LevelOne

User Manual

FCS-0040 10/100Mbps Network Camera

WCS-0040 11b/g/n Wireless Network Camera

Ver. 1.0-1011
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Table of Contents

Default Settings

IP Address	DHCP
User Name	administrator
Password	null (no password)

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If you would like a copy of the GPL or other open source code in this software on a physical CD medium, LevelOne (Digital Data Communications) offers to mail this CD to you upon request, for a price of US$9.99 plus the cost of shipping.

Chapter 1

Introduction

This Chapter provides details of the FCS-0040/WCS-0040's features, components and capabilities.

Overview

The FCS-0040/WCS-0040 has an Integrated Microcomputer and a high quality Mega Pixel Omni Vision CMOS Sensor, enabling it to display high quality live streaming video over your wired LAN, the Internet, and for the FCS-0040/WCS-0040, an 802.11N Wireless LAN.

Using enhanced H.264 technologies, the FCS-0040/WCS-0040 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.

A convenient and user-friendly Windows program is provided for both viewing and recording video. If necessary, you can even view video using your Web Browser, on a variety of software platforms.

Features

- ***Standalone Design.*** The FCS-0040/WCS-0040 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.
- ***Triple Video Support.*** The FCS-0040/WCS-0040 can support H.264, MPEG4 and MJEPG video for different image compression.
- ***Stream Live Video to Multiple Users.*** The video encoder and HTTP/HTTPS server built into the camera generate a ready-to-view video stream. Just connect to the camera using your Web browser or the provided Windows utility 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 FCS-0040/WCS-0040 has the features you need.
- ***Multi-Protocol Support.*** Supporting TCP/IP networking, SMTP (E-mail), HTTP and other Internet related protocols, the FCS-0040/WCS-0040 can be easily integrated into your existing network.
- ***Easy Configuration.*** A Windows-based Wizard is provided for initial setup. Subsequent administration and management can be performed using a standard web browser. The administrator can configure and manage the FCS-0040/WCS-0040 via the LAN or Internet.
- ***Viewing/Recording Utility.*** A user-friendly Windows utility is provided for viewing live video. For periods when you are absent, or for scheduled recording, this application also allows you to export video to your PC. The recorded files are in a standard Windows Media format, and thus usable by a wide variety of programs if required.
- ***Motion Detection.*** This feature can detect motion in the field of view. The FCS-0040/WCS-0040 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, an E-mail alert can be sent, or some other action may be triggered.
- ***Flexible Scheduling.*** You can limit access to the video stream to specified 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 FCS-0040/WCS-0040 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. You can use the built-in microphone.

Internet Features

- ***User-definable HTTP/HTTPS port number***. This allows Internet Gateways to use "port mapping" so the FCS-0040/WCS-0040 and a Web Server can share the same Internet IP address.
- ***DDNS Support.*** In order to view video over the Internet, users must know the Internet IP address of the gateway used by the FCS-0040/WCS-0040. But if the Gateway has a dynamic IP address, DDNS (Dynamic DNS) is required. Since many existing Gateways do not support DDNS, this function is incorporated into the FCS-0040/WCS-0040.
- ***NTP (Network-Time-Protocol) Support.*** NTP allows the FCS-0040/WCS-0040 to calibrate its internal clock from an Internet Time-Server. This ensures that the time stamp on Video from the FCS-0040/WCS-0040 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 FCS-0040/WCS-0040 Administrator.

Wireless Features (WCS-0040 Only)

- ***Supports 11n Wireless Stations.*** The WCS-0040 802.11n Draft 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 FCS-0040/WCS-0040 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 Wireless Access Point, or entering a PIN code if there's no button.

Physical Details - FCS-0040/WCS-0040

1. Built-in Mic
2. Reset
3. Audio Out
4. Stand Socket
5. Network
6. Power

Front - FCS-0040/WCS-0040

Microphone	The built-in microphone is mounted on the front.
Power LED (Green)	**On** - Power on. **Off** - No power. **Blinking** - The *Power* LED will blink during start up. This will take 15 to 20 seconds.
Active LED (Green)	**Off** - No user is viewing the camera. **Blinking** - User(s) is viewing the camera.
Network LED (Green, Amber)	**On (Green)** - Wireless or LAN connection is available. **Off** - Wireless or LAN is not connected or camera is not sending/receiving data. **Blinking (Green)** - Data is being transmitted or received via the LAN or Wireless connection. **On (Amber)** - If the LED is on, the WPS is not processing successfully. **Blinking (Amber)** - WPS function is being processed.

Rear - FCS-0040/WCS-0040

Antenna (Only WCS-0040)	Attach the supplied antenna here. The antenna is adjustable; best results are usually obtained with the antenna positioned vertically.
Speaker out	If required, an external speaker can be plugged in here.
Power Input	Connect the supplied 12V power adapter here. Do not use other power adapters; doing so may damage the camera.
LAN port	Use a standard LAN cable to connect your FCS-0040/WCS-0040 to a 10/100BaseT hub or switch. **Note:** • Plugging in the LAN cable will disable the Wireless interface. Only 1 interface can be active at any time. • The LAN cable should only be connected or disconnected when the camera is powered OFF. Attaching or detaching the LAN cable while the camera is powered on does NOT switch the interface between wired and wireless.

Reset+WPS Button (WCS-0040 Only)

This is 2-in-1 button for WCS-0040 only,

1. Push the WPS button on the device and on your other wireless device to perform WPS function that easily creates an encryption-secured wireless connection automatically.

- **WPS PBC Mode**. When pressed and released (less then 3 seconds), the FCS-0040/WCS-0040 will be in the WPS PBC mode (Auto link mode).
- **WPS Pin Code Mode**. When pressed and held for over 3 seconds, the FCS-0040/WCS-0040 will be in the WPS Pin Code mode.

2. This button is recessed; you need a pin or paper clip can be used to depress it. It can be activated at any time the camera is in the "ready" mode.

- Reset to manufacturer default valued and reboot. When pressed and held over 10 seconds, the settings of FCS-0040/WCS-0040 will be set to their default values.

Note:

After this procedure is completed, the Power LED will blink three times to confirm that the reset was completed successfully.

Reset Button (FCS-0040)

This button is recessed; you need a pin or paper clip can be used to depress it. It can be activated at any time the camera is in the "ready" mode.

- Reset to manufacturer default valued and reboot. When pressed and held over 10 seconds, the settings of FCS-0040/WCS-0040 will be set to their default values.

Note:

After this procedure is completed, the Power LED will blink three times to confirm that the reset was completed successfully.

Package Contents

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

1. FCS-0040/WCS-0040
2. Camera Stand
3. Antenna (WCS-0040 Only)
4. Power adapter
5. Installation CD-ROM
6. Quick Installation Guide

Chapter 2

Basic Setup

This Chapter provides details of installing and configuring the FCS-0040/WCS-0040.

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 WCS-0040, 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 - FCS-0040/WCS-0040

1. Assemble the Camera

On the WCS-0040, screw the supplied antenna to the mounting point on the rear.

2. Connect the LAN Cable

Connect the FCS-0040/WCS-0040 to a 10/100BaseT hub or switch, using a standard LAN cable.

For the WCS-0040, this will disable the Wireless Interface. The Wireless and LAN interfaces cannot be used simultaneously. Using the LAN interface is recommended for initial configuration. After the Wireless settings are correct, the Wireless interface can be used.

The first time you connect to the camera, you should connect the LAN cable and configure the FCS-0040/WCS-0040 with appropriate settings. Then you can unplug the LAN cable and power off the camera. The FCS-0040/WCS-0040 will be in wireless interface when you power on the camera again.

3. Power Up

Connect the supplied 12Vpower adapter to the FCS-0040/WCS-0040 and power up. 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 - FCS-0040/WCS-0040* in Chapter 1.

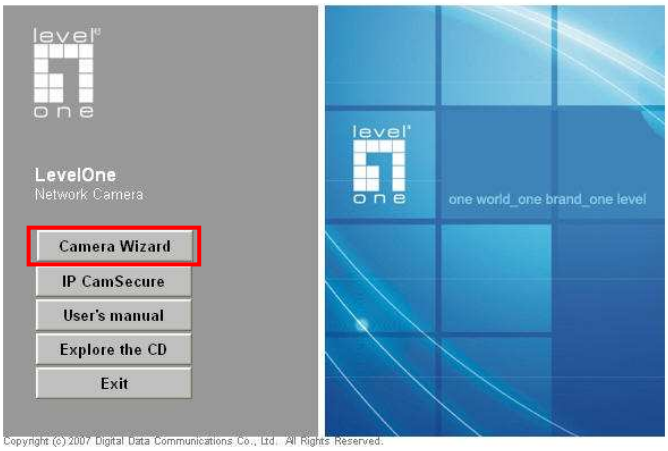
Setup using the Windows Wizard

Initial setup should be performed using the supplied Windows-based setup Wizard. This program can locate the FCS-0040/WCS-0040 even if its IP address is invalid for your network. You can then configure the FCS-0040/WCS-0040 with appropriate TCP/IP settings for your LAN.

Subsequent administration can be performed with your Web browser, as explained in ***Chapter 5 - Web-based Management***.

