
iCamera2



User's Guide

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Document Version: 1.0

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Chapter 1

1

Introduction

This Chapter provides details of the iCamera2's features, components and capabilities.

Overview

The iCamera2 has an Integrated Microcomputer and a high quality CMOS Sensor, enabling it to display high quality live streaming video over your wired LAN, the Internet, and for the iCamera2, an 802.11N Wireless LAN.

Using enhanced H.264 technologies, the iCamera2 is able to stream high quality video and audio directly to your PC. The high compression capabilities of H.264 reduce network bandwidth requirements to amazingly low levels.

Furthermore, with the built-in infrared LEDs, the Wireless IP camera can provide illumination around 5 meters long under low light conditions in a simple, economical manner.

Features

- **Standalone Design.** The iCamera2 is a standalone system with built-in CPU and Video encoder. It requires only a power source and a connection to your LAN or Wireless LAN.
- **Dual Video Support.** The iCamera2 can support H.264 and MJPEG video for different image compression.
- **Stream Live Video to Multiple Users.** The video encoder and HTTP server built into the camera generate a ready-to-view video stream. Just connect to the camera using your Web browser to view live video.
- **Suitable for Home, Business or Public Facilities.** Whether for Home, Business or Public Facility surveillance, or just for entertainment and fun, the iCamera2 has the features you need.
- **Multi-Protocol Support.** Supporting TCP/IP networking, HTTP and other Internet related protocols, the iCamera2 can be easily integrated into your existing network.
- **IR LEDs Support.** Each iCamera2 has two infrared LEDs. The LEDs can provide illumination around 5 meters long, that can help to output a better video quality while under low-light conditions such as indoors, on cloudy days, or in the morning or evening.
- **Motion Detection.** This feature can detect motion in the field of view. The iCamera2 will compare consecutive frames to detect changes caused by the movement of large objects. This function only works indoors due to the sensitivity of the CMOS sensor. When motion is detection or some other action may be triggered.
- **Flexible Scheduling.** You can limit access to the video stream to specify times using a flexible scheduling system. The Motion Detection feature can also have its own schedule, so it is active only when required.
- **Syslog Support.** If you have a Syslog Server, the iCamera2 can send its log data to your Syslog Server.
- **Audio Support.** You can listen as well as look! Audio is encoded with the video if desired. With built-in microphone, it is useful for bi-direction voice conversation.

- **Day/Night Switch.** With the day/night switching feature, you are able to view and record better images even in the dark of night.

Internet Features

- **User-definable HTTP/HTTPS port number.** This allows Internet Gateways to use "port mapping" so the iCamera2 and a Web Server can share the same Internet IP address.
- **NTP (Network-Time-Protocol) Support.** NTP allows the iCamera2 to calibrate its internal clock from an Internet Time-Server. This ensures that the time stamp on Video from the iCamera2 will be correct.

Security Features

- **User Authentication.** If desired, access to live video can be restricted to known users. Users will have to enter their username and password before being able to view the video stream.
- **Password-Protected Configuration.** Configuration data can be password protected, so that it only can be changed by the iCamera2 Administrator.

Wireless Features

- **Supports 11n Wireless Stations.** The 802.11n standard provides for backward compatibility with the 802.11b standard, so 802.11n, 802.11b and 802.11g Wireless stations can be used simultaneously.
- **Wired and Wireless Network Support.** The iCamera2 supports either wired or wireless transmission.
- **WEP Support.** Full WEP support (64/128 Bit) on the Wireless interface is provided.
- **WPA/WPA2 Support.** The WPA Personal/WPA2 Personal standard is also supported, allowing advanced encryption of wireless data.
- **WPS Support.** WPS (Wi-Fi Protected Setup) can simplify the process of connecting any device to the wireless network by using the push button configuration (PBC) on the iCamera2, or entering a PIN code if there's no button.

Physical Details - iCamera2

Front - iCamera2

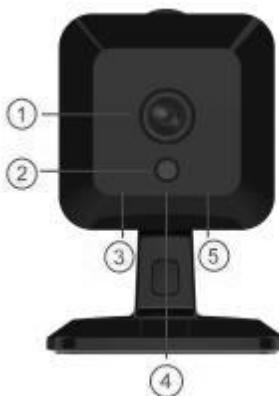


Figure 1: Front Panel

1. Light Sensor

This is hardware sensor to detect LUX.

2. Lens

No physical adjustment is required or possible for the lens, but you should ensure that the lens cover remain clean. The image quality is degraded if the lens cover is dirty or smudged.

3. POWER/WiFi indicator (Green)

On (Green) - Power is on.

Off - Power is off.

Flashing - Wifi signal-strength indication.

The LED indicates SNR for the first 5 minutes after the camera is powered on. Then it will stay solid to indicate power LED for 5 minutes when wireless setup is ready.

- Flashing Low at 1/2Hz - WiFi signal is weak, SNR < 15 dB
- Flashing Middle at 2Hz - WiFi signal is acceptable, SNR 15-22 dB
- Flashing High at 5Hz - WiFi signal is strong, SNR > 22 dB

4. Network indicator (Green)

On - LAN/Wireless connection established.

Off - No active connection on the corresponding LAN port, or not associated to Wireless AP.

Flashing - Data is being transmitted or received.

5. WPS indicator (Green)

On - If the WPS association fails, the WPS LED will be on continuously for 5 seconds.

Off - WPS function is off.

Flashing - WPS association is in process. The LED goes off when the connection is complete.

Rear - iCamera2



Figure 2: Rear Panel

1. LAN Port

Use standard Ethernet cable (RJ45 connectors) to connect your PC to the port for installation and configuration. The port is also used for power connection when the camera is under wireless mode. A customized PoE (Power over Ethernet) splitter, as a Y-cable, for both Ethernet and DC Jack is provided.

2.WPS/Reset

This button has two (2) functions:

- **WPS.**

- **WPS PBC Mode**

- 1.Turn on the camera without connecting the Ethernet cable.
- 2.Wait for three minutes, and then press and release (less than 3 seconds). The WPS LED will start blinking. Press the WPS button on the gateway within two minutes.
- 3.The WPS LED will be off and the Network LED will be on if the connection is successful.

- **WPS Pin Code Mode**

- 1.Turn on the wireless camera without connecting the Ethernet cable.
- 2.Wait for three minutes, and then press and hold the button for over three seconds (3 ~ 10 seconds). The WPS LED will start blinking.
Get the pin code in the "WSC PIN Code" field of Wireless screen (camera's web interface). Enter the pin code on the gateway within two minutes.
- 3.The WPS LED will be off and the Network LED will be on if the connection is successful.

- **Reset.**

- 1.Power On.

- 2.Keep holding the button down for 10 seconds, then release.

3. Microphone

The built-in microphone is located on the rear of the device.

Package Contents

The following items should be included: If any of these items are damaged or missing, please contact your dealer immediately.

1. iCamera2 x 1
2. Stand x 1
3. Y-cable x 1
4. DC Cable x 1
5. Ethernet Cable x 1
6. RJ45 Cap x 1
7. Power Adapter x 1

Chapter 2

2

Basic Setup

This Chapter provides details of installing and configuring the iCamera2.

System Requirements

- To use the wired LAN interface, a standard 10/100BaseT hub or switch and network cable is required.
- To use the Wireless interface on the wireless model, other Wireless devices must be compliant with the IEEE802.11b, IEEE802.11g or IEEE 802.11n specifications. All Wireless stations must use compatible settings.



The default Wireless settings are:

Mode: Infrastructure

SSID: ANY

Wireless Security: Disabled

Domain: USA

Channel No.: Auto

Installation - iCamera2

Step 1 - Initial Setup

Initial setup is required when the iCamera2 is used for the FIRST time. It only needs to be done ONCE in order to configure the wireless settings for the iCamera2.

Note: Skip this section if the iCamera2 has been set up already.



Figure 3: Initial Setup

1. Assemble the Camera

- a. Hold the metal screw of the stand up.
- b. Face the back of the iCamera2 to the stand and turn the iCamera2 clockwise to attach it to the stand.

2. Connect the Y-cable

Connect the provided Y-cable (with Ethernet) to the LAN port of iCamera2.



Note!

The wireless and wired modes cannot work simultaneously. It is recommended to first configure the wireless settings of an iCamera2 using wired mode. After configuration, disconnect the wire and power, and power on the iCamera2 again. Then, it will be ready for wireless operation.

3. Connect the Router

Use the Ethernet cable to connect the Y-cable and connect the other end to the LAN port of the router.

4. Power Up

Connect the supplied power adapter to the Y-cable and power up. Use only the power adapter provided. Using a different one may cause hardware damage.

5. Check the LEDs

- The *Power* LED will turn on briefly, then start blinking. It will blink during startup, which takes 15 to 20 seconds. After startup is completed, the *Power* LED should remain ON.
- The *Network* LED should be ON.

Step 2 - Installation



Figure 4: Installation

1. Disassemble the Camera

Unplug the Y-cable and power off the camera.

2. Connect the Ethernet cable

Connect the Ethernet cable to the LAN port of the iCamera2.

3. Power Up

Connect the DC cable to the Ethernet cable.

Connect the supplied power adapter to the DC cable to power up the iCamera2. Use only the power adapter provided. Using a different one may cause hardware damage.

4. Check the LEDs

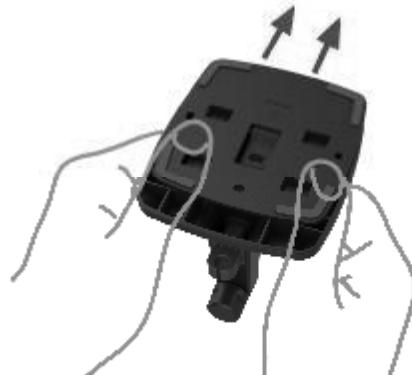
- The *Power* LED will turn on briefly, then start blinking. It will blink during startup, which takes 15 to 20 seconds. After startup is completed, the *Power* LED should remain ON.
- The *Network* LED should be ON.

For more information, refer to *Physical Details - iCamera2* in Chapter 1.

