Communicate via *Micro network*

Micronet®
Making Communication Easier

User's Manual

Cube Wireless /PoE Network Camera

Model No.: SP5220W / SP5220P

Micronet®
Making Communication Easier

Version: 1.2

Welcome

Thank you for purchasing this network camera. The camera adopts the Progressive Scan technology with low-bit-rate video compression, providing the high image resolution, outstanding picture quality, real time performance, and clear image under motion for your surveillance solution.

The camera comes with a browser-based configuration utility that allows you to integrate it into your network easily. It also provided the computer utilities that allow you to search and manage the camera installed within your network (after the utilities are installed on your computer).

With the trouble-free hardware installation, user-friendly management utilities and comprehensive applications supported, the camera is your best choice for remote monitor, high quality, and high performance video images.

Important information for using the manual

This manual has been prepared to guide you through the operation of your camera from first set-up through to continuous use, which includes:

Chapter 1. Knowing your camera
You will know the components and functions of the camera.

Chapter 2. Hardware and Software Installation
Helps you install the camera according to your application. You will be able to set up the camera at home, at work, at any where you want.

Chapter 3. Managing the Camera
Helps you operate and manage your camera without trouble.

Appendix: Provides the specification and general information of the camera.

It is important to understand the terms and typographical conventions used in this manual. The following kinds of formatting in the text identify special information:

- **Bold** — indicates the items displayed on the screen, including buttons, headings, field names and options. Example: click the **Browse** button to locate the firmware file.

- *Italics* — indicates the name of a screen. Example: the *Network Setting* screen of the Configuration Utility.

Please read this manual carefully before using your camera for the first time. Keep this manual in a safe place and use as your first point of reference.

Disclaimer

The manufacturer operates a policy of ongoing development. The manufacturer reserves the right to make changes and improvements to any of the products described in this document without prior notice. The manufacturer does not warrant that this document is error-free.

Not all models are available in all regions. Depending on the specific model purchased, the color and look of your device and accessories may not exactly match the graphics shown in this document.

The screenshots and other presentations shown in this manual may differ from the actual screens and presentations generated by the actual product.

All such differences are minor and the actual product will deliver the described functionality as presented in this User Manual in all material respects.

Copyright

All brand and product names are trademarks or registered trademarks of their respective companies.

Revision: 1.0

(04/2012)

Contents

Chapter 1. Knowing Your Camera

Package contents

Check the following items that are included in the package. Contact the authorized dealer of your locale immediately if any item contained is damaged or missing.

- One network camera
- One DC power adapter*
- One attachable antenna**
- One camera stand
- One Ethernet cable (RJ-45 type)
- One Product CD
- One Quick Installation Guide

* Optional for PoE model.

** For wireless model only.

Camera components and functions

Bottom panel

1. **Light sensor**   **Front panel**

7   8   9   10 11
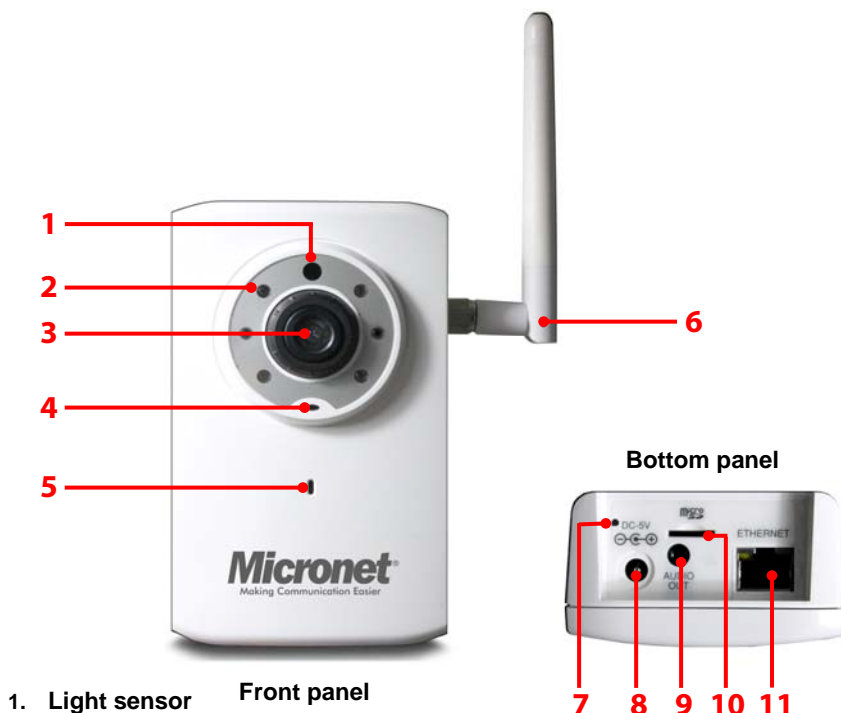
The sensor is used to trigger on and off the Infrared LEDs according the environmental light level.

2. Infrared LEDs

The six Infrared LEDs around the lens assembly allow your camera to capture clear image in a dark environment.

3. Lens assembly

The lens assembly is equipped with a focus ring, allowing you to adjust the focus manually to capture clear image.

4. LED indicator

The LED indicator indicates the system status by:

- Solid green light: the camera is connected to the AC power adapter and powered on.
- Flashing amber light: the camera is transmitting data through the network.

5. Built-in microphone

The internal microphone allows the camera to receive sound and voice on the spot.

6. Wireless antenna

The attachable antenna is for wireless model only.

7. Reset button

Press the button to restart the camera.

Press and hold the button for 5 seconds to restore the factory default settings for the camera.

8. DC 5V power input

The power input connects the DC power adapter* to supply power to the camera.