Setup Procedure

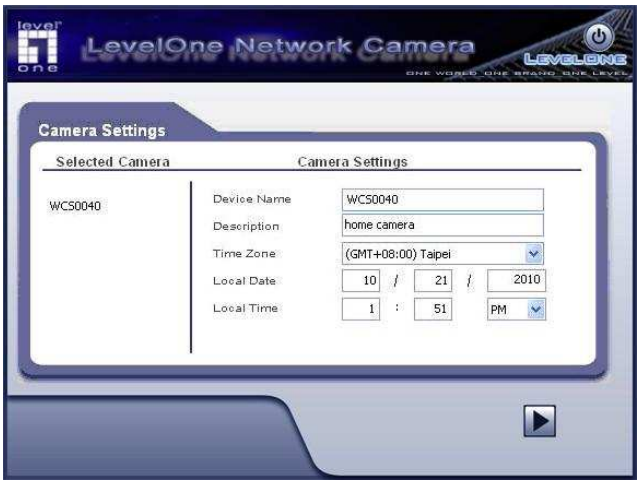
1. Insert the supplied CD-ROM into your drive. If the setup program does not start automatically, select your CD-ROM drive manually to open the set up page.
2. Select "**Camera Wizard**"->"**Setup Camera**" to initiate the installation.



3. The screen will list all the FCS-0040/WCS-0040s on the LAN. Select the desired camera from the list on the left. The settings for the camera will be displayed on the right, then click  .

4. You will be prompted to enter the Administrator Name and Administrator Password, as shown below. Enter "**administrator**" for the name, and leave the password blank. Otherwise, enter the Administrator Name and Administrator Password set on the **Maintenance** screen.

5. This screen allows you to enter a suitable **Description**, and set the correct **Time Zone**, **Date**, and **Time**. Make any desired changes, then click  to continue.



6. On the following **IP Address Settings** screen, shown below, choose Fixed IP Address, Dynamic IP Address or PPPoE.

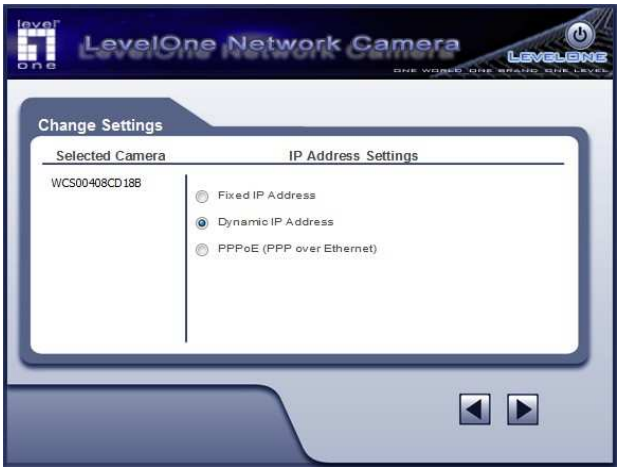
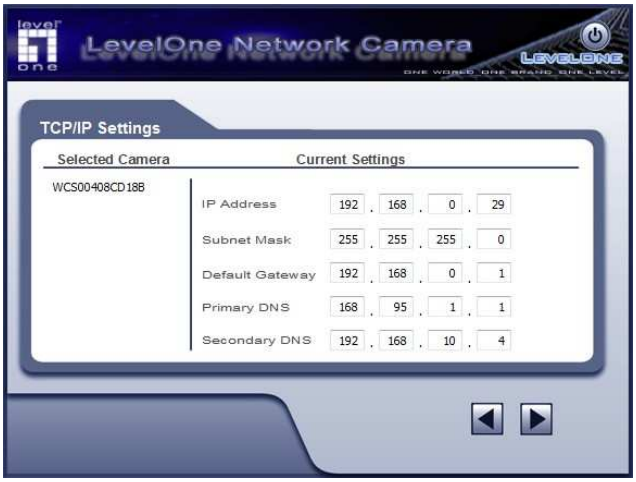


Figure 1: Fixed or Dynamic IP Selection

- *Fixed IP Address* is recommended, and can always be used.
- *Dynamic IP Address* can only be used if your LAN has a DCHP Server.
- *PPPoE (PPP over Ethernet)* is the most common login method, widely used with DSL modems.

Click to continue.

7. If you chose *Fixed IP Address*, the following **TCP/IP Settings** steps.



- Enter an unused **IP Address** from within the address range used on your LAN.
- The **Subnet Mask** and **Default Gateway** fields must match the values used by PCs on your LAN.
- The **Primary DNS** address is required in order to use the E-mail alert or Dynamic DNS features. Enter the DNS (Domain Name Server) address recommended by your ISP.
- The **Secondary DNS** is optional. If provided, it will be used if the Primary DNS is unavailable.

Click to continue.

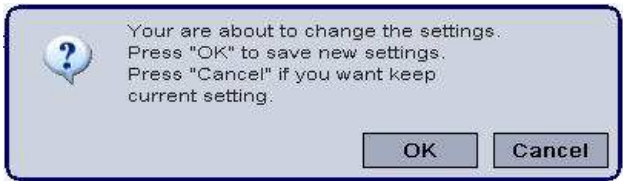
8. If you chose *PPPoE*, the following **PPPoE Settings** steps.

- Enter the **User Name** provided by your ISP.
- Enter the **Password** for the user name above.

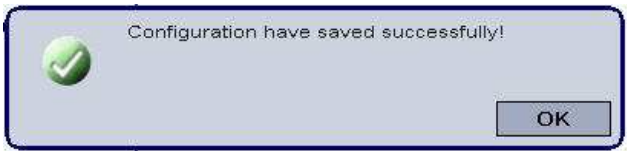
Click  to continue.

9. The screen displays all details of the FCS-0040/WCS-0040. Click  if the settings are correct, or click  to modify any incorrect values.

10. Click **OK** to save the new settings. Or click **Cancel** to cancel your changes,.



11. The configurations have been saved. Click **OK** to quit the program.



Clicking the *Install Utility* button will install the Viewing/Recording utility described in ***Chapter 6 - Windows Viewing/Recording Utility***.

12. Click *Exit* to end the Wizard.
Setup is now complete.

Chapter 3

Viewing Live Video

This Chapter provides basic information about viewing live video.

Overview

After finishing setup via the Windows-based Wizard, all LAN users can view live video using Internet Explorer on Windows.

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

But many other powerful features and options are available:

- To view multiple cameras simultaneously, or record video (either interactively or by schedule), you should install the Windows Viewing/Recording utility. Refer to ***Chapter 6 - Windows Viewing/Recording Utility*** for details on installing and using this program.
- 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

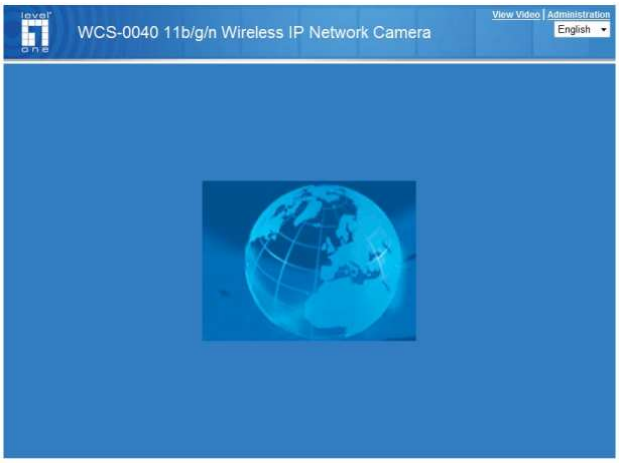
To view the live video stream generated by the FCS-0040/WCS-0040, you need to meet the following requirements:

- Windows XP, 32-bit Windows Vista/Windows 7.
- Internet Explorer 6 or later, Firefox 3.0 or later.

Connecting to a Camera on your LAN

To establish a connection from your PC to the FCS-0040/WCS-0040:

1. Use the Windows utility to get the IP address of the FCS-0040/WCS-0040.
2. Start Internet Explorer.
3. In the Address box, enter "HTTP://" and the IP Address of the FCS-0040/WCS-0040.
4. When you connect, the following screen will be displayed.



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 FCS-0040/WCS-0040 administrator.
7. The first time you connect to the camera, you will be prompted to install an ActiveX component (OCX or CAB file), as in the example below.

You must install this ActiveX component (OCX or CAB file) in order to view the Video stream in Internet Explorer. Click the "Yes" button to install the ActiveX component.

8. 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 FCS-0040/WCS-0040 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:

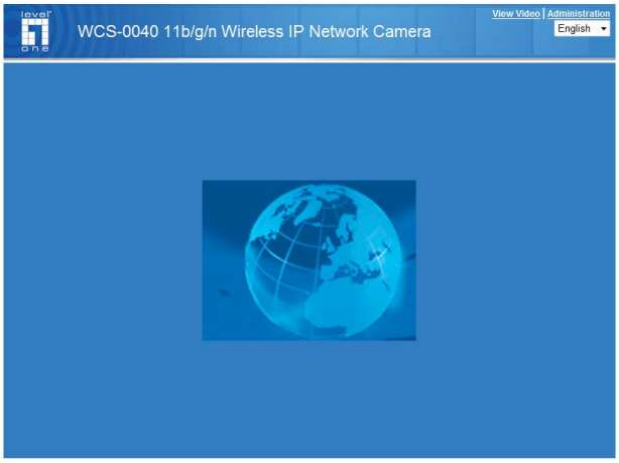
   `HTTP://203.70.212.52:1024`

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

   Example using a Domain Name:

   `HTTP://mycamera.dyndns.tv:1024`

   Where the Domain name (using DDNS in this example) is `mycamera.dyndns.tv` and the HTTP port number is `1024`.
4. When you connect, the following screen will be displayed.



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 FCS-0040/WCS-0040 administrator.
7. The first time you connect to the camera, you will be prompted to install an ActiveX component (OCX or CAB file), as in the example below.
   You must install this ActiveX component (OCX or CAB file) in order to view the Video stream in Internet Explorer. Click the "Yes" button to install the ActiveX component.

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 ActiveX component, you will be able to view the live video stream in its own window, as shown below.