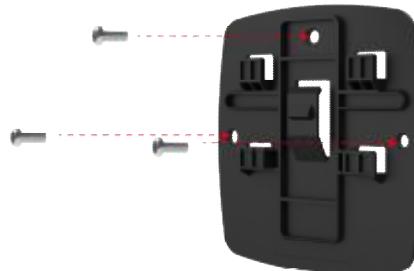
Wall Mounting

***Note:** Please ensure that the iCamera2 is configured and added to the network before permanent mounting.

1. Using hands to remove the plate from the bottom of the stand.



2. Place the plate in the desired position of the wall. Screw three screws into ceiling through the holes of the plate.



3. Attach the stand to the plate.
4. Connect the LAN cable into the LAN port of the device. Turn the iCamera2 clockwise to attach it to the stand.
5. Connect the other end of the LAN cable to the adapter through the holes of the stand. Adjust it to the desired position and secure the iCamera2 firmly.

Chapter 3

3

Viewing Live Video

This Chapter provides basic information about viewing live video.

Overview

This Chapter has details of viewing live video using Internet Explorer.

But many other powerful features and options are available:

- The camera administrator can also adjust the Video Stream, and restrict access to the video stream to known users by requiring viewers to supply a username and password. See *Chapter 4 - Advanced Viewing Setup* for details.
- To make Live Video from the camera available via the Internet, your Internet Gateway or Router must be configured correctly. See *Making Video available from the Internet* in *Chapter 4 - Advanced Viewing Setup* for details.

Requirements

To view the live video stream generated by the iCamera2, you need to meet the following requirements:

- Windows XP, 32-bit Windows Vista/Windows 7.
- Internet Explorer 7 or later, Firefox 3.0 or later.

Connecting to a Camera on your LAN

To establish a connection from your PC to the iCamera2:

1. Start Internet Explorer.
2. In the Address box, enter "HTTP://" and the IP Address of the iCamera2.
3. When you connect, the following screen will be displayed.

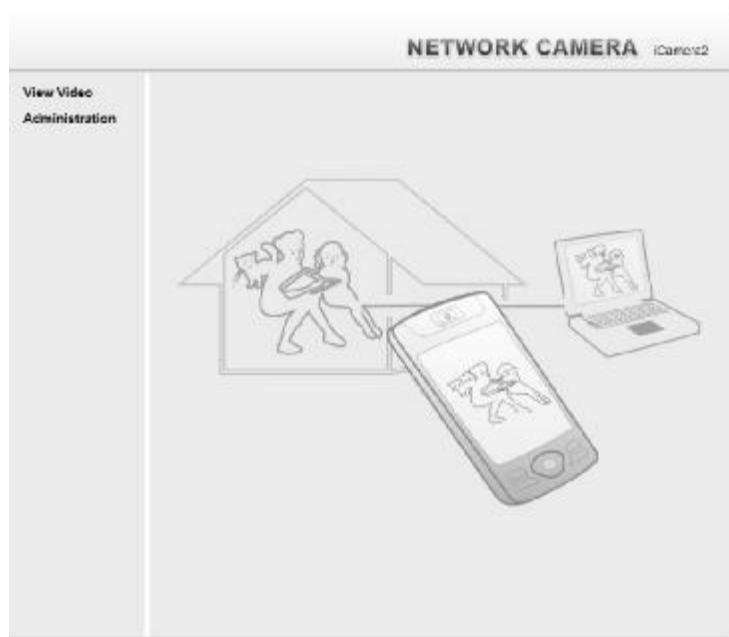


Figure 5: Home Screen

4. Click *View Video*.
5. If the Administrator has restricted access to known users, you will then be prompted for a username and password.
Enter the name and password assigned to you by the iCamera2 administrator.
6. The first time you connect to the camera, you will be prompted to install decoders.
Choose "**I accept the terms of the license agreement**" and click "OK".
7. Video will start playing automatically. There may be a delay of a few seconds while the video stream is buffered.

Connecting to a Camera via the Internet

You can NOT connect to a camera via the Internet unless the camera Administrator has configured both the camera and the Internet Gateway/Router used by the camera.

See *Making Video available from the Internet* in **Chapter 4 - Advanced Viewing Setup** for details of the required configuration.

Also, you need a broadband Internet connection to view video effectively. Dial-up connections are NOT supported.

To establish a connection from your PC to the iCamera2 via the Internet:

1. Obtain the following information from the Administrator of the camera you wish to connect to:
 - Internet IP Address or Domain Name of the camera.
 - Port number for HTTP connections.
 - Login (username, password) if required.
2. Start Internet Explorer.
3. In the Address box, enter the following:

HTTP://Internet_Address:port_number

Where **Internet_Address** is the Internet IP address or Domain Name of the camera, and **port_number** is the port number used for HTTP (Web) connections to the camera.

Examples using an IP address:

HTTP://203.70.212.52:1024

Where the Internet IP address is 203.70.212.52 and the HTTP port number is 1024.

4. When you connect, the following screen will be displayed.



Figure 6: Home Screen

5. Click *View Video*.
6. If the Administrator has restricted access to known users, you will then be prompted for a username and password.
Enter the name and password assigned to you by the iCamera2 administrator.
7. The first time you connect to the camera, you will be prompted to install decoders.
Choose "**I accept the terms of the license agreement**" and click "OK".
8. Video will start playing automatically. There may be a delay of a few seconds while the video stream is buffered.

Viewing Live Video

After installing the decoders, you will be able to view the live video stream in its own window, as shown below.



Figure 7: View Video Screen

There are a number of options available on this screen, accessed by select list, button or icon. See the table below for details.

Note: The options can only be configured while using IE browser. Other browsers can just view the video rather than configuration.

If the video still cannot be viewed, please install the decoders to solve this problem. You can install it from the following screens:

- View Video Screen (preferred)

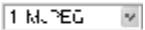
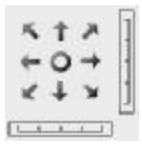


Figure 8: Install Decoders

- Motion Detection Screen

General Options

These options are always available, regardless of the type of camera you are connected to.

	Streaming. Use this drop-down list to select the desired streaming.
	Full Size. When using high-resolution mode (1280*720), click this button to see the full size of the image.
	Select the desired option from the drop-down list.
	Use this icon to start/stop viewing.
	Use this icon to make the image back to original size.
	Zoom Out. A digital zoom out feature is available. To zoom out the window, click this icon.
	Zoom In. A digital zoom in feature is available. To zoom in the window, click this icon.
	Speaker On/Off. Use this button to turn the PC's speaker on or off.
	Audio Upload On/Off. Use this button to toggle the microphone on or off.
	Volume. If Speaker or Microphone is enabled, use this slider to adjust the volume.
	Full Screen Display. Click this button to see the full screen of the image.
	Camera Patrol. Move through the Preset positions in the sequence defined by the Camera Administrator.
	Camera Auto Pan. Click this to have the camera moved from left to right automatically.
	Direct P/T. Use this to move the camera to the Pan/Tilt position directly.
	Preset Points. Select the desired Preset points.
	Move Control. Use this to move the camera to the desired position. There may a short delay after clicking the desired icon. You should wait a couple of seconds rather than click again. Or you can drag the vertical or horizontal slider bar to have quicker movement of the Network Camera to the desired position.

Chapter 4

4

Advanced Viewing Setup

This Chapter provides information about the optional settings and features for viewing video via the iCamera2. This Chapter is for the Camera Administrator only.

Introduction

This chapter describes some additional settings and options for viewing live Video:

- Adjusting the video image
- Controlling user access to the live video stream
- Making video available from the Internet
- Using the *Motion Detection* feature

Adjusting the Video Image

If necessary, the iCamera2 Administrator can adjust the Video image.

To Adjust the Video Image:

9. Connect to the Web-based interface of the iCamera2. (See *Chapter 5 - Web-based Management* for details.)
10. Select *Administration*, then *Streamings*. You will see a screen like the example below.



Figure 9: Streamings Screen

11. Make the required adjustments, as explained below, and save your changes.

Default Streaming Channel	Select the default channel for streaming from the drop-down list.
Streaming 1 Settings	
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> Constant Bit Rate: Select the desired bit rate. The default is set to 2.0 Mbps. Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Fixed Video Quality	<p>There are five options:</p> <ul style="list-style-type: none"> Very Low Low Normal High Very High
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 30 .
User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
Streaming 2/3 Settings	
Enable	Check the box if you want to enable the streaming.
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> Constant Bit Rate: Select the desired bit rate. The default is set to 1.0 Mbps. Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Fixed Video Quality	<p>There are five options:</p> <ul style="list-style-type: none"> Very Low Low Normal High Very High
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 20 .

User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
-------------------------	--

Controlling User Access to the Video Stream

By default, anyone can connect to the iCamera2 and view live Video at any time.

If desired, you can limit access to scheduled times, and also restrict access to known users.

To Control User Access to Live Video:

1. Connect to the Web-based interface of the iCamera2. (See *Chapter 5 - Web-based Management* for details.)
2. Select *Administration*, then *Video Access*.
3. Set the desired options for **Access**.

Access

Select the desired option as required:

- If the **User Access** is enabled, users will be prompted for a username and password when they connect to the camera for viewing video.
- When Video Access is enabled, viewing video is only available during the scheduled periods, and unavailable at other times. If this option is selected, you need to define a schedule; otherwise it is always disabled.

However, viewing video is still possible by logging in as the Administrator.

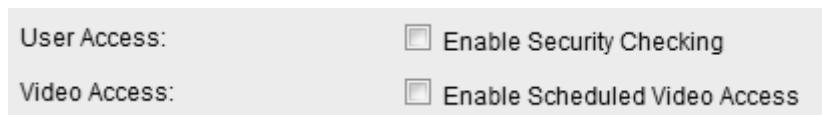


Figure 10: Controlling User Access

See *Chapter 5 - Web-based Management* for further details about using the *Video Access* and *User Database* screens.

Making Video available from the Internet

If your LAN is connected to the Internet, typically by a Broadband Gateway/Router and Broadband modem, you can make the iCamera2 available via the Internet. You will need to configure your Router or Gateway to allow connections from the Internet to the camera.

