



# User Manual

## Enhanced Wireless N Day/Night Cloud Camera

DCS-942L

---

# Manual Overview

D-Link reserves the right to revise this publication and to make changes in the content hereof without obligation to notify any person or organization of such revisions or changes. Information in this document may become obsolete as our services and websites develop and change. Please refer to the [www.mydlink.com](http://www.mydlink.com) website for the most current information.

## Manual Revision

Revision	Date	Description
2.0	June 11, 2014	DCS-942L Revision B1 with firmware version 2.00

## Trademarks

D-Link and the D-Link logo are trademarks or registered trademarks of D-Link Corporation or its subsidiaries in the United States or other countries. All other company or product names mentioned herein are trademarks or registered trademarks of their respective companies.

Copyright © 2014 by D-Link Corporation.

All rights reserved. This publication may not be reproduced, in whole or in part, without prior expressed written permission from D-Link Corporation.

---

# Table of Contents

<b>Product Overview</b> .....	<b>5</b>	Internet Connection Setup Wizard.....	25
Package Contents.....	5	Motion Detection Setup Wizard.....	28
System Requirements.....	5	Network.....	32
Introduction.....	6	Wireless Setup.....	34
Features.....	7	Dynamic DNS.....	35
Hardware Overview.....	8	Image Setup.....	36
Front View.....	8	Audio and Video.....	37
Rear View.....	9	Time and Date.....	39
Side View.....	9	Video Clip.....	40
<b>Installation</b> .....	<b>10</b>	Snapshot.....	41
Wireless Installation Considerations.....	11	IP Filter.....	42
Zero Configuration Setup.....	12	HTTPS Setup.....	43
Camera Setup Wizard.....	15	SD Recording.....	44
Windows Users.....	15	Motion Detection.....	45
Mac Users.....	16	Sound Detection.....	46
Manual Installation.....	17	SD Management.....	47
WPS - Push Button Setup.....	18	Maintenance.....	48
Mounting the Camera.....	19	Admin.....	48
mydlink.....	20	System.....	49
<b>Configuration</b> .....	<b>21</b>	Firmware Upgrade.....	50
Accessing the Web Configuration Utility.....	21	Status.....	51
Live Video.....	22	Device Info.....	51
Setup.....	24	Log.....	52
Wizard.....	24	<b>Wireless Security</b> .....	<b>53</b>

What is WEP? .....53  
What is WPA? .....54  
Configuring the DCS-942L with a Router .....55

**Troubleshooting .....61**

**Wireless Basics .....63**  
Wireless Modes.....67

**Networking Basics .....68**  
Check your IP address.....68  
Statically Assign an IP Address .....69

**Technical Specifications .....70**

# Product Overview

## Package Contents

- DCS-942L Enhanced Wireless N Day/Night Cloud Camera
- CAT5 Ethernet Cable
- Power Adapter
- Manual and Software on CD
- Quick Install Guide
- Mounting Kit

**Note:** Using a power supply with a different voltage than the one included with your product will cause damage and void the warranty for this product.

If any of the above items are missing, please contact your reseller.



## System Requirements

- Computer with Microsoft Windows® 8/7/Vista, or Mac with OS X 10.6 or higher
- PC with 1.3GHz or above and at least 128MB RAM
- Internet Explorer 7, Firefox 12, Safari 6, or Chrome 20 or higher version with Java installed and enabled
- Existing 10/100 Ethernet-based network or 802.11b/g/n wireless network

# Introduction

Congratulations on your purchase of the DCS-942L Enhanced Wireless N Day/Night Cloud Camera. The DCS-942L is a versatile and unique solution for your small office or home. Unlike a standard webcam, the DCS-942L is a complete system with a built-in CPU and web server that transmits high quality video images for security and surveillance. The IR LED provides around the clock surveillance regardless of the lighting conditions. The DCS-942L can be accessed remotely, and controlled from any PC/ Notebook over your local network or through the Internet via a web browser. The simple installation and intuitive web-based interface offer easy integration with your Ethernet/Fast Ethernet or 802.11b/g/n wireless network. The DCS-942L also comes with remote monitoring and motion/sound detection features for a complete and cost-effective home security solution.

# Features

## **Simple to Use**

The DCS-942L is a stand-alone system with a built-in CPU, requiring no special hardware or software such as PC frame grabber cards. The DCS-942L supports both ActiveX mode for Internet Explorer and Java mode for other browsers such as Firefox® and Safari®.

## **Supports a Variety of Platforms**

Supporting TCP/IP networking, HTTP, and other Internet related protocols. The DCS-942L can also be integrated easily into other Internet/Intranet applications because of its standards-based features.

## **802.11n Wireless or Ethernet/Fast Ethernet Support**

The DCS-942L offers wireless 802.11n and Ethernet/Fast Ethernet connectivity, making the DCS-942L easy to integrate into your existing network environment. The DCS-942L works with a 10Mbps Ethernet based network or 100Mbps Fast Ethernet based network for traditional wired environments, and works with 802.11n routers or access points for added flexibility. The Site Survey feature also allows you to view and connect to any available wireless networks.

## **Web Configuration**

Using a standard Web browser, administrators can configure and manage the Network Camera directly from its own Web page via Intranet or Internet. This means you can access your DCS-942L anytime, anywhere in the world.

## **Broad Range of Applications**

With today's high-speed Internet services, the Network Camera can provide the ideal solution for delivering live video images over the Intranet and Internet for remote monitoring. The Network Camera allows remote access using a Web browser for live image viewing, and allows the administrator to manage and control the Network Camera anytime, anywhere in the world. Many applications exist, including industrial and public monitoring of homes, offices, banks, hospitals, child-care centers, and amusement parks.

## **Remote Monitoring Utility**

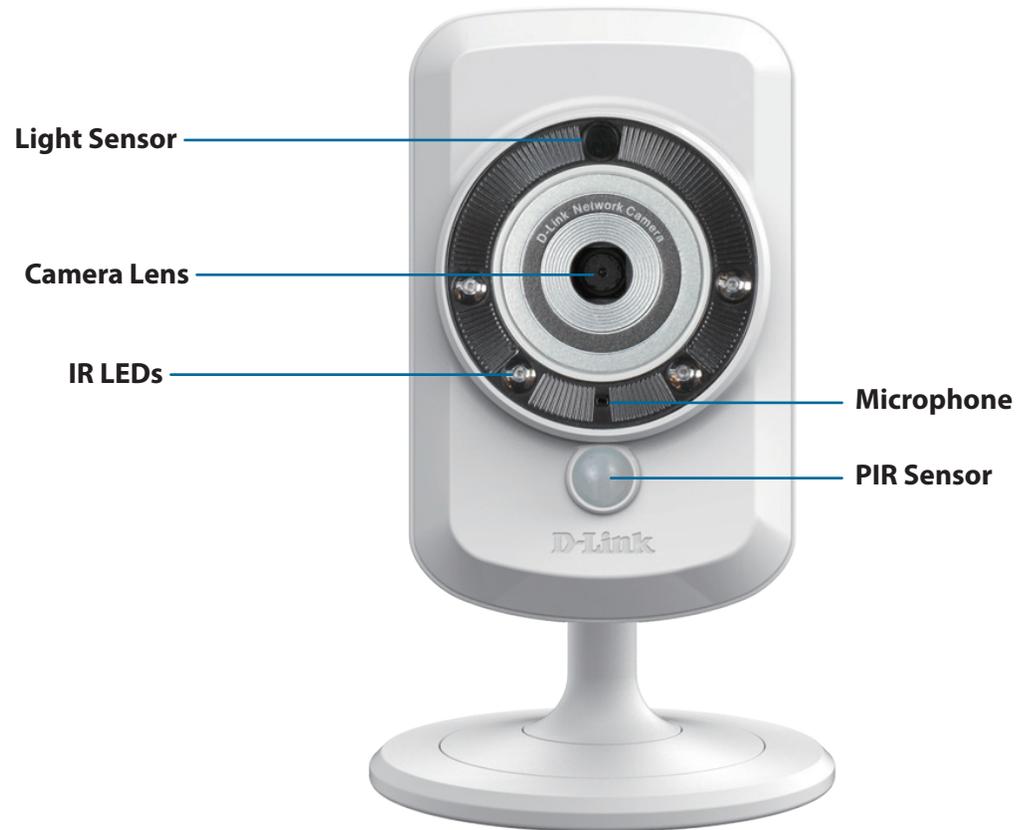
The D-ViewCam application adds enhanced features and functionality for the Network Camera and allows administrators to configure and access the Network Camera from a remote site via Intranet or Internet. Other features include image monitoring, recording images to a hard drive, viewing up to 32 cameras on one screen, and taking snapshots.

## **Comprehensive Day/Night Surveillance**

The built-in infrared LEDs enable night time viewing of up to 16 feet (5 meters), and the PIR sensor detects nearby motion even in complete darkness. The microSD card slot allows the camera to record snapshots and video directly to onboard storage for a complete surveillance solution.

# Hardware Overview

## Front View



## Rear View



## Side View



# Installation

There are three ways to set up your camera:

**Zero Configuration Setup:** If you have a mydlink-enabled router (D-Link cloud router), this is the easiest way to set up your camera. Refer to “Zero Configuration Setup” on page 12.

**Camera Installation Wizard:** If you do not have a mydlink-enabled router, use the Camera Installation Wizard to guide you through setup and initial configuration of your camera. Refer to “Camera Setup Wizard” on page 15.

**Manual Hardware Installation:** This section shows you how to manually set up your camera, however in order to use the mydlink features of your camera, you will still need to run the Camera Installation Wizard. Refer to “Manual Installation” on page 17.

# Wireless Installation Considerations

The D-Link Wireless Network Camera lets you access your network using a wireless connection from anywhere within the operating range of your wireless network. However, the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Minimize the number of walls and ceilings between your adapter and other network devices (such as your Network Camera) - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters).
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle, it looks over 42 feet (14 meters) thick. Position your devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building Materials make a difference. A solid metal door or aluminum studs may weaken the wireless signal. Try to position your access points, wireless routers, and other networking devices where the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product at least 3-6 feet or 1-2 meters away from electrical devices or appliances that generate RF noise.
5. If you are using 2.4GHz cordless phones or other radio frequency sources (such as microwave ovens), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

## Zero Configuration Setup

**If you have a mydlink-enabled Cloud Router**, you can take advantage of Zero Configuration Setup. Zero Configuration automatically configures your camera's settings for you, and adds the camera to your mydlink account automatically. This type of setup allows you to set up your camera by simply plugging it in and connecting it to your router.

Connect your camera to your mydlink-enabled Cloud Router and Zero Configuration will automatically configure your DCS-942L and add the camera to your mydlink account. After the short time it takes to do this you can remotely access your camera from the website (<http://www.mydlink.com>) to manage and monitor your DCS-942L.

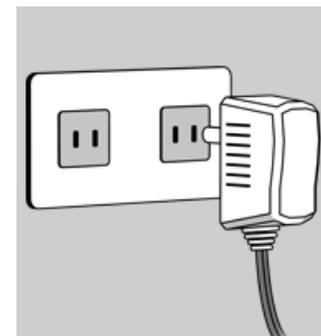
### Connect the Ethernet Cable and Power Cable

Use the included Ethernet cable and plug it into the camera. Plug the other end into an available port on your D-link Cloud Router. If you wish to use your camera wirelessly, you will be able to remove the cable after Zero Configuration Setup is complete. You can also plug the external power adapter cable into the camera at this time.



### Plug in the External Power Adapter

Plug the power adapter in to a wall outlet.



## Check Your mydlink Account

From any computer with an Internet connection, open a web browser and login to your mydlink account. The mydlink page will check for new devices and display a **New device Found!** pop-up notification in the bottom-left corner. Click the notification to continue.