* Optional for PoE model.

9. Audio output

The audio output connects an external active speaker (2-way audio supported).

10. MicroSD card slot

The slot allows you to insert a memory card for expansion of storage.

Hold the MicroSD card by the edges and gently insert it into the slot. To remove a card, gently push the top edge of the card inwards to release it and then pull it out of the slot.

11. Ethernet port

The port is used to connect the camera to your network via the Ethernet cable (RJ-45 type). The port supports the NWay protocol so that the system will be able to detect the network speed automatically.

The port on the PoE model is compliant with IEEE802.3af PoE (Power over Ethernet) standard. The camera can be powered on by the Ethernet cable so that you can install the camera anywhere without a power outlet supported.

System requirements

When the camera is installed in your network for remote surveillance applications, ensure the computer is in good network connection and meet system requirements as below:

- **Minimum system requirement for connecting one camera**

  CPU: Pentium 4 class, 2.0GHz

  Memory: 512MB RAM

  Hard disk drive: 500MB of available space

  GPU: AGP card, 128MB RAM; resolution @ 800x600 or above

  Operating system: Microsoft Windows XP, Vista, and Win 7

  Browser: Microsoft Internet Explorer 7.0 and above

- **Recommended system requirements for connecting multiple cameras**

  CPU: Intel Core 2 Duo, 2.0GHz

  Memory: 2GB RAM or more

  Hard disk drive: 500MB of available space

  GPU: High performance graphic card, 256MB RAM or more; resolution @ 1024x768 or above

  Operating system: Microsoft Windows XP, Vista, and Win 7

  Browser: Microsoft Internet Explorer 7.0 and above

Note: When you connect multiple cameras to monitor different places within your surveillance application, it is recommended to use high-performance computer and networking to approach better effect while transmitting the image.

Camera features

- H.264, MPEG4 and MJPEG compression supported.
- Built-in IR LEDs that provide truly Day&Night surveillance solution.
- Built-in microphone with 2-way audio function for listening/speaking through the camera.
- Capture high resolution video with the mega-pixel CMOS sensor.
- Built-in 802.11 b/g/n WLAN **
- Motion detection supported.
- Compliant with IEEE802.3af standard*, allowing the camera to be powered by the Ethernet cable.
- Advanced encryption mode to protect your camera with WPA2-PSK supported**.
- Firmware upgradeable through the browser-based Configuration Utility.

* For PoE model only.

** For wireless model only.

Chapter 2. Hardware and Software Installation

Installing the camera stand

The camera stand provided in the package has a swivel base, allowing you to adjust the camera lens to any target place of object after mounting the camera on a plain surface (e.g. on the wall or ceiling).

Camera stand

The camera is designed with a camera stand hook-up located on the back panel. Install the camera to the camera stand by screwing the swivel base to the hook-up, and then you can mount the camera stand on the wall (or ceiling) through the three screw holes*.

* The screw kit is not included in the package.
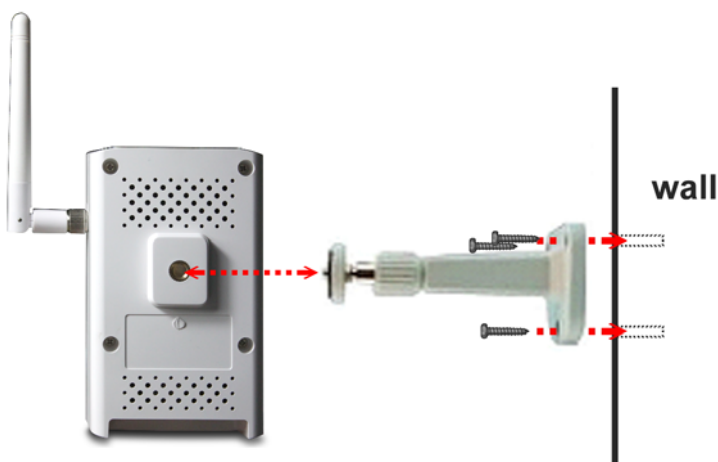
wall

Note: To mount the camera on the wall (or ceiling) securely, it is recommended to use the plastic wall anchors and screws.

Connecting the cables

- **Connecting the Ethernet cable**

  Use the RJ-45 type Ethernet cable to connect the camera to your local area network (LAN).

  Plug one end of the Ethernet cable to the Ethernet port on the bottom panel of the camera and the other end to an active port on the switch/router of the network.

- **Connecting the DC power adapter***

  Plug the AC power adapter cable to the DC power input on the bottom panel of the camera and the power plug to the wall socket.

  The camera will be powered on automatically when you connect the AC power adapter. The power status can be indicated from the LED on the front panel of the camera.

  * Optional for PoE model.

Connecting the Ethernet cable

Connecting the power adapter

- **Attaching the antenna***

  If you use a wireless network in your surveillance application, you need to attach the external antenna to the camera.

  Attach the antenna to the camera and then screwing the knob on the antenna clockwise securely.

 * For wireless model only.

Attaching the antenna

Applications of the Camera

The camera installed in your network can be applied in multiple applications, including:

- Monitor different places, such as baby room/workshop, and objects remotely via the Internet or Intranet.
- Capture still images and record video clips.
- Alert function that includes FTP upload and email messages.