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.

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*960), click this button to see the full size of the image.
	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.
	**Snapshot.** Click this to take a single JPEG "snapshot" image of the current video.
	**Speaker On/Off.** Use this button to turn the PC's speaker on or off.
	**Microphone On/Off.** Use this button to toggle the microphone on or off.
	**Setup.** Select the desired folder to save the file.

Chapter 4

Advanced Viewing Setup

This Chapter provides information about the optional settings and features for viewing video via the FCS-0040/WCS-0040. 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 FCS-0040/WCS-0040 Administrator can adjust the Video image.

To Adjust the Video Image:

1. Connect to the Web-based interface of the FCS-0040/WCS-0040. (See ***Chapter 5 - Web-based Management*** for details.)
2. Select *Administration*, then *Streamings*. You will see a screen like the example below.

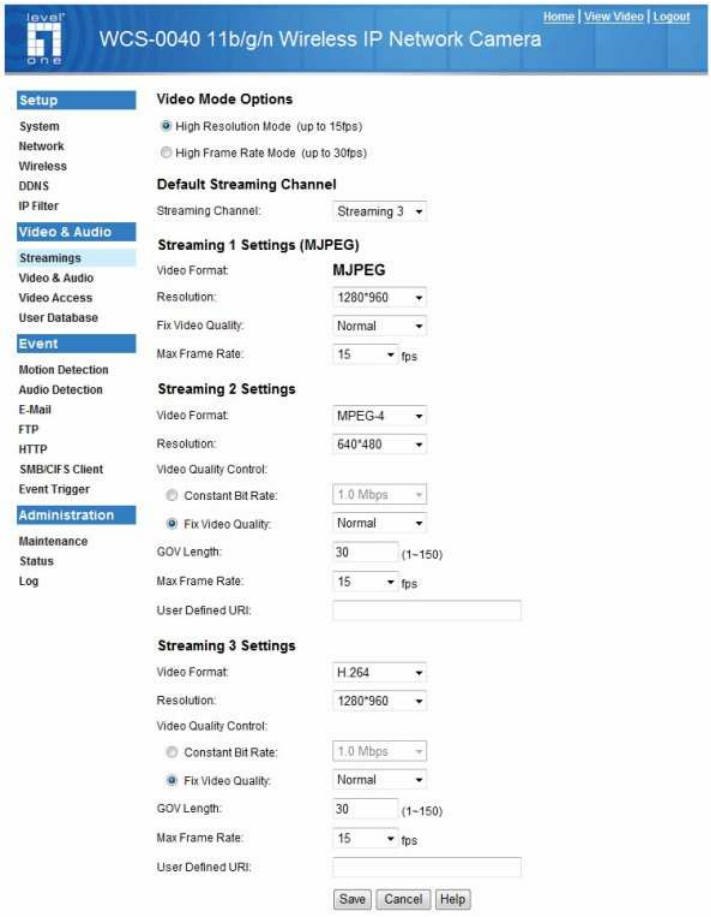


Figure 2: Streamings Screen

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

Video Mode Options	Select either "High Resolution Mode" or "High Frame Rate Mode".
Default Streaming Channel	Select the default channel for streaming from the drop-down list.
Streaming 1 Settings (MJPEG)	
Video Format	This displays the default format.
Resolution	Select the desired video resolution format. The default resolution is set to 1280*960.
Fixed Video Quality	Select the desired option. The default fix quality is set to Normal.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is **15**.
Streaming 2/3 Settings	
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	• Constant Bit Rate: Select the desired bit rate. • Fixed Quality: Select the desired option.
GOV Length	Enter the desired value between 1 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is **15**.
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 FCS-0040/WCS-0040 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:

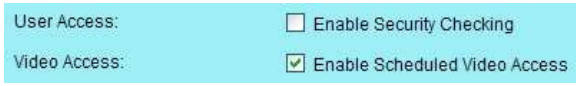
1. Connect to the Web-based interface of the FCS-0040/WCS-0040. (See ***Chapter 5 - Web-based Management*** for details.)
2. Select *Administration*, then *Video Access.*
3. Set the desired options for **Access**.

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.



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

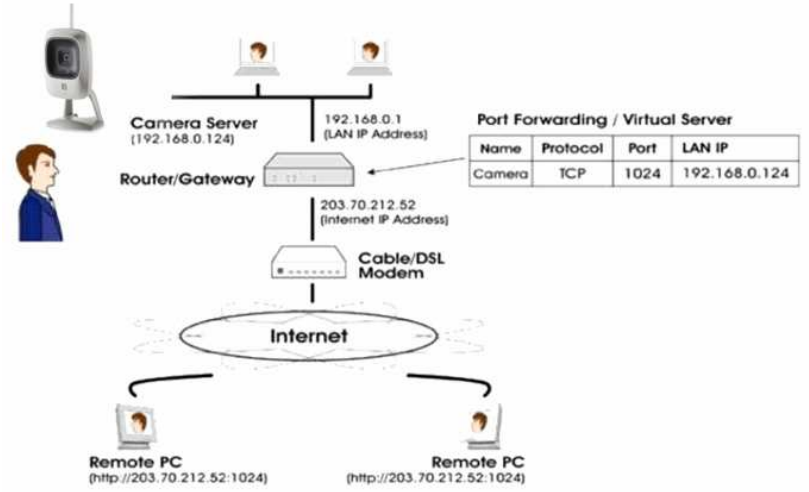
Making Video available from the Internet

If your LAN is connected to the Internet, typically by a Broadband Gateway/Router and Broadband modem, you can make the FCS-0040/WCS-0040 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 FCS-0040/WCS-0040. The Router/Gateway uses the *Port Number* to determine which incoming connections are intended for the FCS-0040/WCS-0040.

This feature is normally called *Port Forwarding* or *Virtual Servers*, and is illustrated below. The Port Forwarding/Virtual Server entry tells the Router/Gateway that incoming TCP connections on port 1024 should be passed to the FCS-0040/WCS-0040. If necessary, check the user manual for your Router/Gateway for further details.



Note!

The "Port" for the *Port Forwarding / Virtual Server* entry above is the " Secondary Port" number specified on the *Network* screen of the FCS-0040/WCS-0040.

Network Camera Setup

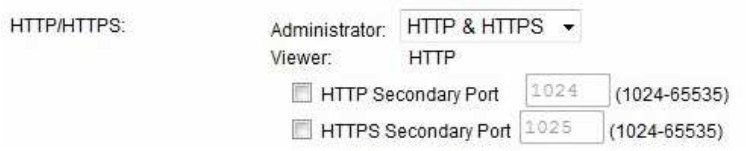
The FCS-0040/WCS-0040 configuration does NOT have be changed, unless:

- You wish to change the port number from the default value.
- You wish to use the DDNS (Dynamic DNS) feature of the FCS-0040/WCS-0040.

HTTPS Port Configuration

Normally, HTTP (Web) connections use port 80. Since the FCS-0040/WCS-0040 uses HTTP, but port 80 is likely to be used by a Web Server, you can use a different port for the FCS-0040/WCS-0040. This port is called the *Secondary Port*.

The default *HTTP/HTTPS Secondary Port* is 1024/1025. If you prefer to use a different port number, you can specify the port number on the FCS-0040/WCS-0040's ***Network*** screen, as shown below.



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.

DDNS (Dynamic DNS)

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, by allowing users to connect to your LAN using a domain name, rather than an IP address.

To use DDNS:

1. Register for the DDNS service with a supported DDNS service provider. You can then apply for, and be allocated, a Domain Name.
2. Enter and save the correct DDNS settings on the ***DDNS*** screen of the FCS-0040/WCS-0040.
3. Both Router and Camera should use the same port number for DDNS service.

4. Operation is then automatic:
    - The FCS-0040/WCS-0040 will automatically contact the DDNS server whenever it detects that the Internet IP address has changed, and inform the DDNS server of the new IP address.
    - Internet users can then connect to the camera using the Domain Name allocated by the DDNS service provider.
      Example: `HTTP://mycamera.dyndns.tv:1024`
      mycamera.dyndns.tv is domain host name. 1024 is the 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 FCS-0040/WCS-0040 is `1024`.

Example - Domain Name:

```
HTTP://mycamera.dyndns.tv:1024
```

Where the Router/Gateway's Domain name is `mycamera.dyndns.tv` and the "Secondary Port" number on the FCS-0040/WCS-0040 is `1024`.

Motion Detection Alerts

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

The FCS-0040/WCS-0040 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 FCS-0040/WCS-0040, select the *Motion Detection* screen, then configure this screen as described below.

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 *Event Trigger* screen.
4. Save your changes.

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

Chapter 5

Web-based Management

This Chapter provides Setup details of the FCS-0040/WCS-0040's Web-based Interface. This Chapter is for the Camera Administrator only.

Introduction

The FCS-0040/WCS-0040 can be configured using your Web Browser. The FCS-0040/WCS-0040 must have an IP address which is compatible with your PC.

The recommended method to ensure this is to use the supplied Windows-based Wizard, as described in ***Chapter 2 - Basic Setup***.