A summary and confirmation notification will appear with the automatically configured details. Make a note of the details and click **Yes** to add the camera to your account.

The screenshot shows the mydlink web interface. At the top, there's a navigation bar with 'My Devices', 'Shared Devices', 'My Services', and 'My Profile'. The user is logged in as 'Mehta P'. The main content area is titled 'Router Status' and 'Settings'. It displays the router model 'DIR-605L' and '20015862'. Below this, there are statistics for data usage: '0000.3 KB' and '0008.4 KB'. A 'Reboot' button is visible. The 'Connection List' table shows the following data:

Device	Device Name	IP Address	MAC Address	Block
	CardboardBox	192.168.0.110	00:28:2D:02:FE:FA	<input type="checkbox"/>
	--	192.168.0.120	04:54:53:50:53:18	<input type="checkbox"/>
	HeiGuy	192.168.0.100	00:1A:92:E2:4D:C9	<input type="checkbox"/>
	--	192.168.0.121	28:E0:2C:DC:0A:BE	<input type="checkbox"/>
	--	192.168.0.101	F9:A2:25:AA:8C:C3	<input type="checkbox"/>

Below the connection list is a 'Suspect List' table with columns for Device, Device Name, Time, MAC Address, and Block. A pop-up notification in the bottom-left corner shows 'New Device!' and 'DCS-942L'.

### Confirming New Device

Do you want to add this new device to your mydlink account?

**Device Name: DCS-942L**

**mydlink Number: 44441252**

**Network name (SSID): dddddd**

**Admin Password: oic953XZ**

You can change these default settings by going to **Advanced Settings** after add it to your device list.

Not now

Yes

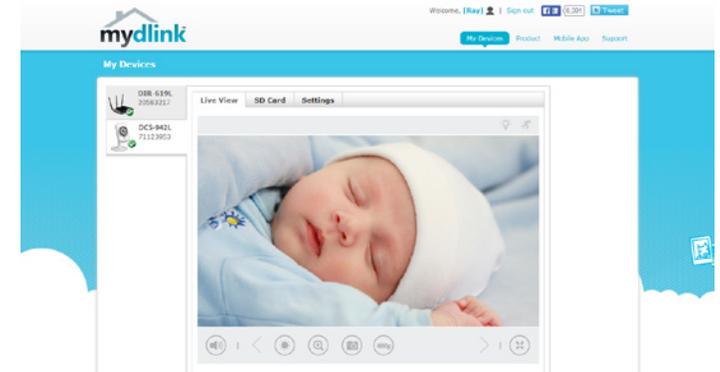
## Section 2 - Installation

Zero Configuration will navigate to the mydlink Live View tab for your camera where you will see a screen similar to the following.

If you wish to connect your camera to your router wirelessly, you can simply disconnect the Ethernet cable and move the camera to its intended location; your router's wireless settings have been automatically transferred to the camera, and no further configuration is required.

Your camera is now set up, and you can skip to "mydlink" on page 20 to learn more about the mydlink features of this camera, or to "Configuration" on page 21 for advanced configuration of your camera.

**Note:** If you see a white haze when viewing in night vision mode, the night vision light on the camera may be reflecting off a nearby surface. Try repositioning and aiming the camera.

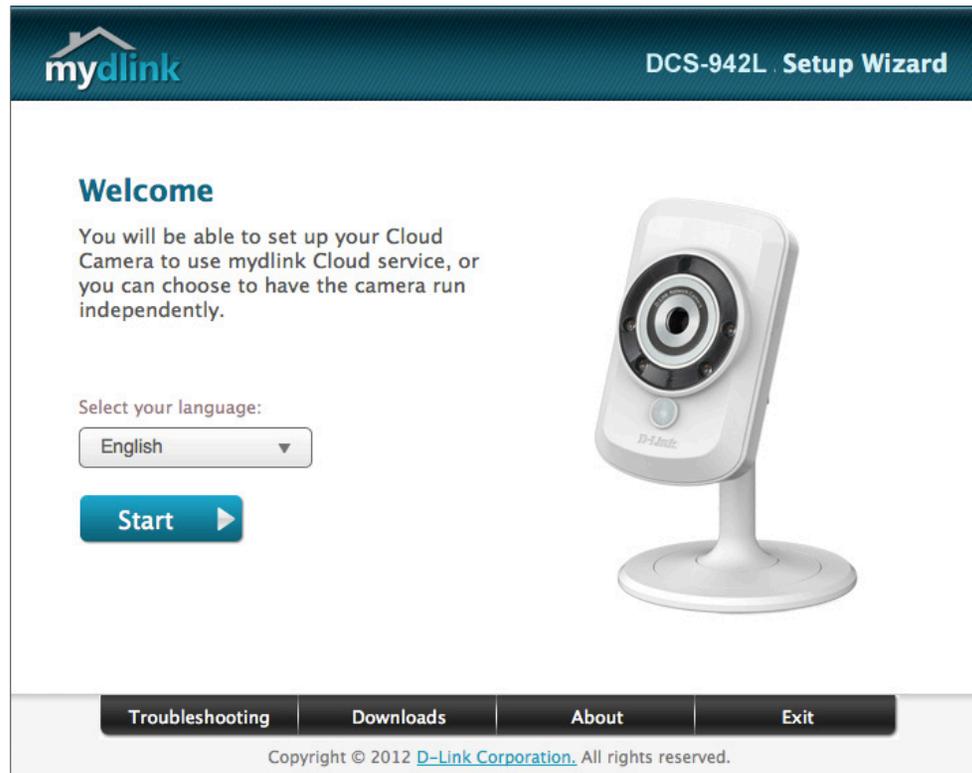


# Camera Setup Wizard

## Windows Users

Insert the Installation CD-ROM into your computer's optical drive to start the autorun program. If the Setup program does not automatically open on your computer, go to **Start > Run**. In the box, type D:\autorun.exe (where D: represents the drive letter of your CD-ROM drive) and click **OK**.

Simply click **Set up your Cloud Camera** to go through the Setup Wizard, which will guide you step-by-step through the installation process from connecting your hardware to configuring your camera and registering it with your mydlink account.



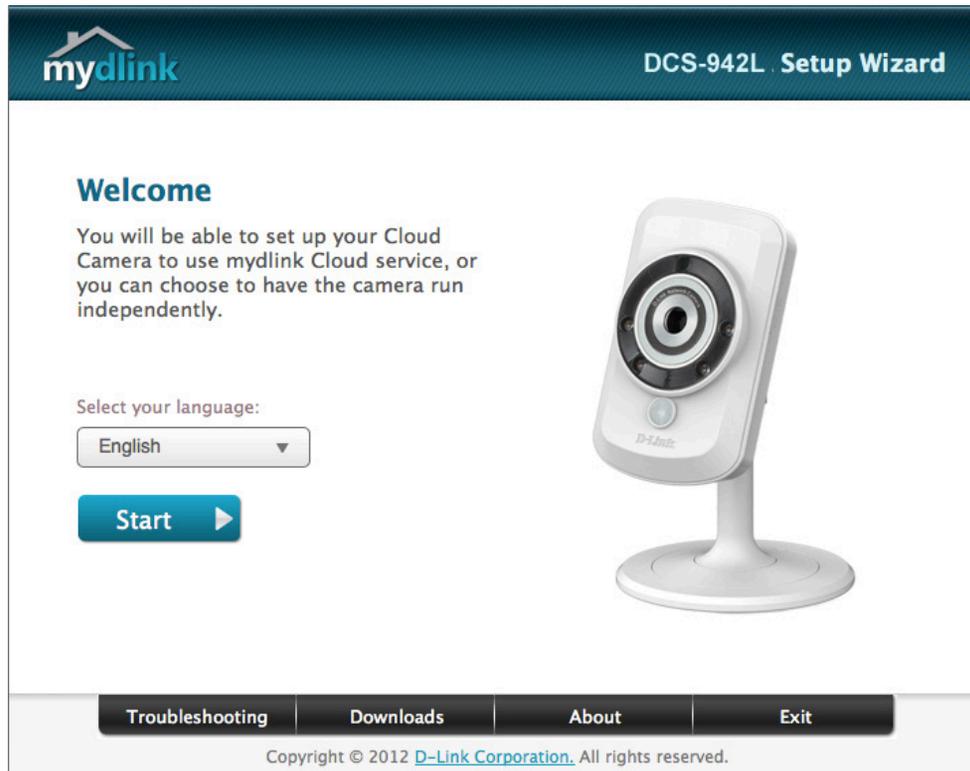
If you do not have a CD-ROM drive, or the CD is missing, please download the Setup Wizard from <http://www.mydlink.com/support>

## Mac Users

Insert the Installation CD-ROM into your computer's optical drive. On the desktop, open your CD drive and double-click on the **SetupWizard** file.



After about 20-30 seconds, the Setup Wizard will open, which will guide you step-by-step through the installation process from connecting your hardware to configuring your camera and registering it with your mydlink account.



If you do not have a CD-ROM drive, or the CD is missing, please download the Setup Wizard from <http://www.mydlink.com/support>

# Manual Installation

If you wish to set up your camera without using the Camera Setup Wizard, please follow these steps.

**Note:** In order to use the mydlink features of this product, you will need to go through the Camera Setup Wizard or Zero Configuration Setup.

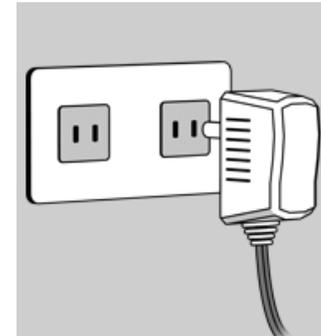
## Connect the Ethernet Cable and Power Cable

Use the included Ethernet cable and plug it into the camera. Plug the other end into an available port on your router. You can also plug the external power adapter cable into the camera at this time.



## Plug in the External Power Adapter

Plug the power adapter in to a wall outlet.



## Configure Your Camera

Refer to “Configuration” on page 21 for information on how to configure your camera.

## Optional: Use WPS to Connect Wirelessly

You can use WPS to connect your camera to your network wirelessly. For more information, refer to “WPS - Push Button Setup” on page 18. If your router does not support WPS, you will still be able to set up your camera’s wireless settings in the camera’s web interface.

# WPS - Push Button Setup

If your router supports Wi-Fi Protected Setup (WPS), you can create a secure wireless connection using the WPS Button on the back of the camera. Please note that WPS setup only establishes a secure wireless connection, and you will still need to run the Setup Wizard to configure your camera.

## To create a WPS connection:

### Step 1

Press and hold the WPS button for three seconds. The blue WPS status LED above the button will blink.

### Step 2

Press the WPS button on your router within 60 seconds. The WPS button is usually on the front or side of your router. On some routers, you may need to log in to the web interface and click on an on-screen button to activate the WPS feature. If you are not sure where the WPS button is on your router, please refer to your router's User Manual.

The DCS-942L will automatically create a wireless connection to your router. While connecting, the green LED will flash and your camera will reboot.

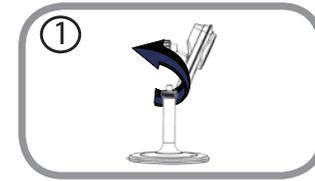


# Mounting the Camera

To mount your camera on a wall or ceiling, please follow the steps below. It is recommended that you configure the camera before mounting.

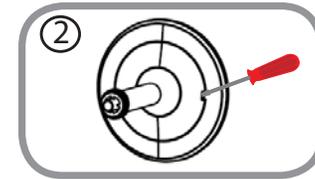
## Step 1

The camera needs to be removed to expose the holes in the mounting base. Unscrew the camera head from the mounting base by turning counterclockwise.