The following explains how to set up the camera in the network and how does it work in your surveillance applications.

router/switch

Home security solution
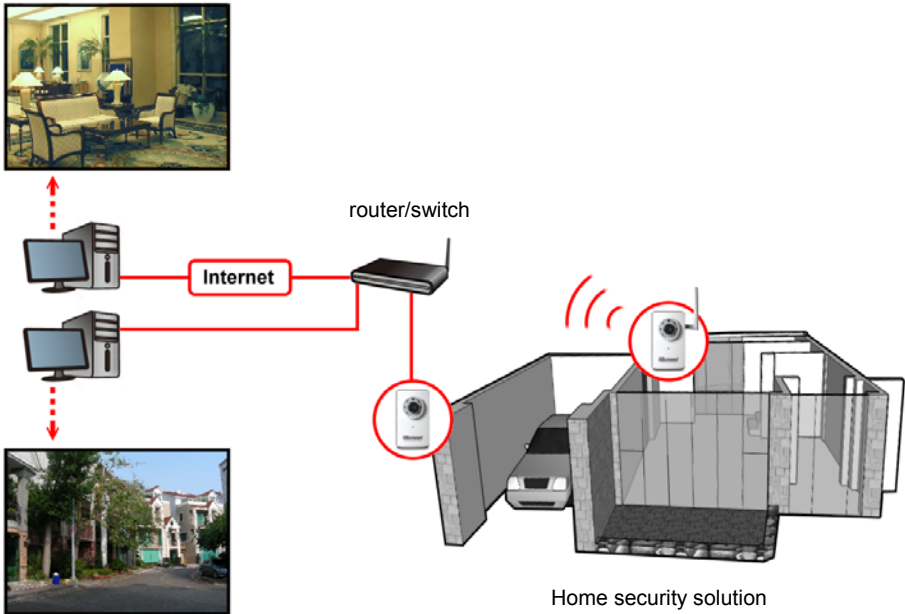
Installing software

The camera setup wizard, IPSearchUtility2, that comes with your camera is a convenient utility to search the connected camera within the network from your computer.

To install the utility on your computer:

1. Insert the Installation CD into the computer's CD-ROM/DVD-ROM drive.
2. The CD Menu should pop up automatically. Go into "Software/Utility" and double click "IPSearchUtility2" to initiate the setup. Follow the prompts to complete the installation.
3. When done, the **IPSearchUtility2** icon will display on the desktop. Double-click on the icon to launch the utility.

4. From the Control Panel, you can:
   - Check the connected camera(s) from the **Camera List**, such as the IP Address, Camera Name, Mac Address, and more.
   - Click **Wizard** to change the IP address of the selected camera.
   - Click **Scan** to search the camera within the network.
   - Click **Connect IE** to access the camera using Internet Explorer.
   - Click **Exit** to end the utility.

Chapter 3. Managing the Camera

Setting up the camera's networking by setup wizard

IPSearchUtility2 lets you configure your camera's networking easily and quickly. The wizard will guide you through the necessary settings step-by-step.

1. Launch IPSearchUtility2 on your computer.

2. Select the camera you want and then click **Wizard**.

3. When prompted, enter the **User Name** and **Password** to access the camera. **The default User name is "root" and the default password is "pass".**

4. Follow the prompts to complete the networking settings for the camera, including:

   ▪ select networking type (**DHCP** or **Static IP**)
   ▪ configure wireless network (for wireless model only)

   The diagrams below explain the wizard briefly:

Select networking type

DHCP

Static IP

For wireless model

Click **Finish** to complete
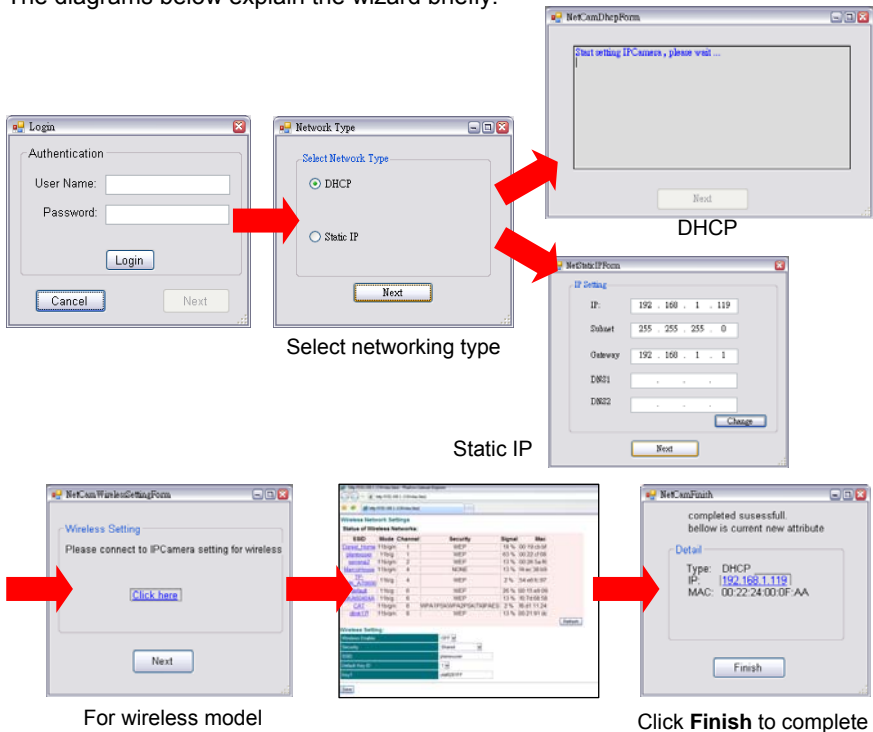
5. When done, re-connect the Ethernet cable and then click **Scan** again from the wizard's Control Panel.

Accessing the camera's Configuration Utility

You can manage the camera via the computer's Web browser easily. The following sections will guide you through the basic and advanced settings of the camera by using the browser-based Configuration Utility.

1. You can access the camera through IPSearchUtility2 or via Internet Explorer:

    ▪ **Access from IPSearchUtility2**

    Launch IPSearchUtility2. From the Camera List, select the desired camera and then click **Connect IE**.

