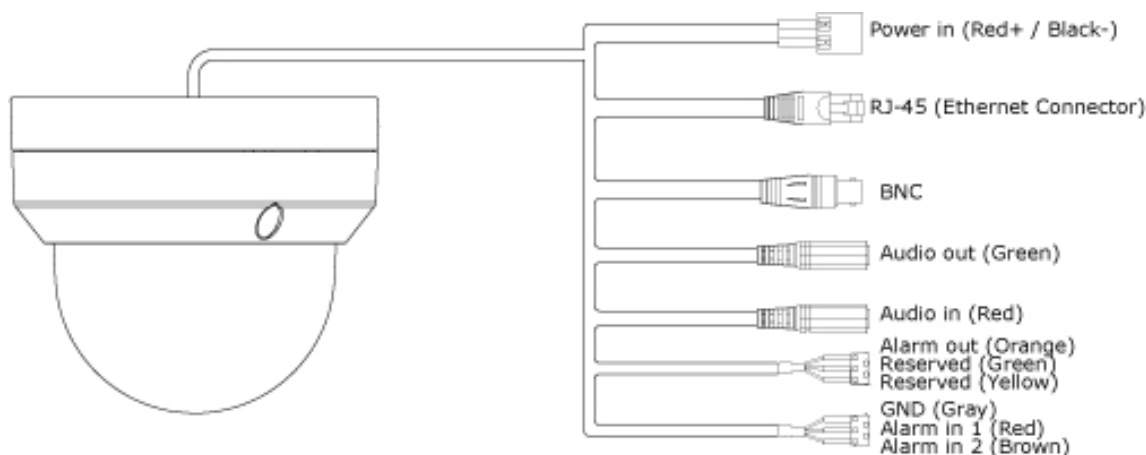


1.3 Physical Descriptions

1.3.1 Dimension



1.3.2 Connectors



- **Power In (Red+/Black-):** Connects to DC 12V / AC 24V power supply. If you are to use power from Ethernet connection, this connector is not used when the power is provided by PoE.

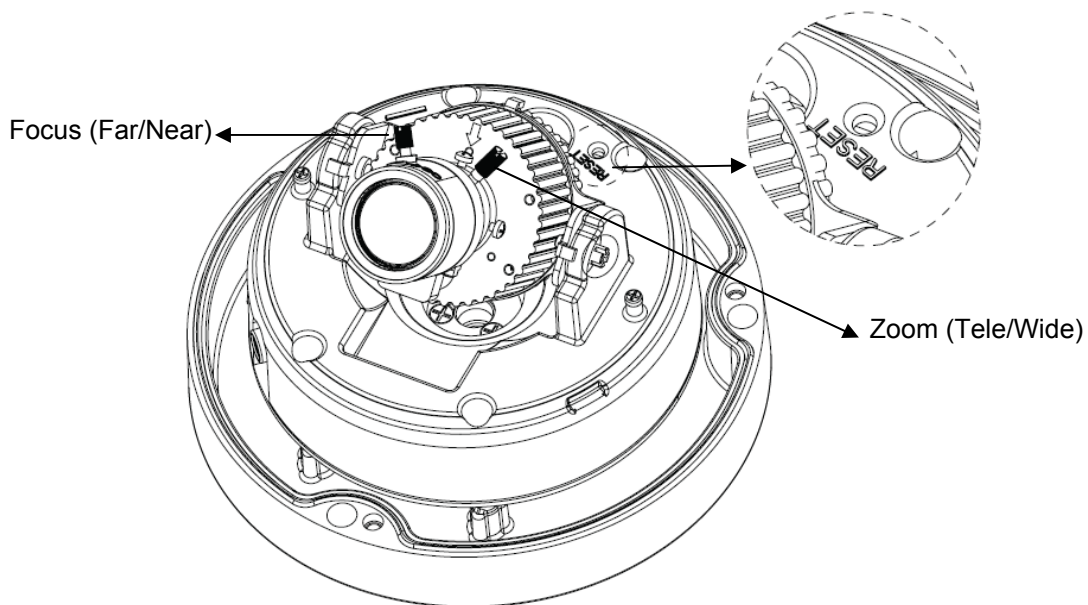
Note: Camera with heater requires DC24V/ AC24V power supply.

- **RJ-45 Ethernet Connector:** Connects to the LAN port of a standard 10Base/100Base-TX device, e.g., hub, switch or router.
- **BNC:** Connects to composite video in connector of a monitor. Note that when connecting the camera to an analog monitor, the camera must be connected to DC 12V / AC 24V power supply.
- **Audio Out (Green):** Connects to speaker.
- **Audio In (Red):** Connects to an external microphone.
- **Alarm Out (Orange):** Connects to device that responds to alarm signals, such as buzzers or lights.
- **Reserved (Green)**

- **RS485 (Yellow)**
- **GND:** Ground (electricity) in electrical circuits
- **Alarm In 1 (Red) & 2 (Brown):** Connects to devices that trigger alarm signals. Up to two 2 input devices can be connected.

1.3.3 Controls

- **Reset:** use an appropriate tool to press the button for few seconds to reset the camera
Hold for 5 seconds to reboot camera. Hold longer than 5 seconds to load default settings.
- **Zoom:** Adjust the zoom control for desired image view.
- **Focus:** Adjust the focus for optimum picture sharpness.



1.4 Specifications

Image System	
Image Sensor	1/3" 2 MP image sensor optimized for low-light performance
Image Compression Method	Triple Streaming : H.264 / MPEG4 / Motion JPEG
Maximum Frame Rate	HDTV 1080p(1920x1080) at 15 fps (NTSC) and 12.5 fps (PAL) and 2MP 16:9 (1280x720) at 30 fps (NTSC) and 25 fps (PAL)
Lens	Built-in Mechanical IR Cut Filter varifocal lens f=3~9mm, F1.2 (Mega pixel lens)
View Angle	H: 93°(Wide)~31.7°(Tele)/V:68.4°(Wide)~23.8°(Tele)
View Angle Adjustment	Pan:0°-355°, Tilt:0°-90°, Rotate:0°-355°
Electric	
Shutter Time	Range from 1/10000s to 1/3.75s selectable (60Hz); Range from 1/10000s to 1/3.125s selectable (50Hz)
Audio	Two-way Mono Audio, Full-duplex, G.711 PCM 8kHz
Alarm	External input
RS485	Reserve
Day/Night Mode	Mechanical (ICR) D/N control; Auto/ Forced BW/ Forced Color/ External
Minimum Illumination	0.08 Lux @10IRE; 0.30Lux @50IRE (shutter speed: 1/15sec)
Video Port	BNC X1, 1.0Vp-p, 75Ω / RCA x 1
Video Output	NTSC: 720 X 480 @30fps; PAL: 720 X 576 @25fps
Image Enhance	Exposure Mode: Auto/Manual White Balance: Auto/Manual Backlight Compensation: 5x5 zones selectable Sharpness, Saturation, Brightness, Contrast: 255 level sensitivity
Feature Brief	
Digital WDR	Yes; 5 level sensitivity
Privacy Zone	Yes; customized threshold privacy zone
Intelligent Video	Audio detection / Blur detection /Ethernet Detection/ Smart Encoding/ Smart Focus/ e-PTZ/ Event Management
Alarm Detection	Motion Detection: 5 x 5 zones, 5 level sensitivity or customized threshold Audio Detection: 5 level sensitivity or customized threshold Blur Detection: customized threshold External Input
Alarm Event	File upload via FTP, SMTP and SD Card Notification via email, HTTP and TCP External output activation Video and audio recording to SD Card
Image Orientation	Mirror, Flip
Bit Rate Mode	Primary stream bit rate control: CBR/VBR
Local Storage	
Memory Card	Micro SD/ Micro SDHC Card up to 32 GB
SD Card Overwrite	Yes
SD Card Store Category	Alarm / Motion / Schedule/ Un-interrupt recording
Power supply	

Power Requirement	DC 12V & AC 24V ± 10% / PoE(IEEE 802.3af)	DC24V/AC24V± 10%
Power Connector	Screwless Terminal Block	
Power Consumption (Max.)	5W	18 W (Heater ON) 5 W (Heater OFF)
Environment		
Operating Temperature	-10°C ~ 50°C (-14°F ~ 122 °F)	-40°C ~ 50°C (-40°F ~ 122 °F)
Operating Humidity	10~ 90% RH	
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140 °F)	
Regulatory	CE, FCC, RoHS	
Network		
Ethernet	10Base-T/100Base-TX Ethernet connection for LAN / WAN, RJ-45	
Internet Protocol	IPv4, TCP/IP, UDP, HTTP, SMTP, DNS, DHCP, NTP, FTP, RTP,RTSP, ICMP, UPnP	
Browser	IE browser 6.0 or above	
I/O connector		
Alarm Port	Terminal block 2 in / 1 out	
Audio In / Out port	3.5mm Phone Jack x 2	
Reset	Within 5 sec for rebooting system; more than 5 sec for loading default	
Mechanism		
Dimensions(ΦxH)	Φ142mmx 121mm (5.55" x 4.76")	
Weight	1.3kg (2.87lb)	
Protection Class	IP67, vandal-proof	
Option	Without Heater	With Heater
Accessory		
Mount Type	Surface mount (standard package support) Pendent mount: thread 1", Wall mount	

2. Camera Installation

CAUTION! For heater model, the dome cover should NOT be removed over 30 minutes during installation. Otherwise, the desiccant will absorb too much moisture causing vapor when heater is on.

2.1 Ceiling Mount

1. Remove the dome cover and the inner liner.

Use a security torx screwdriver to loosen (but not remove) the 3 cover screws.

Remove the inner liner by gently pulling it free from the two notches on the camera base.

2. Use the Guide Pattern Sticker to drill the mounting holes.

Place the provided “**Guide Pattern Sticker**” on the desired mounting location. Drill three mounting holes and one cable entry hole according to the guide pattern.

3. Connect the wiring and optionally insert the SD card.

Draw out the cabling to the connecting places. Refer to “**1.3.2 Connectors**” section to make connections as required. If using SD card function, insert the Micro SD/SDHC card.

To adjust the field of view and focus, you can optionally connect a monitor to the **Video out RCA jack** at this point. If no monitor is available, then focus must be performed by using an Internet browser to view the camera images.

Caution: For DC power supply use, make sure the polarity is correct to avoid malfunction and / or camera damage.

4. Secure the camera base to the surface.

Use appropriate screws according to the mounting surface material. If required, you may require different screws and anchors than those supplied.

For cement surface:

Insert the provided plastic anchors into the three drilled holes. Then secure the camera base to the mounting surface with the provided tapping type screws.

For metal plate surface:

Do not use the plastic anchors. Just secure the camera base to the mounting surface with the provided machine type screws.

5. Adjust the camera position and focus.

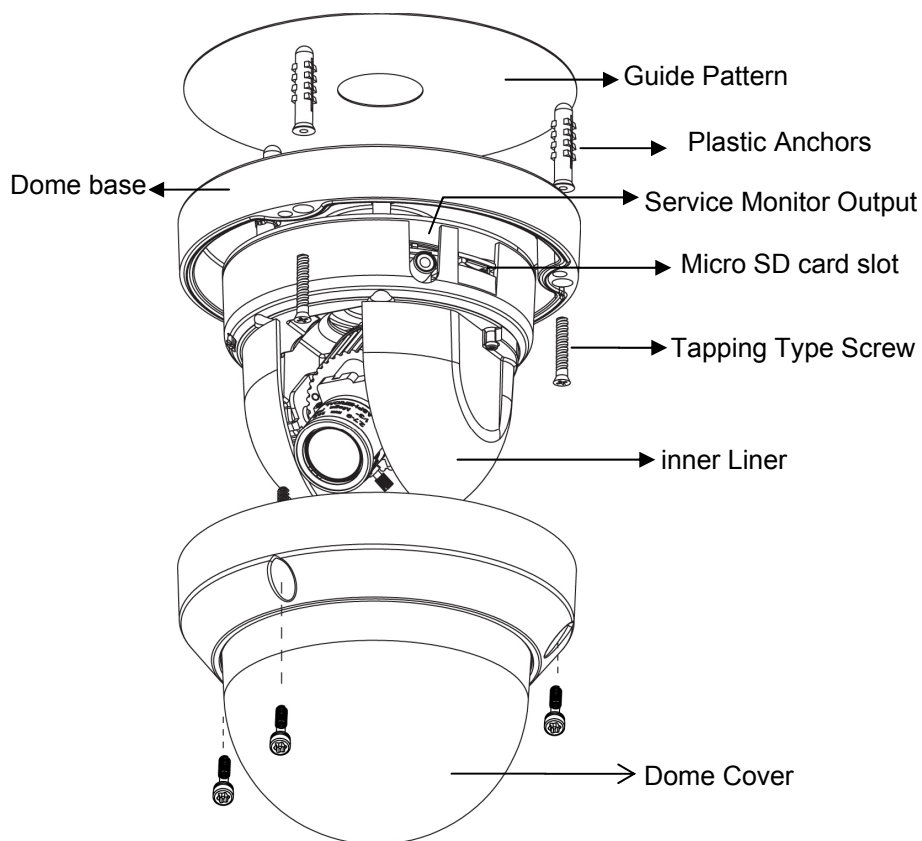
Adjust the focusing position by rotating and panning the camera base. Adjust the lens using the Zoom and Focus controls.