Connecting to Network Camera

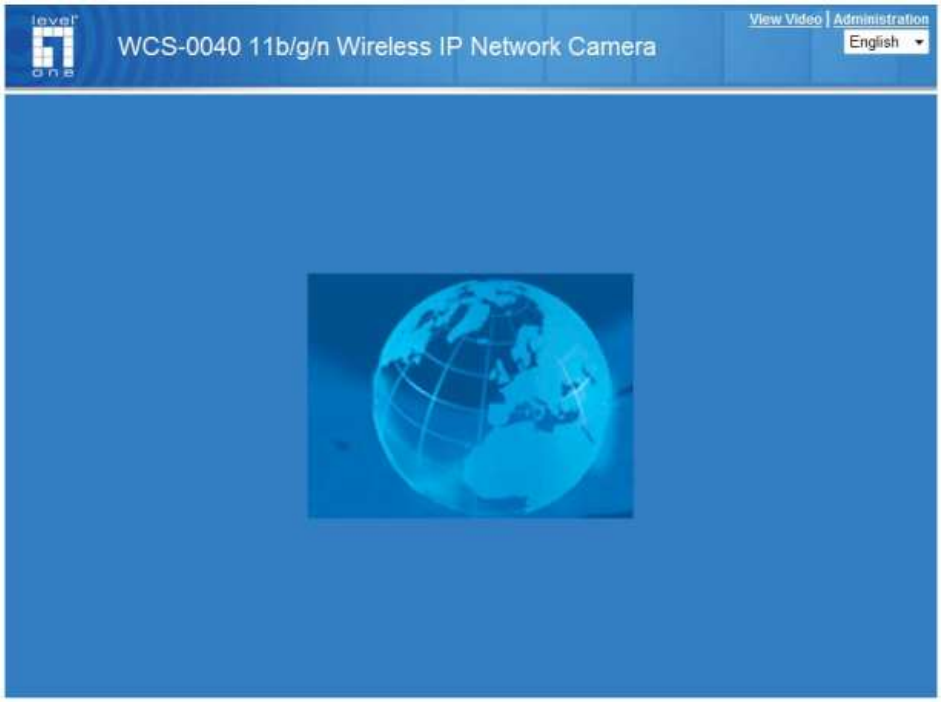
- If using only your Web Browser, use the following procedure to establish a connection from your PC to the FCS-0040/WCS-0040:
- Once connected, you can add the FCS-0040/WCS-0040 to your Browser's *Favorites* or *Bookmarks*.

Connecting using your Web Browser

1. Use the Windows utility to get the IP address of the FCS-0040/WCS-0040.
2. Start your WEB browser.
3. In the Address box, enter "HTTP:///" and the IP Address of the FCS-0040/WCS-0040.
4. 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.



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 FCS-0040/WCS-0040.

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

Setup

- **System**
- **Network**
- **Wireless (WCS-0040 Only)**
- **DDNS**
- **IP Filter**

Video & Audio

- **Streaming**
- **Video & Audio**
- **Video Access**
- **User Database**

Event

- **Motion Detection**
- **Audio Detection**
- **E-Mail**
- **FTP**
- **HTTP**
- **SMB/CIFS Client**
- **Event Trigger**

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.

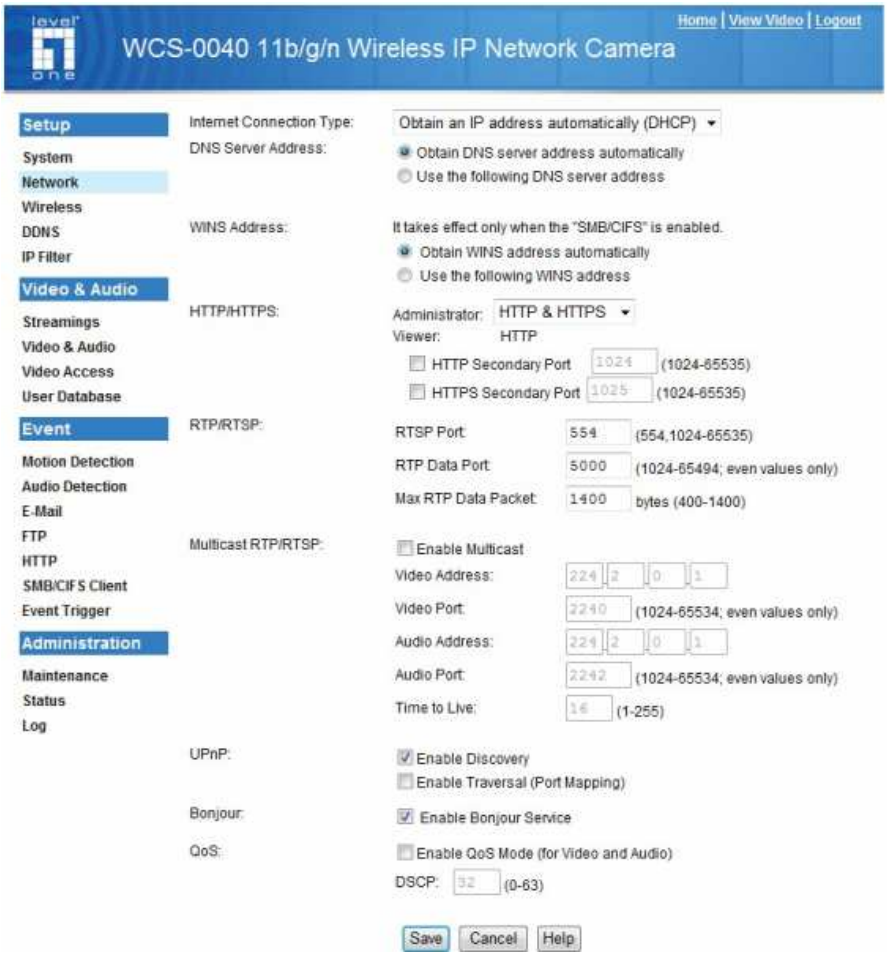
Data - System Screen

System Settings	
Device ID	This displays the ID for the FCS-0040/WCS-0040.
Camera Name	Enter the desired name for the FCS-0040/WCS-0040.
Description	This field is used for entering a description, such as the location of the FCS-0040/WCS-0040.
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: • 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: • 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 FCS-0040/WCS-0040 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 FCS-0040/WCS-0040 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.



Data - Network Screen

Network	

Internet Connection Type	There are 3 connection types:
	• **Obtain Address Automatically (DHCP)**: If selected, the FCS-0040/WCS-0040 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 FCS-0040/WCS-0040.
	  ◦ **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.
	  ◦ **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 FCS-0040/WCS-0040 will use the DNS address or addresses provided by the DHPC server. This option is only available if the IP address setting is *Obtain an IP address Automatically*.
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.
WINS Address	There are 2 options: • **Obtain WINS address automatically** - If selected, the FCS-0040/WCS-0040 will obtain its IP address from DHCP server. • **Use the following WINS address** - Enter the IP address of your WINS server.
HTTP/HTTPS	This sets the port number for HTTP/HTTPS connections to the Camera, whether for administration or viewing video. 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 1024. 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. The Secondary port can be used for DDNS, other service and when more than 2 cameras are in use. 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. 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: http://192.168.1.100:1024
RTP/RTSP	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. The RTP (Real Time Transport Protocol), an Internet protocol for transmitting real-time data such as audio and video. Max RTP Data Packet field will let users limit the size of the file. Enter the desired value between 400 and 1400. Note: RTSP and RTP settings are for cell phone only.
Multicast RTP/RTSP	
Enable Multicast	Enable the feature as required.
Video Address	Enter the address of video.
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 FCS-0040/WCS-0040 will broadcast its availability through UPnP. UPnP compatible systems such as Windows XP will then be able to detect the presence of the FCS-0040/WCS-0040.
Enable Traversal	If enabled, HTTP connections (from your Web Browser or the Viewer and Recorder utility) can use secondary port instead of port 80 (the standard HTTP port) to access the camera.
Bonjour	
Enable Bonjour Service	If enabled, the FCS-0040/WCS-0040 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 (WCS-0040 Only)

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

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.
Network Type	This determines the type of wireless communication used by the FCS-0040/WCS-0040. • If you have an Access Point, select *Infrastructure*. • Otherwise, select *Ad-hoc*.
SSID	This must match the value used by other devices on your wireless LAN. The Default is **ANY**. **Note! The SSID is case sensitive.**
Domain	Select your region from the drop-down list.
Channel No.	• In *Infrastructure* mode, this setting is ignored. The FCS-0040/WCS-0040 will use the Channel set on the Access Point. • For *Ad-hoc* mode, select the Channel you wish to use on your FCS-0040/WCS-0040. 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: • **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.
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 *Infrastructure* mode, either setting will normally work, since most Access Points can use both methods.
WEP Encryption	Select the WEP Encryption level: • 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	• 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 *Clear Keys* to set the Keys to be blank.
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.

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 FCS-0040/WCS-0040 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 FCS-0040/WCS-0040 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.