    ▪ **Access from Internet Explorer**

    Launch Internet Explorer. Enter the camera's IP address in the URL bar of the browser and then press ENTER. **The default IP address of the camera is "192.168.1.2".**
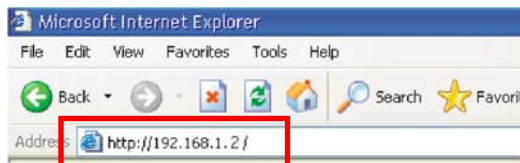
2. Enter the User name and password in the Login window. **The default User name is "root" and the default password is "pass".**

    Note: If you are the first time to access the camera, it may be required to install a plug-in for the camera. Permission request depends on the Internet security settings of your computer. Follow the prompts to complete the plug-in installation.

3. When you access the camera's Configuration Utility, the *Main* screen will appear as below:
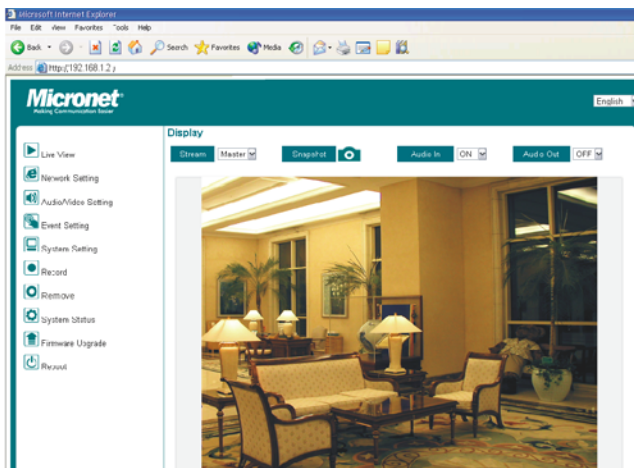
Using the Configuration Utility

The *Main* screen of the Configuration Utility provides you with many useful information and functions, including the menus on the left column, the control buttons on the top of the screen, and the Live View area for displaying the real-time video image. You can also change the display language from the **Language** drop-down menu.

▪ **The menus**

The menus contain the basic and advanced settings of the camera. Click the desired button to display the menu screen.

Menu	Description
▶	**Live View** — Display the real-time video image of the connected camera on the *Main* screen.
e	**Network Setting** — Change the network settings of the camera, such as LAN, PPPoE, DDNS, and more.
◀))	**Audio/Video Setting** — Change the audio and video settings of the camera.
◉	**Event Setting** — Complete the required settings so that you can upload images to FTP and send email messages by events.
▢	**System Setting** — Change the camera's basic settings. For example, change the displayed camera name.
●	**Record** — Change the settings for recording.
⚙	**System Status** — Display the current configuration of the camera.
⬆	**Firmware Upgrade** — Upgrade the latest firmware (if available) for your camera.
⏻	**Reboot** — Restart the camera.

▪ **The control buttons**

The control buttons allow you to control the camera's function from the screen.

Button	Description
Stream	Change the stream to **Master** or **Slave**.
Snapshot	Capture and save a still image*.
Audio In	Enable or disable the microphone to receive the on-site sound and voice from the camera.
Audio Out	Enable or disable the speaker to speak out via the camera.

* The folder that stores the captured image will be displayed on the screen for 2 seconds after you click the Snapshot button.

Network Setting

▪ **LAN**

This sub-menu allows you to select the IP address mode and set up the related configuration.
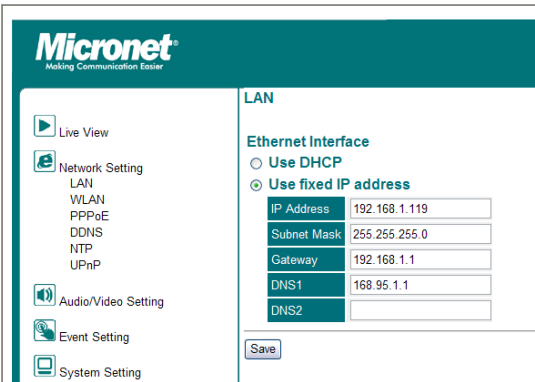
- **Ethernet Interface:**

  Select the **Use DHCP** option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.

  Otherwise, select the **Use fixed IP address option** to assign the IP address for the camera directly, including **IP Address**, **Subnet Mask**, **Gateway**, **DNS1**, and **DNS2**.

Option	Description
IP Address	Enter the IP address of the camera. The default setting is "192.168.1.2".
Subnet Mask	Enter the Subnet Mask of the camera. The default setting is "255.255.255.0".
Gateway	Enter the default Gateway of the camera. The default setting is "192.168.1.1".
DNS1/2	DNS (Domain Name System) translates domain names into IP addresses. Enter the DNS1 (Primary DNS) and DNS2 (Secondary DNS) that are provided by ISP (Internet Service Provider).

When done, click **Save**.

▪ **WLAN**

This sub-menu is available for wireless model only. Select **On** from the **Wireless Enable** drop-down menu to enable this feature.

The available wireless network will be automatically displayed in the list. You can search the wireless network manually by clicking **Refresh**.

- **Wireless Setting:**

When the wireless function is enabled, it is recommended to set the authentication method for the wireless network to secure the camera from being used by unauthorized user.

From the **Security** drop-down menu, select the proper option: **Open**, **Shared**, **WPA-PSK/TKIP**, **WPA-PSK/AES**, **WPA2-PSK/TKIP**, or **WPA2-PSK/AES**.