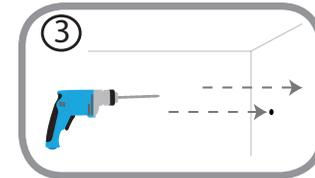
## Step 2

Use a flathead screwdriver to remove the base cover from the mounting base. Place the mounting base where you want to position the camera and use a pencil to mark the holes.



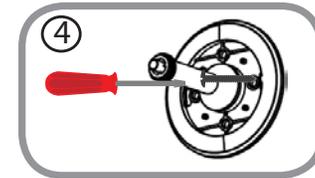
## Step 3

Depending on the material of the wall or ceiling, use proper tools to drill two holes 25mm deep with a 6mm drill bit where you marked. If the wall is made out of concrete, drill the holes first, then insert the plastic anchors to support the screws.



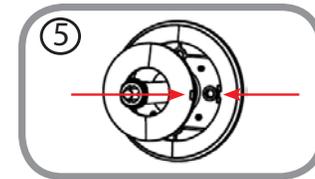
## Step 4

Place the mounting base over the holes that are in the wall. Make sure to align the mounting base holes with the holes in the wall. Use the supplied screws to attach the mounting base to the surface of the wall.



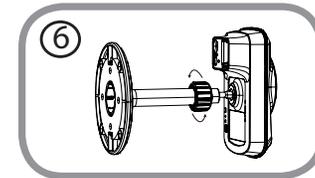
## Step 5

Place the base cover on the base. Make sure to align the base cover notch, with the mounting base for future removal. Afterwards, reattach the camera head onto the mounting base.



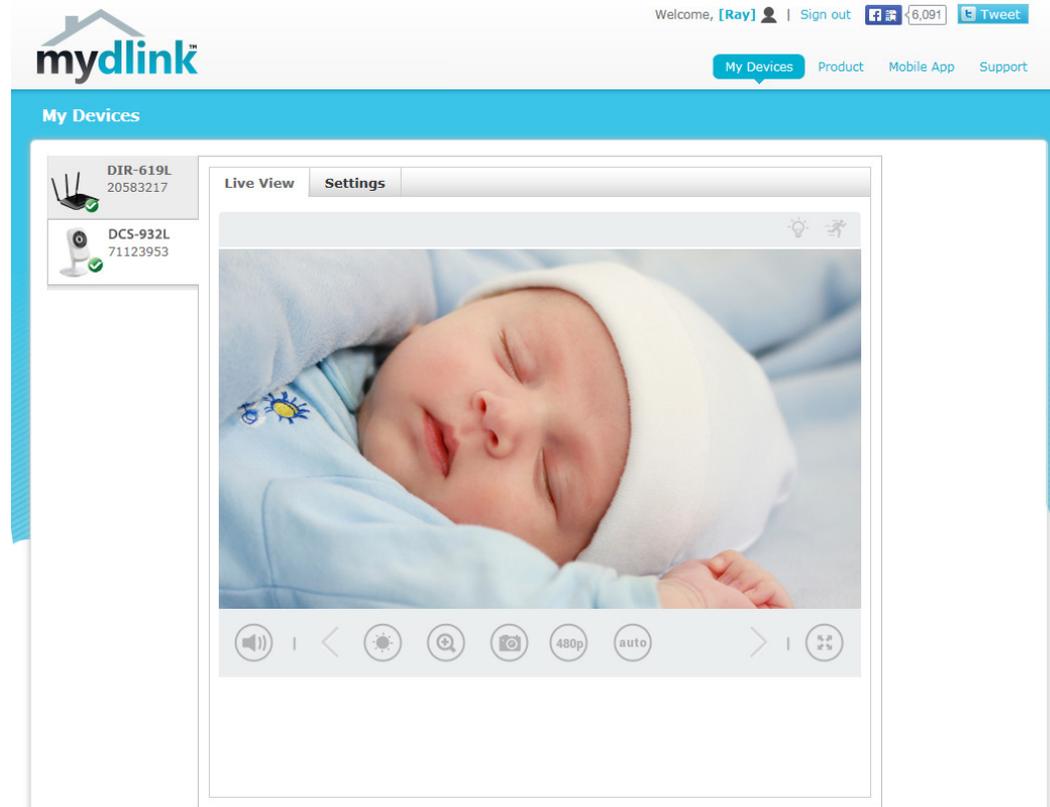
## Step 6

Adjust the angle of the camera as desired, then tighten the collar on the camera stem to lock it in place.



# mydlink

After registering your camera with a mydlink account in the Camera Installation Wizard, you will be able to remotely access your camera from the **www.mydlink.com** website. After signing in to your mydlink account, you will see a screen similar to the following:



For more details on using your camera with mydlink, go to the **Support** section of the mydlink website and check the **User Manual** section for your product to find the latest instruction guide for your camera's mydlink features.

# Configuration

## Accessing the Web Configuration Utility

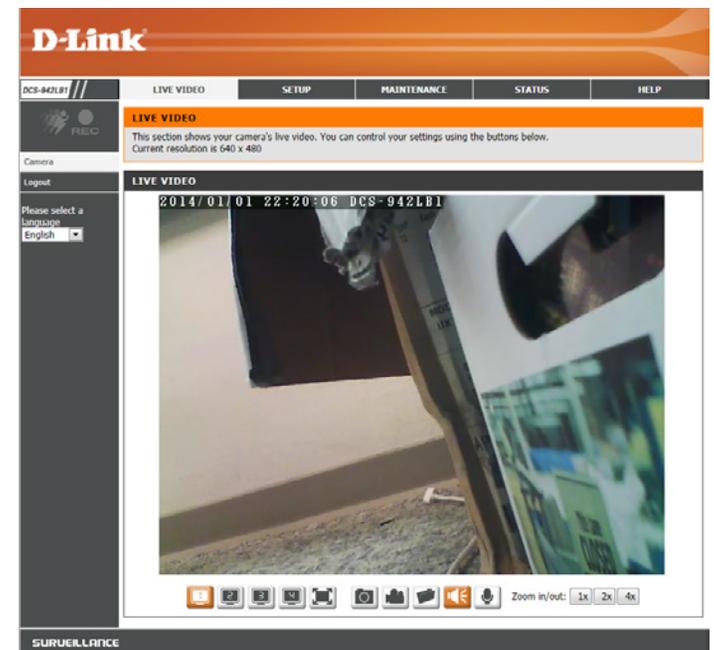
After completing the Camera Installation Wizard, you are ready to use your camera. The camera's built-in Web configuration utility is designed to allow you to easily access and configure your DCS-942L. At the end of the wizard, click **Go To Camera**, or enter the IP address of your camera into a web browser, such as Internet Explorer®. To log in, use the User name **admin** and the password you created in the Installation Wizard. If you did not create a password, the default password is blank. After entering your password, click **OK**.

**Note:** If you are directly connecting your PC to the camera, or if you are using the camera on a closed network, the default IP is **192.168.0.20**.



Please make sure that you have the latest version of Java application installed on your computer to ensure proper operation when viewing the video in Java mode. The Java application can be downloaded at no cost from Sun's web site (<http://www.java.com>).

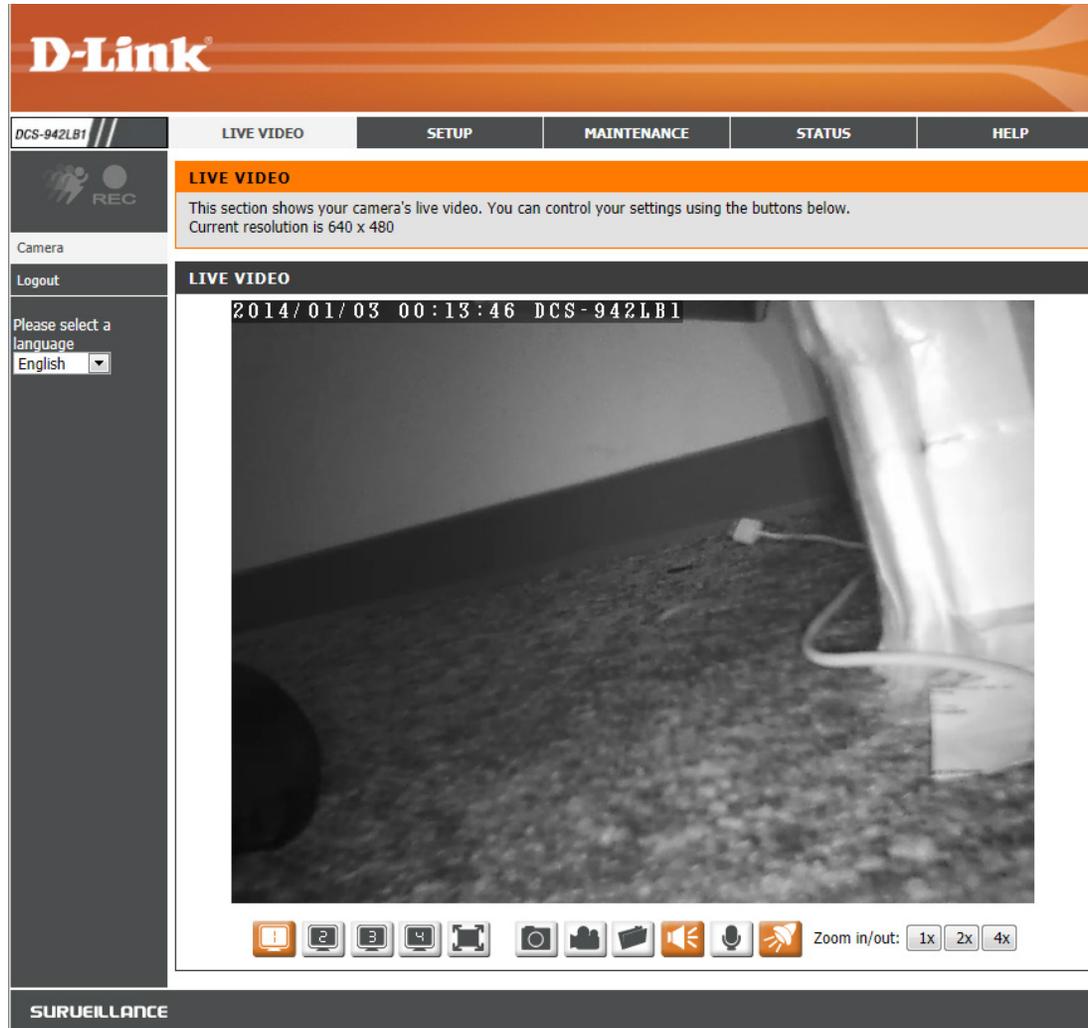
When you connect to the home page of your camera, you may be prompted to download ActiveX. If you want to use ActiveX to view your video images instead of Java, then you must download ActiveX.

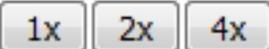


# Live Video

The Live Video page lets you view the live video stream from your camera.

Please make sure that you have the latest version of Java installed on your computer to ensure proper operation when viewing the video in Java mode. The Java application can be downloaded free from Sun's web site (<http://www.java.com>).



Icon	Button Name	Function
	Profile buttons	Use these buttons to switch between video profiles. Refer to "Audio and Video" on page 37 for more information on setting up profiles.
	Full Screen button	Switches to a full screen view of the camera video.
	Snapshot button	Takes a snapshot of the image currently displayed on the screen and saves it to the hard drive in the folder specified using the Storage folder button.
	Video recording button	Triggers the camera's recording function. This will record the video displayed on the screen and saves it to the hard drive in the folder specified using the Storage folder button.
	Storage folder button	Sets the storage folder for snapshots and video recordings.
	Listen button	Sends the audio received from the camera's microphone through to the PC's speakers.
	Talk button	Sends audio from a microphone connected to the PC through to the speakers connected to the camera.
	IR LED On/Off button	Turns the Infrared lights on or off.  (The icon only appears when you activate the manual IR option which can be found under the Day/Night Mode section of the Audio and Video Setup tab.)
Zoom in/out: 	Zoom buttons	Zooms in or out of the picture.