6. Install the inner liner.

Fit the camera liner over the camera base so that it snaps into place.

7. Replace the dome cover.

Put the dome cover over the base and tighten the 3 cover screws.

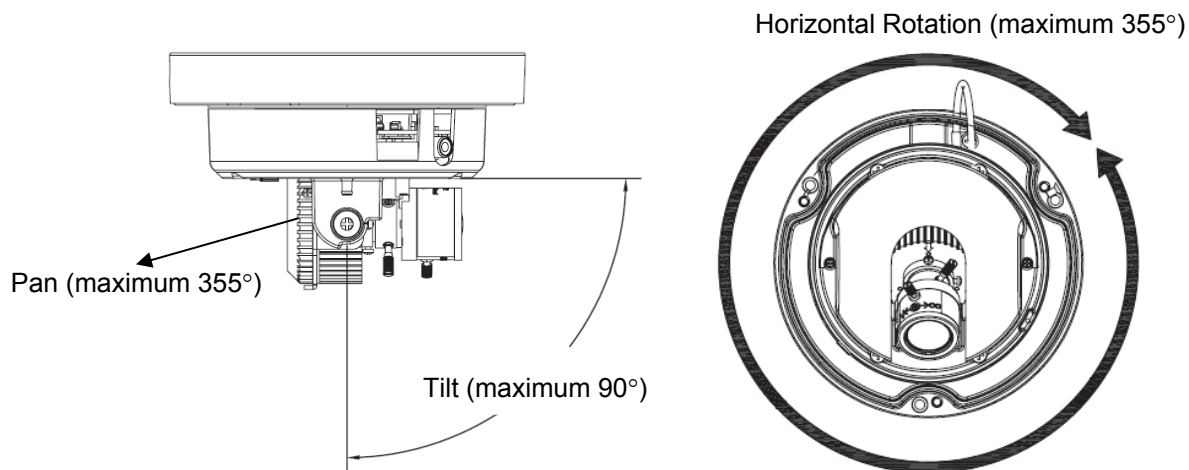


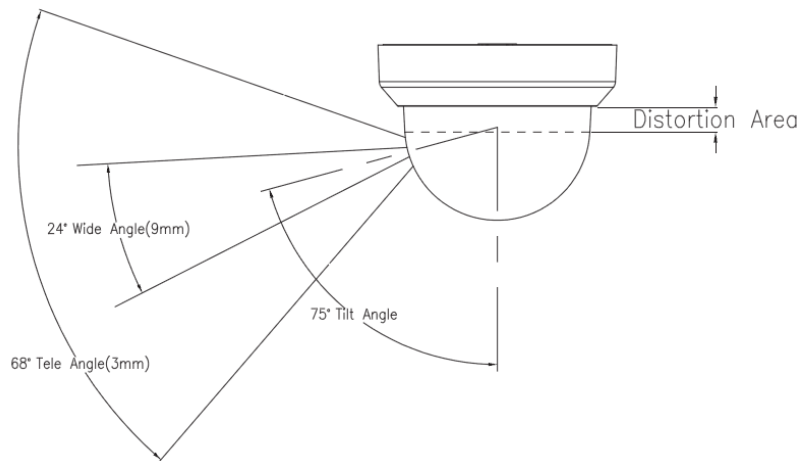
2.2 Adjusting the Camera

Pan adjustment: Rotate the lens base to adjust the horizontal angle.

Tilt adjustment: Tilt the lens base to adjust the vertical angle.

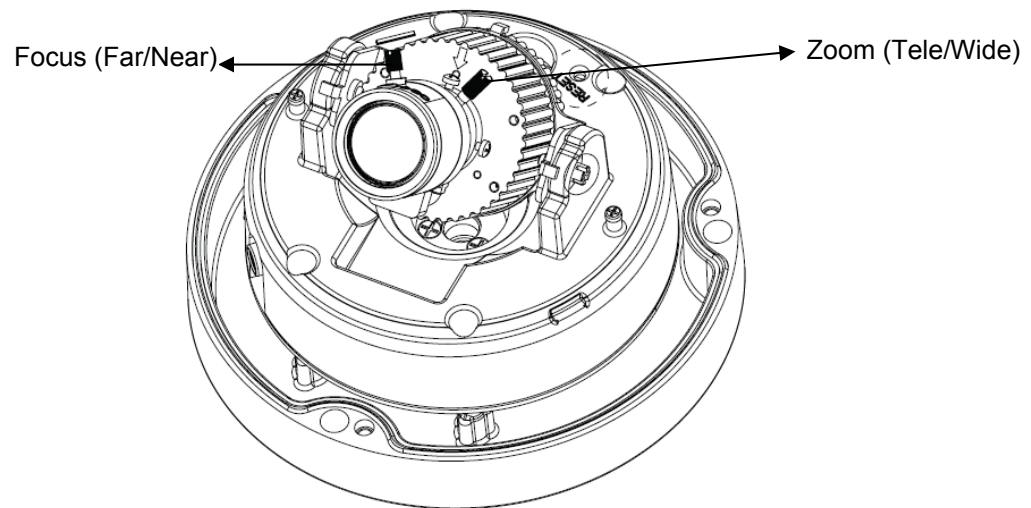
Horizontal rotation: Rotate the dome base to adjust the horizontal position. Do not turn the base more than 355° as this may cause the internal cables to twist and disconnect or break





Note: When the tilt angle is less than 75 degrees there is no distortion.

Lens Adjustment: Loosen the screws and adjust the zoom control for desired image view and adjust the focus for optimum picture sharpness. Re-tighten the screws after focus adjustments are done.



3. Network Connection and Configuration

3.1 Network Connection Types

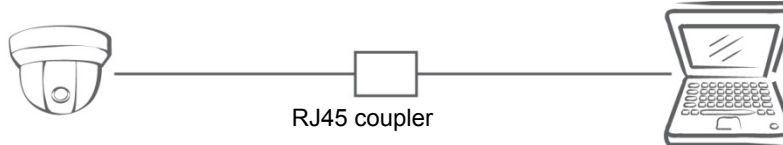
There are many different ways that you can connect the camera to your network, depending on your applications requirements. You should always set the camera's network settings according to your network configurations. The following diagrams depict some typical applications with guidelines on network settings. For more information on network settings, always consult with your network administrator or ISP as required.

Type 1— Direct Connection to a PC

Directly connect the camera to a PC using a standard Ethernet cable.



To extend the connection length, you should use a RJ45 female/female coupler to connect two Ethernet cables together.



Note: The LAN port of the camera supports auto MDI/MDIX (Medium dependent interface crossover) so there is no need to use cross-over cable.

To access the camera, the PC must be on the same network as the camera. The default IP address of the camera is a static one (192.168.1.30). Configure your PC's IP address as 192.168.1. X (where X is a number between 2 to 254, excluding 168 and subnet mask as 255.255.255.0, and then your PC should be able to access the camera.

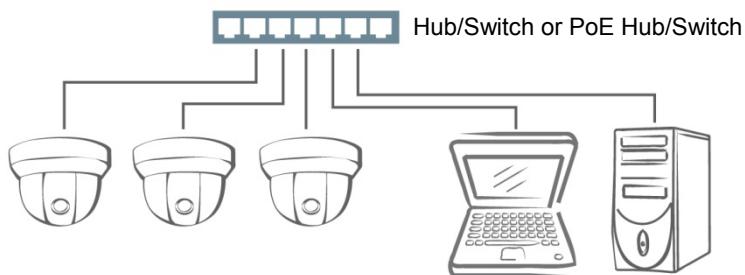
Type 2: Connecting Camera(s) to a Local Area Network (LAN)

To add the camera(s) to an existing LAN, just connect the camera(s) to the hub or switch on your network. If you want to provide the camera power via the Ethernet connection, a PoE-enabled hub/switch is required.

Note: The LAN port of the camera supports auto MDI/MDIX (Medium dependent interface crossover) so there is no need for an uplink port or the use of a cross-over cable.

Assign an IP address to your camera following your network IP allocation policy. You can manually specify the IP address or allocate the IP address automatically using a DHCP server, if available on your network.

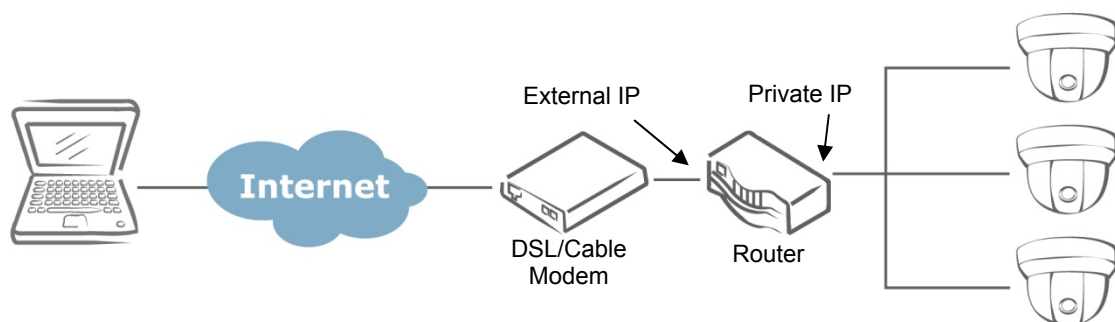
Then, you can monitor and manage the camera via a web browser from a local PC.



Type 3: Remote Connection via the Internet

If the network where the camera resides is connected to the Internet, you can also provide remote access to your camera over the Internet.

Typically a broadband router has a built-in DHCP function to assign a local IP address to your camera. You can alternatively assign a fixed IP address to the camera to prevent it from frequently changing.



To access the camera from a local PC, simply use the local IP address of the camera.

To enable remote access, you must configure your router/firewall to forward an incoming request to that fixed local IP address of the camera. Therefore, when an external host sends a request to access your camera, the request will first reach the router's external IP address and then be forwarded to the local IP address of the camera.

Port forwarding is based on the service you want to provide. For example, forward HTTP port to enable remote web access to your camera, or RTSP port to enable access to video/audio streams from the camera.

If your camera is configured to use a non-standard HTTP port, then you have to forward that port accordingly.

3.2 Accessing the Camera for the First Time

The camera comes with a web-based setup utility, allowing you to view the video of the camera and configure the camera for optimal use in your environment.

To access the camera's web-based control utility, you need a PC that meets the following requirements:

- **Operating System:** Windows Vista® or XP
- **Browser:** Internet Explorer Version 6.0 or later
- **CPU:** Intel Pentium 4.2 GHz or higher
- **RAM:** 512 MB or more

Then take the following steps to connect your PC to the camera.

Step 1: Make the connection

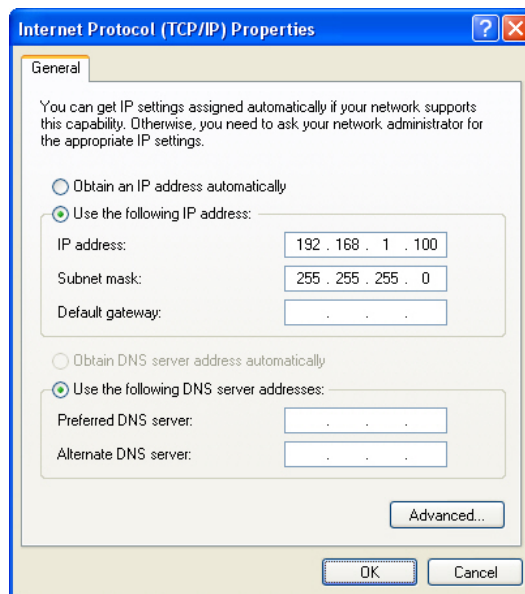
For initial setup purposes, connect one end of an Ethernet cable to the RJ45 connector of the camera and the other end to the LAN port on your PC.

Step 2: Configure your PC's IP address

The camera uses a default IP address of 192.168.1.30 and subnet mask of 255.255.255.0. To have your PC on the same network with the camera, configure your PC's IP settings as below:

- **IP address:** 192.168.1. X, where X is a number between 2 to 254, excluding 30.
- **Subnet mask:** 255.255.255.0.

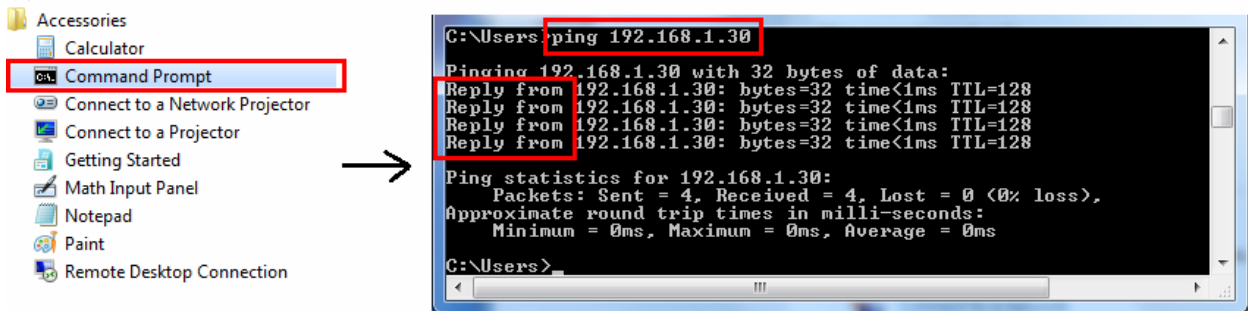
Ignore all other settings and click **OK**.