Option	Description
Open	The default setting of authentication mode, which communicates the key across the network.
Shared	Allow communication between the devices with identical WEP settings.
WPA-PSK/ WPA2-PSK	WPA-PSK/WPA2-PSK is specially designed for the users who do not have access to network authentication servers. The user has to manually enter the starting password in their access point or gateway, as well as in each computer on the wireless network.
	Tip: TKIP (Temporal Key Integrity Protocol) changes the temporal key every 10,000 packets to insure much greater security than the standard WEP security. AES (Advanced Encryption Standard) is used to ensure the highest degree of security and authenticity for digital information.

When the authentication method is set as **Open** or **Shared**, you need to select the **Default Key ID** and then enter the WEP key(s) in the **Key1/2/3/4** option.

When the authentication method is set as **WPA-PSK** or **WPA2-PSK**, you need to enter the **Shared Key** that must match the Pre-shared key value in the remote device.
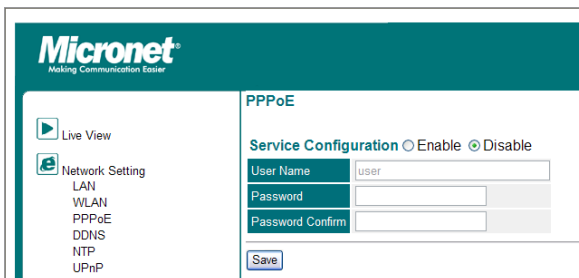
The SSID (Network ID) keeps the default setting of this option to connect the camera to any access point under the infrastructure network mode. To connect the camera to a specified access point, set a SSID for the camera in the **SSID** option to correspond with the access point's ESS-ID. To connect the camera to an Ad-Hoc wireless workgroup, set the same wireless channel and SSID to match with the computer's configuration.

When done, click **Save**.

▪ **PPPoE**

This sub-menu is used when you use a direct connection via the ADSL modem. Select the **Enable** option to enable this feature.

To activate PPPoE mode, you should have a PPPoE account from your Internet service provider. Enter the **User Name** and **Password** (twice). The camera will get an IP address from the ISP as starting up.

When done, click **Save**.

- **DDNS**

    This sub-menu allows you to assign a fixed host and domain name to a dynamic Internet IP address. Select the **Enable** option to enable this feature.

    Note: You need to sign up for DDNS service with the service provider before configuring this feature and accessing the server.

    To set up the DDNS:

    b. Select the **DDNS Service** type.

    c. Select the **Interface**.

    d. Enter the required information in the **Host Name**, **User Name**, and **Password** options.

    e. When done, click **Save**.

- **NTP**

    This sub-menu lets you set the correct date and time for the camera.

- **Synchronized with Time Server:**

  Select the option and the time will be synchronized with the NTP Server. Then, select the proper **Time Zone** for the region from the drop-down menu and enable or disable **Daylight Saving**.

- **Manual Update:**

  You can also enter the date and time manually by selecting the option.

- **Synchronized with PC:**

  Select the option and the date/time settings of the camera will be synchronized with the connected computer.

  When done, click **Save**.

▪ **UPnP**

This sub-menu allows you to enable of disable the UPnP function for the camera. Select the **Enable** option to enable this function.

The UPnP (Universal Plug and Play) function is a set of computer network protocols that enable the device-to-device interoperability. It also supports port auto mapping function so that you can access the camera if it is behind an NAT router or firewall.
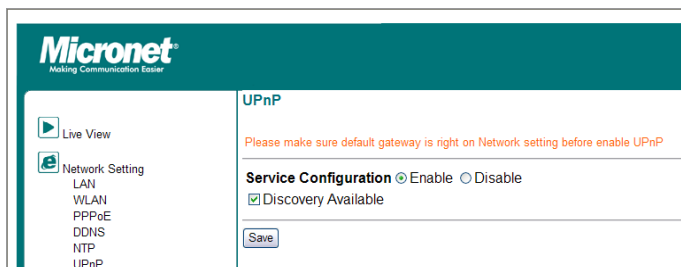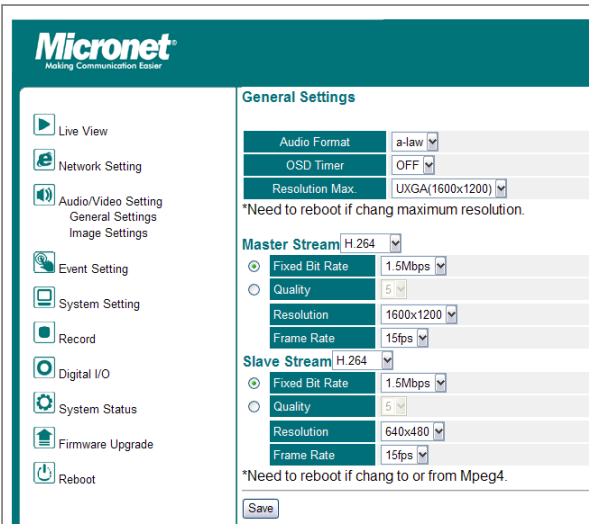

- **Discovery Available:**

  Select the option and the camera will be able to announce to control points that it has become available on the network.

  When done, click **Save**.

Audio/Video Setting

▪ **General Settings**

This sub-menu allows you to set up the audio function for the camera

- **Audio Format:**

  From the drop-down menu, set the encoding laws as A law (**a-law**) or μ law (**u-law**). The A law option is usually used in European PCM systems and the μ law option is used in American PCM systems.

- **OSD Timer:**

  Select the **ON** or **OFF** option from the drop-down menu to display or hide the date & time information on the live view image.

- **Resolution Max.:**

  From the drop-down menu, select the maximum resolution as **UXGA(1600x1200)** or **720P(1280x720)**. Once you change the maximum resolution, you need to restart the system.