Router/Gateway Setup

Your Router or Gateway must be configured to pass incoming TCP (HTTP) connections (from Internet Viewers) to the iCamera2. The Router/Gateway uses the *Port Number* to determine which incoming connections are intended for the iCamera2.

This feature is normally called *Port Forwarding* or *Virtual Servers*. The Port Forwarding/Virtual Server entry tells the Router/Gateway that incoming TCP connections on port 1024 should be passed to the iCamera2. If necessary, check the user manual for your Router/Gateway for further details.

iCamera2 Setup

The iCamera2 configuration does NOT have to be changed, unless:

- You wish to change the port number from the default value.

HTTPS Port Configuration

Normally, HTTP (Web) connections use port 80. Since the iCamera2 uses HTTP, but port 80 is likely to be used by a Web Server, you can use a different port for the iCamera2. This port is called the *Secondary Port*.

The default *HTTP/HTTPS Secondary Port* is 1025. If you prefer to use a different port number, you can specify the port number on the iCamera2's *Network* screen, as shown below.

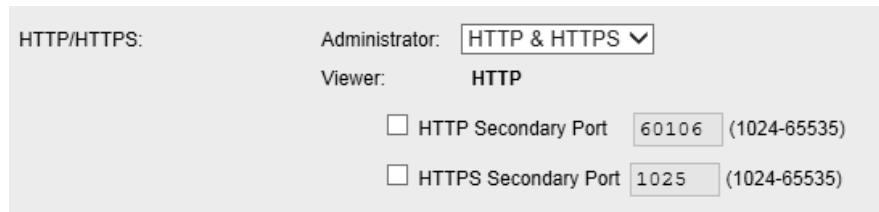


Figure 11: Network Screen

See *Chapter 5 - Web-based Management* for further details on using the *Network* screen.



Viewers need to know this port number in order to connect and view live Video, so you must inform viewers of the correct port number.

Viewing Live Video via the Internet

Clients (viewers) will also need a broadband connection; dial-up connections are NOT recommended.

Viewing Live Video Using your Web Browser

If using your Web browser, you need to know the Internet IP address (or the Domain name) of the camera's Router/Gateway, and the correct port number.

Enter the Internet address of the Router/Gateway, and its port number, in the *Address* (or *Location*) field of your Browser.

Example - IP address:

HTTP : // 203.70.212.52:1024

Where the Router/Gateway's Internet IP address is 203.70.212.52 and the "Secondary Port" number on the iCamera2 is 1024.

Motion Detection Alerts

The *Motion Detection* feature can generate an Alert when motion is detected.

The iCamera2 will compare consecutive frames to detect changes caused by the movement of large objects.

But the motion detector can also be triggered by:

- Sudden changes in the level of available light
- Movement of the camera itself.

Try to avoid these situations. The motion detection feature works best in locations where there is good steady illumination, and the camera is mounted securely. It cannot be used outdoors due to the sensitivity of the CMOS sensor.

Note: The Motion Detection settings can only be configured while using IE browser.

To Use Motion Detection Alerts

Using the Web-based interface on the iCamera2, select the *Motion Detection* screen, then configure this screen as described below.

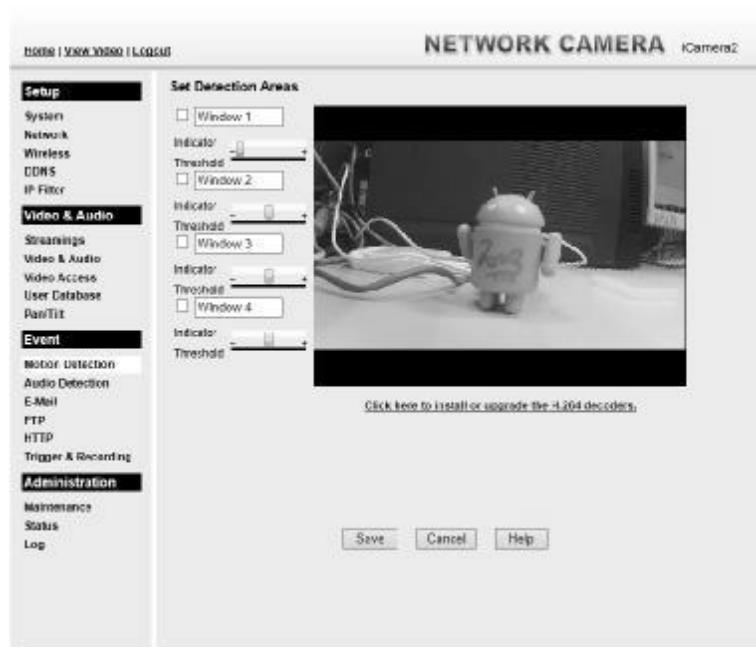


Figure 12: Motion Detection

1. Enable the *Motion Detection* feature.
2. Set the area or areas of the video image to be examined for movement. You can define up to 4 areas, and set the motion threshold individually for each area.
3. If using a schedule, define the desired schedule in *Trigger & Recording* screen.
4. Save your changes.



If the Motion Detection feature is enabled, but the related options in the Trigger & Recording screen are not enabled, then the only action when motion is detected is to log this event in the system log.

Chapter 5

5

Web-based Management

*This Chapter provides Setup details of the iCamera2's Web-based Interface.
This Chapter is for the Camera Administrator only.*

Introduction

The iCamera2 can be configured using your Web Browser. The iCamera2 must have an IP address which is compatible with your PC.

Connecting to iCamera2

- If using only your Web Browser, use the following procedure to establish a connection from your PC to the iCamera2:
- Once connected, you can add the iCamera2 to your Browser's *Favorites* or *Bookmarks*.

Connecting using your Web Browser

1. Start your WEB browser.
2. In the Address box, enter "HTTP://" and the IP Address of the iCamera2.
3. You will then be prompted for a username and password.
 - If using the default values, enter **administrator** for the name, and leave the password blank.
 - Otherwise, enter the *Administrator ID* and *Administrator Password* set on the **Maintenance** screen.

Welcome Screen

When you connect, the following screen will be displayed.

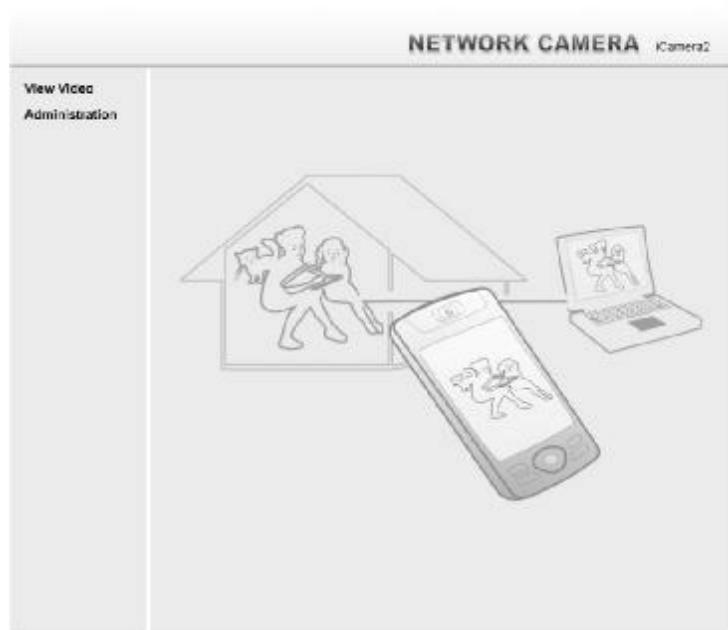


Figure 13: Welcome Screen

The menu options available from this screen are:

- **View Video** - View live Video using your Web Browser. See *Chapter 3 - Viewing Live Video* for details.
- **Administration** - Access the Administration menu.

Administration Menu

Clicking on **Administration** on the menu provides access to all the settings for the iCamera2.

The **Administration** menu contains the following options:

Setup

- **System**
- **Network**
- **Wireless**
- **DDNS**
- **IP Filter**

Video & Audio

- **Streamings**
- **Video & Audio**
- **Video Access**
- **User Database**
- **Pan/Tilt**

Event

- **Motion Detection**
- **Audio Detection**
- **E-Mail**
- **FTP**
- **HTTP**
- **Trigger & Recording**

Administration

- **Maintenance**
- **Status**
- **Log**

System Screen

After clicking *Administration* on the main menu, or selecting *System* on the *Administration* menu, you will see a screen like the example below.

The screenshot shows the 'System Settings' page of the iCamera2 interface. The left sidebar contains a navigation menu with the following items:

- Setup (selected)
- System
- Network
- Wireless
- DDNS
- P Filter
- Video & Audio
- Streaming
- Video & Audio
- Video Access
- User Database
- Pan/Tilt
- Event
- Motion Detection
- Audio Streaming
- E-Mail
- FTP
- HTTP
- Triggers & Recording
- Administration (selected)
- Maintenance
- Status
- Log

The main content area is titled 'SYSTEM SETTINGS' and displays the following configuration:

- Device ID:** SC123583
- Camera Name:** iCameraHD123583
- Description:** [empty field]
- Date & Time**
 - Date Format:** MM/DD/YYYY
 - Current Date & Time:** 06/27/2014 00:05:52
 - Time Zone:** (GMT-08:00) Pacific Time (US & Canada), Tijuana
 - Adjust for daylight saving
 - Enable
- NTP Server Address:** CLOCK.VIA.NET
- Update:** Every Day at 00 : 00 (MM/DD)
- Options**
 - LCD Operation:** Enable

At the bottom right are 'Save', 'Cancel', and 'Help' buttons.

Figure 14: System Screen

Data - System Screen

System Settings	
Device ID	This displays the ID for the iCamera2.
Camera Name	Enter the desired name for the iCamera2.
Description	This field is used for entering a description, such as the location of the iCamera2.
Date & Time	
Date Format	Select the desired date format, it will also be used to display the date and time as an overlay on the video image. The abbreviations used to predefine the date formats are list as follows: <ul style="list-style-type: none">• YYYY-MM-DD = Year-Month-Day, e.g. 2006-01-31• MM/DD/YYYY = Month/Day/Year, e.g. 01/31/2006• DD/MM/YYYY = Day/Month/Year, e.g. 31/01/2006
Current Date & Time	This displays the current date and time on the camera. If it's not correct, click the Change button to modify the date/time settings. This button will open a sub-screen where you have 2 options: <ul style="list-style-type: none">• Set the camera's date and time to match your PC.• Enter the correct date and time.