# Setup Wizard

This section allows you to begin setup wizards which will guide you through the process of getting your camera's various functions configured. If you are comfortable with adjusting the settings manually, you may skip the wizards and adjust settings manually as needed.

**Internet Connection Setup Wizard:** You may choose to configure your network by using the Internet Connection Setup Wizard that includes step-by-step instructions. Please refer to "Internet Connection Setup Wizard" on page 25 for more details.

**Manual Internet Connection Setup:** If you would rather manually set up the camera internet connection, you can refer to "Network" on page 32 which provides more details on the information required.

**Motion Detection Setup Wizard:** You may choose to configure motion detection by using the Motion Detection Setup Wizard that includes step-by-step instructions. Please refer to "Motion Detection Setup Wizard" on page 28 for more details.

**Manual Motion Detection Setup:** If you would rather manually set up the camera's motion detection features, you can refer to "Motion Detection" on page 45 which provides more details on the information required.

The screenshot displays the D-Link web interface for the DCS-942LB1 camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded, showing options like 'Setup Wizard', 'Network', 'Wireless Setup', 'Dynamic DNS', 'Image Setup', 'Audio and Video', 'Time and Date', 'Video Clip', 'Snapshot', 'IP Filter', 'HTTPS Setup', 'SD Recording', 'Motion Detection', 'Sound Detection', 'SD Management', and 'Logout'. The main content area is divided into two sections:

- INTERNET CONNECTION SETTINGS:** This section provides instructions for configuring the IP camera's network interface. It recommends using the 'Internet Connection Setup Wizard' for first-time users and the 'Manual Internet Connection Setup' for manual configuration. Two buttons are visible: 'Internet Connection Setup Wizard' and 'Manual Internet Connection Setup'.
- IP CAMERA MOTION DETECTION SETTINGS:** This section provides instructions for configuring motion detection settings. It recommends using the 'Motion Detection Setup Wizard' for first-time users and the 'Manual Motion Detection Setup' for manual configuration. Two buttons are visible: 'Motion Detection Setup Wizard' and 'Manual Motion Detection Setup'.

On the right side, there is a 'Helpful Hints..' section with two paragraphs of advice for advanced users regarding internet connection and motion detection settings.

The bottom of the page features a dark grey bar with the word 'SURVEILLANCE' in white capital letters.

## Internet Connection Setup Wizard

This wizard will guide you through a step-by-step process to configure your new D-Link Camera and connect the camera to the Internet.

Click **Next** to continue.



Select how the camera will connect to the Internet. If you are unsure how your camera will connect to the Internet, select Automatic IP. If your ISP has assigned you a static IP, select Static IP Address and enter the following details:

**IP Address:** Enter the IP address that the camera will use on your network. You may need to get this information from your ISP or network administrator.

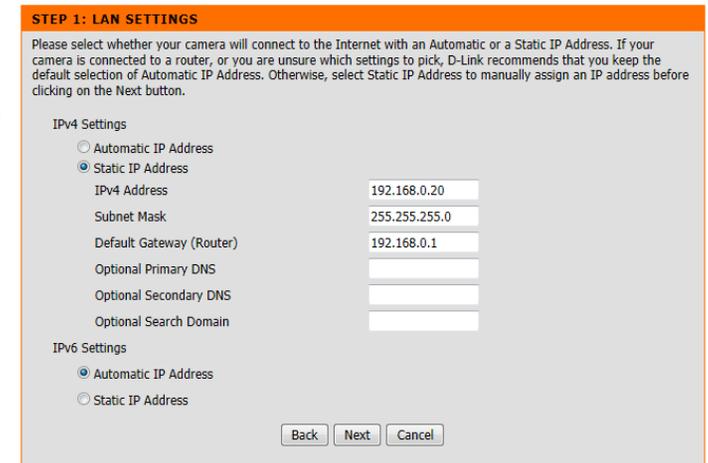
**Subnet Mask:** The default value is "255.255.255.0." Used to determine if the destination is part of the same network segment.

**Default Gateway (Router):** The gateway used to forward data to destinations in a different subnet. Invalid gateway settings may cause the failure of transmissions to a different subnet.

**Optional Primary DNS:** Primary domain name server that translates names to IP addresses.

**Optional Secondary DNS:** Secondary domain name server to backup the Primary DNS.

Click **Next** to continue.



## Section 3 - Configuration

If you are required to connect using PPPoE, select Enabled and enter the Username and Password for your PPPoE connection.



**STEP 2: INTERNET SETTINGS**

If your ISP is using PPPoE, please enable this setting and enter your ISP Username and Password. Then, click on the Next button. Please contact your ISP if you do not know your Username and Password.

Enabled

Username   
(e.g. 123456@hinet.net)

Password

A Dynamic DNS account allows you to access your camera over the Internet when you have an IP address that changes each time you connect to the Internet. If you have a Dynamic DNS account, click **Enable** and enter the following details:

**Server Address:** Select your Dynamic DNS Server from the pull down menu.

**Host Name:** Enter the host name of the DDNS server.

**User Name:** Enter your username or e-mail address used to connect to the DDNS.

**Password:** Enter your password used to connect to the DDNS server.

**Timeout:** You can setup how often the camera notifies the DDNS server of its current global IP address by entering a whole number in hours.

Click **Next** to continue.



**STEP 3: DDNS SETTINGS**

If you have a Dynamic DNS account and would like the camera to update the IP address automatically, please enable DDNS and enter your host information below. Then, click on the Next button to continue.

Sign up for D-Link's Free DDNS service at <http://www.DlinkDDNS.com>

Enable

Server Address  << Select DDNS Server ▾

Host Name

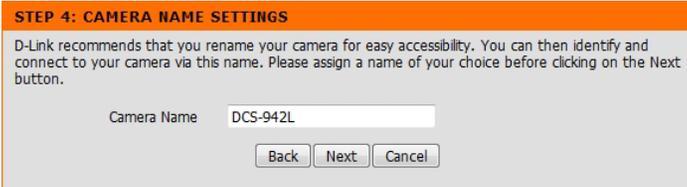
User Name

Password

Verify Password

Timeout  Hour

Enter a name for your camera. Click **Next** to continue.



**STEP 4: CAMERA NAME SETTINGS**

D-Link recommends that you rename your camera for easy accessibility. You can then identify and connect to your camera via this name. Please assign a name of your choice before clicking on the Next button.

Camera Name

## Section 3 - Configuration

Select the time zone that the camera is in so that scheduled events occur at the correct time. If your time zone observes daylight saving, check the **Enable Daylight Saving** box and select **Auto Daylight Saving** to have DST set automatically or select **Set date and time manually** to enable drop down menus so that you can set the start and end time of daylight saving yourself.

Click **Next** to continue.

**STEP 5: TIME ZONE**

Please configure the correct time to ensure that all events are triggered, captured and scheduled at the right time. Then, click on the Next button.

Time Zone (GMT+08:00) Taipei

Enable Daylight Saving

Auto Daylight Saving

Set date and time manually

Offset +1:00

	Month	Week	Day of week	Hour	Minute
Start time	3	2	Sunday	2	0
End time	11	1	Sunday	2	0

A summary of the options you selected is displayed for confirmation. If you are happy with the selected configuration, click **Apply**. Otherwise, click **Back** to make the required changes.

**STEP 6: SETUP COMPLETE**

Below is a summary of your camera settings. Click on the Back button to review or modify settings or click on the Apply button if all settings are correct. It is recommended to note down these settings in order to access your camera on the network or via your web browser.

IPv4 Address	192.168.0.20
IPv6 Address / Prefix Length	Automatic
IP Camera Name	DCS-942L
Time Zone	(GMT+08:00) Taipei
DDNS	Disabled
PPPoE	Disabled

## Motion Detection Setup Wizard

This wizard will guide you through a step-by-step process to configure the motion detection feature of your new D-Link Camera

Click **Next** to continue.

Enabling the Video Motion option will allow your camera to use the motion detection feature. You may draw areas for your camera to monitor for motion..

**Enable Video Motion:** Select this box to enable the motion detection feature of your camera.

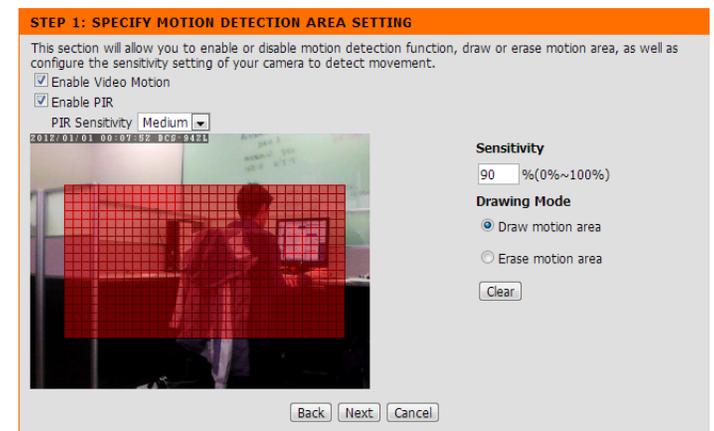
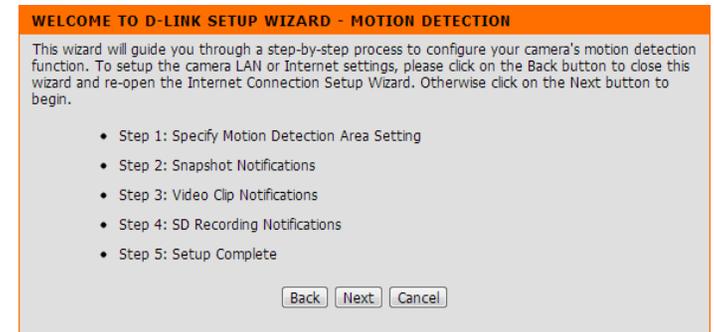
**Enable PIR:** When this option is selected, use PIR (passive infrared) to detect motion.

**Sensitivity:** Specifies the measurable difference that would indicate motion. Enter a value between 0 and 100.

**Drawing Mode:** Select **Draw Motion Area** to select the area of the picture to monitor for movement to trigger recording or a snapshot. Use your mouse to click and drag on the area that you would like to monitor for motion. Select **Erase Motion Area** to clear a selected region and stop the camera from monitoring that area of the picture.

**Clear:** Clears all motion detection areas from the picture.

Click **Next** to continue.



Snapshot Notifications is a feature to send image snapshots via FTP or e-mail when a trigger is activated. This step will only set up notifications to be sent with still images that are captured. If you would like to have notifications with video, please leave this disabled and continue to the next step.

**Enable:** Check this box to enable the Snapshot function.

**Only During:** Check this box to setup a scheduled timeframe when notifications should be sent. This is useful if you do not want to be notified when it would otherwise be inconvenient, such as during the night or on weekends.

**Snapshot Type:** Select whether to take a single snapshot or to take 6 snapshots with a 1 second interval between them.

**Target:** Select where you want the snapshot to be sent. It may be uploaded to an FTP or sent to an e-mail address. You will need to have all of the necessary information filled out in order to use either of these features.

Click **Next** to continue.