- **Master/Slave Stream:**

  From the drop-down menu, select to transmit and record the video using **MPEG4**, **MJPEG** or **H.264** compression.

Option	Description
MPEG4	Select the option and then you can determine the video streaming by **Fixed Bit Rate** or **Quality**. Once you change the compression mode to/from MPEG4, you need to restart the system.
MJPEG	Select the option and then you can determine the video

|	streaming by **Quality**.
H.264	Select the option and then you can determine the video streaming by **Fixed Bit Rate** or **Quality**.

You also need to set the proper **Resolution** and **Frame Rate** depending on your network status. Please note that higher setting obtains better video quality while it uses more resource within your network.

Note: The camera supports H.264, MPEG4 and MJPEG compression. The MJPEG mode captures the images in JPEG format, requiring higher bandwidth to view smooth video. You should control the bandwidth of each connection well through the setting options above.

When done, click **Save**.

▪ **Image Settings**

This sub-menu allows you to change the image related settings.
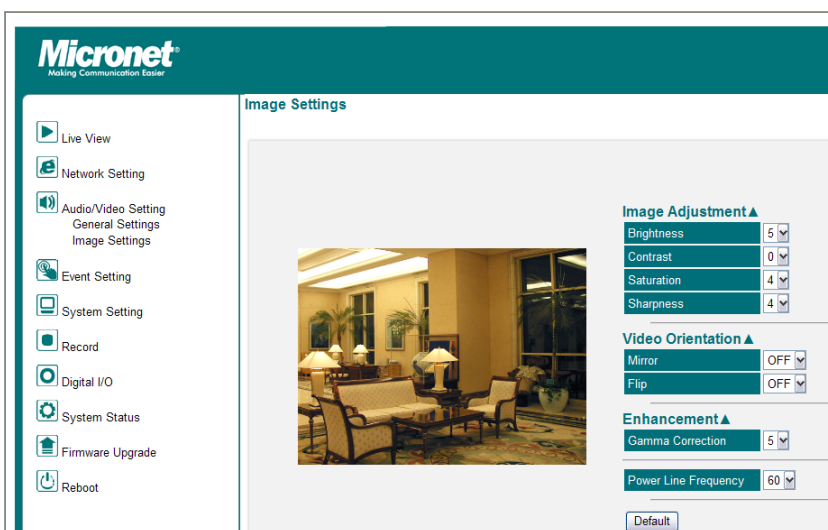
- **Image Adjustment:**

In the field, you can set the image's **Brightness**, **Contrast**, **Saturation**, and **Sharpness** from the corresponding drop-down menus.

Option	Description
Brightness	Adjust the brightness level from 0 ~ 9. The default setting is 5.
Contrast	Adjust the contrast level from 0 ~ 3. The default setting is 0.
Saturation	Adjust the saturation level from 0 ~ 9. The default setting is 4.
Sharpness	Adjust the sharpness level from 0 ~ 9. The default setting is

	4.

- Video Orientation:

In the field, the **Mirror** / **Flip** option allow you to mirror the image horizontally / vertically. Select the **ON** or **OFF** option from corresponding drop-down menu to enable or disable the function.

- Enhancement:

The images that are not properly corrected may look either bleached out or too dark. From the **Gamma Correct** drop-down menu, select the proper value to fix the overall brightness of the image.

The **Power Line Frequency** option allows you to select the proper frequency according to the camera's location: **50** or **60** Hz. This option is used to reduce the noise of image.

Click **Default** to restore the factory default for the settings above.

Event Setting

▪ **Motion Detection**

This sub-menu allows you to set up the motion detection feature of the camera.

The camera provides three detecting areas. To activate the detecting area, select the **Enable** option in the **Window 1/2/3** fields. When the detecting area is activated, select the desired window and then you can use the mouse to move the detecting area and change the area coverage.

- Sensitivity:

Select the value from the drop-down menu to increase or decrease the sensitivity of motion detection. The higher value indicates the higher sensitivity.

- Threshold:

Select the value from the drop-down menu to adjust the level for detecting motion to record video. The higher value indicates the higher threshold.

When done, click **Save**.

▪ **FTP**

This sub-menu allows you set up the FTP server so the camera will be able to upload images per events.

To set up the FTP server, complete the required settings in the FTP field, including: **Server**, **Port**, **User**, **Password**, **Remote Folder**, and **Passive Mode**.

Option	Description
Server	Enter the IP address of the target FTP server.
Port	Enter the port number that is assigned for the FTP server. The default FTP port is **21**.
User	Enter the user name to login the FTP server.
Password	Enter the password to login the FTP server.
Remote Folder	Enter the destination folder for uploading the images. Example: /Test/
Passive Mode	Select the **Enable** option to enable passive mode.

When done, click **Save**.

- **SMTP**

  This sub-menu allows you set up the SMTP server so the camera will be able to send email messages per events.
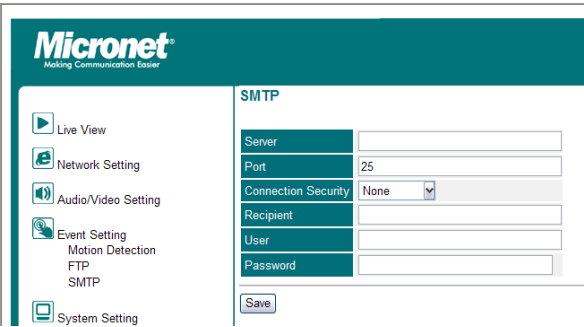
  To set up the SMTP server, complete the required settings in the FTP field, including: **Server**, **Port**, **Connection Security**, **Recipient**, **User**, and **Password**.