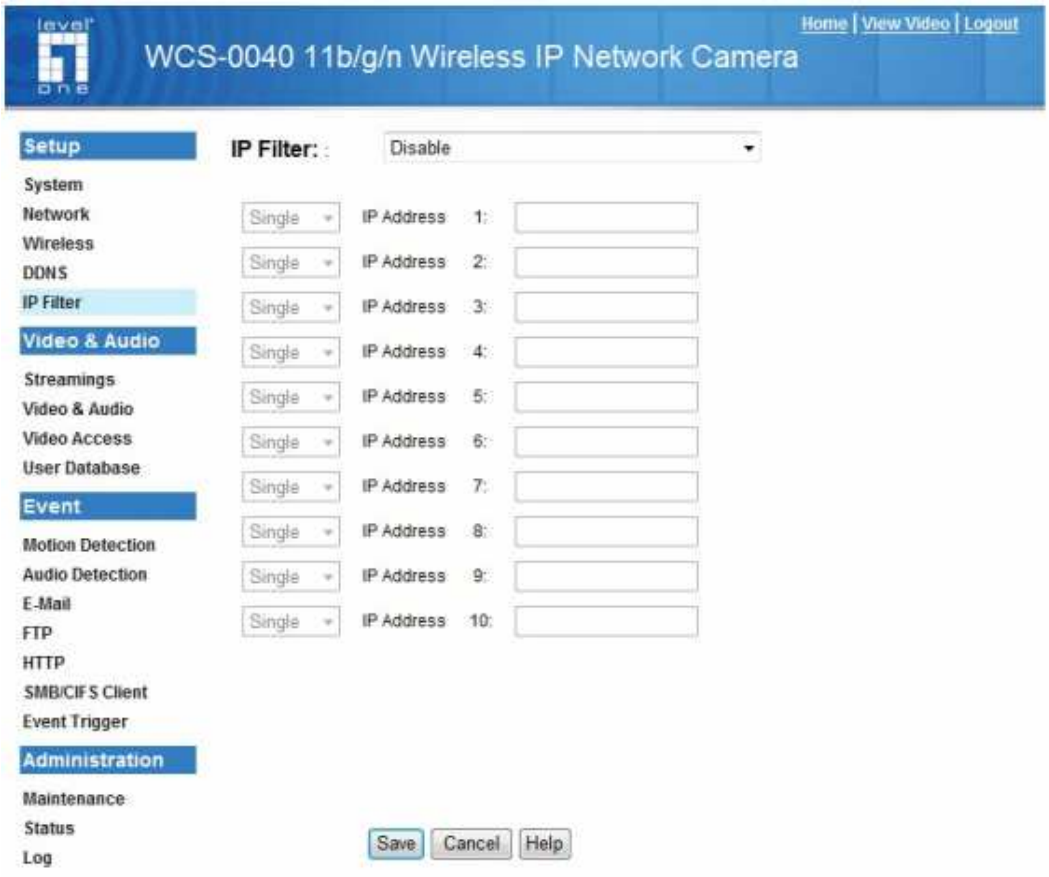
Data - DDNS Screen

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	Set the schedule for checking if the Internet IP address has changed. If the IP address has changed, the DDNS Server will be notified. 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.

IP Filter

The IP Filter feature allows administrator to control FCS-0040/WCS-0040 access by filtering IP addresses. This screen is displayed when the *IP Filter* menu option is clicked.



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.

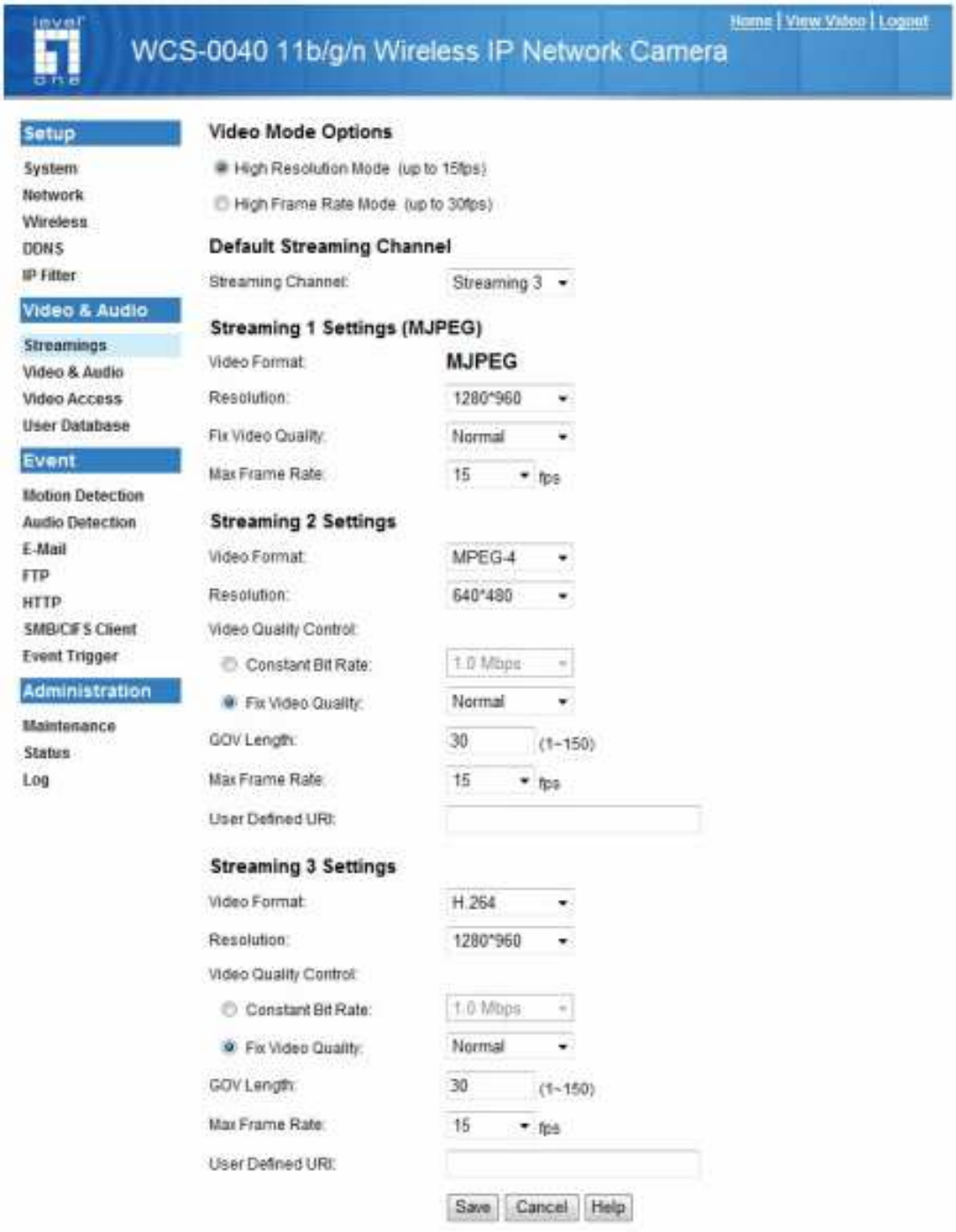
Streamings

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. Both MPEG-4 and 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.



Data - Streamings Screen

Video Mode Options	Select either "High Resolution Mode" or "High Frame Rate Mode". The resolution of the streaming will be different according to the video mode you choose.
Default Streaming Channel	Select the default channel for streaming from the drop-down list.
Streaming 1 Settings (MJPEG)	
Video Format	This displays the default format.
Resolution	Select the desired video resolution format.
Fixed Video Quality	Select the desired option. The default fix quality is set to Normal.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is **15**.
Streaming 2/3 Settings	
Video Format	Select the desired format from the list.
Resolution	Select the desired video resolution format.
Video Quality Control	• 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.
GOV Length	Adjust the GOV interval in frame base. 1 means all frames are I-frame. Enter the desired value between 1 and 150.
Max. Frame Rate	Select the desired Maximum frame rate for the video stream. The default value is **15**.
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 3: Video & Audio Screen

Data - Video & Audio Screen

Video Adjustment	
Power Line Frequency	Select the power line frequency (50Hz or 60Hz) used in your region, to improve the picture quality under florescent 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.
Options	
Enable Microphone	Enable audio by checking this checkbox. Using Audio will increase the bandwidth requirements slightly.
Audio Type	Select the desired audio type.
Enable Speaker	Enable speaker sound by checking this checkbox.

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.
Enable Privacy Mask	Enable this to place the grey square on the area of the current image that you want to hide from others. The grey square can be enlarged or shrunk as required.

Video Access Screen

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

Data - Video Access Screen

User Access	
Enable Security Checking	• 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	• 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. Note that regardless of which setting is chosen, the Administrator can ALWAYS access the camera and view live video.
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.

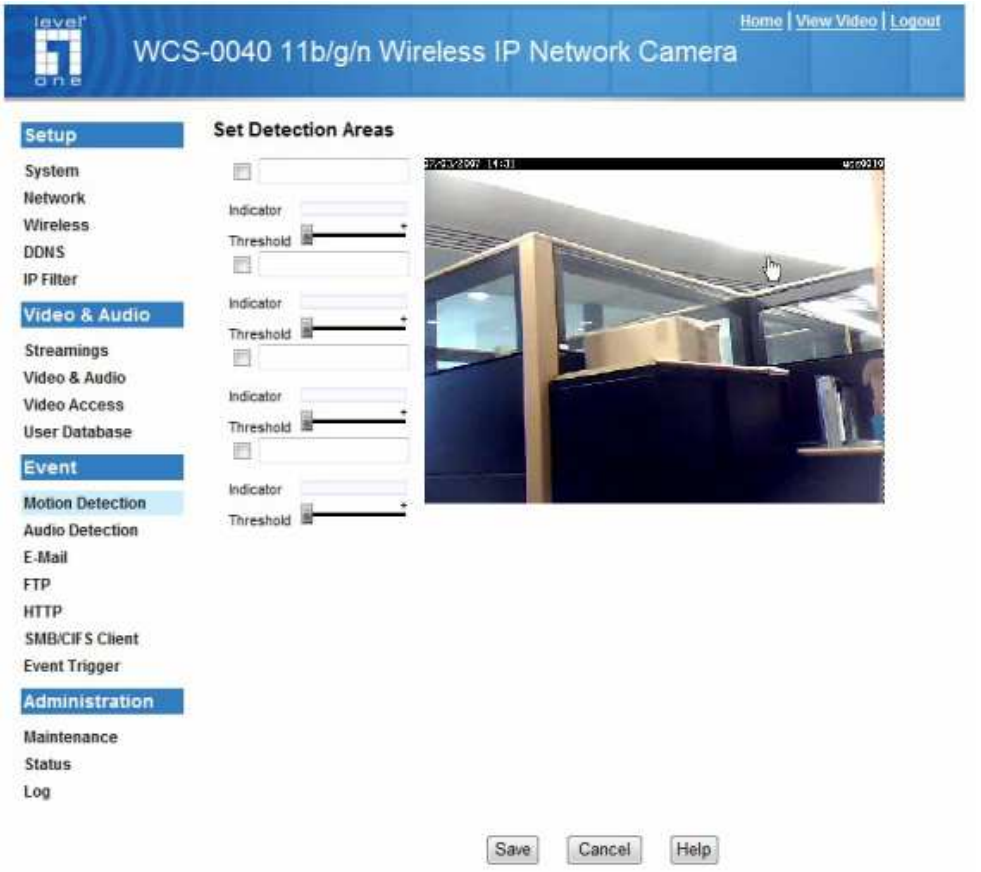
Figure 4: User Database Screen

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. • 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.
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.