Time Zone	Choose the Time Zone for your location from the drop-down list. If your location is currently using Daylight Saving, please enable the Adjust for daylight saving checkbox.
Network Time Protocol	Enable or disable the Time Server feature as required. If Enabled, the iCamera2 will contact a Network Time Server at regular intervals and update its internal timer.
NTP Server Address	Enter the address for the desired NTP server.
Update	The Schedule determines how often the iCamera2 contacts the NTP Server. Select the desired options.
LED Operation	Enable this if you want to use this function.

Network Screen

This screen is displayed when the *Network* option is clicked.

Home | View | Video | Logout

NETWORK CAMERA iCamera2

Setup

System
Network
Wireless
DDNS
IP Filter

Video & Audio

Streaming
Video & Audio
Video Access
User Database
Pan/Tilt

Event

Motion Detection
Audio Detection
e-Mail
FTP
HTTP
Trigger & Recording

Administration

Maintenance
Status
Log

Internet Connection Type: It takes effect only when network is Ethernet or Wireless.
 Obtain DNS server 169.254.0.1 automatically Use the following DNS server address

DNS Server Address:

WINS Address: It takes effect only when the 'SMB/CIFS' is enabled.
 Obtain WINS address automatically Use the following WINS address

HTTP/HTTPS: ADMINISTRATOR: Viewer:

RTP/RTSP: RTSP Port:
RTSP Data Port: (1024-65535, even values only)
Max RTSP Data Packets: Bytes (400-1400)

Multicast RTP/RTSP: Enable Multicast
VIDEO ADDRESS: (Streaming 1-16)
Video Port: (1024-65534, even values only)
Audio Address:
Audio Port: (1024-65534, even values only)
Time to Live: (1-255)

UPnP: Profile Discovery
 Enable Universal (Port Mapping)

Bonjour: Enable Bonjour Service

QoS: Enable QoS Mode for Video and Audio
DSCP: (0-63)

Figure 15: Network Screen

Data - Network Screen

Network	
Internet Connection Type	<p>There are 3 connection types:</p> <ul style="list-style-type: none">• Obtain Address Automatically (DHCP): If selected, the iCamera2 will obtain its IP address and related information from a DHCP Server. Only select this option if your LAN has a DHCP Server.• Static IP Address: If selected, you must assign the following data to the iCamera2.<ul style="list-style-type: none">• IP Address - Enter an unused IP address from the address range used on your LAN.• Subnet Mask - Use the same value as PCs on your LAN.• Default Gateway - Use the same value as PCs on your LAN.• PPPoE (PPP over Ethernet): This is the most common login method, widely used with DSL modems. Normally, your ISP will have provided some software to connect and login. This software is no longer required, and should not be used.<ul style="list-style-type: none">• Username - The user name (or account name) provided by your ISP.• Password - Enter the password for the login name above.
Obtain DNS server address automatically	If selected, the iCamera2 will use the DNS address or addresses provided by the DHCP server. This option is only available if the IP address setting is <i>Obtain an IP address Automatically</i> .
Use the following DNS server address	Primary DNS server - Use the same value as PCs on your LAN. Normally, your ISP will provide this address. Secondary DNS server - This is optional. If entered, this DNS will be used if the Primary DNS does not respond.

HTTP/HTTPS	<p>This sets the port number for HTTP/HTTPS connections to the Camera, whether for administration or viewing video.</p> <p>The HTTP (HyperText Transfer Protocol) is used for the standard of transferring files (text, graphic images and other multimedia files) on the World Wide Web. The default HTTP port is 60106.</p> <p>HTTPS (Hypertext Transfer Protocol Secure) can provide more secure communication with the SSL/TLS protocol, which support data encryption to HTTP clients and servers. The default HTTPS port is 1025.</p> <p>The Secondary port can be used for other service and when more than 2 cameras are in use.</p> <p>If enabled, you can connect using either port 80 or the Secondary port. You must enter the Secondary port number (between 1024 to 65535) in the field provided.</p> <p>Note that when using a port number which is not 80, you must specify the port number in the URL. For example, if the Camera's IP address was 192.168.1.100 and the Secondary port was 1024, you would specify the URL for the Camera as follows:</p> <p style="text-align: center;"><u>http://192.168.1.100:1024</u></p>
RTP/RTSP	<p>The RTSP (Real Time Streaming Protocol), a standard for connected client(s) to control streaming data (MPEG-4) over the World Wide Web. Enter the RTSP Port number (between 1024 and 65535) in the field provided. The default RTSP Port is 554.</p> <p>The RTP (Real Time Transport Protocol), an Internet protocol for transmitting real-time data such as audio and video.</p> <p><i>Max RTP Data Packet</i> field will let users limit the size of the file. Enter the desired value between 400 and 1400.</p> <p>Note: RTSP and RTP settings are for cell phone only.</p>
Multicast RTP/RTSP	
Enable Multicast	Enable the feature as required.
Video Address	Enter the address of video (Streaming 1 only).
Video Port	Enter the desired value (between 1024 to 65534) in the field provided. The number you entered must be even values.
Audio Address	Enter the address of the audio.
Audio Port	Enter the desired value (between 1024 to 65534) in the field provided. The number you entered must be even values.
Time to Live	Enter the desired length of time, if the packets fail to be delivered to their destination within. The Time to Live you entered must be in-between 1 to 255.
UPnP	
Enable Discovery	If enabled, the iCamera2 will broadcast its availability through UPnP. UPnP compatible systems such as Windows XP will then be able to detect the presence of the iCamera2.

Enable Traversal	If enabled, HTTP connections (from your Web Browser) can use secondary port instead of port 80 (the standard HTTP port) to access the camera.
Bonjour	
Enable Bonjour Service	If enabled, the iCamera2 can be accessed through a "Bonjour" enabled browser, such as Microsoft Internet Explorer (with a Bonjour plug-in) or Safari browser. You can also find other Bonjour-enabled devices on your network.
QoS	
Enable QoS Mode	If enabled, the throughput level (for Video and Audio) is guaranteed through QoS (Quality of Service).
DSCP	Enter the desired value of Differentiated Services Code Point (DSCP). The value must be between 0 and 63.

Wireless Screen

This screen is displayed when the *Wireless* menu option is clicked.

The screenshot shows the 'NETWORK CAMERA' interface for 'iCamera2'. The left sidebar has a 'Setup' menu with 'System', 'Network', 'Wireless', 'DNMS', 'IP Filter', 'Video & Audio', 'Streaming', 'Video & Audio', 'Video Access', 'User Database', 'Pan/Tilt', 'Event', 'Motion Detection', 'Audio Detection', 'E-Mail', 'FTP', 'HTTP', 'Trigger & Recording', and 'Administration' (which is selected). The main area is titled 'Wireless Network' and contains fields for 'Site Survey' (button), 'WSC PIN Code' (text input), 'SSID' (text input containing 'icamera2'), 'Domain' (dropdown menu set to 'USA'), 'Channel No.' (dropdown menu set to 'Auto'), 'Security' (dropdown menu set to 'WPA/WPA2 Personal'), 'Shared Key' (password field with '*****' placeholder), and a note '(8 to 63 characters or 64 hex characters)'. At the bottom are 'Test Wireless' (button), 'Save', 'Cancel', and 'Help' buttons.

Figure 16: Wireless Screen

Data - Wireless Screen

Wireless Network	
Site Survey	Click the "Site Survey" button and select from a list of available APs.
WSC PIN Code	It displays the WSC PIN code number for the camera.
SSID	This must match the value used by other devices on your wireless LAN. Note! The SSID is case sensitive.
Domain	Select your region from the drop-down list.
Channel No.	<ul style="list-style-type: none">In <i>Infrastructure</i> mode, this setting is ignored. The iCamera2 will use the Channel set on the Access Point.For <i>Ad-hoc</i> mode, select the Channel you wish to use on your iCamera2. Other Wireless stations should use the same setting.If you experience interference (shown by lost connections and/or slow data transfers) you may need to experiment with different channels to see which one is the best.

Security	
Security System	Select the desired option, and then enter the settings for the selected method: <ul style="list-style-type: none"> • Disabled - No security is used. Anyone using the correct SSID can connect to your network. This is default. • WEP - The 802.11b standard. Data is encrypted before transmission, but the encryption system is not very strong. • WPA/WPA2 Personal - Like WEP, data is encrypted before transmission. WPA is more secure than WEP, and should be used if possible. WPA Personal is the version of WPA which does NOT require a Radius Server on your LAN. • WPA Personal (TKIP) - WPA has solved the WEP problems with better encryption and authentication. • WPA2 Personal (AES) - This is a further development of WPA Personal, and offers even greater security.
WEP	
Authentication Type	Normally this can be left at the default value of "Automatic." If that fails, select the appropriate value - "Open System" or "Shared Key." Check your wireless card's documentation to see what method to use. Note: In <i>Infrastructure</i> mode, either setting will normally work, since most Access Points can use both methods.
WEP Encryption	Select the WEP Encryption level: <ul style="list-style-type: none"> • 64 Bit Keys (10 Hex chars) • 128 Bit Keys (26 Hex chars) • 64 Bit Keys (5 ASCII chars) • 128 Bit Keys (13 ASCII chars)
Passphrase	Enter a word or group of printable characters in the Passphrase box and click the "Generate Key" button to automatically configure the WEP Key(s). If encryption strength is set to 64-bit, then each of the four key fields will be populated with key values. If encryption strength is set to 128-bit, then only the selected WEP key field will be given a key value.
WEP Keys	<ul style="list-style-type: none"> • Use the radio buttons to select the default key. • Enter the key value you wish to use. Other stations must have the same key values. • Keys must be entered in Hex. Hex characters are the digits (0 ~ 9) and the letters A ~ F. • Click <i>Clear Keys</i> to set the Keys to be blank.
Test Wireless	Click this button to test the wireless connection.
WPA/WPA2 Personal	
Shared Key	Enter the key value. Data is encrypted using a key derived from the network key. Other Wireless Stations must use the same network key. The PSK must be from 8 to 63 characters or 64 hex characters in length.