Option	Description
Server	Enter the mail server address.
	Example: yourmail.com
Port	Assign the SMTP port. The default SMTP port is **25**.
Connection Security	Select **None**, **STARTTLS**, or **SSL/TLS** according to the mail server's configuration.
Recipient	Enter the email address of the user who will receive the notification message.
User	Enter the user name to login the mail server.
Password	Enter the password to login the mail server.

  When done, click **Save**.

System Setting

▪ **Camera Name**

This sub-menu lets you enter a descriptive name for the camera in the **Camera Name** option. This is helpful to identify the camera easily while multiple cameras are connected within the network.
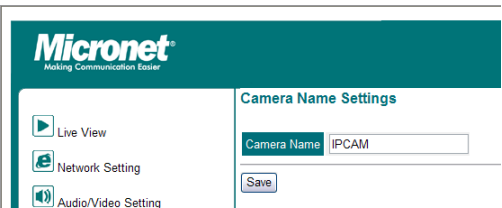
When done, click **Save**.

▪ **Authentication**

This sub-menu lets you set the security for the camera.
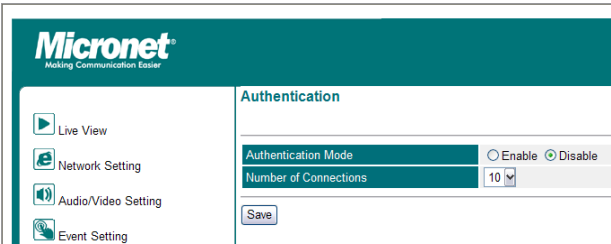
- Authentication Mode:

Select the **Enable** of **Disable** option to enable or disable the security for the camera.

- Number of Connections:

From the drop-down menu, select the number of users (from 1 to 10) that are allowed to access the camera simultaneously.

When done, click **Save**.

▪ **Account**

This sub-menu lets you manage the users for the camera.

- **Add New User:**

  In the **User Name** option, enter the user's name you want to add to use the camera. Then, enter the **Password** (twice) for the new user.

  When done, click **Add**.

- **Delete User or Reset User Password:**

  You can manage the users for the camera by removing the user or changing the account's password. From the **User List** drop-down menu, select the desired user and then click **Remove** to delete the account, or enter the new password (twice) to change the account's password.

  When done, click **Update**.
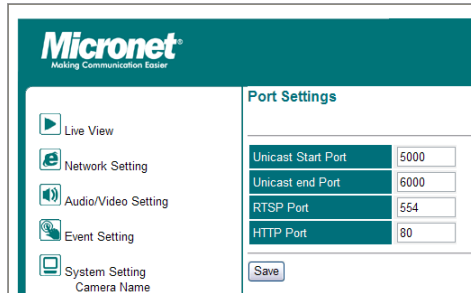
- **Change Password:**

  To prevent unauthorized access to the camera's Configuration Utility, you are strongly recommend to change the default administrator password. Enter the new password (twice) to reset and confirm the administrator's password.

  When done, click **Update**.

▪ **Port**

This sub-menu lets you manage the port numbers for the camera.

- Unicast Start/End port:

Set the start port and end port for the unicast service of the camera. The default start port is **5000** and the end port is **6000**.

- RTSP Port:

Set the transmission of streaming data within the network. The default RTSP (Real Time Streaming Protocol) port is **554**.

RTSP is a technology that allows you to view streaming media via the network. You can view the real-time video using Quick Time player or RealPlayer. To view the real-time streaming video on your computer, open the Web browser and then enter the RTSP link (for example, rtsp://camera's IP address/mpeg4).

- HTTP Port:

Enter the HTTP port for the camera. The default setting is **80**.

When done, click **Save**.

Record

▪ **Setting**

This sub-menu allows you to configure the recording settings.
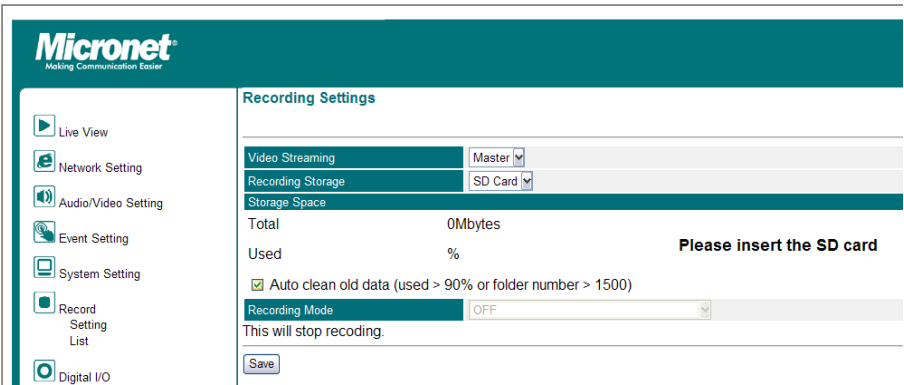
- **Video Streaming:**

    From the drop-down menu, select the video streaming as **Master** mode or **Slave** mode.

- **Recording Storage:**

    The recorded video files will be stored to the MicroSD card (when it is inserted). The status of the inserted MicroSD card will be displayed in the **Storage Space** field.

- **Auto clean old data:**

    Select the option so the system will delete the old files when the storage space of the MicroSD card is less than 10%.

- **Recording Mode:**

    From the drop-down menu, select the recording mode.

    When done, click **Save**.