### STEP 2: SNAPSHOT NOTIFICATIONS

This step allows you to specify how you will receive alert and notification of camera events. You can enable an E-mail notification and/or a FTP Notification by input all the relevant information. Then, click on the Next button.

Enable

Only during

Day:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

Time: Start 0 : 0 End 0 : 0

**Snapshot Type**

Source : Profile 3

Single snapshot

6 snapshots with 1 second interval (3 frames before and 3 frames after motion frame)

**Target**

FTP

FTP Server/Port: \_\_\_\_\_ : 21

User Name: \_\_\_\_\_

Password: \_\_\_\_\_

Path: \_\_\_\_\_

Filename Prefix: \_\_\_\_\_

Send next FTP after: 10 Seconds (Range : 10 to 86400 seconds)

Passive Mode:

Test

E-mail

Recipient E-mail Address: \_\_\_\_\_

SMTP Mail Server: \_\_\_\_\_

Port: 25 (Range : 1 to 65535)

User Name: \_\_\_\_\_

Password: \_\_\_\_\_

Sender E-mail Address: \_\_\_\_\_

Send next E-mail after: 30 Seconds (Range : 30 to 86400 seconds)

Use SSL-TLS: None

Test

Back Next Cancel

## Section 3 - Configuration

Video Clip Notifications is a feature to send recorded video via FTP or e-mail when a trigger is activated. This step will only set up notifications to be sent with video clips.

**Enable:** Check this box to enable the Video Clip Notification function.

**Only During:** Check this box to setup a scheduled timeframe when notifications should be sent. This is useful if you do not want to be notified when it would otherwise be inconvenient, such as during the night or on weekends.

**Video Clip Type:** The Video Clip Wizard uses Profile 2 by default. More information about video profiles can be found in "Audio and Video" on page 37. You can also specify how many seconds before the event that triggered recording should be sent, as well as how long the maximum duration of the video clip should be in seconds.

**Target:** Select where you want the video clip to be sent. It may either be uploaded to an FTP or sent to an e-mail address. You will need to have all of the necessary information filled out in order to use either of these features.

Click **Next** to continue.

### STEP 3: VIDEO CLIP NOTIFICATIONS

This step allows you to specify how you will receive alert and notification of camera events. You can enable an E-mail notification or a FTP Notification by input all the relevant information. Then, click on the Next button.

Enable

Only during

Day:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

Time: Start 0 : 0 End 0 : 0

**Video Clip Type**

Source : Profile 2

File Format : AVI, .avi

Pre-event recording : 5 Seconds (Between 0 to 5 seconds)

Maximum duration : 10 Seconds (Between 5 to 10 seconds)

**Target**

FTP

FTP Server/Port : 21

User Name

Password

Path

Filename Prefix

Send next FTP after 10 Seconds (Range : 10 to 86400 seconds)

Passive Mode

E-mail

SD Recording Notifications is a feature to record video to the microSD card when a trigger is activated. The microSD card must be formatted for use with the camera prior to running the wizard. This can be done by using the format option found under SD Management. For more details, please refer to “SD Management” on page 47.

**Enable:** Check this box to enable the SD Recording function.

**Only During:** Check this box to setup a scheduled timeframe when recording should take place. This is useful if you do not want to be recorded when it would otherwise be inconvenient, such as during the night or on weekends.

**SD Recording Type:** The SD Recording Wizard uses Profile 2 by default. More information about video profiles can be found in “Audio and Video” on page 37. You can also specify how many seconds before and after the event should be recorded, as well as how long the maximum duration of the video clip should be in minutes.

**Keep Free Space:** Set amount of space to keep free on the microSD card.

**Cyclic** When this option is selected, it will cause the oldest snapshot/video files to be deleted when the system requires storage space for new snapshot/video files.

Click **Next** to continue.

A summary of the options you selected is displayed for confirmation. If you are happy with the selected configuration, click **Apply**. Otherwise, click **Back** to make the required changes.

**STEP 4: SD RECORDING NOTIFICATIONS**

This step allows you to specify how you will record to SD card based on camera events. You can enable SD recording by input all the relevant information.

Please note that there is no SD Card plugged into the camera or the SD Card is not writable. To format the SD Card in the camera, please disable SD Recording first and then go to the [SD Management](#) page.

Enable

Only during

Day:  Sun  Mon  Tue  Wed  Thu  Fri  Sat

Time: Start 0 : 0 End 0 : 0

**SD Recording Type**

Pre-event recording : 5 Seconds (Between 0 to 5 seconds)

Post-event recording : 5 Seconds (Between 0 to 60 seconds)

Snapshot

Video

Source : Profile 2

File Format : MP4, .mp4

Recording Length : 1 minutes per file

**SD Card**

Keep Free Space : 200 MB (Minimum is 200)

Cyclic

**STEP 5: SETUP COMPLETE**

You have completed your camera setup. Please click the Back button if you want to review or modify your settings or click on the Apply button to save and apply your settings.

- Motion Detection: Enable
- Snapshot Notifications: Disable
- Video Clip Notifications: Disable
- SD Recording Notifications: Disable

# Network

This section allows you to configure your network settings.

**Automatic IP Address:** Select this connection if you have a DHCP server running on your network and would like a dynamic IP address to be updated to your camera automatically.

**Static IP Address:** You may obtain a static or fixed IP address and other network information from your network administrator for your camera.

**IPv4 Address:** Enter the IP address that the camera will use on your network. You may need to get this information from your ISP or network administrator.

**Subnet Mask:** The default value is "255.255.255.0." Used to determine if the destination is part of the same subnet.

**Default Gateway:** The gateway used to forward frames to destinations in a different subnet. Invalid gateway settings may cause the failure of transmissions to a different subnet.

**Optional Primary DNS:** Primary domain name server that translates names to IP addresses.

**Optional Secondary DNS:** Secondary domain name server to backup the Primary DNS.

**PPPoE Settings:** If you are using a PPPoE connection, enable it and enter the User Name and Password for your PPPoE account. You can get this information from your Internet service provider (ISP).

The screenshot displays the D-Link DCS-942L web interface for network configuration. The main heading is 'NETWORK' with a sub-heading 'You can configure your LAN and Internet settings here.' Below this are two tabs: 'LAN SETTINGS' and 'IPv4 Settings'. The 'IPv4 Settings' section is selected and contains the following fields:

- IPv4 Settings:**
  - Automatic IP Address
  - Static IP Address
    - IPv4 Address: 192.168.0.20
    - Subnet Mask: 255.255.255.0
    - Default Gateway (Router): 192.168.0.1
    - Optional Primary DNS: [Empty]
    - Optional Secondary DNS: [Empty]
    - Optional Search Domain: [Empty]
- PPPoE:**
  - PPPoE
    - User Name: [Empty]
    - Password: [Empty]
    - Confirm Password: [Empty]
    - Status: Disabled
- IPv6 Settings:**
  - Automatic IP Address
  - Static IP Address
    - IPv6 Address / Prefix Length: [Empty] / 64
    - Default Gateway(Router): [Empty]
    - Optional Primary DNS: [Empty]
    - Optional Secondary DNS: [Empty]
- PORT SETTINGS:**
  - HTTP Port: 80
  - HTTPS Port: 443
  - RTSP Port: 554
- UPnP:**
  - UPnP
  - UPnP Port Forward
- Apple:**
  - Bonjour

At the bottom of the form are 'Save Settings' and 'Don't Save Settings' buttons. On the right side of the interface, there is a 'Helpful Hints...' section with additional information about Automatic IP Address, Static IP Address, PPPoE, HTTP Port, RTSP Port, UPnP, and Bonjour.

**Port Settings:** You may configure which ports to use for HTTP, HTTPS, and RTSP access to the camera.

**UPnP:** Enable this setting to configure your camera as an UPnP device in the network.

**UPnP Port Forwarding:** Enable this to allow your camera to use UPnP to configure port forwarding on your router.

**Bonjour:** Checking the **Bonjour** box will allow the camera to be discoverable on the network and visible to Apple devices.

Click **Save Settings** to save your changes.

The screenshot shows the D-Link DCS-942L Web UI configuration page for Network settings. The main content area is titled 'NETWORK' and contains the following sections:

- LAN SETTINGS**
  - IPv4 Settings**
    - Automatic IP Address
    - Static IP Address
      - IPv4 Address: 192.168.0.20
      - Subnet Mask: 255.255.255.0
      - Default Gateway (Router): 192.168.0.1
      - Optional Primary DNS: [ ]
      - Optional Secondary DNS: [ ]
      - Optional Search Domain: [ ]
  - PPPoE
    - User Name: [ ]
    - Password: [ ]
    - Confirm Password: [ ]
    - Status: Disabled
- IPv6 Settings**
  - Automatic IP Address
  - Static IP Address
    - IPv6 Address / Prefix Length: [ ] / 64
    - Default Gateway(Router): [ ]
    - Optional Primary DNS: [ ]
    - Optional Secondary DNS: [ ]

- PORT SETTINGS**
- HTTP Port: 80
- HTTPS Port: 443
- RTSP Port: 554
- UPnP**
- UPnP
- UPnP Port Forward
- Apple**
- Bonjour

At the bottom of the main content area are two buttons: 'Save Settings' and 'Don't Save Settings'.

The right sidebar contains 'Helpful Hints...' for several settings:

- Automatic IP Address:** Select if you are running a DHCP server on your network and would like an IP address assigned to your camera automatically.
- Static IP Address:** This option is used to configure your IP Camera with IP address matched your network settings.
- PPPoE:** This option is used to configure your camera to connect directly to the internet. If the camera is behind a router or a gateway, you do not need to configure this setting.
- HTTP Port:** Allocate the port of camera to allow you to connect via a standard web browser.
- RTSP Port:** Allocate the port of camera to allow you to connect by using QuickTime or streaming mobile devices.
- UPnP:** Enable UPnP will allow you to discover camera as an UPnP device in the network.
- UPnP Port Forward:** If router does support UPnP, your camera and router can communicate with each other so that the router knows which ports are used by which camera.
- Bonjour:** Enable Bonjour will allow you to discover camera within an Apple computer.

# Wireless Setup

This section allows you to set up and configure the wireless settings on your camera.

**Network Name:** This is the Service Set Identifier, an identifier for your wireless network.

**Site Survey:** The drop down menu lists all the wireless networks that the camera was able to detect. Click **Rescan** to scan for wireless networks again.

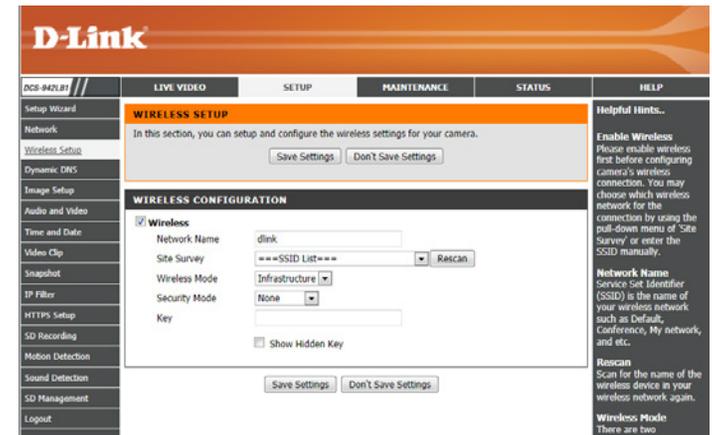
**Wireless Mode:** Use **Infrastructure** if you are connecting your camera to a wireless router or access point.

**Security Mode:** For security, there are three choices; **None**, **WEP**, and **WPA-PSK / WPA2-PSK**. Select the same encryption method that is being used by your wireless device/router.