Step 3: Verify the connection between the PC and the IP Cam

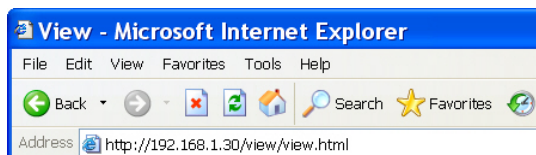
1. Launch the Command Prompt by clicking the **Start** menu, **Programs**, **Accessories** and then **Command Prompt**.
2. At the prompt window, type `ping x.x.x.x`, where x.x.x.x is the IP address of the camera (the default is 192.168.1.30).

If the message of “**Reply from...**” appears, it means the connection is established.



Step 4: Access the camera from IE browser

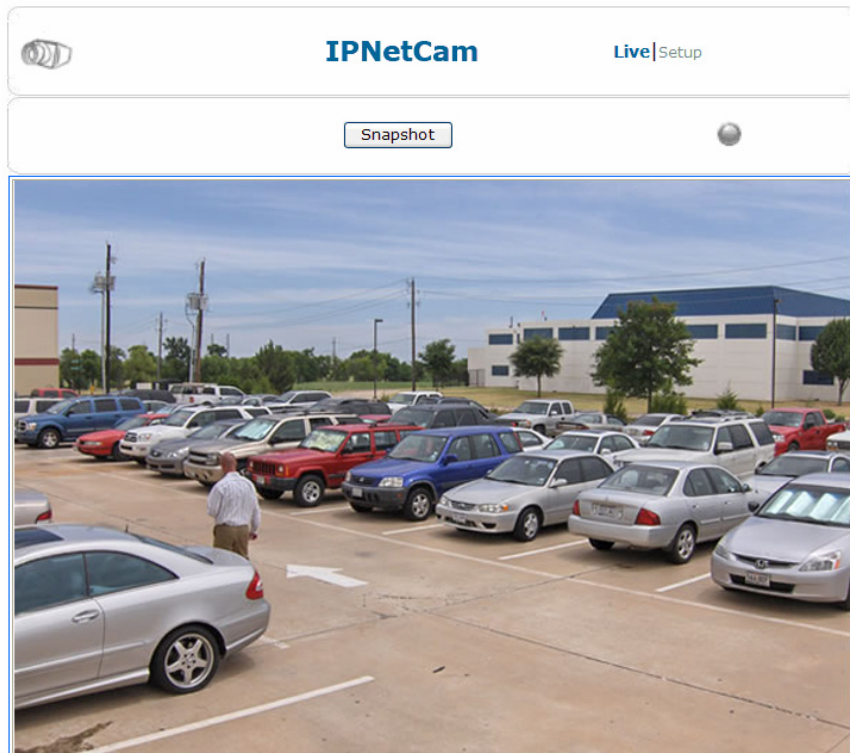
Open the IE browser and enter the IP address of the camera in the URL field. The default is 192.168.1.30.



When prompted to login, enter the user name and the password. (The defaults: admin, 1234). Note that the password is case-sensitive.



Upon successful login, you will see the live view screen shown as the example below:



3.3 Using “IP Finder” to Manage Cameras

IP Finder is a management tool included on the product CD. It is designed to manage your network cameras on the LAN. It can help find multiple network cameras, set IP addresses, show connection status and manage firmware upgrades.

3.3.1 Installing IP Finder

Before proceeding, make sure your operating system is Windows Vista or Windows XP.

To install the software, simply locate and double-click the **IP Finder** setup file on the provided CD. Then follow the on-screen prompts to proceed.

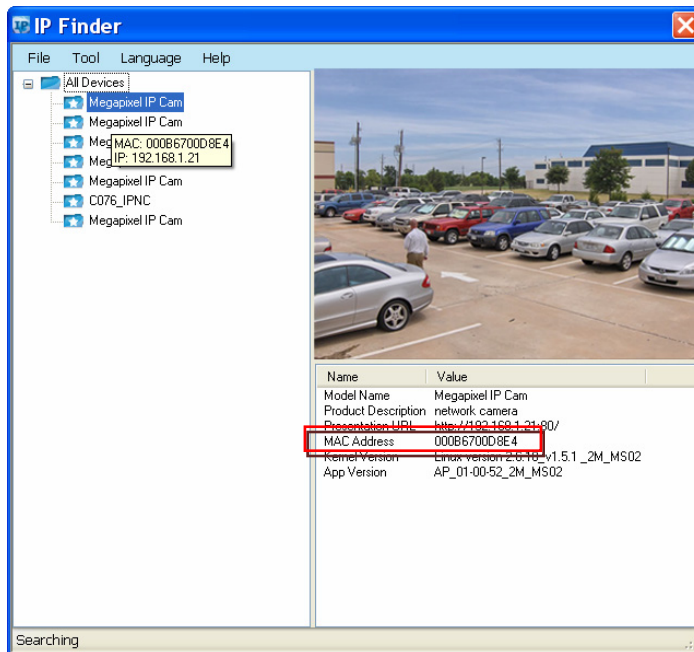
3.3.2 Using IP Finder

To launch IP Finder, double-click the **IP Finder** shortcut on the desktop or click **Start > Programs > IP Finder > IP Finder**.

After you launch **IP Finder**, it will search for all the available cameras on the same network. Click the plus sign next to “**All Devices**” to expand the menu and display all the found cameras.

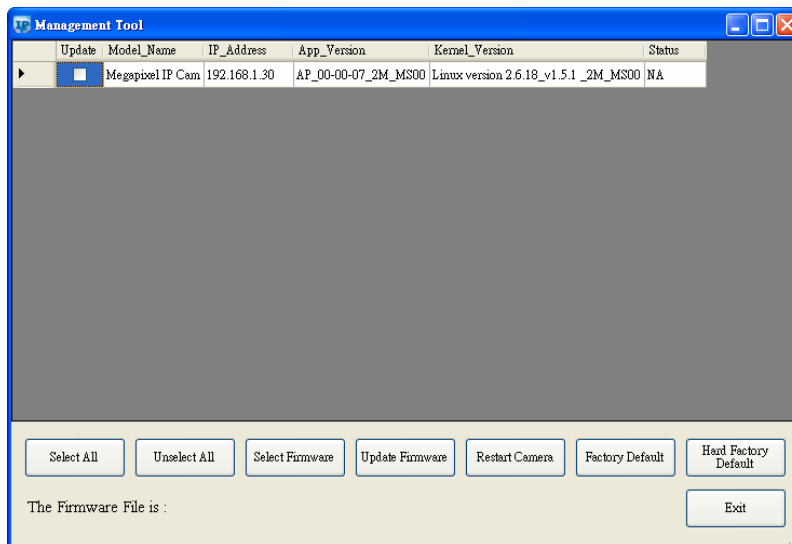
Clicking a target camera will show the live view (if available) and the detailed information of the camera, including the MAC address. Each camera comes with a unique MAC address, which is indicated on the

product label. It helps identify which camera is currently accessed, particularly when multiple cameras are connected on your network.



The **Tool** menu of the **IP Finder** allows you to perform these tasks:

- **Search Network:** This option allows you to search the cameras on the network.
- **Set Master ID and Password:** Allows you to set a master ID and password for managing the cameras with IP Finder.
- **Management Tool:** Allows you to restart the camera, update firmware, reset all of the camera settings to default (except network settings) and reset all of the camera parameters to default.



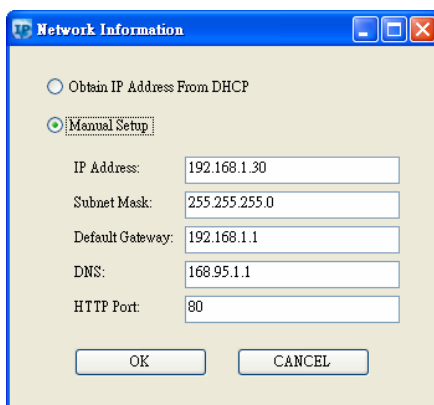
For an individual camera, right-click the camera and a menu will provide these options:

- **Go to Presentation URL:** Launch IE browser to access the web-based utility of the camera.
- **Set Device ID and Password:** Set the login ID and password for managing the camera with IP Finder.



A small dialog box titled "Enter ID and Password" with a blue title bar. It contains two text input fields: "ID:" and "Password:". Below the fields is an "OK" button.

Network Information: Allows you to configure the camera's network settings.



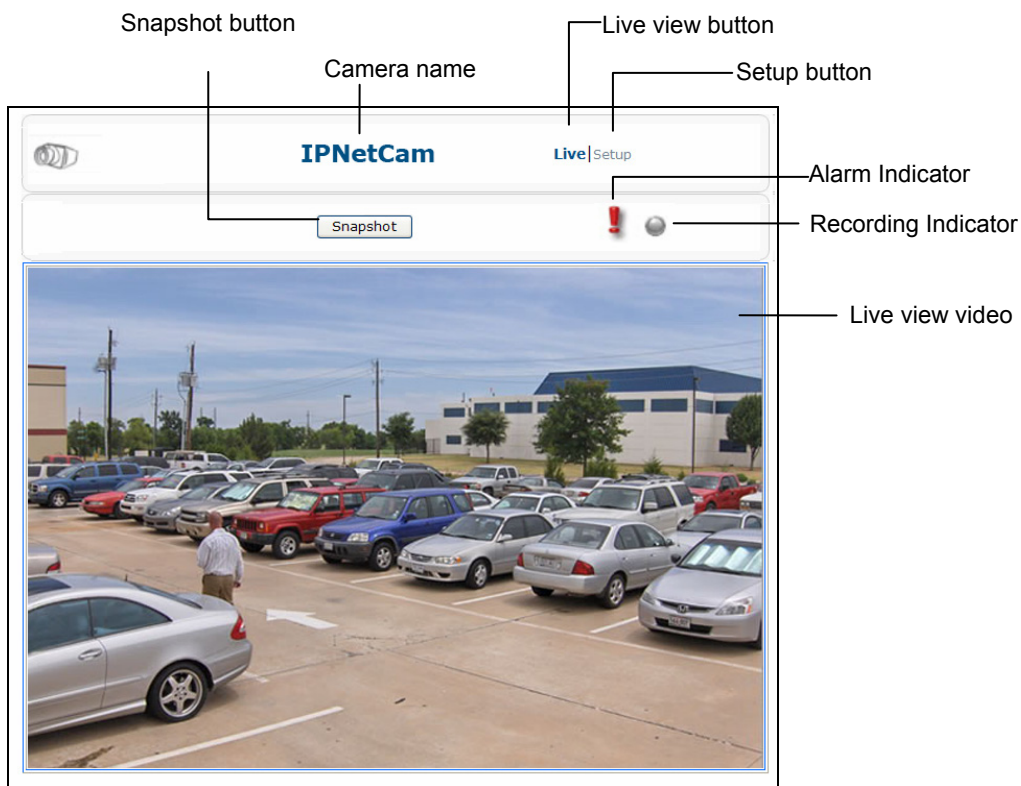
A dialog box titled "Network Information" with a blue title bar. It has two radio buttons: "Obtain IP Address From DHCP" (unselected) and "Manual Setup" (selected). Below the radio buttons are five text input fields: "IP Address:" (192.168.1.30), "Subnet Mask:" (255.255.255.0), "Default Gateway:" (192.168.1.1), "DNS:" (168.95.1.1), and "HTTP Port:" (80). At the bottom are "OK" and "CANCEL" buttons.

4. Using Web-based Control Utility

4.1 Overview

4.1.1 Main Screen

After you login to the camera's web-based control utility, you will first see the live view screen of the camera. The screen is like the picture below:



The live view screen of the utility provides these options:

- **Snapshot:** Pressing this button takes a snapshot of current live view screen.
- **Live:** Pressing this button displays the live view of the camera.
- **Setup:** Pressing this button allows you to access the setup page.
- **Camera name:** Displays the name of the camera.
- **Recording Indicator:** Turns red only when the recording is proceeding.
- **Alarm Indicator:** Appears when an alarm is triggered.
- **Live view video:** Shows the live view of the camera.

Note that the accessibility to the options varies according to the login account.

- **Viewer:** Allowed to view only the live view screen. Access to other options are restricted.
- **Administrator:** Can access all the options on the live view page and make configurations on the setup pages.

4.1.2 Setup Menu

The **Setup** options are categorized into four groups: **Image**, **Network**, **System**, **Event** and **Application**. Clicking the name will expand its sub-menu. See the ensuing sections for more information.

4.1.3 Applying Settings

Each configuration page provides a **Save** button. Settings are applied right after you press the **Save** button. And the browser will refresh to load the latest setting or otherwise pop up the “**Save OK**” message to indicate that settings have been applied.