WPA Personal	
Shared Key	Enter the key value. Data is encrypted using a key derived from the network key. Other Wireless Stations must use the same network key. The PSK must be from 8 to 63 characters or 64 hex characters in length.
WPA2 Personal	
Shared Key	Enter the key value. Data is encrypted using a key derived from the network key. Other Wireless Stations must use the same network key. The PSK must be from 8 to 63 characters or 64 hex characters in length.

DDNS Screen

Many Internet connections use a "Dynamic IP address", where the Internet IP address is allocated whenever the Internet connection is established.

This means that other Internet users don't know the IP address, so can't establish a connection.

DDNS is designed to solve this problem, as follows:

- You must register for the DDNS service with a DDNS service provider. The DDNS Service provider will allocate a Domain Name to you upon request.
- The DDNS settings on the **DDNS** screen above must be correct.
- The Full HD IP Camera will then contact the DDNS server whenever it detects that the Internet IP address has changed, and inform the DDNS server of the new IP address. (The *Check WAN IP Address* determines how often the Full HD IP Camera checks if the Internet IP address has changed.)

This system allows other internet users to connect to you using the Domain Name allocated by the DDNS service provider.

This screen is displayed when the **DDNS** menu option is clicked.

The screenshot shows the 'DDNS' configuration page of a network camera's web interface. The top navigation bar includes 'Home', 'View Video', 'Layout', 'NETWORK CAMERA', and 'Camera2'. On the left, a sidebar lists various setup categories: System, Network, Wireless, DDNS (which is selected and highlighted in black), IP Filter, Video & Audio, Streaming, Video & Audio, Video Access, User Database, Privacy, Event, Motion Detection, Audio Detection, E-Mail, FTP, HTTP, Trigger & Recording, and Administration. The main content area contains the following fields:

- Enable DDNS
- Service Provider: (dropdown menu)
- Domain (Host Name): (text input field)
- Access E-Mail: (text input field)
- Password/Key: (text input field)
- Check WAN IP Address: Every 24 hrs (dropdown menu)
 - Starting at: (dropdown menu) 00 Hours 00 Minutes
- Save, Cancel, Help buttons

Figure 17: DDNS Screen

Data - DDNS Screen

DDNS	
Enable DDNS	Enable or disable the DDNS function, as required. Only enable this feature if you have registered for the DDNS Service with a DDNS Server provider.
Service Provider	Choose a service provider from the list.
Web Site Button	Click this button to open a new window and connect to the Web site for the selected DDNS service provider.
Domain (Host) Name	Enter the Domain Name (Host Name) allocated to you by the DDNS Server provider.

Account/E-Mail	Enter the login name for the DDNS account.
Password/Key	Enter the password for the DDNS account.
Check WAN IP Address	<p>Set the schedule for checking if the Internet IP address has changed. If the IP address has changed, the DDNS Server will be notified.</p> <p>NOTE: If the DDNS Service provided some software to perform this IP address update or notification, you should NOT use this software. The update is performed by the camera.</p>

IP Filter

The IP Filter feature allows administrator to control Full HD IP Camera access by filtering IP addresses. This screen is displayed when the *IP Filter* menu option is clicked.

Home | View Video | Logout

IP Filter: Disable

Single	IP Address 1:	
Single	IP Address 2:	
Single	IP Address 3:	
Single	IP Address 4:	
Single	IP Address 5:	
Single	IP Address 6:	
Single	IP Address 7:	
Single	IP Address 8:	
Single	IP Address 9:	
Single	IP Address 10:	

Save | Cancel | Help

Figure 18: IP Filter Screen

Data - IP Filter Screen

IP Filter	
IP Filter	Select the desired method to perform the IP address (or addresses) filtering function.
Single/Range	Select to perform either single IP address or a range of IP addresses that you desired.
IP Address	Enter an IP address or a range of IP addresses you would like to allow or deny.

Streamings

This screen is displayed when the *Streamings* menu option is clicked.

If you want to view streaming via the cell phone:

1. Cell phone should be supported by 3GPP protocol.
2. Enter 554 for RTSP port number in the *Network* screen.
3. The H.264 format support cell phone option.
4. Enter the following address in the URI:
RTSP:// Router IP address / User Defined URI
5. Select 15 fps for Max Frame Rate.

Note! Due to the bandwidth limitation for the cell phone usage, please set the resolution, quality and frame rate to lower values.

The screenshot shows the 'Streamings' configuration page for a 'NETWORK CAMERA' (ICamera2). The left sidebar contains a navigation menu with the following items:

- Home | View | Video | Logout
- Setup**
 - System
 - Network
 - Wireless
 - DDNS
 - IP Filter
- Video & Audio**
 - Streaming
 - Video & Audio
 - Video Stream
 - User Database
 - Profile
- Event**
 - Motion Detection
 - Audio Detection
 - E-Mail
 - FTP
 - HTTP
 - Trigger & Recording
- Administration**
 - Maintenance
 - Status
 - Log

The main content area is titled 'Default Streaming Channel' and shows 'Streaming 1'. It includes settings for:

- Streaming 1 Settings**:
 - Video Format: H.264
 - Resolution: 1280*720
 - Video Quality Control:
 - Constant Bit Rate
 - Fixed Quality
 - GOP Length: 15 (2~160)
 - Max Frame Rate: 30 (1~100) fps
 - User Default URI: (empty input field)
- Streaming 2 Settings**:
 - Enable:
 - Video Format: H.264
 - Resolution: 640*480
 - Video Quality Control:
 - Constant Bit Rate
 - Fixed Quality
 - GOP Length: 15 (2~160)
 - Max Frame Rate: 30 (1~100) fps
 - User Default URI: (empty input field)
- Streaming 3 Settings**:
 - Enable:
 - Video Format: MJPEG
 - Resolution: 640*480
 - Fix Video Quality: Normal
 - Max Frame Rate: 30 (1~100) fps
 - User Default URI: (empty input field)

At the bottom right are 'Save', 'Cancel', and 'Help' buttons.

Figure 19: Streamings Screen

Data - Streamings Screen

Default Streaming Channel	Select the default channel for streaming from the drop-down list.
Streaming 1 Settings	
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> Constant Bit Rate: Select the desired bit rate. The default is set to 2.0 Mbps. Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Fixed Video Quality	<p>There are five options:</p> <ul style="list-style-type: none"> Very Low Low Normal High Very High
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 30 .
User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
Streaming 2/3 Settings	
Enable	Check the box if you want to enable the streaming.
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	<ul style="list-style-type: none"> Constant Bit Rate: Select the desired bit rate. The default is set to 1.0 Mbps. Fixed Quality: Select the desired option. The default fix quality is set to Normal.
Fixed Video Quality	<p>There are five options:</p> <ul style="list-style-type: none"> Very Low Low Normal High Very High
GOV Length	Adjust the GOV interval in frame base. "2" means 1 I frame and 1 P Frame. "3" means 1 I frame and 2 P Frames. Enter the desired value between 2 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is 20 .

User Defined URI	You may enter the URI up to 32 characters long for accessing the live video from camera through cell phone connection.
-------------------------	--

Video & Audio Screen

This screen is displayed when the *Video & Audio* menu option is clicked.

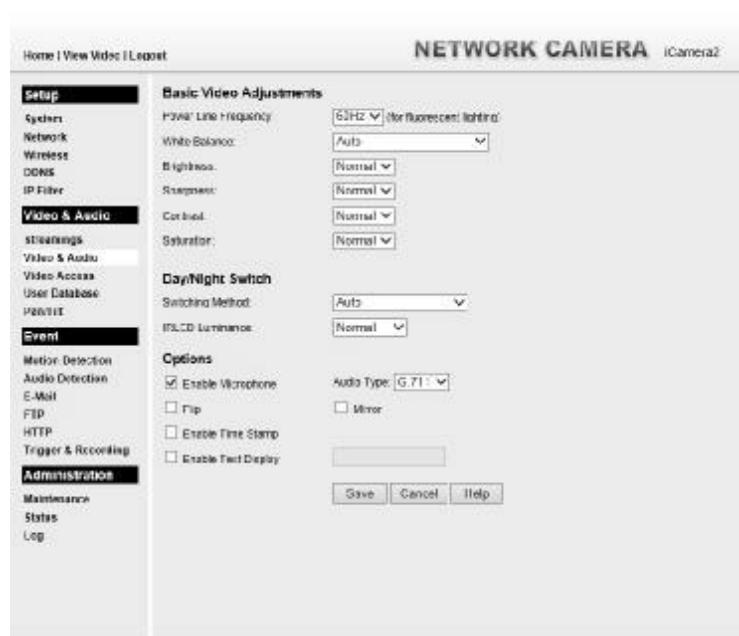


Figure 20: Video & Audio Screen

Data - Video & Audio Screen

Basic Video Adjustment	
Power Line Frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under fluorescent lighting.
White Balance	Select the desired option to match the current environment and lighting.
Brightness	If necessary, you can adjust the brightness to obtain a better image. For example, if the camera is facing a bright light, the image may be too dark. In this case, you can increase the brightness.
Sharpness	Select the desired option for the sharpness. You can select a Sharpness value between -3 and 3.
Contrast	Select the desired option for the Contrast. You can select a value between -3 and 3.
Saturation	Select the desired option for the Saturation. You can select a value between -3 and 3.
Day/Night Switch	
Switching Method	The iCamera2 supports Day/Night mode switch for getting better quality of the low light condition. Select the desired method to use this function.
IRLED Luminance	Select the desired lightness for the IR LED.