Motion Detection Screen

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



Data - Motion Detection Screen

Motion Detection	
Set Detection Areas	You can set the full screen or selected areas of the video image to be examined. 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

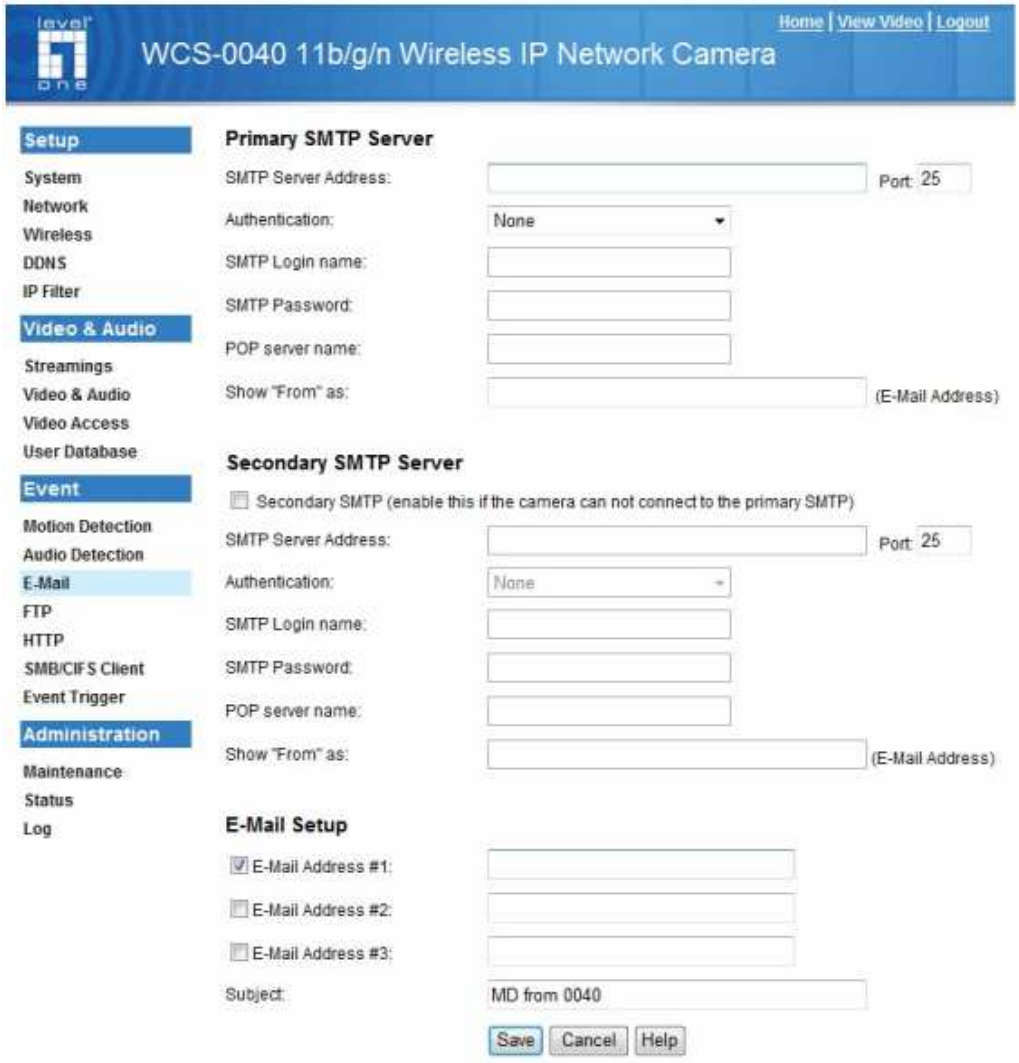
This screen is displayed when the *Audio Detection* option on the *Event* menu is clicked.

Data - Audio Detection Screen

Audio Detection	
Current Volume	It displays the current volume of the environment.
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.



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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.

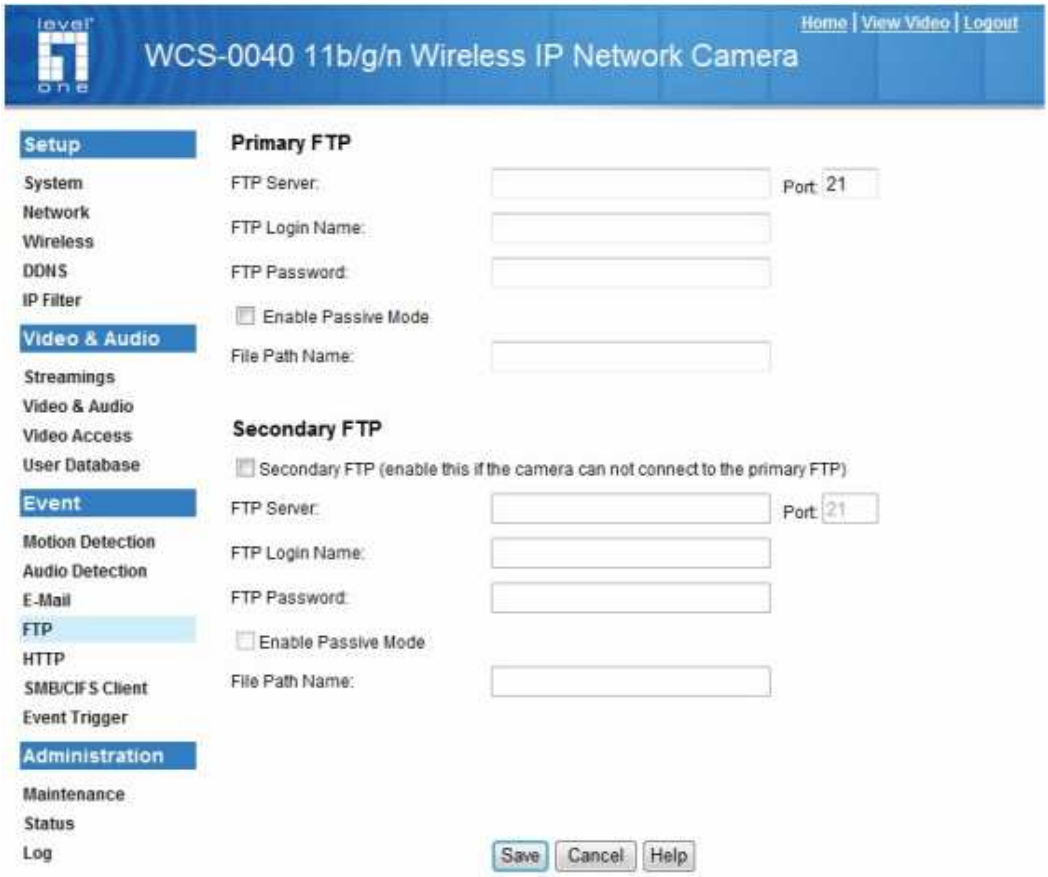


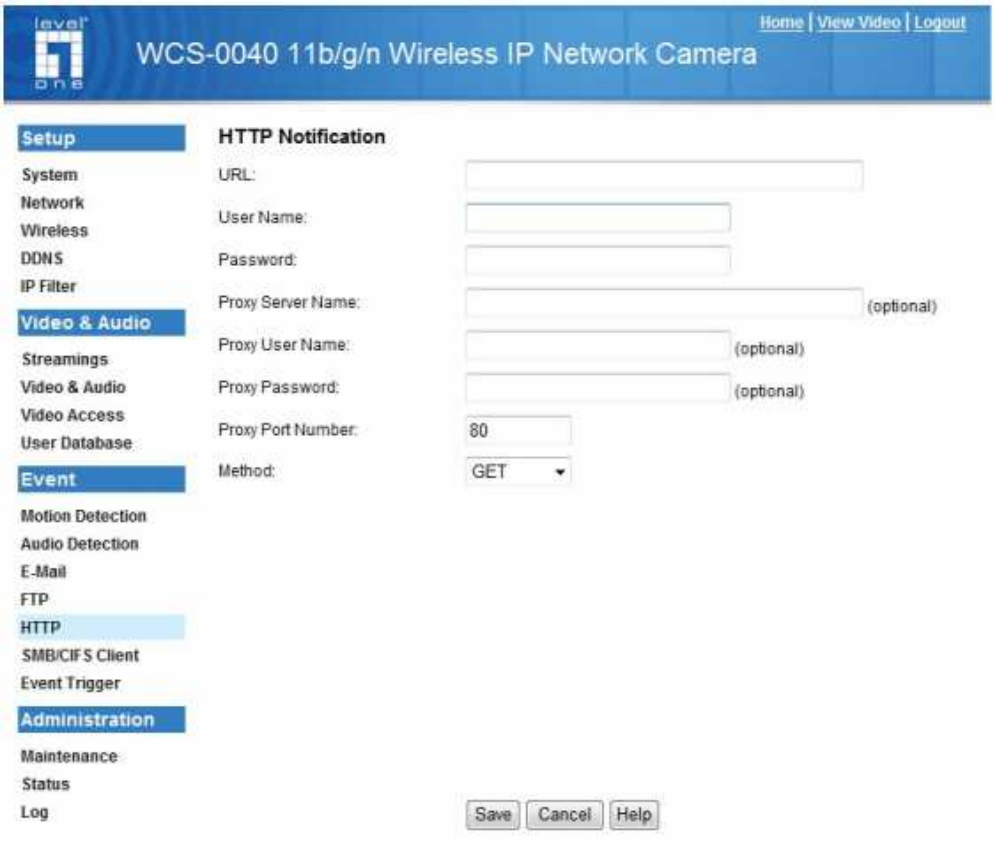
Figure 5: FTP Screen

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.
Secondary FTP	Check the box to upload to the Secondary FTP if the camera can not connect to the primary FTP.
Test the Server	Click this button to test the server connection.