4.2 Image Settings

4.2.1 Codec

The Codec page allows you to configure the video streams for the camera. You can optionally configure a secondary or third stream to a resolution as required by your third-party device or software.

Basic Setting	
Camera Name:	IPNetCam
Primary Stream:	Codec: H264
	Resolution: 1080P (1920×1080)
	Bit Rate: 8000 kbps (500~8000)
	Frame Rate: 12.5 FPS
Secondary Stream:	Codec: OFF
	Resolution: ...
	Bit Rate: 4000 Kbps (500~4000)
	Frame Rate: 12.5 FPS
Third Stream:	Codec: OFF
	Resolution: ...
Mirror:	OFF
Rate Control:	VBR
TV Out Stream	ON
<input type="button" value="Save"/>	

Camera Name Settings

- Enter a descriptive name of the camera. Note that if you want to make your camera ONVIF compliant (see **Network > Onvif**), no space is allowed for camera name.

Each codec comes with different parameters as described below:

H.264 Codec Settings

- **Resolution:** Choose the resolution for video compression. Choices include 1080P, SXVGA, 720P, XGA, SVGA and D1.
- **Bit Rate:** According to your bandwidth, specify a value for data transmission rate (kbps). Higher value gets higher video quality but consumes more bandwidth.
- **Frame Rate:** Choose the intended frame rate, i.e., the video frame to transmit per second. The higher the frame rate, the higher the quality of recording.

MPEG4 Codec Setting

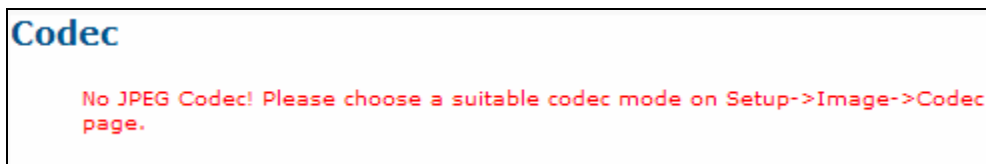
- **Resolution:** Choose resolution size. Choices include 1080P, SXVGA, 720P, XGA, SVGA and D1.
- **Bit Rate:** According to your bandwidth, specify a value for data transmission rate (kbps). Higher value gets higher video quality but consumes more bandwidth.
- **Frame Rate:** Choose the intended frame rate, i.e., the video frame to transmit per second. The higher the frame rate, the higher the quality of recording.

MJPEG Codec Settings

- **Resolution:** Choose the resolution for video. Choices include 1080P, SXVGA, 720P, XGA, SVGA and D1.
- **Quality:** Set the image's quality as High, Normal or Low.
- **Frame Rate:** Choose the intended frame rate, i.e., the video frame to transmit per second. For example, 10 fps means 10 frame transmissions per second.

Notes:

1. Live View uses the MJPEG codec. If no streaming is using MJPEG, it will result in no video for Live View.



2. If MJPEG is selected for both the primary stream and the third stream, Live View will always display video using the third stream codec.

Refer to the table below for selectable codec types for each streaming:

Streaming Combination					
Primary		Secondary		Third	
Codec	Resolution	Codec	Resolution	Codec	Resolution
MJPEG	1080P	OFF	N/A	OFF	N/A
		H264 MPEG4	D1 VGA 2CIF CIF		
	SXVGA 720P XGA SVGA D1	OFF	N/A	OFF	N/A
				MJPEG	VGA CIF
		H264 MPEG4	D1 VGA 2CIF CIF	OFF	N/A
				MJPEG	VGA CIF
H264 MPEG4	1080P	OFF	N/A	OFF	N/A
				MJPEG	VGA CIF
	SXVGA 720P XGA SVGA D1	OFF	N/A	OFF	N/A
				MJPEG	VGA CIF
		H264 MPEG4	D1 VGA 2CIF CIF	OFF	N/A
				MJPEG	VGA CIF

Mirror Settings

This option allows you to mirror or flip the video image if required.

- **OFF:** Turn off this function.
- **HORIZONTAL:** Flips the images horizontally.
- **VERTICAL:** Flips the images vertically.
- **BOTH:** Flips the images vertically and horizontally.

Rate Control

Choose a bit rate control to manage your bandwidth usage.

- **Variable Bit Rate (VBR):** VBR keeps the video stream quality as constant as possible by varying bit rate. This mode ensures high quality image for motion scene and is often selected when image quality demands priority. However, this mode requires more bandwidth in order to vary the bit rate.
- **Constant Bit Rate (CBR):** CBR maintains a specific and constant bit rate by varying the steam quality. With CBR, streaming is smooth and network throughput is stable for any scene. This mode is typically used with a limited bandwidth environment.

TV Output Stream

Turn on this option if you connect an analogue monitor to the camera's **Video Out** or **BNC** connector for video output.

4.2.2 Exposure

The **Exposure** page allows you to configure the **Exposure Mode** and **Backlight Compensation** settings according to the light conditions of the camera.

Exposure Mode

The screenshot displays the 'Exposure Mode' configuration window. It features a tabbed interface with 'Auto Exposure' selected. The 'Auto Exposure' section includes dropdown menus for 'Method' (set to 'Center weighted'), 'EV' (set to '0'), 'Max Exposure' (set to '1/3.125'), 'Min Exposure' (set to 'Unlimited'), 'Sensitivity' (set to '10'), and 'Max. Gain' (set to 'Default'). The 'Manual Exposure' section is currently inactive and shows 'Exposure Time' as '1/30.00 Sec' and 'Gain' as '0'.

Auto Exposure Settings

- **Method:** Select which area of the image will be used to measure the amount of light to achieve best exposure.
 - **Center Weighted:** Exposure metering is averaged over the entire frame but emphasis is placed on the central area.
 - **Object Targeted:** This option meters the exposure based on the targets you specify. When this option is selected, define your target by clicking squares displayed on the image and then press **Save Spot Window** to save the setting.
- **EV:** In a scene with predominantly light or dark areas, the image will be underexposed or overexposed, causing an image to be too dark or bright. In such situations, you can adjust a compensation value to optimize the exposure. Decrease the value if images appear too light (overexposed). Increase the value if images are too dark (underexposed).
- **Max/Min. Exp:** Select the maximum / minimum exposure time according to the light source.

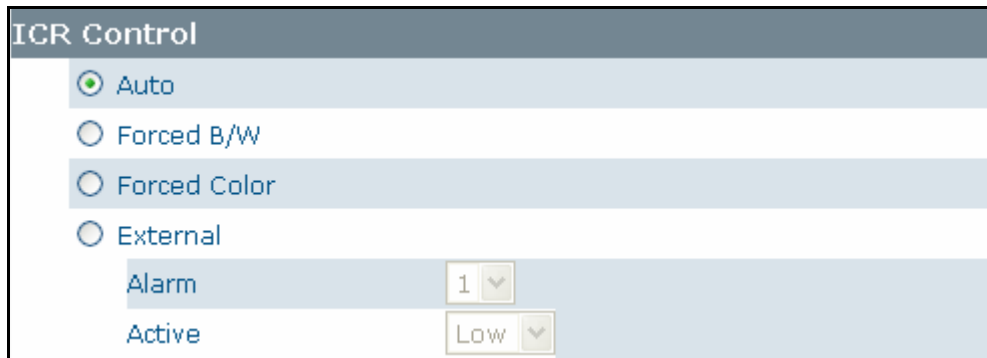
Note: The selectable value varies according to the frequency setting under **Image > Basic Settings**.

- **Sensitivity:** Select how sensitive the camera reacts to the light. A higher value enables the camera to be more sensitive to the light conditions and adjust exposure in the shortest time interval.
- **Max Gain:** Specify the maximum amount of amplification applied to the image. A high level of gain allows images to be viewable in very low light, but will increase image noise.

Manual Exposure Settings

- **Exposure Time:** Enter a desired exposure time.
- **Gain:** Select a gain value from 0 to 16. A high level of gain allows images to be viewable in very low light, but will increase image noise.

ICR Control



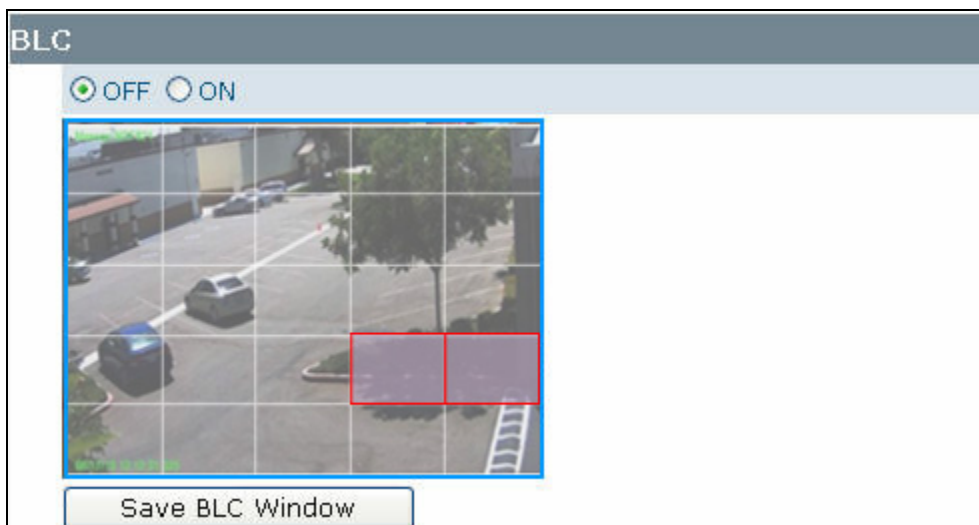
The ICR Control window has a title bar 'ICR Control'. It contains four radio button options: 'Auto' (selected), 'Forced B/W', 'Forced Color', and 'External'. Below the 'External' option, there are two dropdown menus: 'Alarm' with the value '1' and 'Active' with the value 'Low'.

The camera incorporates an IR cut filter. In **ICR Control** you can specify how the camera switches between color and black/white modes.

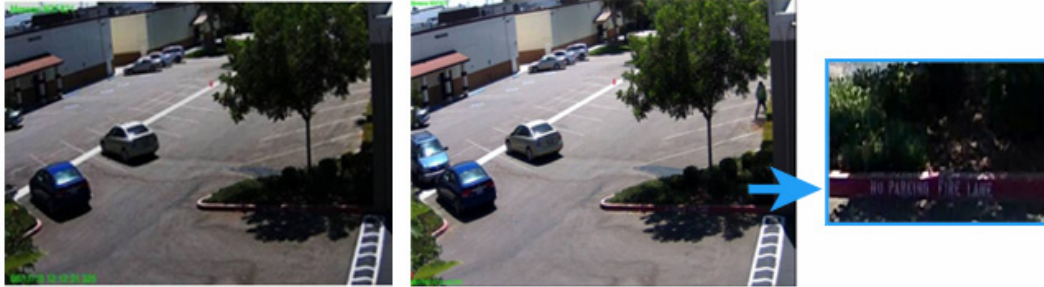
- **Auto:** Allows the camera to automatically switch between color and black/white modes.
- **Forced B/W:** Forces the camera stay in black/white mode at all times.
- **Forced Color:** Forces the camera stay in color mode at all times.
- **External:** Enable this option if an external alarm input device is connected to control the IR cut filter.
 - **Alarm:** Set alarm input as 1 or 2 according your actual connection.
 - **Active:** Select (electricity) current status as high or low to define active status.

BLC (Backlight Compensation)

The **Backlight Compensation** function allows you to provide optimal exposure of subjects under back light circumstances.

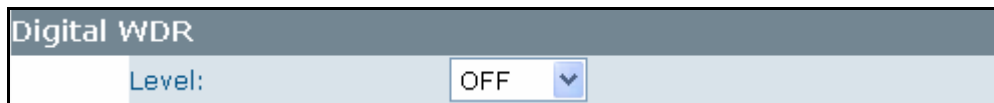


The BLC window has a title bar 'BLC'. It contains two radio button options: 'OFF' (selected) and 'ON'. Below the options is a video feed showing a parking lot with several cars. A red rectangular box is drawn over a portion of the video feed, indicating the area of interest for BLC. At the bottom of the window is a button labeled 'Save BLC Window'.



- **OFF/ON:** Choose to enable or disable the BLC function.
- **BLC area setting:** BLC area refers to the dark area where more details are expected. Define your BLC area by clicking squares displayed on the screen and then press **Save BLC Window** to save the setting.

Digital Wide Dynamic Range




When there are both very bright and very dark areas simultaneously in the field of view, you can enable Digital Wide Dynamic Range (WDR) function. It optimizes an image to ensure that dark areas are more visible while retaining details in bright areas.

- **Level:** Depending on the contrast/dynamic range of a scene, you can select different level of WDR. Higher level of WDR suits for higher contrast/dynamic scene. If you select **Auto** mode, the camera will automatically adjust the WDR level by itself depending on the scene.

4.2.3 White Balance

Select a white balance mode according to external light condition for the best color temperature. Please click the “Save” button to save your image settings.

White Balance



White Balance Mode

☒ Auto White Balance

Sensitivity ▼

☐ Manual White Balance

R Gain (0.4~4.0)

G Gain (0.4~4.0)

B Gain (0.4~4.0)


Select a white balance mode according to your light condition.