**Cipher Type:** If you chose **WPA-PSK** or **WPA2-PSK**, choose whether to use **TKIP** or **AES**.

**Key:** Enter the key(password) for your wireless network. Check the **Show Hidden Key** box to reveal the password you have entered.

Click the **Save Settings** button to save your changes.



# Dynamic DNS

DDNS allows you to access your camera using a domain name instead of an IP address. To do this, you will need to have an account with one of the DDNS services listed in the drop-down box on this page.

**DDNS:** Check this box to enable the DDNS function.

**Server Address:** Select your Dynamic DNS Server from the pull down menu.

**Host Name:** Enter the host name of the DDNS server.

**User Name:** Enter your username or e-mail address used to connect to the DDNS.

**Password:** Enter your password used to connect to the DDNS server.

**Timeout:** You can set up how often the camera notifies the DDNS server of its current global IP address by entering a whole number in hours.

Click the **Save Settings** button to save your changes.

**D-Link**

DCS-942L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Setup Wizard

**DYNAMIC DNS**

The Dynamic DNS feature allows you to use a domain name that you have purchased (www.yourdomain.com) to access your camera with a dynamically assigned IP address. Most broadband Internet service providers assign dynamic (changing) IP addresses. By using a DDNS service, you can enter your domain name to connect to your camera no matter what your IP address is. Sign up for D-Link's Free DDNS service at <http://www.DLinkDDNS.com>

Save Settings Don't Save Settings

**DYNAMIC DNS SETTING**

DDNS

Server Address  << Select DDNS Server

Host Name

User Name

Password

Confirm Password

Timeout  hours

Status Disabled

Save Settings Don't Save Settings

**Helpful Hints..**

Dynamic DNS is useful if you have a DSL or Cable service provider that changes your Internet Device IP address periodically. This will allow you to assign a website domain name to your camera instead of connecting through an IP address.

**Host Name**  
The domain name you have applied from DDNS service.

**Timeout**  
You can setup how often the camera notifies the DDNS server of its current global IP address. By default this is 576 hours.

**Status**  
The status of DDNS, it indicates the availability of DDNS function.

# Image Setup

This section allows you to configure the image settings for your camera.

**Brightness Control:** Allows you to adjust the brightness level.

**Contrast:** Allows you to adjust the contrast level.

**Mirror:** Horizontally flip the video.

**Light Source:** This setting adjusts the light sensitivity of the camera for optimum performance for either indoor or outdoor settings.

**White Balance:** Allows you to set the camera to automatically set the white balance of the image.

**Saturation:** Allows you to adjust the saturation level.

**B/W:** Changes the images recorded on the camera to be in black and white.

**Flip:** Select this box to vertically flip the video. If the camera is installed upside down, Flip Image and Mirror should both be checked.

**Frequency:** Adjusts the video output. By default this is set to **Auto**, but you may override the setting by manually selecting either **50Hz** or **60Hz**

**Slow Shutter:** Allows you to select a slow shutter speed so as to capture more light in the image. You can select from **1/15 second**, **1/10 second**, **1/7.5 second** or **1/3.75 second**.

Changes made to these settings will take effect immediately.

The screenshot shows the D-Link DCS-942L Web Interface. The top navigation bar includes tabs for LIVE VIDEO, SETUP, MAINTENANCE, STATUS, and HELP. The left sidebar contains a menu with options like Setup Wizard, Network, Wireless Setup, Dynamic DNS, Image Setup (selected), Audio and Video, Time and Date, Video Clip, Snapshot, IP Filter, HTTPS Setup, SD Recording, Motion Detection, Sound Detection, SD Management, and Logout. The main content area is titled 'IMAGE SETUP' and contains a 'LIVE VIDEO' window showing a camera feed of a person's face. Below the live video is the 'IMAGE SETTINGS' section with the following controls:

Brightness	50	Saturation	100
Contrast	40	B/W	<input type="checkbox"/>
Mirror	<input type="checkbox"/>	Flip	<input type="checkbox"/>
Light Source	Indoor	Frequency	Auto
White Balance	Auto	Slow Shutter	Disable

A 'Reset to Default' button is located at the bottom of the settings section. The right sidebar contains 'Helpful Hints...' with text explaining the functions of Brightness, Contrast, B/W, Mirror, Flip, and Light Source.

# Audio and Video

This section allows you to configure the audio and video settings for your camera.

**Video Profile:** There are four individual profiles that can be configured. Profiles 3 and 4 are reserved for snapshots and mobile devices to use.

**Encode Type:** The compression format used when viewing your cameras video feeds.

**Resolution:** Select the desired video resolution: 640x480, 320x240, or 160x120. Higher resolutions will result in a larger image, however it will also take up more network bandwidth.

**FPS:** A higher FPS will result in smoother video playback, however it will also take up more network bandwidth.

**Encode Method:** Select Constant bit rate(CBR) for fixed the bandwidth consumption. Image quality can be adjusted with the quality options(Low, Fair, Standard, Good, Excellent) and will adjust the bit rate automatically.

**bps:** Select the bit rate to assign the video. The bps setting is used as a maximum limit for the amount of data the camera will use. A higher setting will result in better looking video, but will also have a larger file size.

**JPEG Quality:** One of five levels of image quality can be set for the snapshot feature: Highest, High, Medium, Low, and Lowest.

**RTSP URL:** The URL used to connect to the camera when viewing from QuickTime or a mobile device.

The screenshot shows the D-Link DCS-942L Web Interface. The main content area is titled "AUDIO AND VIDEO" and contains the following sections:

- VIDEO PROFILE 1:** Encode Type: H.264, Resolution: 640x480, FPS: 30, Encode Method: CBR, bps: 2 Mbps, RTSP URL: play1.sdp
- VIDEO PROFILE 2:** Encode Type: H.264, Resolution: 320x240, FPS: 10, Encode Method: CBR, bps: 256 kbps, RTSP URL: play2.sdp
- VIDEO PROFILE 3:** Encode Type: JPEG, Resolution: 640x480, FPS: 10, Encode Method: Quality, Quality: Good, bps: 384 kbps, RTSP URL: play3.sdp
- VIDEO PROFILE 4:** Encode Type: MPEG4, Resolution: 320x240, FPS: 5, Encode Method: CBR, bps: 384 kbps, RTSP URL: 3gpp
- DAY/NIGHT MODE:** Day/Night Mode: Auto, Light Sensor Sensitivity: High
- AUDIO SETUP:** Speaker: [checked], Volume: 50; Microphone: [checked], Volume: 50

The right sidebar contains "Helpful Hints..." for various settings:

- Higher Resolution, FPS and bps gives better video quality.** At the same time, it requires more network bandwidth.
- Encode Type** Select the video codec: JPEG, MPEG4, or H.264.
- Resolution** The options depend on display system used.
- FPS** The amount of image frames rendered by the camera per second.
- Encode Method** Select CBR to have bps first or Quality first as video encoding method.
- bps** Select a fixed bandwidth for your camera operation. Higher value means a higher quality image but consumes more network bandwidth.
- Quality** Set the quality for image.
- RTSP URL** The URL used to connect to the camera when viewing from QuickTime or a mobile device.
- Day/Night Mode** Select night mode to use camera's IR LED in a dim light area.
- Light Sensor Sensitivity**

**Day/Night Mode:** Select a method of switching between day and night modes:

- **Auto:** This will automatically switch between day and night mode based on the amount of ambient light. When there is enough light, day mode will be used. When it gets dark, the camera will switch to night mode.

You can use the **Light Sensor Sensitivity** dropdown box to determine how sensitive the camera's light sensor will be and how quickly your camera will respond to changes in ambient light.

- **Manual:** The camera will only switch between day and night mode when requested to through the Live Video interface on the mydlink website or mobile app.
- **Always Day Mode:** The camera will always use day mode.
- **Always Night Mode:** The camera will always use night mode.
- **Day Mode Schedule:** This option lets you use a schedule to switch between day and night mode. Enter the times you want the camera to use day mode. The camera will use night mode for all times outside of this schedule.

The screenshot shows a configuration interface with two main sections: 'DAY/NIGHT MODE' and 'AUDIO SETUP'. In the 'DAY/NIGHT MODE' section, 'Day/Night Mode' is set to 'Auto' and 'Light Sensor Sensitivity' is set to 'High'. The 'AUDIO SETUP' section has 'Speaker' and 'Microphone' both checked, with their respective volume levels set to '50'. At the bottom, there are two buttons: 'Save Settings' and 'Don't Save Settings'.

**Audio Setup:** Allows you to enable and disable or adjust the volume level of the speaker and microphone.

Click **Save Settings** to save your changes.

# Time and Date

This section allows you to configure the settings of the internal system clock for your camera.

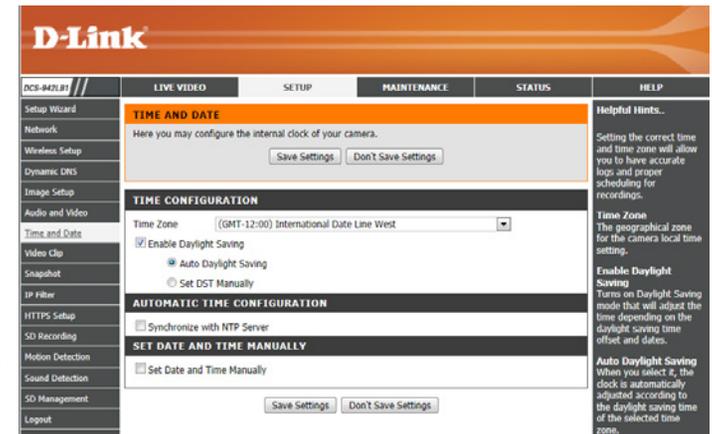
**Time Zone:** Select the time zone for your region from the drop down menu.

**Enable Daylight Saving: Manually** If your region uses Daylight Saving time, you can enable it here. Select **Set DST Manually** if you want to manually set the offset and the period of time that the Daylight Saving correction should be used.

**Synchronize NTP Server:** Network Time Protocol will synchronize your camera with an Internet time server. Choose the one that is closest to your camera.

**Set the Date and Time Manually:** If **Synchronize NTP Server** is disabled, you can set the date and time manually. You can also click the **Copy Your Computer's Time Settings** button to automatically copy the date and time of the PC you are using.

Click **Save Settings** to save your changes.



# Video Clip

Video Clip allows you to send video clips via FTP or e-mail when a trigger is activated.

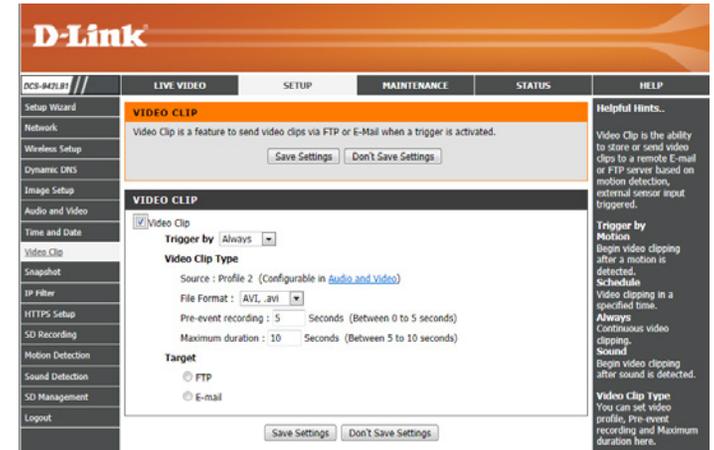
**Video Clip:** Check this box to enable the Video Clip function.

**Trigger By:** Select whether to record when triggered by **Motion** or **Sound**, according to a **Schedule** or **Always** record.

**Video Clip Type:** Displays the profile used for the recording and allows you select a file format and specify how much video to record before and after the event.