HTTP Screen

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



Data - HTTP Screen

HTTP 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. • 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.

SMB/CIFS Client Screen

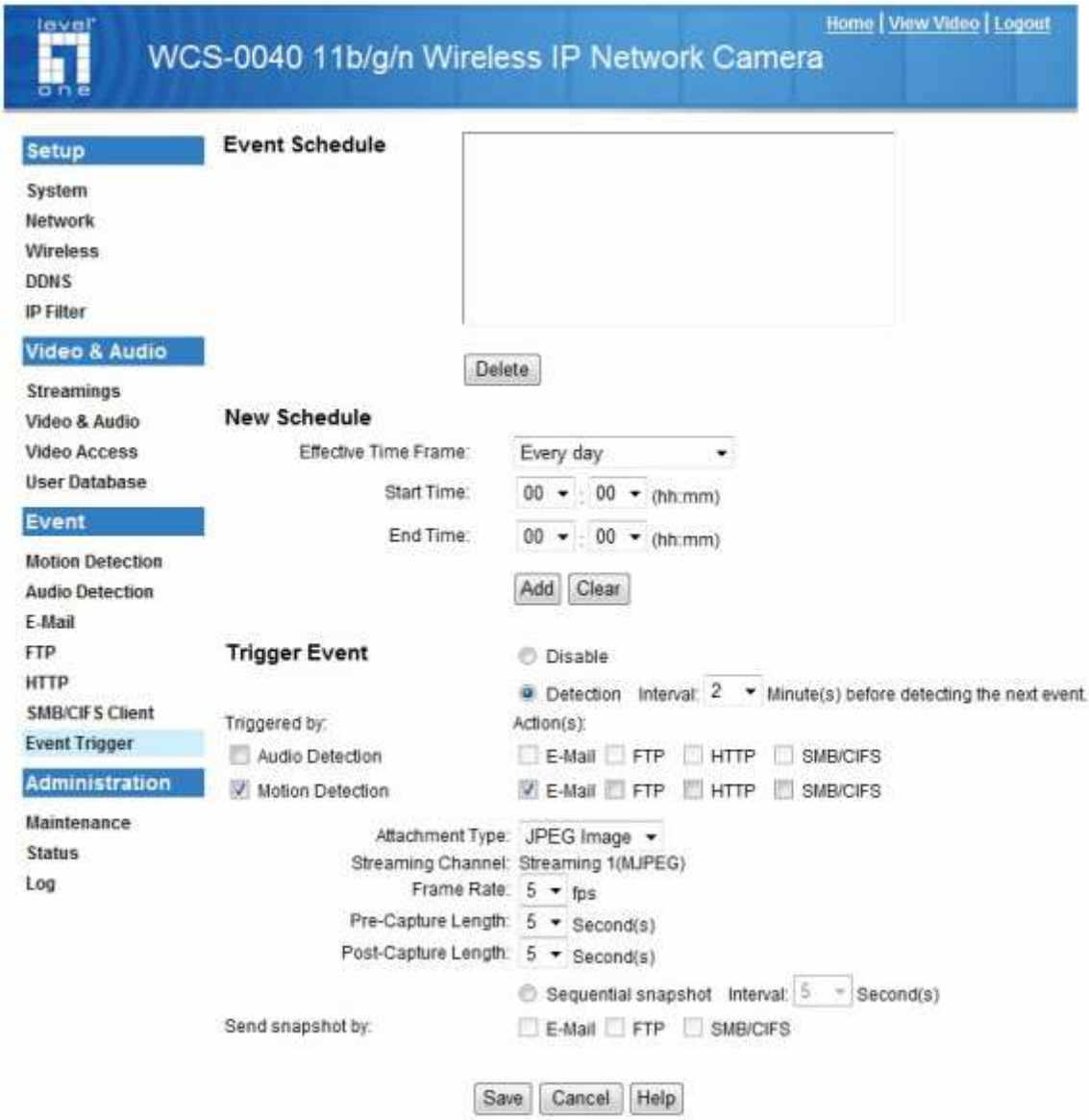
This screen is displayed when the *SMB/CIFS Client* option on the *Event* menu is clicked.

Data - SMB/CIFS Client Screen

SMB/CIFS Client	
Browse SMB/CIFS Server	Click *Browse* button to select the desired SMB/CIFS server.
Server Name	Enter the name of your SMB/CIFS server.
File Path	Enter the file path of your SMB/CIFS server.
User Name	Enter the user name for the SMB/CIFS client account.
Password	Enter the password for the SMB/CIFS client account.
Test the Server	Click this button to test the server connection.

Event Trigger Screen

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



Data - Event Trigger Screen

Event Schedule	
Schedule List	The Event Schedule shows all of the event types currently configured in the FCS-0040/WCS-0040, along with various information about their configuration, as listed below: • Name - the descriptive event name set by the user. • Effective Time Frame - shows when the event at a set time will be triggered. • Trigger by - shows what kind trigger activate the event. • Action - shows what kind of the actions will be issued when the event been triggered
New Schedule	
Effective Time Frame	Choose the desired option for the period.
Start Time	Choose the desired start time using a 24 hr clock.

End Time	Choose the desired end time using a 24 hr clock.
Trigger Event	
Enable	Check to perform all of the event(s) that were configured and scheduled.
Interval	Select the desired option for the events interval. (* "0" = No Delay)
Trigger by	• Audio Detection - The sound detection can be used to trigger events. • Motion Detection - Movement in a motion detection window can be used to trigger events.
Actions	• 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.) • FTP - If checked, an FTP upload will be activated to the FTP server. (FTP servers must be configured on the FTP page.) • HTTP - If checked, a HTTP CGI command will be delivered to the HTTP server. • SMB/CIFS - If checked, JPEG image(s) or video files will be uploaded to the SMB server. (SMB must first be enabled and configured on the SMB Client page.)
Attachment Type	• **JPEG Image:** **Frame Rate** - Select the desired capture rate for the JPEG image(s) here. **Pre/Post Capture** - Select the desired length. The snapshot(s) of the JPEG image depends on this setting, and also the file size and degree of compression. • **Video:** **Video Format** - Select the desired type for the video file. **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.
Send Snapshot By	Network Camera will send snapshots at the specified intervals to the external server using the method selected below. • 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.) • FTP - If checked, an FTP upload will be activated to the FTP server. (FTP servers must be configured on the FTP page.) • SMB/CIFS - If checked, JPEG image(s) or video files will be uploaded to the SMB server. (SMB must first be enabled and configured on the SMB Client page.)