- **Auto White Balance:** Use this option when there is no special lighting in the environment. The camera will automatically adjust the color temperature according to the light conditions and the sensitivity you specify. The higher the sensitivity, the faster the adjustment. If the lighting conditions change frequently, select a lower sensitivity to prevent the camera from frequently changing white balance.
- **Manual White Balance:** With special light in the environment, you can use this option to manually adjust the red, green and blue channels, which are mostly affected by special light. For example, if red color is too bright, then you should lower the R Gain value.

4.2.4 Basic Settings

This page allows you to specify a frequency and adjust the basic image settings to optimize your video image.

Basic Settings



Basic Setting	
Frequency	<input checked="" type="radio"/> 50 Hz <input type="radio"/> 60Hz
TV System	<input type="radio"/> NTSC <input checked="" type="radio"/> PAL
Brightness	<input type="button" value="<"/> 128 <input type="button" value=">"/> (0-255)
Contrast	<input type="button" value="<"/> 128 <input type="button" value=">"/> (0-255)
Saturation	<input type="button" value="<"/> 128 <input type="button" value=">"/> (0-255)
Sharpness	<input type="button" value="<"/> 128 <input type="button" value=">"/> (0-255)
<input type="button" value="Default All Image Parameters."/>	
<input type="button" value="Save"/>	

- **Frequency:** Select an appropriate frequency to reduce the flicker on the image. “50 Hz” and “60 Hz” are provided

Note: Frequencies settings will affect the **Max. Exposure** and **Min. Exposure** settings under **Image > Exposure**.


- **TV System** Displays current video standard: NTSC or PAL. This setting cannot be changed via web interface. You can only switch the video standard using the hardware switch.
- **Brightness:** Adjust the image brightness level.
- **Contrast:** Adjust the image contrast level.
- **Saturation:** Adjust the image saturation level.
- **Sharpness:** Adjust the image sharpness level.
- **Default All Image parameters:** Pressing this button will restore all the image settings to the defaults.

4.2.5 Smart Encoding

On the **Smart Encoding** page you can specify a specific region of the video as more important, i.e., a region of interest (ROI). When a ROI is specified, the camera will assign a higher number of bits to the ROI area to deliver better video quality than non-ROI areas.

Note: The Smart Encoding function is only available when H.264 is selected for one of the streams.

Smart Encoding



(39%, 39%)

Save Window

Basic Setting

Smart Encoding	Mode	Fixed ROI ▼
	Priority	Level1 ▼

Save

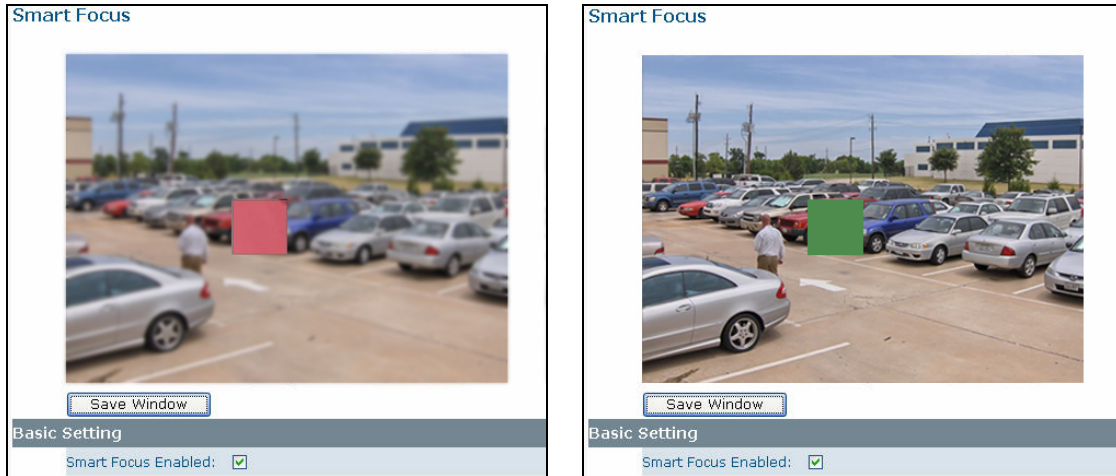
Basic Settings

To define a smart encoding area, click and drag your mouse on the image to define the region of interest and click **Save Window** to save the region. To cancel an area, click anywhere on the image.

- **Mode:** Select **Fixed ROI** if you want to enable smart encoding function.
- **Priority:** Select a priority level for the ROI.

4.2.6 Smart Focus

In addition to observe the live view image to see if focus is achieved, you can also enable **Smart Focus** to help you verify if focus is locked. If this function is enabled, whenever focus is achieved, the focus window turns green.



Basic Settings

To focus on a desired subject using the Smart Focus function:

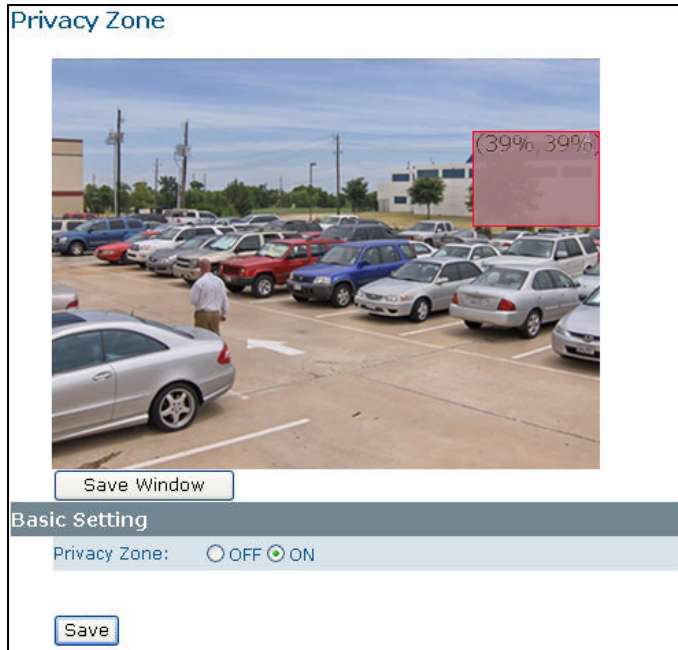
1. Click on the subject that you want to focus on and then click **Save Window**.
2. Check the **Smart Focus Enabled** box. This will turn the smart focus indicator to red.
3. Use the focal length and focus controls to optimize the focus. When focus is achieved, the indicator turns green.

4.2.7 Privacy Zone

Privacy Zone feature allows you to mask sensitive areas of the image for privacy protection. If enabled, it will mask the live view and the recorded video clips/JPEG files.

To turn on the privacy zone function:

1. Click and drag your mouse on the image to define the region to be masked and then click **Save Window**.
2. Select **ON** to turn on the **Privacy Zone** function. This will turn the masked area to black.

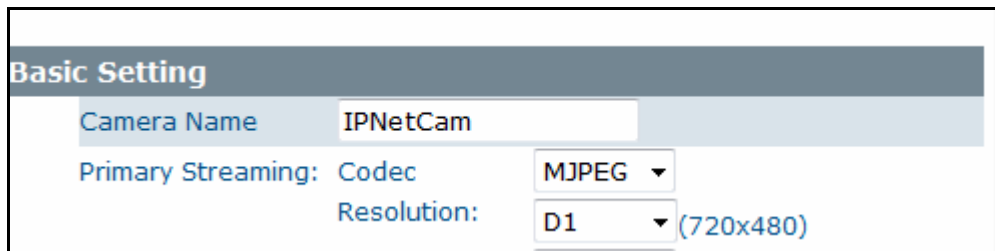


4.2.8 ePTZ

Using the ePTZ function, you can use the pan, tilt and zoom controls to steer the camera to a desired position and focus on desired close-up areas, without moving the camera physically.

To use the ePTZ function:

1. On the **Image > Codec** page, make sure one of the streams are configured to use **MJPEG** codec and **D1** resolution.



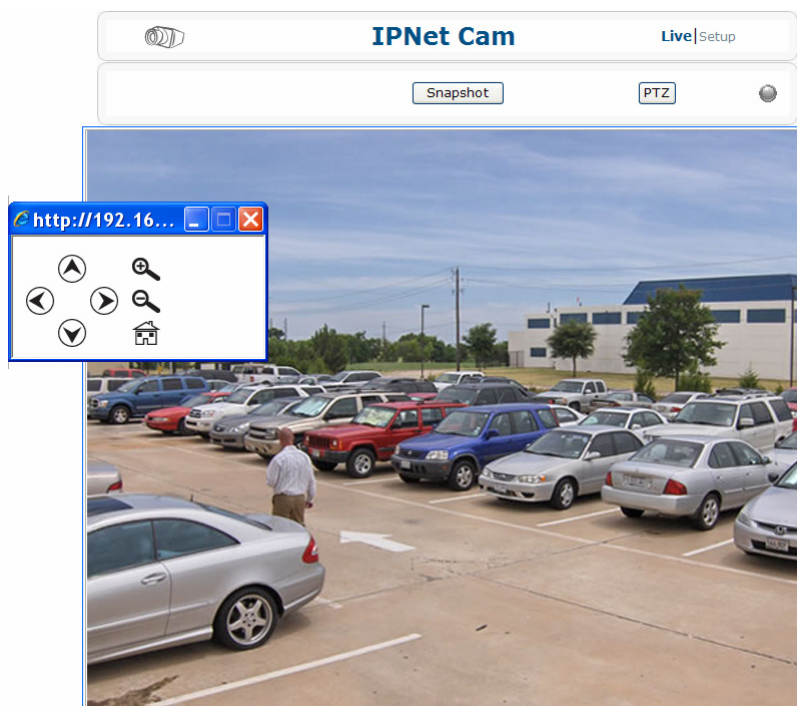
Basic Setting

Camera Name: IPNetCam

Primary Streaming: Codec: MJPEG

Resolution: D1 (720x480)

2. On the main screen, a **PTZ** button will appear. After you click the **ePTZ** button, an ePTZ control panel will appear where you can click the corresponding indicators to perform desired operations:
 - **To zoom in/out:** Click the +/- indicator repeatedly to zoom in/out the live view image.
 - **To pan left/right:** Click the left/right indicator to pan the viewing area. The pan function does not work if the video is not zoomed-in (no zoom status).
 - **To tilt up/down:** Click the up/down indicator to tilt the viewing area. The tilt function does not work if the video is not zoomed-in (no zoom status).
 - **To preset to home:** Click the home indicator and the image will return to the original view.



4.3 Network

4.3.1 Basic

The screenshot shows a web interface titled 'Basic' with a sub-header 'Basic Setting'. It contains several configuration fields: a checkbox for 'DHCP' which is unchecked; 'IP Address' set to '192.168.1.30'; 'Subnet Mask' set to '255.255.255.0'; 'Default Gateway' set to '192.168.1.1'; 'DNS' set to '168.95.1.1'; 'HTTP Port' set to '80' with a range '[80, 1025~65535]' indicated; and 'MAC' set to '00:0b:67:00:d9:e5'. A 'Save' button is located at the bottom left of the form.

- **DHCP:** If there is a DHCP server on the network and you enable this option, the server will automatically assign an IP address and related information to the camera.

Note: If there is no DHCP server on your network or you prefer to manually assign an IP address to your camera, leave this checkbox blank.

- **IP Address & Subnet Mask:** If DHCP function is not enabled, you have to assign an IP address with the subnet mask to the camera.
- **Default Gateway:** Enter the IP address of the gateway if required. Please contact your network administrator whether you need to set up the gateway.
- **DNS:** Enter the IP address of a DNS server. If you enter a domain name instead of an IP address in server-related fields, e.g., FTP, SMTP or NTP server, then the camera will need a DNS server to translate domain names into an IP address that is actually used for communication on the Internet.
- **HTTP Port:** Use the standard HTTP port number 80 or alternatively specify another port number between 1025 and 65535.

If you choose to use a non-standard port, and your camera on the LAN is to be accessible from the Internet, then you must configure your router/firewall to forward incoming HTTP request to that specified port (via NAT/port forwarding settings).

- **MAC:** Display the MAC address of the camera. Each camera comes with a unique MAC address, which is indicated on the product label. It helps you to identify which camera is currently accessed, particularly when multiple cameras are connected on your network.

4.3.2 FTP

To allow the camera to upload recorded video clip/JPEG files to a FTP server, you have to specify a FTP server and configure related settings.

FTP	
Basic Setting	
FTP Server IP:	192.168.1.1
FTP Server Port:	21 [20,21,1024~ 65535]
User Name:	
Password:	
File Upload Path:	default_folder
<input type="button" value="Save"/>	

- **FTP Server IP:** Enter the IP address of your FTP server.
- **FTP Server Port:** Enter the port number of the FTP server.
- **User Name:** Enter the user name to logon to the FTP server.
- **Password:** Enter the password to logon to the FTP server.
- **File Upload Path:** Specify the folder which has been created under FTP server root directory.

4.3.3 SMTP

To allow the camera to send you email notification on alarm when an event is triggered, you need to specify a SMTP server to send the e-mail.