Options	
Enable Microphone	Enable audio by checking this checkbox. Using Audio will increase the bandwidth requirements slightly.
Audio Type	Select the desired audio type.
Flip	This setting will have the image swapped top-to-bottom.
Mirror	This setting will have the image swapped left-to-right.
Enable Time Stamp	If enabled, the current time will be displayed on the Video image.
Enable Text Display	Enable this setting if you want text to be displayed on the Video image, and enter the desired text - up to 20 characters. This feature is often used to identify each camera when multiple cameras are installed.

Video Access Screen

This screen is displayed when the *Video Access* option is clicked.

The screenshot shows the 'Video & Audio' section of the 'Setup' menu selected. In the main content area, the 'User Access' tab is active. It contains two checkboxes: 'Enable Security Checking' and 'Enable Scheduled Video Access'. Below these are two buttons: 'Delete' and 'Add New Schedule'. The 'Add New Schedule' form has fields for 'Day' (set to 'Every day'), 'Start Time' (00:00:00), and 'End Time' (00:00:00). At the bottom of the form are 'Add' and 'Clear' buttons, and a 'Save' button.

Figure 21: Video Access Screen

Data - Video Access Screen

User Access	
Enable Security Checking	<ul style="list-style-type: none">If disabled (default) - No login required. Users do not have to provide a username and password when they connect to the camera for viewing video.If enabled - Require login. Users will be prompted for a username and password when they connect to the camera for viewing video. The camera administrator must use the "User Database" menu option to create the desired users.
Video Access	
Enable Scheduled Video Access	<ul style="list-style-type: none">If enabled - Viewing video is available during the scheduled periods and unavailable at other times. If this option is selected, you need to define a schedule. If no schedule is defined, this option is always disabled.If disabled - The option will remain disabled until you enable it. <p>Note that regardless of which setting is chosen, the Administrator can ALWAYS access the camera and view live video.</p>
Access Schedule	
Scheduled Periods	This displays all periods you have entered into the database. If you have not entered any periods, this list will be empty.
Delete	Use the Delete button to delete the selected item in the list.

Add New Schedule	
Day	Choose the desired option for the period.
Start Time	Enter the start time using a 24 hr clock.
End Time	Enter the end time using a 24 hr clock.
Add	Click this button to add a new period.
Clear	Use this button to clear the input fields.

User Database Screen

This screen is displayed when the *User Database* option is clicked.

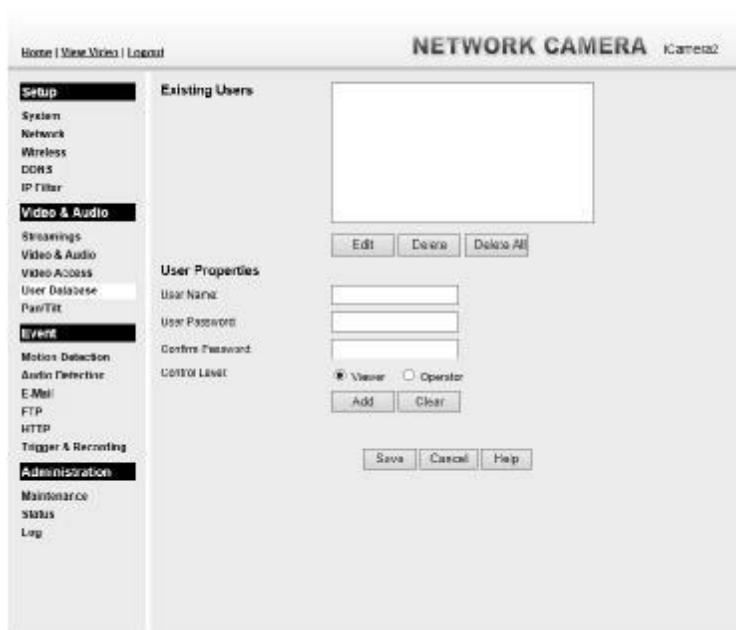


Figure 22: User Database Screen

Data - User Database Screen

Existing Users	
User List	This displays all users you have entered into the User database. If you have not entered any users, this list will be empty. The maximum number of users is 20.
Edit, Delete, Delete All	Use these buttons to manage the user database.
User Properties	
User Name	Enter the name for the user here. <ul style="list-style-type: none">Spaces, punctuation, and special characters must NOT be used in the name.The name is case insensitive (case is ignored), so you can not have 2 names which differ only by case.
User Password	The password for this user.
Confirm Password	Re-enter the password for the user, to ensure it is correct.
Control Level	Select either Viewer or Operator for the user you plan to add.
Add Button	Click this button to add a new user, using the data shown on screen.
Clear Button	Use this button to clear the input fields, ready to add a new user.

Pan/Tilt Screen

This screen is displayed when the *Pan/Tilt* option on the *Video & Audio* menu is clicked.

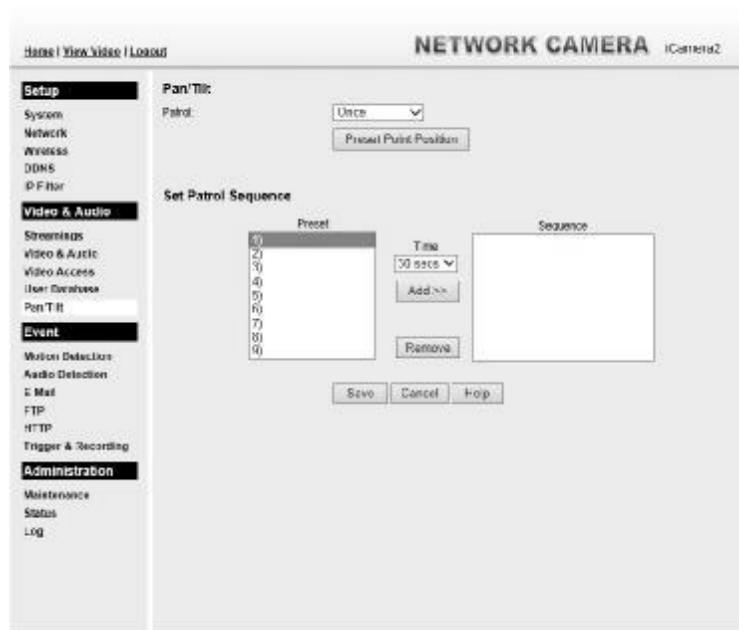


Figure 23: Pan/Tilt Screen

Data - Pan/Tilt Screen

Pan/Tilt	
Patrol	Select desired option for the patrol function.
Preset Point Position	Click this button to define the preset point position.
Set Patrol Sequence	
Set Patrol Sequence	<p>This feature determines how the camera will move when it is set to either "Once" or "Always" rotate. You can set a number of Preset Positions; the camera will go to the first position, then move through the list of present positions until it is finished. The camera will stop at the last position in the list.</p> <p>To create the Preset Sequence, select the desired Preset Position in the left column, and click the "Add >>" button. Repeat until the desired sequence is complete. Note that you can add the same Preset Position more than once; this can be used to make the camera stay longer at one position.</p> <p>To delete a position from the Sequence, select the desired position and click the "Remove" button.</p>
Time	This determines how long the camera will stay at each position while executing the sequence. Set this to the desired value.

Set Preset Position Screen

This screen is displayed when the *Preset Point Position* button on the *Pan/Tilt* screen is clicked.



Figure 24: Preset Point Position Screen

Data - Preset Point Position

Goto Center	Click this button to go to the center location.
Goto User Defined Home	Go to the user defined location.
Set User Defined Home	Set the calibration to the user defined location.
Preset List	Select the desired Preset. The screen will update with the current data for the selected Preset Position.
Preset Name	Enter a suitable name for the Preset Position. If no name is entered, the preset will have a number only.

Motion Detection Screen

This screen is displayed when the *Motion Detection* option on the *Event* menu is clicked.

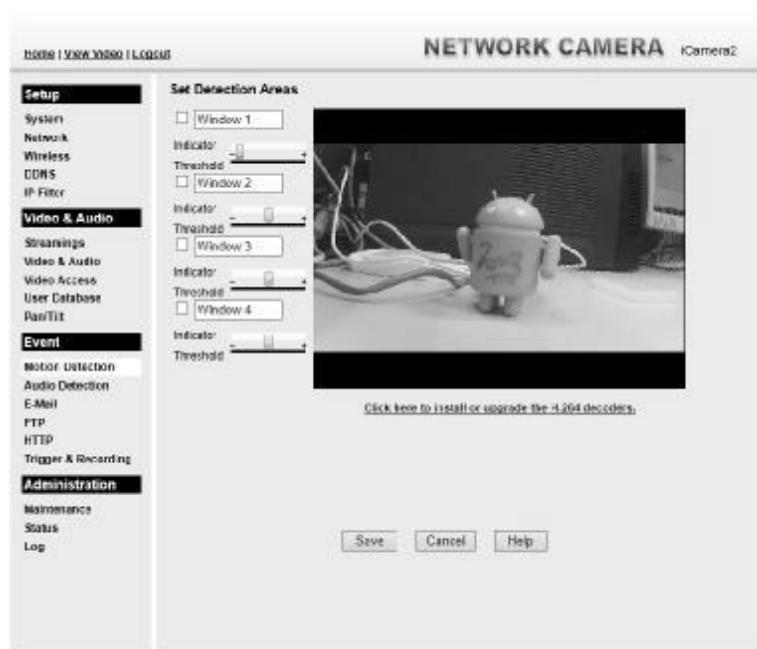


Figure 25: Motion Detection Screen

Data - Motion Detection Screen

Motion Detection	
Motion Enable	Enable this if you want to use motion detection. Note: Motion detection can be triggered by rapid changes in lighting condition, as well as by moving objects. For this reason, it should only be used indoors.
Indicator/ Threshold	Administrator needs to adjust the relation between indicator and threshold for each area.

Audio Detection Screen

This screen is displayed when the *Audio Detection* option on the *Event* menu is clicked.