**Target:** Select where you want the video clip to be sent. It may be uploaded to an FTP or sent to an e-mail address.

Click **Save Settings** to save your changes.



# Snapshot

The snapshot feature lets you send image snapshots via FTP or e-mail when a trigger is activated.

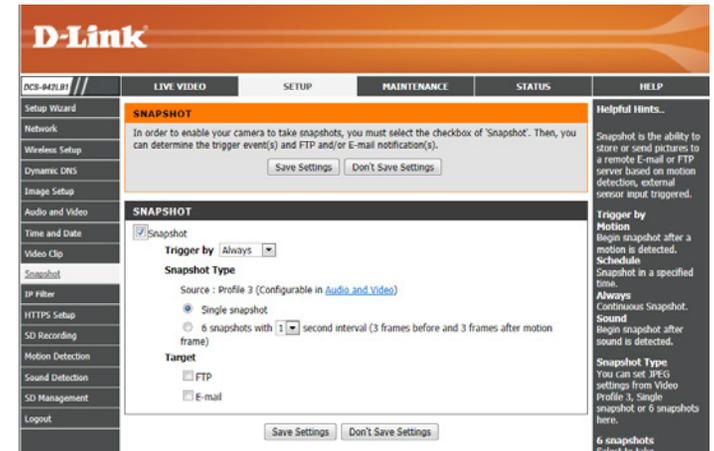
**Snapshot:** Check this box to enable the Snapshot function.

**Trigger By:** Select whether to record when triggered by **Motion** or **Sound**, according to a **Schedule** or **Always** record.

**Snapshot Type:** Select whether to take a single snapshot or to take 6 snapshots with a selectable interval between them.

**Target:** Select where you want the snapshot to be sent. It may be uploaded to an FTP or sent to an e-mail address.

Click **Save Settings** to save your changes.



# IP Filter

The IP Filter is a feature used to allow or deny certain IP addresses when accessing the DCS-942L.

**Access List Filtering:** Check this box to enable the IP Filter function.

**Filter Type:** Select whether to set the filter to allow or to deny connection from the IP addresses listed.

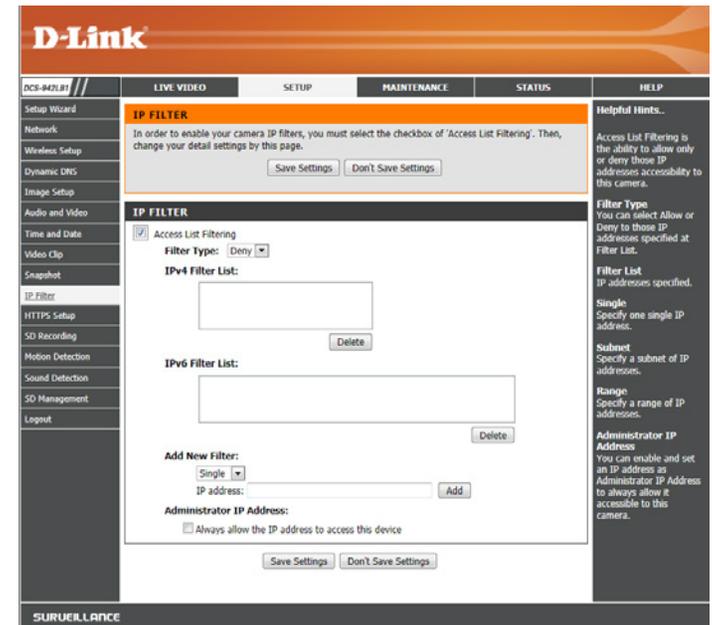
**IPv4 Filter List:** The current list of IPv4 addresses that are being filtered. Select a line and the click the delete button to remove that entry.

**IPv6 Filter List:** The current list of IPv6 addresses that are being filtered. Select a line and the click the delete button to remove that entry.

**Add New Filter.** From the drop down menu, select whether to add a single IP, an entire subnet, or a range of IP addresses. Enter an IP address, subnet, or IP range, then click **Add** to create a new filter.

**Administrator IP Address.** You can allow a single IP address to always have access to this camera, regardless of the IP filter rules being used, by enabling this option and entering the IP address.

Click **Save Settings** to save your changes.



# HTTPS Setup

HTTPS Setup is used to add encryption to the HTTP connection, making it more secure and less susceptible to unauthorized use.

**HTTPS Secure Connection:** Check this box to enable the HTTPS function.

**Connection Type:** Select whether the connection type should be HTTP and HTTPS or only HTTPS.

**Create and Install Certificate Method:** Select whether to create a self-signed certificate automatically, manually, or to request and install a certificate from an authority.

**Certificate Information:** General information and the status of the current HTTPS certificate is displayed. If you would like to see more detailed information, click on the **Property** button. If you would like to remove the certificate, click the **Remove** button.

Click **Save Settings** to save your changes.

**D-Link**

DCS-942L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Setup Wizard Network Wireless Setup Dynamic DNS Image Setup Audio and Video Time and Date Video Clip Snapshot IP Filter HTTPS Setup SD Recording Motion Detection Sound Detection SD Management Logout

**HTTPS SETUP**

Here you may set up your HTTPS settings.

Save Settings Don't Save Settings

**HTTPS SETUP**

HTTPS Secure Connection

**Connection Type**

Both HTTP and HTTPS

HTTPS only

HTTP only

**Create and Install Certificate Method**

Create self-signed certificate automatically **Create**

Create self-signed certificate manually

Create certificate request and install

**Certificate Information**

Status: Active

Country: TW

State or Province: Asia

Locality: Asia

Organization: D-Link Corporation

Organization Unit: D-Link Corporation

Common Name: www.dlink.com

Validity: 3650 days

Key Length: 2048 bits

**Property** **Remove**

Save Settings Don't Save Settings

**Helpful Hints...**

**HTTPS Secure Connection**  
Connection adds encryption capability to HTTP connection, you can use HTTP or HTTPS connection at the same time. And please note: Video/Audio Streaming is always over HTTP connection.

**Both HTTP and HTTPS**  
You can select this option to allow HTTP and HTTPS connection to the camera.

**HTTPS only**  
You can select this option to allow only HTTPS connection to the camera.

**Create self-signed certificate automatically**  
Select this method to create a self-signed certificate automatically.

**Create self-signed certificate manually**  
Select this method to create a self-signed certificate by specifying HTTPS parameters manually.

**Create certificate request and install**  
Select this method allows you to send a certificate request to a certificate authority and

# SD Recording

This option allows you to configure and set a schedule for the recording to an inserted microSD card.

**SD Recording:** Check this box to enable the recording feature.

**Trigger by:** Select whether the event is activated by **Motion**, **Schedule**, or if the video is **Always** recording.

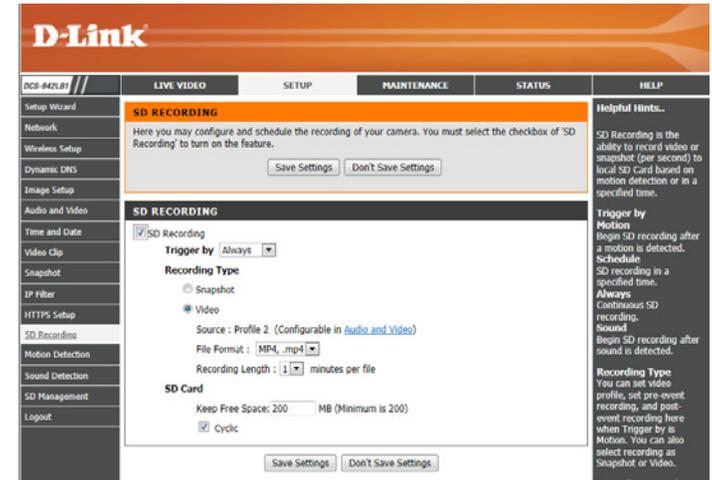
- **Motion:** Enables recording when motion is detected. You can limit motion-triggered recording to a specific schedule by selection **Only during** and entering the times you want motion-triggered recording to be enabled.
- **Schedule:** Enables recording according to a schedule. Enter the times you want the camera to record.
- **Always:** This will enable continuous recording to the microSD card.
- **Sound:** Enables recording when sound is detected. You can limit sound-triggered recording to a specific schedule by selection **Only during** and entering the times you want sound-triggered recording to be enabled.

**Recording Type:** You can choose to record snapshots or video. For more on video profile options, refer to “Audio and Video” on page 37.

**Keep Free Space:** Set amount of space to keep free on the microSD card.

**Cyclic:** When this option is selected, it will cause the oldest snapshot/video files to be deleted when the system requires storage space for new snapshot/video files.

Click **Save Settings** to save your changes.



# Motion Detection

Motion detection enables the camera to monitor the video feed for movement.

**Enable Video Motion:** Select this box to enable the motion detection feature of your camera.

**Enable PIR:** When this option is selected, the camera will use PIR (passive infrared) to detect motion.

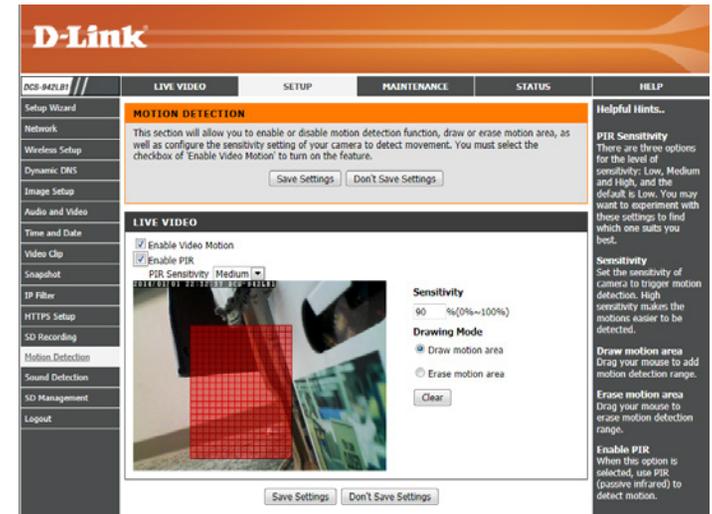
**Sensitivity:** Specifies the measurable difference between two sequential images that would indicate motion. Please enter a value between 0 and 100.

**Drawing Mode:** Select **Draw Motion Area** to select the area of the picture to monitor for movement to trigger recording or a snapshot. Use your mouse to click and drag on the area that you would like to monitor for motion. Select **Erase Motion Area** to clear a selected region and stop the camera from monitoring that area of the picture.

**Clear:** Clears all motion detection areas from the picture.

**Refresh Image:** Updates the image with a new one at the time the button is pressed.

Click **Save Settings** to save your changes.



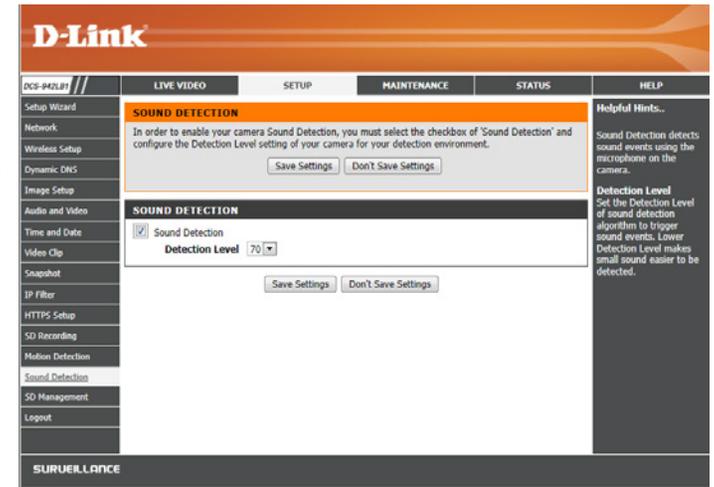
# Sound Detection

Motion detection enables the camera to monitor the environment for loud sounds. You may set the volume threshold used to determine whether sound was detected or not. If this option is selected, the trigger by option under **SD Recording, Video Clip, or Snapshot** should also be selected.