SMTP	
Basic Setting	
<input type="checkbox"/> My Server Requires Authorization.	
SMTP Server IP:	192.168.1.1
User Name:	
Password:	
Sender:	
Receiver:	
<input type="button" value="Save"/>	

- **My Server Requires Authorization:** If your SMTP server requires authorization to send e-mail, enable this option.
- **SMTP Server IP:** Enter the IP address of your SMTP server.
- **User Name:** Enter the user name to logon to the SMTP server.
- **Password:** Enter the password to logon to the SMTP server.
- **Sender:** Enter the e-mail address to be shown as the sender of the notification e-mail.
- **Receiver:** Enter the e-mail address to which the notification e-mail is sent.

4.3.4 NTP

If you want your camera to synchronize its time clock with a NTP (Network Time Protocol) sever, configure the NTP server settings here.

NTP

Basic Setting

NTP Server:	<input type="text" value="tw.pool.ntp.org"/>
Time Zone:	<input type="text" value="GMT+08 Taipei, Beijing, Hong Kong"/>
<input type="checkbox"/> Automatically Adjust for Daylight Saving Time Changes.	
<input type="button" value="Save"/>	

- **NTP Server:** Enter the IP address or domain name of the NTP server you want to use.
- **Time Zone:** Select a time zone in which the camera is located.
- **Automatically Adjust for Daylight Saving Time Changes:** Check this check box if you want the camera to adjust the daylight saving time automatically.

4.3.5 RTSP

RTSP is a standard for connecting a client to establish and control streaming data over the web. If you want to allow third-party devices or software to access video/audio streams from the IP camera over the network, you must configure the RTSP ports. You can provide five streams according to the specific codec mode with different RTSP port.

RTSP

RTSP Port Setting

Stream 1:	<input type="text" value="8555"/>	MJPEG/Primary
Stream 2:	<input type="text" value="554"/>	MPEG4/Primary
Stream 3:	<input type="text" value="8554"/>	MPEG4/Secondary
Stream 4:	<input type="text" value="8558"/>	MJPEG/Third
Stream 5:	<input type="text" value="8556"/>	H.264/Secondary
Stream 6:	<input type="text" value="8557"/>	H.264/Primary
Port Value Range:(554~65535)		
<input type="button" value="Save"/>		

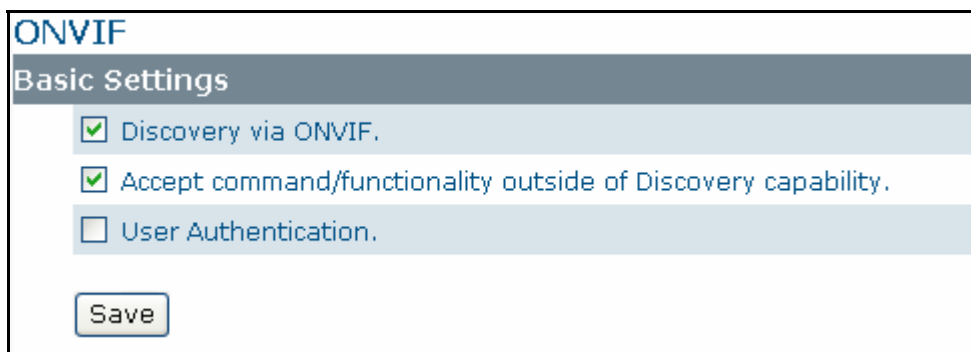
To use a RTSP player to access the camera's streams, you have to use correct RTSP URL to request the streams. Refer to the table below for RTSP URLs:

MJPEG Primary	rtsp://192.168.1.30:8555/mjpeg
MJPEG Third	rtsp://192.168.1.30:8558/mjpeg
H.264 Primary	rtsp://192.168.1.30:8557/h264
H.264 Secondary	rtsp://192.168.1.30:8556/h264
MPEG4 Primary	rtsp://192.168.1.30:554/mpeg4
MPEG4 Secondary	rtsp://192.168.1.30:8554/mpeg4

*Replace the IP address and the port number with your camera's settings if otherwise configured.

4.3.6 ONVIF

ONVIF is a standard that ensures interoperability between IP-based physical security products regardless of manufacturer. This camera is ONVIF compliant and you can configure whether the camera can be found by other ONVIF compliant products and the related settings.



ONVIF

Basic Settings

- ☒ Discovery via ONVIF.
- ☒ Accept command/functionality outside of Discovery capability.
- ☐ User Authentication.

Save

- **Discovery via ONVIF:** Check this option if you want the camera to be discovered by other ONVIF compliant devices in a network, e.g., an ONVIF compliant NVR.
- **Accept command/functionality outside of Discovery capability:** If checked, the camera is allowed to accept commands from ONVIF compliant device thus changing the camera's functionality.
- **User Authentication:** If an ONVIF compliant device needs authentication for communication, then you should enable this option.

4.4 System

4.4.1 Date and Time

Date & Time

Current Time

Date: 2011-3-10 Time: 08:57:49

New Time

☐ Set Manually

Date: 2011-3-23

Time: 21:4:9

☐ Synchronize with Computer Timer

Date: 2011-3-23 Time: 21:05:28

☐ Synchronize with NTP Server

NTP Server: tw.pool.ntp.org

Time Zone: GMT+08 Taipei, Beijing, Hong Kong

Date Format: YYYY/MM/DD

Save

Current Time

Displays the current date and time of the camera. Date and time will update after you configure new settings in the **New Time** section and click **Save** to apply the settings.

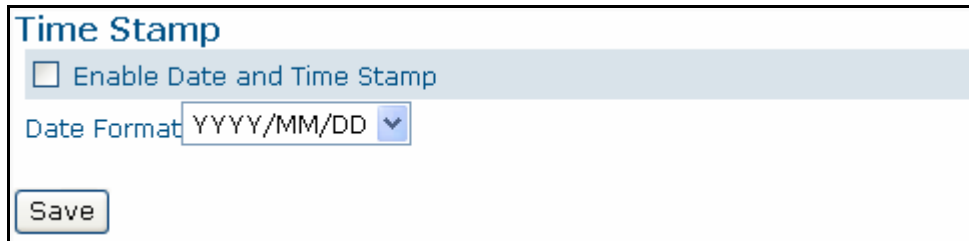
New Time

You can set the camera time by one of the following methods:

- **Set Manually:** Manually enter your camera's date and time settings in the given fields.
- **Synchronize with Computer Timer:** Use this option to synchronize your camera's date and time with the computer timer.
- **Synchronize with NTP Server:** Use this option to synchronize your camera's date and time with an NTP (Network Time Protocol) server, which is configured under **Network > NTP**.
- **Date format:** Allows you specify a desired date format.

4.4.2 Time Stamp

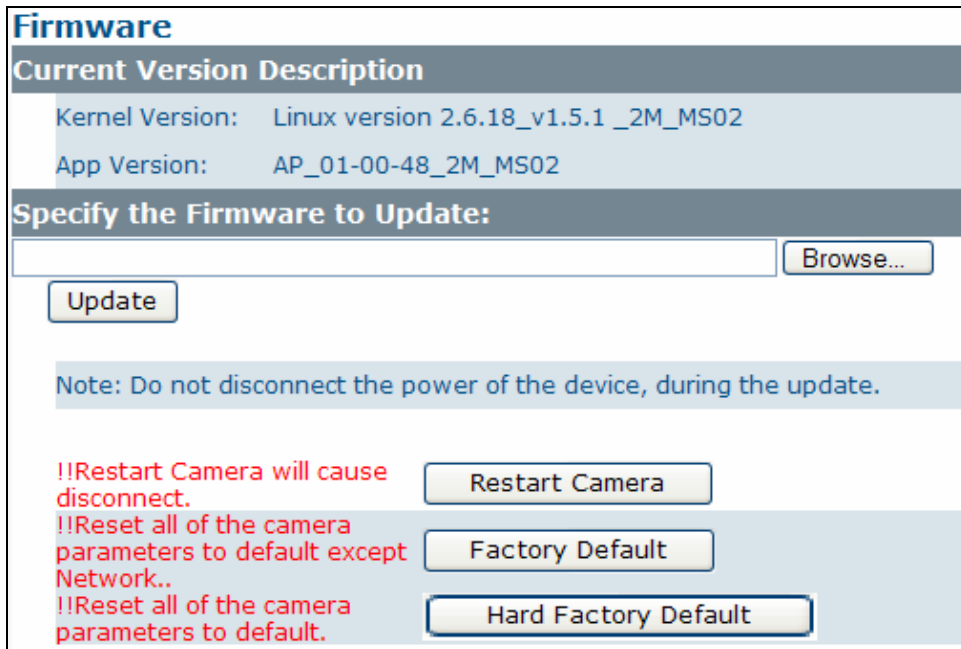
The **Time Stamp** function allows you to overlay the time stamp on video. If you enable the Time Stamp function, the recorded video will also be added with time stamp.



The screenshot shows a web interface titled "Time Stamp". It contains a checkbox labeled "Enable Date and Time Stamp". Below the checkbox is a "Date Format" dropdown menu currently set to "YYYY/MM/DD". At the bottom of the form is a "Save" button.

- **Enable Date and Time Stamp:** Check this box to enable or disable the date and time stamp on images/video clips.
- **Date Format:** Select the desired date format for the time stamp.

4.4.3 Firmware



The screenshot shows a web interface titled "Firmware". It has a section "Current Version Description" with two lines: "Kernel Version: Linux version 2.6.18_v1.5.1 _2M_MS02" and "App Version: AP_01-00-48_2M_MS02". Below this is a section "Specify the Firmware to Update:" with a text input field and a "Browse..." button. There is an "Update" button. A note states: "Note: Do not disconnect the power of the device, during the update." At the bottom, there are three buttons: "Restart Camera", "Factory Default", and "Hard Factory Default". To the left of these buttons are three lines of red text: "!!Restart Camera will cause disconnect.", "!!Reset all of the camera parameters to default except Network..", and "!!Reset all of the camera parameters to default."

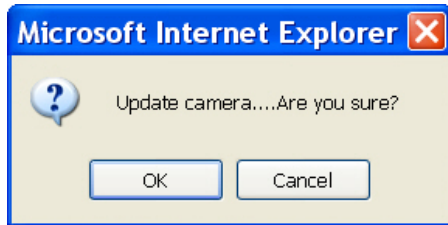
Current Version Description: Displays current version of the firmware.

Specify the firmware to update: This function is designed to update the firmware of the camera. To perform the firmware upgrade, follow these parameters:

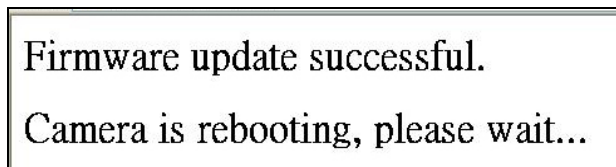
- Keep the network connected during the update process.
- DO NOT turn off or restart the camera during the firmware update process.

To upgrade the firmware:

1. Click the **Browse** button to locate the firmware file.
2. Click the “**Load Firmware to Camera**” button to start upgrade.
3. When prompted, click **OK** to proceed.



4. Wait about 20~60 seconds until the file is successfully updated. Once update is completed, the browser will show a message reads “Firmware update success”. Then it will take 60 seconds to restart the camera.



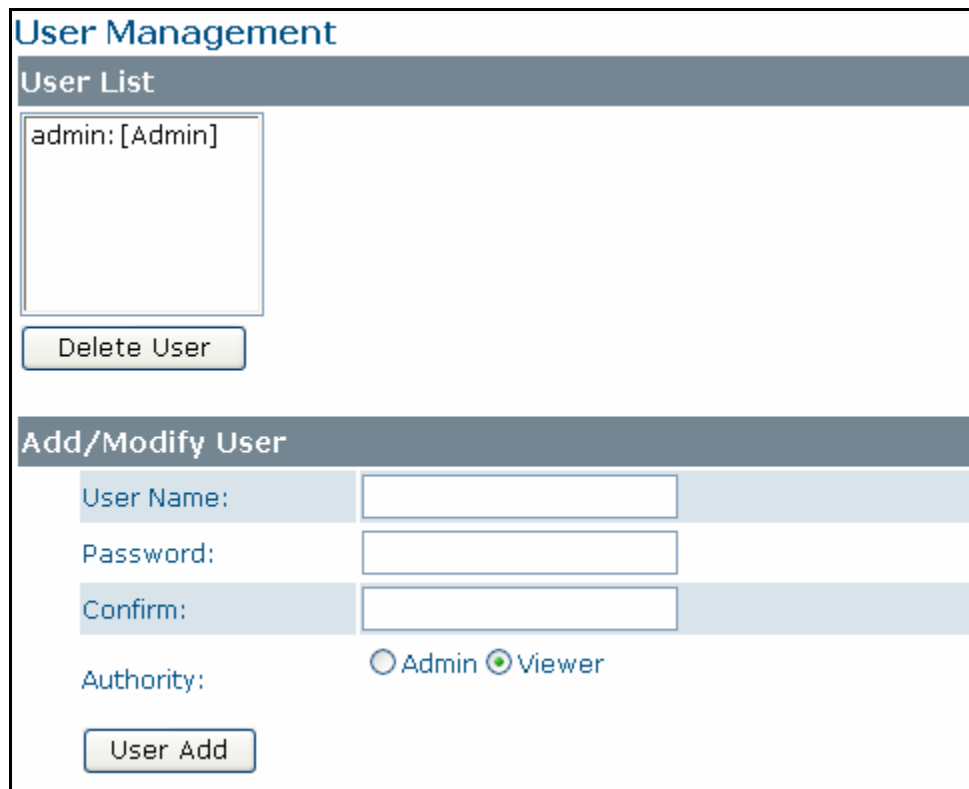
5. The utility will automatically go back to live view screen after firmware has been updated successfully.