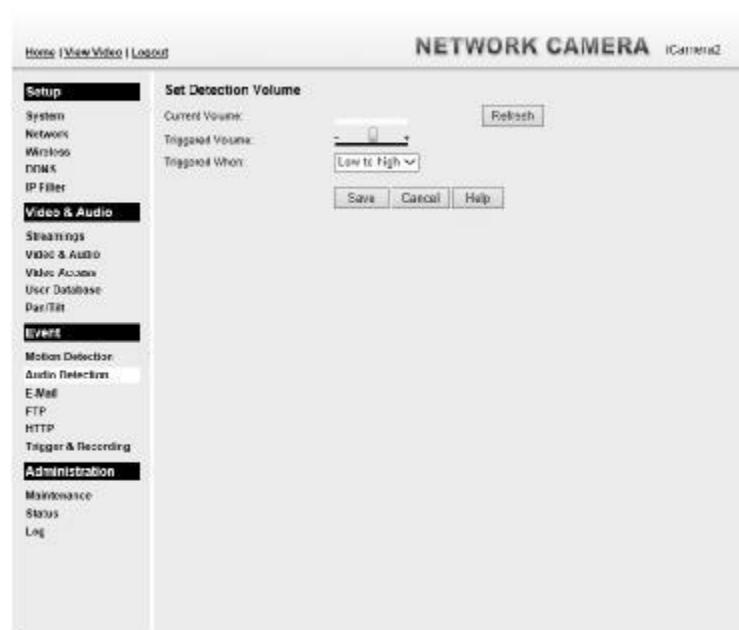


Figure 26: Audio Detection Screen

Data - Audio Detection Screen

Audio Detection	
Current Volume	It displays the current volume of the environment. Click <i>Refresh</i> to update the status.
Triggered Volume	Drag the bar to set the volume for triggering.
Triggered When	Choose the desired situation for triggering the audio detection.

E-Mail Screen

This screen is displayed when the *E-Mail* option on the *Event* menu is clicked.

The screenshot shows the 'E-Mail' configuration page for a 'NETWORK CAMERA'. The left sidebar contains a navigation menu with options like Home, View Video, Logout, Setup, System, Network, Wireless, DNS, IP Filter, Video & Audio, Streamings, Video & Audio, Video Access, User Database, Parallel, Event, Motion Detection, Audio Detection, E-Mail, FTP, HTTP, Trigger & Recording, Administration, Maintenance, Status, and Log. The 'Event' option is currently selected. The main panel is titled 'Primary SMTP Server' and includes fields for 'SMTP Server Address' (Port: 25), 'Authentication' (None), and 'Show "From" as' (Email Address). Below this is a 'Secondary SMTP Server' section with a checkbox for 'secondary SMTP' (disabled) and similar fields. Under 'E-Mail Setup', there are three 'E-Mail Address' fields, each with a 'With Attachment' checkbox checked. A 'Subject' field and 'Save', 'Cancel', and 'Help' buttons are also present. The top right corner of the interface shows the camera model 'iComera2'.

Figure 27: E-Mail Screen

Data - E-Mail Screen

Primary/Secondary SMTP Server	
SMTP Server Address	Enter the address of the SMTP (Simple Mail Transport Protocol) Server to be used to send E-Mail.
Authentication	Select the desired Authentication type for the SMTP Server.
SMTP Login name	Enter your login name for the SMTP Server.
SMTP Password	Enter your password for the SMTP Server.
POP server name	Enter the name for the POP Server.
Show "From" as	Enter the E-Mail address to be shown in the "From" field when the E-Mail is received.
Test the Server	Click this button to test the server connection.
Secondary SMTP	Check the box to upload to the Secondary SMTP if the camera can not connect to the primary SMTP.
E-Mail Setup	
E-mail Address	Enter at least one (1) E-Mail address; the 2nd and 3rd addresses are optional. The E-Mail alert will be sent to the E-Mail address or addresses specified here.
With Attachment	Enable the checkbox if you want to attaché files to the E-mail.
Subject	Enter the desired text to be shown as the "Subject" for the E-Mail when it is received. Subject can not exceed 48 alphanumeric characters.

FTP Screen

This screen is displayed when the *FTP* option on the *Event* menu is clicked.

The screenshot shows the 'NETWORK CAMERA iCamera2' configuration interface. On the left, there is a vertical navigation menu with the following items:

- Home | View Video | Logout
- Setup**
 - System
 - Network
 - Wireless
 - DDNS
 - IP Filter
- Video & Audio**
 - streamings
 - Video & Audio
 - Video Access
 - User Database
 - Pan/Tilt
- Event**
 - Motion Detection
 - Audio Detection
 - E-Mail
 - FTP
 - HTTP
 - Trigger & Recording
- Administration**
 - Maintenance
 - Status
 - Log

The main right panel is titled 'Primary FTP' and contains the following fields:

- FTP Server: [text input field] Port: [dropdown menu set to 21]
- Login Name: [text input field]
- Password: [text input field]
- Enable Passive Mode
- File Path Name: [text input field]

Below this is a section for 'Secondary FTP' with similar fields:

- Secondary FTP (enable this if the camera can not connect to the primary FTP)
- FTP Server: [text input field] Port: [dropdown menu set to 21]
- Login Name: [text input field]
- Password: [text input field]
- Enable Passive Mode
- File Path Name: [text input field]

At the bottom of the right panel are three buttons: Save, Cancel, and Help.

Figure 28: FTP Screen

Data - FTP Screen

Primary/Secondary FTP	
FTP Server	Enter the address of the FTP Server.
Port	Enter the Port of the FTP Server to be connected.
Login name	Enter your login name for the FTP Server.
Password	Enter your password for the FTP Server.
Enable Passive Mode	Check the box to enable the Passive mode feature of the FTP.
File Path Name	Enter the file path/name of the FTP.
Test the Server	Click this button to test the server connection.
Secondary FTP	Check the box to upload to the Secondary FTP if the camera can not connect to the primary FTP.

HTTP Screen

This screen is displayed when the *HTTP* option on the *Event* menu is clicked.

The screenshot shows the 'HTTP(s) Notification' and 'HTTP(s) POST' sections of the configuration interface. The 'HTTP(s) Notification' section includes fields for URL, User Name, Password, Proxy Server Name, Proxy User Name, Proxy Password, Proxy Port Number, and Method (set to GET). The 'HTTP(s) POST' section includes an 'Enable' checkbox, Login Name, Password, and POST URL. A sidebar on the left lists various setup categories like Setup, Video & Audio, Event, and Administration.

Figure 29: HTTP Screen

Data - HTTP Screen

HTTP(s) Notification

URL	Enter the URL of your HTTP notification server.
User Name	Enter the user name of your HTTP server.
Password	Enter the password to match the user name above.
Proxy Server Name	Specify the proxy server name in the provided field if the camera needs to pass through a Proxy Server to do the HTTP notification.
Proxy User Name	Enter the user name for the proxy server.
Proxy Password	Enter the password for the proxy server.
Proxy Port Number	Enter the port number for the proxy server.
Method	Select the desired method of form data encoding. <ul style="list-style-type: none">• Get - It should be used if and only if the form processing is independent, which typically means a pure query form. Generally it is advisable to do so.• Post - If there are problems related to long URLs and non-ASCII character repertoires, which can make it necessary to use "POST" even for independent processing.

HTTP(s) Post

Login Name	Enter the login name of your HTTP post server.
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Password	Enter the password to match the user name above.
Post URL	Enter the URL of your HTTP post server.

Trigger & Recording Screen

This screen is displayed when the *Trigger & Recording* option is clicked.

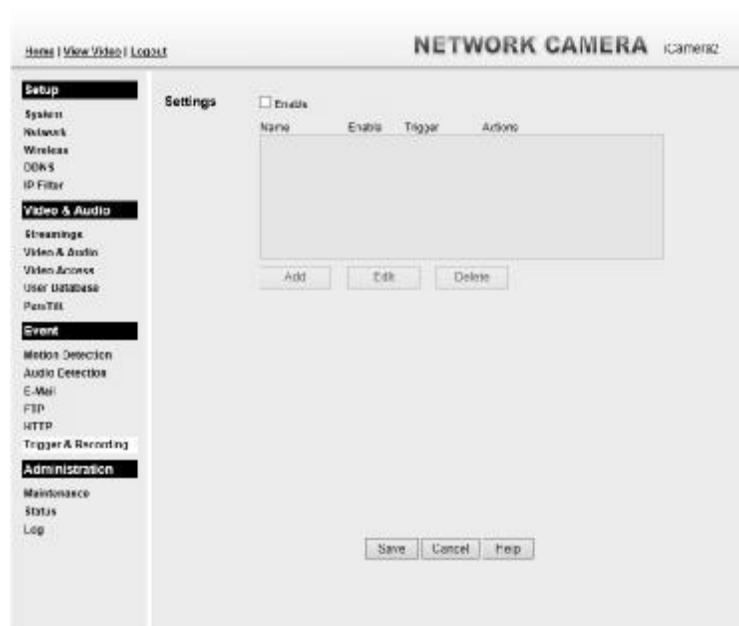


Figure 30: Trigger & Recording Screen

Data - Trigger & Recording Screen

Event Schedule	
Schedule List	The Event Schedule shows all of the event types currently configured in the Waterproof HD IP Camera, along with various information about their configuration, as listed below: <ul style="list-style-type: none">• Name - the descriptive event name set by the user.• Enable - shows the event is enable or disable.• Trigger - shows what kind trigger activate the event.• Actions - shows what kind of the actions will be issued when the event is triggered.
Add, Edit, Delete	Use these buttons to manage the schedule list.

Add a new Schedule

Name:

Schedule

- Always
- Schedule
 - Sun Mon Tue Wed Thu Fri Sat
 - From : To : (hh:mm)
- Never (Disabled)

Trigger

- Motion Detection
- Audio Detection
- HTTP CGI
- Periodically

Interval: (0-999) Second(s) before detecting the next event.