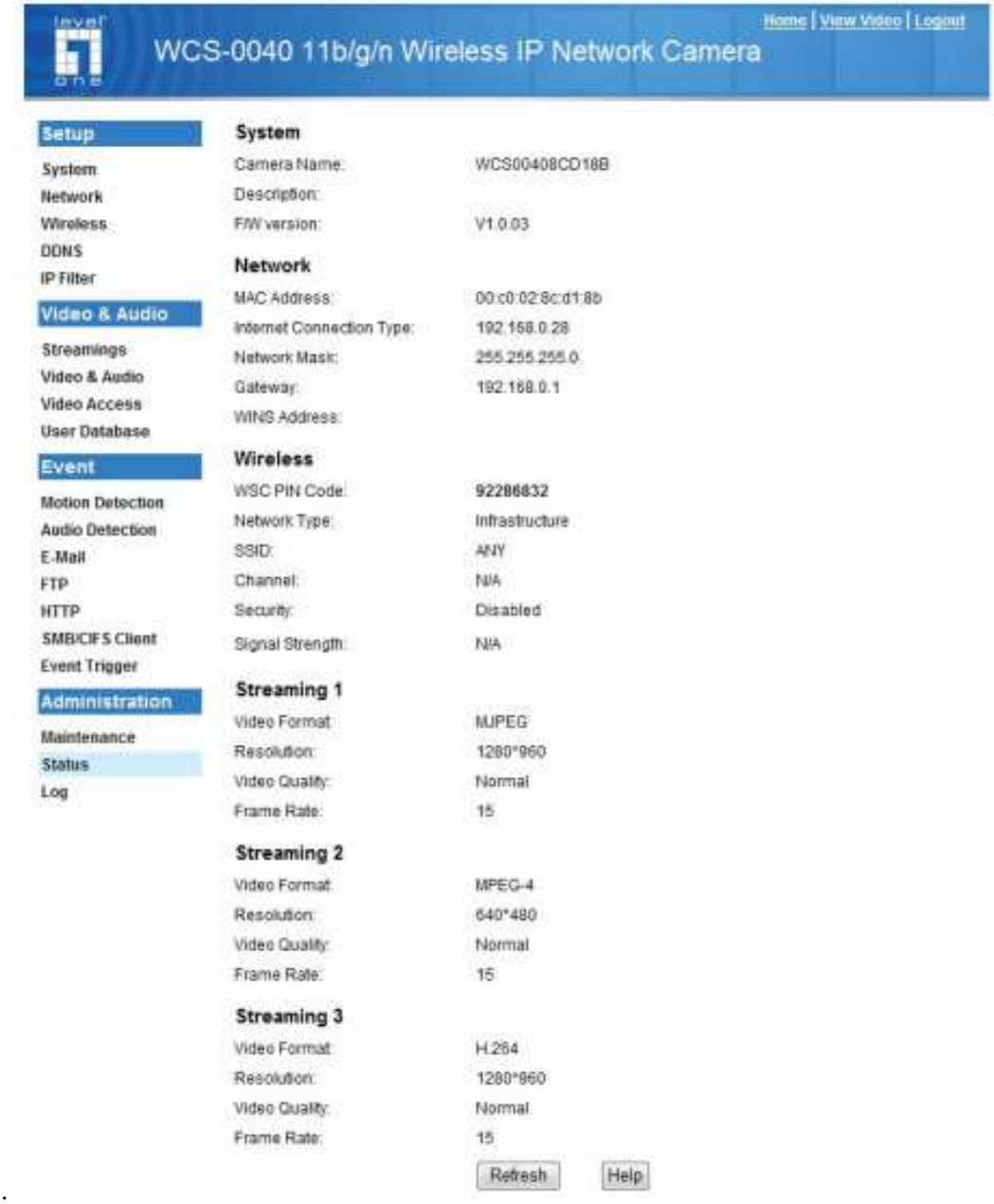
Maintenance Screen

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 FCS-0040/WCS-0040 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 *Backup* 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 *Restore* 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 *Defaults* button to reloads all default settings on the camera.
Restart Camera	Click *Restart* button to restarts the camera.

Status Screen



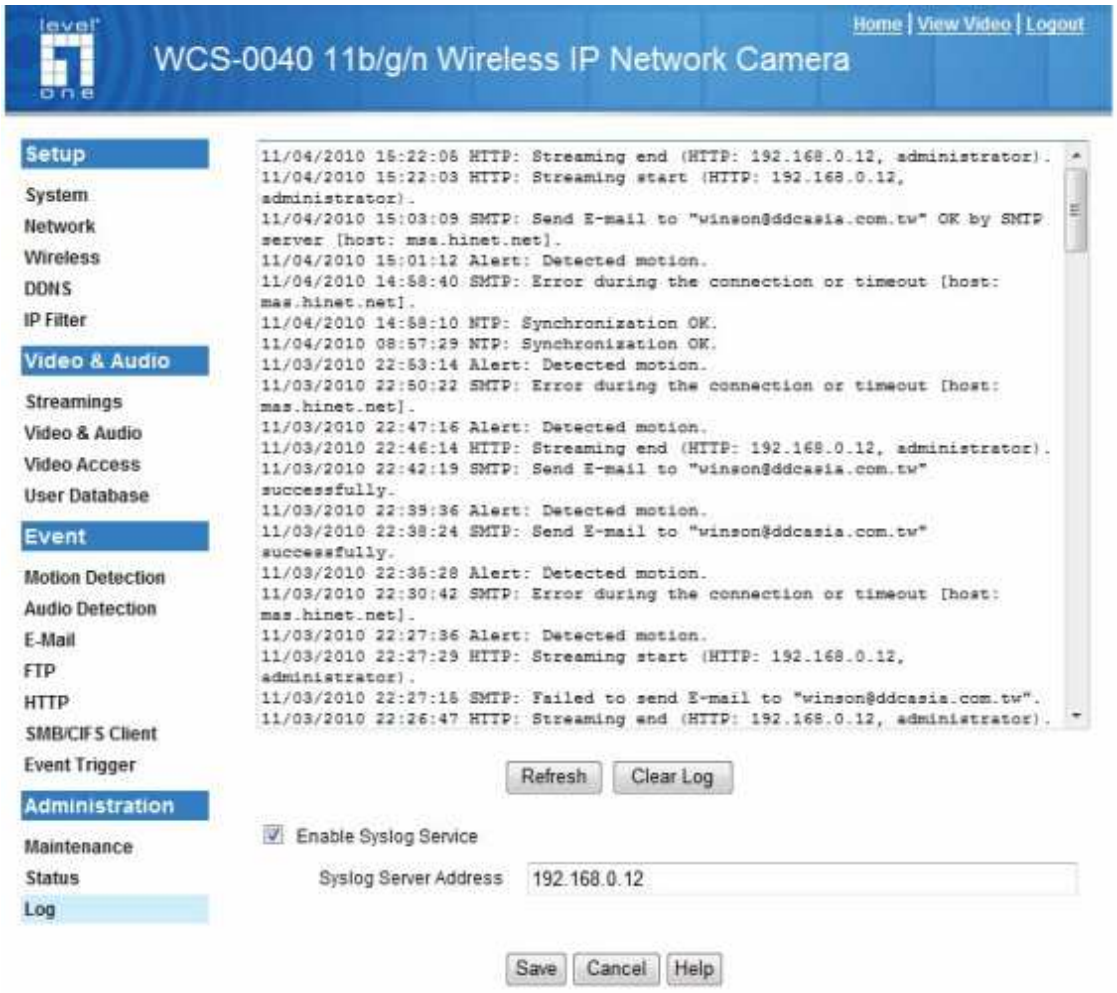
Data - Status Screen

System	
Device Name	This shows the name of the FCS-0040/WCS-0040.
Description	This shows the description of the FCS-0040/WCS-0040, such as location.
F/W version	The version of the current firmware installed.
Network	
MAC Address	The current IP address of the FCS-0040/WCS-0040.
IP Address	The IP Address of the FCS-0040/WCS-0040.
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 (WCS-0040 Only)	
WSC PIN Dode	It displays the current WSC PIN code.
Network Type	This shows the Network Type currently in use (Ad-hoc or Infrastructure).
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.



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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 6

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 FCS-0040/WCS-0040 and some possible solutions to them. If you follow the suggested steps and the FCS-0040/WCS-0040 still does not function properly, contact your dealer for further advice.

Problems

Problem 1: **I can't connect to the FCS-0040/WCS-0040 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 FCS-0040/WCS-0040.
Use the Windows utility to configure the FCS-0040/WCS-0040 with a valid IP address.

Problem 2: **The Windows utility doesn't list any FCS-0040/WCS-0040s.**

Solution 2: Check the following:

- The FCS-0040/WCS-0040 is installed, LAN connections are OK, it is powered ON and startup is complete.
- Ensure that your PC and the FCS-0040/WCS-0040 are on the same network segment. (If you don't have a router, this must be the case.)
- Ensure that your PC has the TCP/IP network protocol loaded. In Windows, this is done by using *Control Panel-Network*.
  - If an entry for TCP/IP -> Network card is not listed, use *Add - Protocol - Microsoft - TCP/IP* to add it.
  - You then need to select the new entry (TCP/IP -> Network card), click *Properties*, and configure the *IP Address* tab.
  - If your LAN has a DHCP Server, you can select "Obtain an IP Address automatically". Otherwise, you must select "Specify an IP Address", and enter values for *IP Address*, *Subnet Mask*, and *Gateway*. All devices on your LAN must use compatible values. Remember that each device needs a **unique** IP Address, and the **same** Subnet Mask.

Problem 3 **When I try to connect to the FCS-0040/WCS-0040, I get prompted for a user name and password.**

Solution 3 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 4 **I can't connect to the FCS-0040/WCS-0040 using a Wireless connection.**

Solution 4 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 FCS-0040/WCS-0040 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 5 **Video quality may suddenly deteriorate.**

Solution 5 This can happen when an additional viewer connects to the FCS-0040/WCS-0040, 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 6 **The motion detection feature doesn't send me any E-mail.**

Solution 6 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 span being sent from the server.). Try using a different SMTP server, or contact your ISP to see if SMTP access is being blocked.

Problem 7 **Using the motion detection feature, I receive E-Mails which don't show any moving objects.**

Solution 7 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:

- 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 8 **The image is blurry.**

Solution 8 Try cleaning the lens, or adjusting the *Video Quality Control* setting on the ***Streamings*** screen. Video created by the lower settings will contain less detail; this is the trade-off for using less bandwidth.

Problem 9 ***When is the best time to press WPS button?***

Solution 9 If there is no cable connected, you can press the WPS button after the *Power* LED starts blinking.

Appendix A

Specifications

FCS-0040/WCS-0040

Model	FCS-0040/WCS-0040
Dimensions	114.3mm (W) x 141.6mm (H) x 41.4mm (D)
Operating Temperature	0° C to 40° C
Storage Temperature	-20° C to 70° C
Network Protocols	TCP/IP, HTTP, HTTPS, DHCP, SMTP, FTP, UPnP, DDNS, NTP, RTP, RTCP, RTSP, SMB
Network Interface	1 Ethernet 10/100BaseT (RJ45) LAN connection
Wireless interface (WCS-0040 Only)	IEEE 802.11n/802.11b/802.11g compatible, Infrastructure/Ad-hoc mode, WEP/WPA Personal/WPA2 Personal security support, roaming support
LEDs	4
Power Adapter	12V/1A, 100~240 VAC/60Hz

Regulatory Approvals

CE Approvals

The FCS-0040/WCS-0040 and the Ethernet FCS-0040/WCS-0040 meet the guidelines of the European Union and comply with the 99/5/EEC and RTTE 99/5EG directives, including the following standards:

- EN60950
- EN300 328-2
- EN301 489-1
- EN301 489-17

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.