You can also perform these tasks on the **Firmware** page:

- **Restart camera:** Restart your camera. This will cause all streams to disconnect.
- **Factory Default:** Reset all of the camera settings to the defaults, except network settings. After you confirm to reset, the camera will reset and restart automatically. When complete, you will return to the live view page.
- **Hardware Factory Default:** Reset all of the camera parameters to the defaults, including the network settings.

4.4.4 User Management

The **User Management** page allows you to manage user accounts and access privileges.



The screenshot displays the 'User Management' interface. At the top, there is a header 'User Management'. Below it, a section titled 'User List' contains a table with one entry: 'admin: [Admin]'. Below the table is a 'Delete User' button. The second section is titled 'Add/Modify User' and contains four input fields: 'User Name:', 'Password:', 'Confirm:', and 'Authority:'. The 'Authority:' field has two radio buttons: 'Admin' and 'Viewer', with 'Viewer' selected. At the bottom of this section is a 'User Add' button.

User List

Displays the list of current user accounts of the camera. To delete a user account, select it from the list and then click the **Delete User** button.

Add/Modify User

You can add a new user or modify current user's account or authority.

- To add a new user, enter the user name and password and specify the authority. Then click **User Add** to add a user.
- To modify password of existing user, enter the user name and modify the password.
- Two roles can be specified:
 - **Admin (Administrator):** Can access all camera functions, pages and make configurations.
 - **Viewer (Guest):** Can only access the live view page and take snapshot.

4.4.5 Language

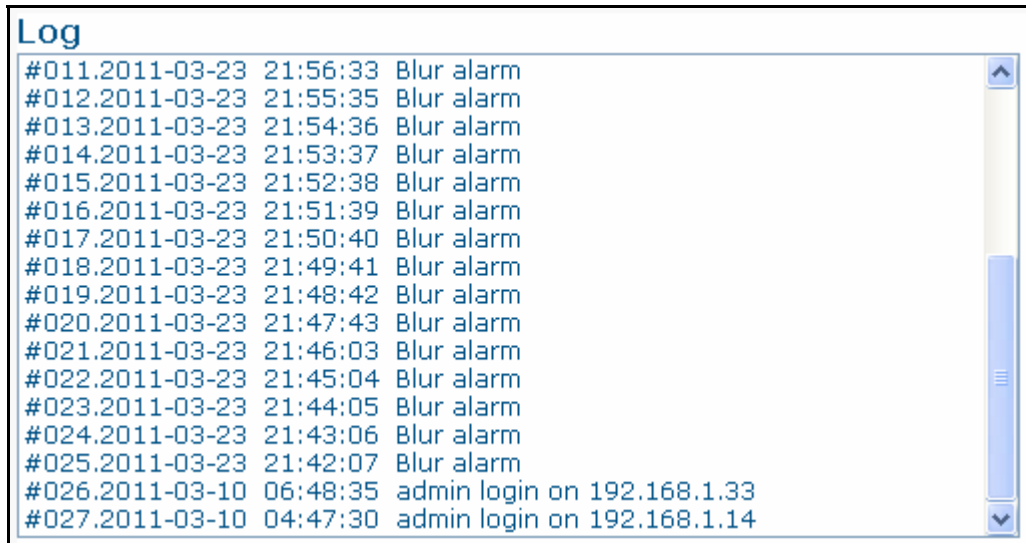
The **Language** drop-menu allows you to change the language of the web interface. Supported languages include English, Spanish, Italian, Simplified Chinese and Traditional Chinese. After you click **Save**, the settings is applied and the browser will refresh to reflect the change.



The screenshot shows a web interface titled "Language" with a sub-header "Basic Setting". Below the header, there is a label "Language" followed by a dropdown menu currently set to "English". At the bottom of the form is a "Save" button.

4.4.6 Log

This page displays information about the camera's operations and activities, including all the login and alarm records.



The screenshot shows a web interface titled "Log" displaying a list of system events. The events are listed in a table with three columns: ID, Date/Time, and Description. The list includes multiple "Blur alarm" entries and two "admin login" entries.

ID	Date/Time	Description
#011	2011-03-23 21:56:33	Blur alarm
#012	2011-03-23 21:55:35	Blur alarm
#013	2011-03-23 21:54:36	Blur alarm
#014	2011-03-23 21:53:37	Blur alarm
#015	2011-03-23 21:52:38	Blur alarm
#016	2011-03-23 21:51:39	Blur alarm
#017	2011-03-23 21:50:40	Blur alarm
#018	2011-03-23 21:49:41	Blur alarm
#019	2011-03-23 21:48:42	Blur alarm
#020	2011-03-23 21:47:43	Blur alarm
#021	2011-03-23 21:46:03	Blur alarm
#022	2011-03-23 21:45:04	Blur alarm
#023	2011-03-23 21:44:05	Blur alarm
#024	2011-03-23 21:43:06	Blur alarm
#025	2011-03-23 21:42:07	Blur alarm
#026	2011-03-10 06:48:35	admin login on 192.168.1.33
#027	2011-03-10 04:47:30	admin login on 192.168.1.14

4.4.7 Audio

Audio

Audio Receiving ☒ OFF ☐ ON

Audio Playing ☒ OFF ☐ ON

Audio Volume (1~4)

Note:

- 1.Audio receiving means a PC or other devices may receive the audio transmitted from Camera through audio input jack.
- 2.Audio playing means Camera may play the audio or soundtrack transmitted from a PC or other devices through the audio output jack.
- 3.Camera may play the default siren sound once an alarm is triggered.
- 4.Each audio function is only activated in Live view mode.

- **Audio Receiving:** If a microphone is connected to the camera, you can select **Enable** to allow the camera to record the audio and transmit to your PC. This enables you to hear the people around the camera.
- **Audio Playing:** If a speaker is connected to the camera, you can select **Enable** to allow the camera to play the audio transmitted from your PC. This enables you to talk to people around the camera.
- **Audio Volume:** Allows you to adjust both the audio playing and recording volume of the camera.

Using the two-way audio function

Note that the two-way audio function is **only active in the live view page** using the web browser. To use the two-way audio function:

1. Make sure a speaker is connected to the **Audio Out** and a microphone is connected **Audio In** connectors of the camera.
2. Enter **System > Audio** and enable the **Audio Receiving** and **Audio Playing** functions. Then adjust the audio volume.

To access the two-way audio streams:

1. Make sure your computer is connected to a microphone and speaker. Enter the **live view page** of the web-based utility.
2. Speak into your microphone and the people around the camera should hear your sound.
3. When people around the camera are talking to you, you should hear them from the speaker that is connected to your computer.

4.5 Event

When an event occurs, it triggers an alarm and the camera will take a pre-defined action, e.g., sending a recorded video clip or JPEG files to a designated server. With this camera, an event can be triggered by external alarm devices or the camera's detection mechanism, including motion, blur, audio and Ethernet detection.

Notes:

1. For the actions regarding recording, scheduled recording takes top priority, Ethernet triggered recording takes second, then other event triggered recording.
 2. Only one event will be handled at a time. If an event is already triggered, other event will be logged to the system but no action will be taken.
-

4.5.1 Motion Detection

When motion detection is enabled, the camera detects motion under a pre-specified condition within a designated area. When motion is detected, the camera will generate an alarm and then take a specified action.

Note: To use the motion detection function, the following two conditions must be met:

1. You must select MJPEG codec for one of the streams to enable the live view.
 2. You must select H.264 or MPEG4 codec for one of the streams to process the motion detection.
-

Motion Detection

Configuration

Motion

OFF

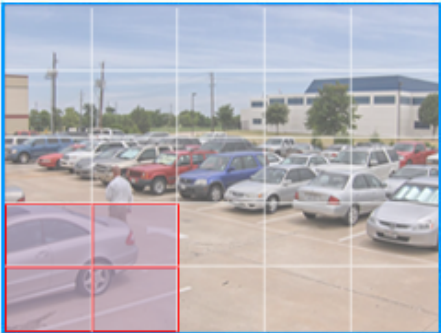
Sensitivity:

50

(Customized Threshold [1~100])

Save

Motion Area Setting



Save Motion Area

Action

☒ OFF ☐ FTP ☐ SMTP ☐ SD Card

Save

Configuration

- **Motion Sensitivity:** Specify the sensitivity to moving objects before the camera triggers an alarm. The higher the sensitivity, the slighter the movement is required to generate an alarm. You can alternatively select **User Define** and enter a value from 1 to 100 in the **Customized Threshold** field. When the motion within a specified area exceeds the threshold, an event is triggered.

When set to **OFF**, motion detection is disabled.

Motion Area Setting

- **Motion area setting:** Click target squares displayed on the screen to define detection areas. Once configured, click **“Save Motion Area”** to save settings.

Action

Specify the action to be taken when an alarm is triggered upon motion detection:

- **OFF:** No action will be taken, but an alarm will be logged.
- **FTP:** Recorded video clips/JPEG files will be uploaded to a FTP server when alarm is triggered.
- **SMTP:** Notification e-mail with the recorded JPEG files attached will be sent to a SMTP server.
- **SD Card:** Recorded video clips will be saved to the SD card when the alarm is triggered.

4.5.2 External Alarms

If external alarm devices, e.g., sensors and alarms, are connected to the camera's alarm input/output, then you must use the following settings.

External Alarms			
Configuration			
	Setting	Level	
Alarm In1	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input checked="" type="radio"/> Low	<input type="radio"/> High
Alarm In2	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input checked="" type="radio"/> Low	<input type="radio"/> High
Alarm Out	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input checked="" type="radio"/> Low	<input type="radio"/> High
Action			
Alarm In1	<input checked="" type="radio"/> OFF <input type="radio"/> FTP <input type="radio"/> SMTP <input type="radio"/> SD Card		
Alarm In2	<input checked="" type="radio"/> OFF <input type="radio"/> FTP <input type="radio"/> SMTP <input type="radio"/> SD Card		

Save

Basic Settings

- **Settings:** Enable the Alarm I/O that is connected with external alarm devices.
- **Level:** Set the (electricity) current as low or high to define the active state.

Action

Specify the action to be taken when external alarm is triggered:

- **OFF:** No action will be taken, but an alarm will be logged.
- **FTP:** Recorded video clips/JPEG files will be uploaded to a FTP server when alarm is triggered.
- **SMTP:** Notification e-mail with the recorded JPEG files attached will be sent to a SMTP server.
- **SD Card:** Recorded video clips will be saved to the SD card when the alarm is triggered.

Note: To perform a video recording, you must select MJPEG codec for one of the streams.

4.5.3 Blur Detection

With blur detection function enabled, when the camera detects incidents that make video image blur, e.g. redirection, blocking or defocusing, the camera will generate an alarm and then take an action you specify.

Note: To use the blur detection function, the following two conditions must be met:

1. You must select MJPEG codec for one of the streams to enable the live view.
 2. You must select H.264 or MPEG4 codec for one of the streams to process the motion detection.
-

Blur Detection

Configuration

Blur Detection: ☒ Disable ☐ Enable

Sensitivity: 50 seconds (10~600)

Save

Action

☒ OFF ☐ FTP ☐ SMTP ☐ SD Card

Save

Basic Settings

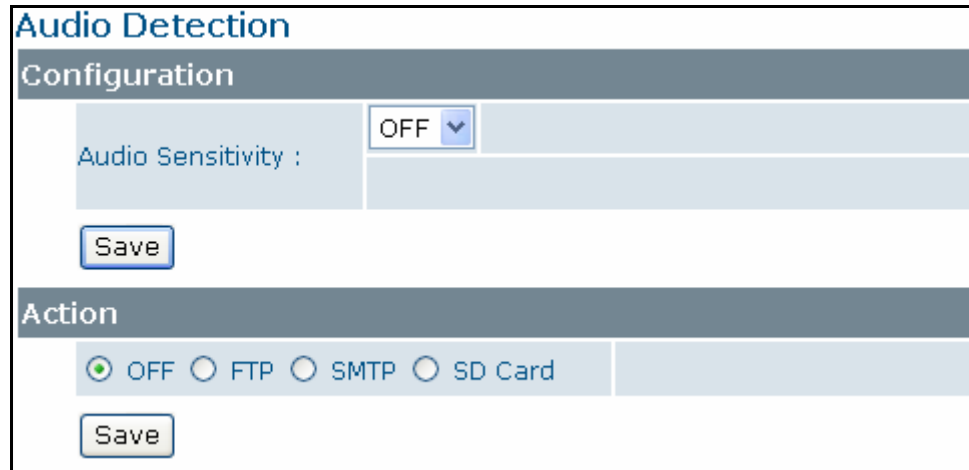
- **Blur Detection:** Specify the level of blur in the video image before the camera triggers an alarm. The higher the value, the slighter a blur is required to generate an alarm.
When set to **OFF**, blur detection is disabled.
- **Sensitivity:** You can alternatively custom the camera's sensitivity to a blur. The camera will judge if the camera has been tampered based on the sensitivity threshold you specify.