Action

- HTTP
- E-Mail
- FTP
- HTTP/HTTPS Post

Figure 31: Add schedule screen

Name	Enter the name of the schedule.
Schedule	
Schedule	Choose the desired option: <ul style="list-style-type: none"> <input checked="" type="radio"/> Always <input type="radio"/> Schedule <input type="radio"/> Never
Trigger Event	
Trigger by	<ul style="list-style-type: none"> <input checked="" type="radio"/> Motion Detection - Movement in a motion detection window can be used to trigger events. <input type="radio"/> Audio Detection - The sound detection can be used to trigger events. <input type="radio"/> HTTP Trigger- If checked, a HTTP CGI command will be delivered to the HTTP server. <input type="radio"/> Periodically - If checked, the events will be triggered at regular intervals of time. <p>Interval - Select the desired interval from the list.</p>
Actions	<ul style="list-style-type: none"> <input type="checkbox"/> HTTP - If checked, a HTTP notification will be delivered to the HTTP server. <input type="checkbox"/> E-Mail - If checked, an E-Mail (with "Attachment") will be delivered to the SMTP server. (SMTP Server must be configured on the E-Mail page.) <input type="checkbox"/> FTP - If checked, an FTP upload will be activated to the FTP server. (FTP servers must be configured on the FTP page.) <input type="checkbox"/> HTTP/HTTPS Post - If checked, a HTTP notification will be delivered to the HTTP post server.

Attachment Type	<ul style="list-style-type: none">• Pre/Post Capture - Select the desired length. The size of the file depends on this setting, and also the Video size and degree of compression.
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Maintenance Screen

The screenshot shows the Maintenance Screen of a NETWORK CAMERA (iCamera2). On the left, a sidebar lists various setup categories: Setup, System, Network, Wireless, DNS, IP Filter, Video & Audio, Event, Administration, and Log. The 'Administration' section is currently selected. The main area contains three main sections: 'Administrator Login' (with fields for Admin ID and Password), 'Firmware Upgrade' (with a file selection field and a 'Start' button), and 'Backup & Restore' (with fields for Backup Configuration File and Motion Configuration File, and buttons for Backup, Restore, Defaults, and Restart). At the bottom right are 'Help' and 'Logout' buttons.

Figure 32: Maintenance Screen

Data - Maintenance Screen

Administrator Login

Administrator ID	Enter the name for the Administrator here. Spaces, punctuation, and special characters must NOT be used in the name.
Administrator Password	The password for the Administrator.
Verify Password	Re-enter the password for the Administrator, to ensure it is correct.

Firmware Upgrade

Upgrade File	Click the "Browse" button and browse to the location on your PC where you stored the Firmware file. Select this file.
Start	Click this button to start the Firmware. When the upgrade is finished, the iCamera2 will restart, and this management connection will be unavailable during the restart.
Clear File Name	This does NOT stop the Upgrade process if it has started. It only clears the input for the "Upgrade File" field.

Backup & Restore	
Backup Configuration File	Click <i>Backup</i> button to save the current configuration information to a text file. It is suggested to backup the configuration file, in order to restore the camera easily.
Restore Configuration File	Click <i>Restore</i> button to reinitialize the camera to load the new updated software. Do this after loading the upgrade file.
Clear File Name	This does NOT stop the Restore process if it has started. It only clears the input for the "Restore Configuration File" field.
Restore Factory Defaults	Click <i>Defaults</i> button to reloads all default settings on the camera.
Restart Camera	Click <i>Restart</i> button to restarts the camera.

Status Screen



Figure 33: Status Screen

Data - Status Screen

System	
Device Name	This shows the name of the iCamera2.
Description	This shows the description of the iCamera2, such as location.
F/W version	The version of the current firmware installed.
Network	
MAC Address	The current IP address of the iCamera2.
IP Address	The IP Address of the Network Camera.
Network Mask	The network mask associated with the IP address above.
Gateway	The IP Address of the remote Gateway associated with the IP Address above.
WINS Address	The IP Address of the WINS server.
Wireless	
WSC PIN Code	It displays the current WSC PIN code.
SSID	This displays the wireless SSID.

Channel	This shows the wireless channel currently used.
Security	The current security setting for Wireless connections.
Signal Strength	This shows the strength of the signal.
Streaming (1~3)	
Video Format	It displays the current format of video.
Resolution	The image size of the video stream.
Video Quality	This displays the image quality of the video stream.
Frame Rate	This displays the frame rate of the video stream.
Buttons	
Refresh	Update the log and any other data on screen.

Log Screen

This screen displays a log of system activity.

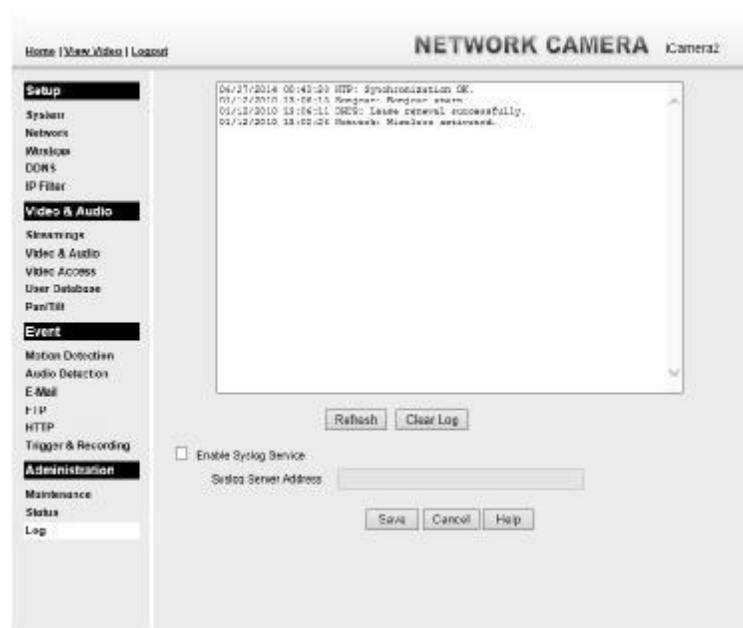


Figure 34: Log Screen

Data - Log Screen

Log	
System Log	This is a log of system activity.
Refresh Button	Click this to update the data shown on screen.
Clear Log	Click this button to restart the log.
Enable Syslog Service	Check the box to enable the System Log Server feature.
Syslog Server Address	Enter the address of the Syslog Server.

Chapter 7



Troubleshooting

This chapter covers the most likely problems and their solutions.

Overview

This chapter covers some common problems that may be encountered while using the iCamera2 and some possible solutions to them. If you follow the suggested steps and the iCamera2 still does not function properly, contact your dealer for further advice.

Problems

Problem 1: **I can't connect to the iCamera2 with my Web Browser to configure it.**

Solution 1: It is possible that your PC's IP address is not compatible with the IP address of the iCamera2.

Problem 2 **When I try to connect to the iCamera2, I get prompted for a user name and password.**

Solution 2 You SHOULD be prompted for a user name and password if trying to access the *Administration* menu.
Enter the *Administrator ID* and *Administrator Password* set on the *Maintenance* screen.

If you are just trying to view Video, the User Name/Password prompt indicates that the Administrator has restricted access to specified users. Ask the Administrator for your User Name and Password.

Problem 3 **I can't connect to the iCamera2 using a Wireless connection.**

Solution 3 1) If a LAN cable is connected to the LAN port, the Wireless interface is disabled. Only one interface can be active.
2) Check that your PC and the iCamera2 have compatible Wireless settings.

- Mode (Infrastructure or Ad-hoc) must be correct.
- ESSID must match.
- WEP settings must match.
- In Ad-hoc mode, the Channel should match, although this is often not required.

Problem 4 **Video quality may suddenly deteriorate.**

Solution 4 This can happen when an additional viewer connects to the iCamera2, overloading the camera or the available bandwidth. The image size and quality can be adjusted to cater for the required number of viewers and the available bandwidth.

Problem 5	The motion detection feature doesn't send me any E-mail.
Solution 5	It may be that the SMTP (Simple Mail Transport Protocol) server used by the camera to send the E-Mail will not accept mail. (This is to prevent spam being sent from the server.). Try using a different SMTP server, or contact your ISP to see if SMTP access is being blocked.
Problem 6	Using the motion detection feature, I receive E-Mails which don't show any moving objects.
Solution 6	The motion detection feature doesn't actually detect motion. It compares frames to see if they are different. Major differences between frames are assumed to be caused by moving objects. But the motion detector can also be triggered by: <ul style="list-style-type: none"> • Sudden changes in the level of available light • Movement of the camera itself. Try to avoid these situations. The motion detection feature works best in locations where there is good steady illumination, and the camera is mounted securely. This feature can NOT be used if the camera is outdoors.
Problem 7	The image is blurry.
Solution 7	Try cleaning the lens, or adjusting the <i>Video Quality Control</i> setting on the <i>Streamings</i> screen. Video created by the lower settings will contain less detail; this is the trade-off for using less bandwidth.
Problem 8	When is the best time to press WPS button?
Solution 8	If there is no cable connected, you can press the WPS button after the <i>Power</i> LED starts blinking.
Problem 9	In some older Window XP systems, it may not be able to see H.264 video streaming.
Solution 9	In order to view H.264 video streaming in the older Window XP systems, please install the Microsoft .net framework 2.0 or later version, so the system will be able to deploy the built-in H.264 decoder of the camera.
Problem 10	I use the camera via IE browser in protected mode of Windows Vista/7, there is no local recording/setup feature to be used. Even if I run it with IE browser in non-protected mode of Windows 7, the folder like "Windows" still can not be accessed. (There is no recording files found in this folder as well)
Solution 10	There will be no local recording files and the setup service of associated folder if the IE browser is in protected mode. To use the local recording feature, please operate IE browser in non-protected mode. Note! Some folders (ex. "Windows" folder) with high integrity level can not be accessed via non-protected mode of IE in Window 7.

Appendix A

Specifications

iCamera2

Model	iCamera2
Dimensions	76.8mm (W) x 76.8mm (H) x 32.7mm (D) (without stand)
Operating Temperature	0° C to 45° C
Video compression	H.264 and MJPEG
Network Interface	1 Ethernet 10/100BaseT (RJ45)
Storage Temperature	-20° C to 60° C
LEDs	3
Power Adapter	12V/1A

Regulatory Approvals

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices).

FCC Radiation Exposure Statement

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

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

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

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

IC Approvals

CAN-ICES-3 (B)/ NMB-3(B)

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

Radiation Exposure Statement:

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

Déclaration d'exposition aux radiations:Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

CE Approvals

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