▪ **List**

This sub-menu displays the recorded video of the camera.
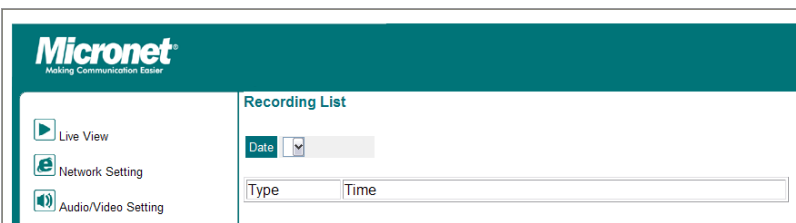
Advance Setting

▪ **Day/Night Mode Setting**

This menu allows you to set up the schedule for recording.

- Day / Night Mode:
From the drop-down menu, select the **Disable** option to disable the trigger function or select the **Trigger by schedule** option to set up the schedule profile for the camera.

- Duration:
From the drop-down menu, specifies the schedule time interval by hours.

- Hour/Active:
In this field, select the time period that you want to assign for the recording schedule. The assigned time period will be displayed with a check mark (   ).

System Information

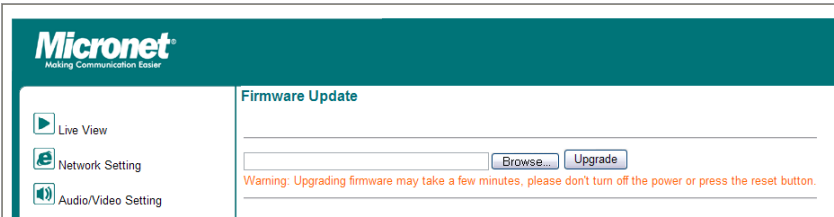This menu displays the current configuration of the camera.

Firmware Upgrade

- **Firmware Update**

  This menu displays the current configuration of the camera.

  To upgrade your camera to the latest firmware (if available), click **Browse** to locate the firmware file and then click **Upgrade**.

  Note: Ensure to keep the camera connected to the power source during the process of upgrading firmware.

Reboot

- **Reboot**

  This menu lets you restart the camera just like turning the device off and on.
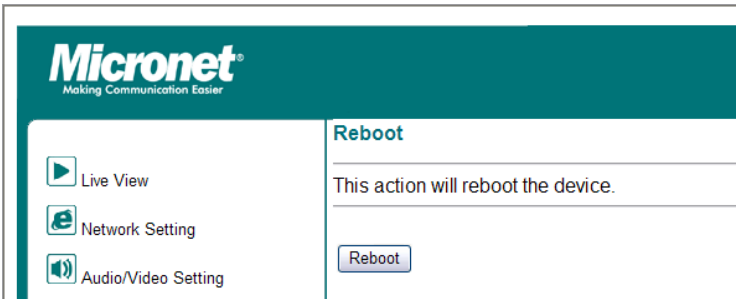
  Click **Reboot**. The system will keep the configuration status after rebooting.

Appendix

Specifications

Model	SP5220W	SP5220P
Image sensor	1/3.2" progressive CMOS sensor	
Lens	Fixed focal length: 4.2mm	
Electronic shutter	Auto	
Min. illumination	0 lux (with IR LEDs activated); Bulit-in IR LEDs (automatic illumination < 5 lux)	
Video compression	H.264 / MPEG-4 Simple Profile / M-JPEG	
Video resolution	**Mode 1:** Master Stream: 1600x1200; Slave Stream: 640x480, 320x240, 160x112 **Mode 2:** Master Stream: 1280x720; Slave Stream: 640x480, 320x240, 160x112	
Stream bit rate	16 Kbps~4 Mbps, VBR or CBR	
Audio format	**Audio in:** G.711µ-Law / G.711a-Law **Audio out:** G.711µ-Law	
Audio input	Built-in microphone	
Audio output	3.5mm phone jack	
LAN	10/100Base-T , RJ-45 connector	
WLAN	11N, 1T1R antenna	—
Protocol	TCP, UDP, IP, HTTP, FTP, SMTP, DHCP, DNS, DDNS, ARP, ICMP, IGMP, RTP, RTSP, 3GPP	TCP, UDP, IP, HTTP, FTP, SMTP, DHCP, DNS, DDNS, ARP, ICMP, IGMP, RTP, RTSP, 3GPP
PoE	—	802.3af
LED indicator	**Bi-mode LED indicator:** Solid Green — Power On; Flash Orange — Transmission	
Storage	MicroSD card Slot x 1	
RTC support	Yes	
Software support	**Operating system:** Windows XP/Vista, and Win 7 **Browser:** Internet Explorer 7.0 and above	
Power input	5VDC	
Power consumption	4.2W	4.7W

Operational temperature	0ºC ~ +40ºC
Operational humidity	RH85% or less
Storage temperature	-20ºC ~ +70ºC
Dimension	117(H) x 70(W) x 53(D) mm
Weight	165g
Emission	CE, FCC

Configuring the IP Address of the computer

The camera's default IP address is "192.168.1.2". If you cannot access the camera by entering the default IP address froom the browser, check the settings of your computer. When you connect the camera to your computer directly to configure the camera, you have to set the computer's IP address to be in the same segment as the camera's to communicate.

1. On your computer, click **Start → Control Panel** to open the *Control Panel* window.
2. Double-click **Network Connection** to open the *Network Connection* window.
3. Right-click **Local Area Connection** and then click **Properties** from the shortcut menu.
4. When the *Local Area Connection Properties* window appears, select the **General** tab.
5. Select **Internet Protocol [TCP/IP]** and then click **Properties** to bring up the *Internet Protocol [TCP/IP] Properties* window.
6. To configure a fixed IP address that is within the segment of the camera, select the **Use the following IP address** option. Then, enter an IP address into the empty field. The suggested IP address is "192.168.1.X" (X is 1~254 except 119), and the suggested **Subnet mask** is "255.255.255.0".
7. When done, click **OK**.