Action

- **OFF:** No action will be taken, but an alarm will be logged.
- **FTP:** Recorded video clips/JPEG files will be uploaded to a FTP server when alarm is triggered.
- **SMTP:** Notification e-mail with the recorded JPEG files attached will be sent to a SMTP server.
- **SD Card:** Recorded video clips will be saved to the SD card when the alarm is triggered.

4.5.4 Audio Detection

With audio detection function enabled, when the camera detects sound, the camera will generate an alarm and then take an action you specify.



Audio Detection

Configuration

Audio Sensitivity : OFF

Save

Action

☒ OFF ☐ FTP ☐ SMTP ☐ SD Card

Save

Configuration

- **Audio Sensitivity:** Specify the camera's sensitivity level to the audio signal. The higher the sensitivity, the lower the volume is required to generate an alarm.

When set to **OFF**, audio detection is disabled.

Action

Specify the action to be taken when an alarm is triggered upon audio detection:

- **OFF:** No action will be taken, but an alarm will be logged.
- **FTP:** Recorded video clip will be uploaded to a FTP server when the alarm is triggered.
- **SMTP:** Notification e-mail attached with the recorded video clip will be sent to a SMTP server.
- **SD Card:** Recorded video clip will be saved to the SD card when the alarm is triggered.

Note: To perform a video recording, you must select MJPEG codec for one of the streams.

4.5.5 Ethernet Detection

With Ethernet detection function enabled, when the camera detects an Ethernet disconnection, the camera will generate an alarm and then take an action you specify.

Ethernet Detection

Configuration

Setting

Trigger an Alarm when Ethernet is Disconnected. ☒ Disable ☐ Enable

Action

☒ OFF ☐ SD Card

Save

Basic Settings

- **Trigger an Alarm When Ethernet is Disconnected:** Specify whether to disable/enable this function.

Action

Specify the action to be taken when an alarm is triggered upon audio detection:

- **OFF:** No action will be taken (but an alarm is logged).
- **SD Card:** Recorded video clips will be saved to the SD card in AVI format when the alarm is triggered.

Note: Regardless of your settings in **Recording > SD card**, when an Ethernet disconnection is triggered, the video clip recording will always be saved in AVI format.

4.5.6 Event Management

Event Management

Basic Setting

Alarm Duration 10 Second(s) ▼

Alarm Reset Reset

Save

- **Alarm Duration:** Specify the duration of the alarm when an event is triggered.
- **Alarm Reset:** Use this button to stop the current alarm and restart event detection again.

4.6 Recording

Recording allows you to configure recording-related settings and schedule recording. The defaults are listed in the table below:

4.6.1 Settings – Video Clip

Configure the duration and format of video to be recorded when an alarm is triggered.

Video File

Basic

AVI Duration: -- Second(s)

AVI Format: MPEG4(D1)

Save

1.If you also insert the SD card in IPNetcam, then AVI Duration option cannot be selected.

2.AVI duration can only be set before SD card is insert.

Basic Settings

- **AVI Duration:** Select video duration.

Note: If there is an SD card in the camera, then the **AVI Duration** option cannot be selected. In order to specify or view the duration of AVI video clip, you have to remove the SD card first.

- **AVI Format:** Select a desired video format. Available formats depend on the primary and secondary streaming codec/resolution settings.

4.6.2 Settings – FTP

FTP

FTP Networking

FTP Server IP: 192.168.1.1

User Name:

File Upload Path: default_folder

Storage Setting

Upload File Numbers 1 (1~20)

File Format: AVI

Save

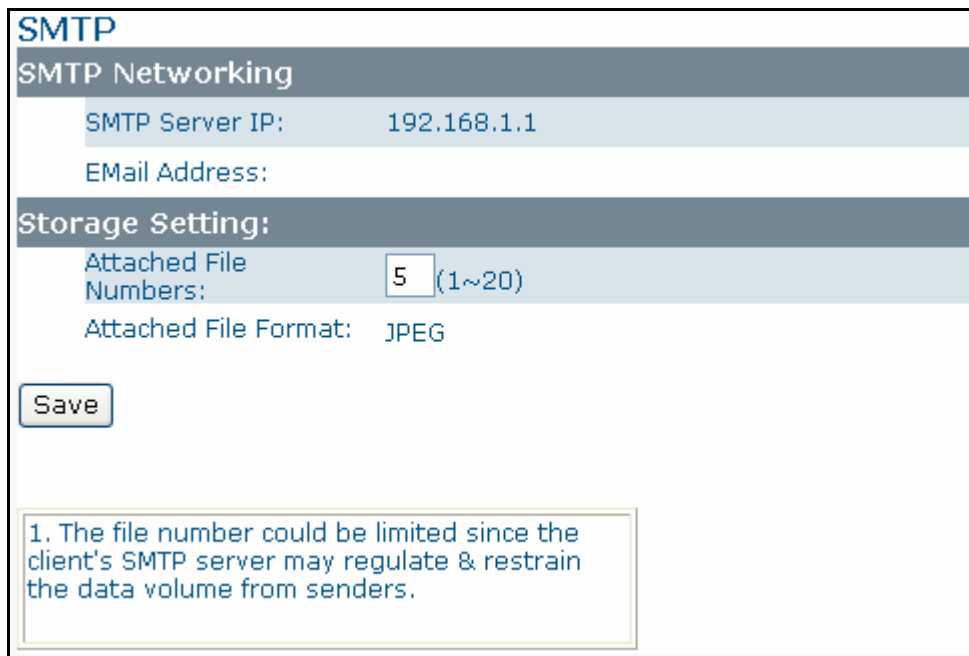
Basic Settings

Displays current FTP settings, which are specified via **Network > FTP**.

Storage Settings

- **Upload File Numbers:** Select the number of JPEG files to be uploaded to the FTP per event.
- **File Format:** Select a format in which to upload the recorded video file to the FTP server when an event has been triggered.
 - **JPEG files:** The camera will record specified number of JPEG files and upload to the FTP server.
 - **AVI files:** The camera will record AVI files and upload to the FTP sever. For the duration and AVI format, see **Recording > Setting > Video File**.

4.6.3 Settings – SMTP



SMTP

SMTP Networking

SMTP Server IP: 192.168.1.1

Email Address:

Storage Setting:

Attached File Numbers: 5 (1~20)

Attached File Format: JPEG

Save

1. The file number could be limited since the client's SMTP server may regulate & restrain the data volume from senders.

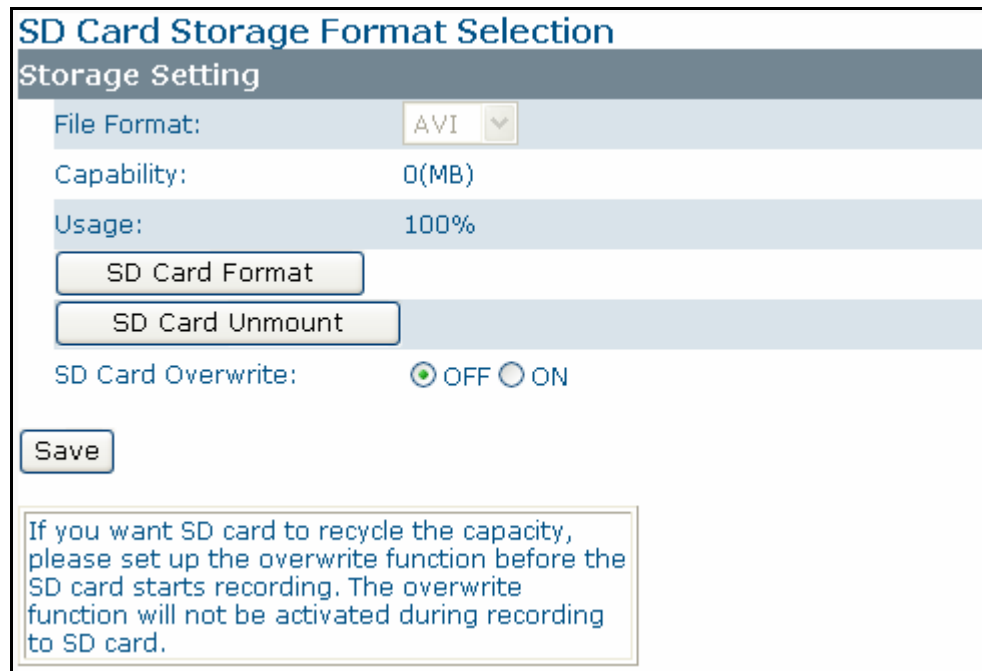
SMTP Networking

Displays current SMTP settings, which are specified via **Network > SMTP**.

Storage Settings

- **Attached File Numbers:** Configure how many JPEG images will be attached to the notification e-mail. Use a lower number if SMTP server has a limited e-mail size.

4.6.4 Settings – SD Card



SD Card Storage Format Selection

Storage Setting

File Format: AVI

Capability: 0(MB)

Usage: 100%

SD Card Format

SD Card Unmount

SD Card Overwrite: ☒ OFF ☐ ON

Save

If you want SD card to recycle the capacity, please set up the overwrite function before the SD card starts recording. The overwrite function will not be activated during recording to SD card.

Storage Settings

- **File Format:** Specify the format of the video to be saved to the SD card when an event is triggered.
- **Capacity/Usage:** Shows the card capacity and the space usage percentage.
- **SD Card Format:** Use this button to format the SD card. This option is not available if an SD card has not been inserted in the camera.
- **SD Card Unmount:** Use this button to un-mount the SD card. This option is not available if an SD card has not been inserted in the camera.
- **SD Card Overwrite:** If you want the SD card to recycle its space, please enable this option.

4.6.5 Period Settings

This screen allows you to schedule recordings to automatically start and end at specified time. Set the automatic recording times by selecting the desired week days and times. Up to 7 scheduled recordings can be set. After you set the schedule, click **Save to SD Card** to save the recorded video clips to SD card.

Period Setting

Basic Setting

<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼
<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼
<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼
<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼
<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼
<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼
<input type="checkbox"/>	Monday	▼	From	0	▼	:	0	▼	To	0	▼	:	0	▼

☐ Save to SD card.

The "AVI duration"(in Recording->Setting->Video File)and "Alarm duration"(in Event->Event Management) will not work once any schedule period is set.

Note: Scheduled recording always demands higher priority than alarm-based recording. When scheduled recording is proceeding, alarm-based recording will be disabled.

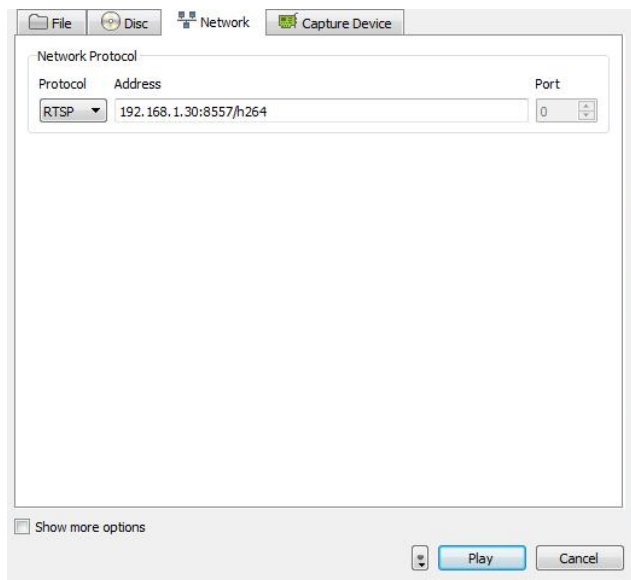
5. Using VLC Player to Access RTSP Streaming

Note 1: This information is provided for convenience only. We will not provide support for the installation or use of VLC software.

Note 2: The IP address used in the document are the default URLs and are provided for example purposes only. You will need to use an IP address that is appropriate for your network.

To use VLC player to view RTSP streaming, follow these step to proceed:

1. Download and install VLC Player (version 1.0.5) from <http://www.videolan.org/vlc>.
2. Launch VLC Player
3. Click Media _Open Network Stream.



4. On the '**Network**' tab, choose **RTSP** under the '**Protocol**' menu.
5. Enter the IP address of the stream that you want to view in the '**Address**' field.

Default URL is as below:

MJPEG Primary	rtsp://192.168.1.30:8555/mjpeg
MJPEG Third	rtsp://192.168.1.30:8558/mjpeg
H.264 Primary	rtsp://192.168.1.30:8557/h264
H.264 Secondary	rtsp://192.168.1.30:8556/h264
MPEG4 Primary	rtsp://192.168.1.30/mpeg4
MPEG4 Secondary	rtsp://192.168.1.30:8554/mpeg4

6. Click **Play** and you will see the image streaming.