**Enable Sound Detection:** Select this box to enable the sound detection feature of your camera.

**Detection Level:** Specify the volume level that a sound must exceed in order to trigger the sound detection feature. The higher the number the more sensitive the camera will be to sound.

Click **Save Settings** to save your changes.



# SD Management

This menu option lets you browse and manage the recorded files which are stored in the microSD card.

**Format SD Card:** Click this icon to automatically format the microSD card and create a folder for video.

**Delete:** Click the checkbox in front of the Delete button to select files for deletion. The Delete button is used to delete the files which are selected.

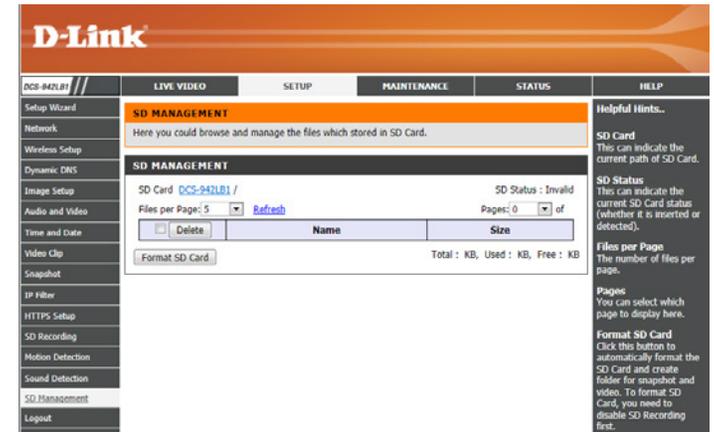
**Name:** The name of file on the SD card.

**Size:** The file's size.

**Refresh:** Click to reload the page and display any new data.

**Files per page:** Determines how many files to be shown on a page, up to 100 files.

**Pages:** Shows the current and total number of pages.



# Maintenance Admin

This section allows you to change the administrator's password and configure the server settings for your camera. You can also manage the user account(s) that access your camera.

**Admin Password Setting:** To change your password, enter your current password and then enter the new one in the New Password and Confirm New Password fields.

**Add User Account:** Create a new user to access the camera's Live Video page. Enter the user name, password, and password confirmation, and click **Add**.

**User List:** Select a user from the drop down menu and click **Delete** to remove the user account.

**RTSP Authentication:** Enables user validation for RTSP streaming.

**HTTP Authentication:** Enables user validation for HTTP streaming.

**Snapshot URL Authentication:** Select this to allow access to the current camera snapshot via the web address indicated.

**Camera Name:** Specify a name for your camera.

**OSD:** Enabling this will show information in the top left of the camera's video. In the **Label** field, you may enter a name to display on the image. Select **Time Stamp** to include the current date and time.

**Power/Link LED Light:** Select **Normal** to enable the LED on the front of the device, or select **Off** to disable the LED. It can also be set to flicker on and off.

# System

This section allows you to save and restore your configuration, restore the factory settings, and/or restart the camera.

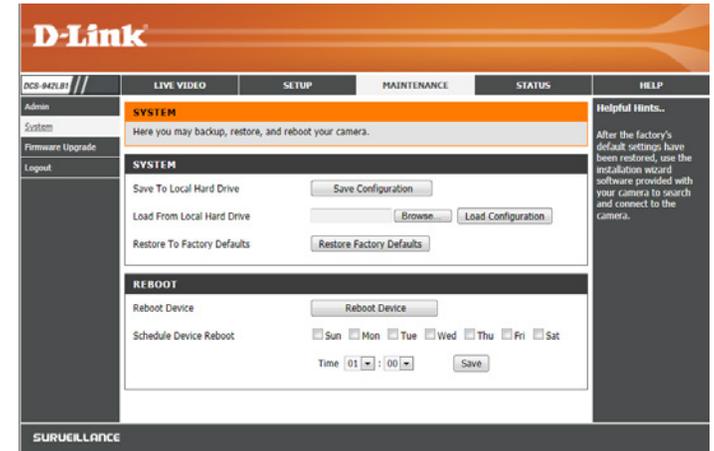
**Save To Local Hard Drive:** You may save your current camera configuration as a file on your computer by clicking **Save Configuration**.

**Load From Local Hard Drive:** Locate a pre-saved configuration by clicking **Browse...** and then restore the pre-defined settings to your camera by clicking **Load Configuration**.

**Restore To Factory Default:** You may reset your camera and restore the factory settings by clicking **Restore Factory Defaults**.

**Reboot The Device:** This will restart your camera.

**Schedule Device Reboot:** You can schedule the camera to reboot according to a schedule. Select the days and time you want the camera to automatically reboot.



# Firmware Upgrade

Your current firmware version and date will be displayed on your screen. You may go to the D-Link Support Page to check for the latest firmware versions available.

To upgrade your firmware, please download and save the latest firmware version from the D-Link Support Page to your local hard drive. Locate the file on your local hard drive by using the **Browse...** button, then click the **Upload** button to start the firmware upgrade.

The screenshot shows the D-Link web interface for the DCS-942L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'Firmware Upgrade' page is active, displaying instructions and current firmware information.

DCS-942L //	LIVE VIDEO	SETUP	MAINTENANCE	STATUS	HELP
Admin	<b>FIRMWARE UPGRADE</b>				Helpful Hints...
System	A new firmware upgrade may be available for your IP camera. It is recommended to keep your IP camera firmware up-to-date to maintain and improve the functionality and performance of your internet camera. Click here <a href="#">D-Link Support Page</a> to check for the latest firmware version availability. To upgrade the firmware on your IP camera, please download and save the latest firmware version from the D-Link Support Page to your local hard drive. Locate the file on your local hard drive by clicking the Browse button. Once you have found and opened the file using the browse button, click the "Upload" button to start the firmware upgrade.				Firmware upgrade is released periodically to improve the functionality of your IP camera and also to add new features. If you run into a problem with a specific feature of the IP camera, check our support site by clicking <a href="#">here</a> to check for an upgrade and see if updated firmware is available for your IP camera.
Firmware Upgrade	<b>FIRMWARE INFORMATION</b>				
Logout	Current Firmware Version: 2.00				
	Current Firmware Build Number: 4004				
	Current Agent Version: 2.0.17-b61				
	<b>FIRMWARE UPGRADE</b>				
	File Path: <input type="text"/> <input type="button" value="Browse"/> <input type="button" value="Upload"/>				

SURVEILLANCE

# Status

## Device Info

This section displays information about your camera and its current network and wireless status.

**D-Link**

DCS-942LB1 // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Device Info Log Logout

**DEVICE INFO**

All of your network connection details are displayed on this page. The firmware version is also displayed here.

**Helpful Hints..**

This page displays all the information about the camera and network settings.

**INFORMATION**

Camera Name	DCS-942LB1
Time & Date	2014/1/4 21:11:46
Firmware Version	2.00
Firmware Build Number	4004
Agent Version	2.0.17-b61
MAC Address	28:10:7B:26:A7:EE
IPv4 Address	192.168.0.103
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.168.0.1
IPv4 Primary DNS	192.168.0.1
IPv4 Secondary DNS	
Search Domain	
IPv6 Address/Prefix Length	fe80::2a10:7bff:fe26:a7ee/64
IPv6 Default Gateway	
IPv6 Primary DNS	
IPv6 Secondary DNS	
PPPoE Status	Disabled
DDNS Status	Disabled

**SURVEILLANCE**

# Log

The system log records camera events that have occurred.

**D-Link**

DCS-942LB1 //

LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Device Info

Log

Logout

**SYSTEM LOG**

The system log records camera events that have occurred.

**CURRENT LOG**

2014-01-01 00:20:24 admin, 192.168.0.100 is streaming video.  
 2014-01-01 00:20:51 admin, 192.168.0.100 is streaming video.  
 2014-01-01 00:21:25 admin, 192.168.0.100 is streaming video.  
 2014-01-01 00:05:41 admin, 192.168.0.136 is streaming video.  
 2014-01-01 00:06:19 admin, 192.168.0.136 is streaming video.  
 2014-01-01 22:19:45 admin, 192.168.0.100 is streaming video.  
 2014-01-01 22:20:56 admin, 192.168.0.100 is streaming video.  
 2014-01-01 22:22:00 admin, 192.168.0.100 is streaming video.  
 2014-01-01 22:32:16 admin, 192.168.0.100 is streaming video.

Clear Download

**Helpful Hints..**

You can save the log to your local hard drive by clicking the Download button, and you can clear the log by clicking on the Clear button.

**SURVEILLANCE**

# Wireless Security

This section will show you the different levels of security you can use to protect your data from intruders.

The DCS-942L offers the following types of security:

- WPA2-PSK (Pre-Shared Key)
- WPA-PSK (Pre-Shared Key)
- WEP (Wired Equivalent Privacy)

## What is WEP?

WEP stands for Wired Equivalent Privacy. It is based on the IEEE 802.11 standard and uses the RC4 encryption algorithm. WEP provides security by encrypting data over your wireless network so that it is protected as it is transmitted from one wireless device to another.

To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.

# What is WPA?

WPA, or Wi-Fi Protected Access, is a Wi-Fi standard that was designed to improve the security features of WEP (Wired Equivalent Privacy).

The 2 major improvements over WEP:

Improved data encryption through the Temporal Key Integrity Protocol (TKIP). TKIP scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. WPA2 is based on 802.11i and uses Advanced Encryption Standard instead of TKIP.

User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). WEP regulates access to a wireless network based on a computer's hardware-specific MAC address, which is relatively simple to be sniffed out and stolen. EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA-PSK/WPA2-PSK uses a passphrase or key to authenticate your wireless connection. The key is an alpha-numeric password between 8 and 63 characters long. The password can include symbols (!?\*&\_) and spaces. This key must be the exact same key entered on your wireless router or access point.

# Configuring the DCS-942L with a Router

D-Link's DCS-942L is a versatile and cost effective Network Camera offering both video and audio monitoring. It can also serve as a powerful surveillance system in security applications. The DCS-942L can be used with any wired or 802.11n/g wireless router. This section explains how to view the camera from either the Internet or from inside your internal network.

Components Needed:

- 1 DCS-942L Network Camera
- 1 Ethernet Cable
- A Wired or Wireless router such as the D-Link DIR-655 Wireless Router
- Ethernet based PC for system configuration

## Setting up the DCS-942L for Use Behind a Router

Installing a DCS-942L Network Camera on your network is an easy 4–step procedure:

1. Assign a local IP address to your network camera.
2. View the network camera using your Internet Explorer web browser.
3. Access the router with your web browser.
4. Open virtual server ports to enable remote image viewing.

**Note:** *These are manual steps; however, if you decide to use the wizard, it will perform every step automatically.*

This section is designed to walk you through the setup process for installing your camera behind a router and enable remote video viewing. For the basic setup of the DCS-942L, follow the steps outlined in the Quick Installation Guide.

After you have completed the setup of the DCS-942L outlined in the Quick Installation Guide you will have an operating camera that has an assigned IP Address. Because you are using a router to share the Internet with one or more PCs, the IP Address assigned to the Network Camera will be a local IP Address. This allows viewing within your Local Area Network (LAN) until the router is configured to allow remote viewing of the camera over the Internet.

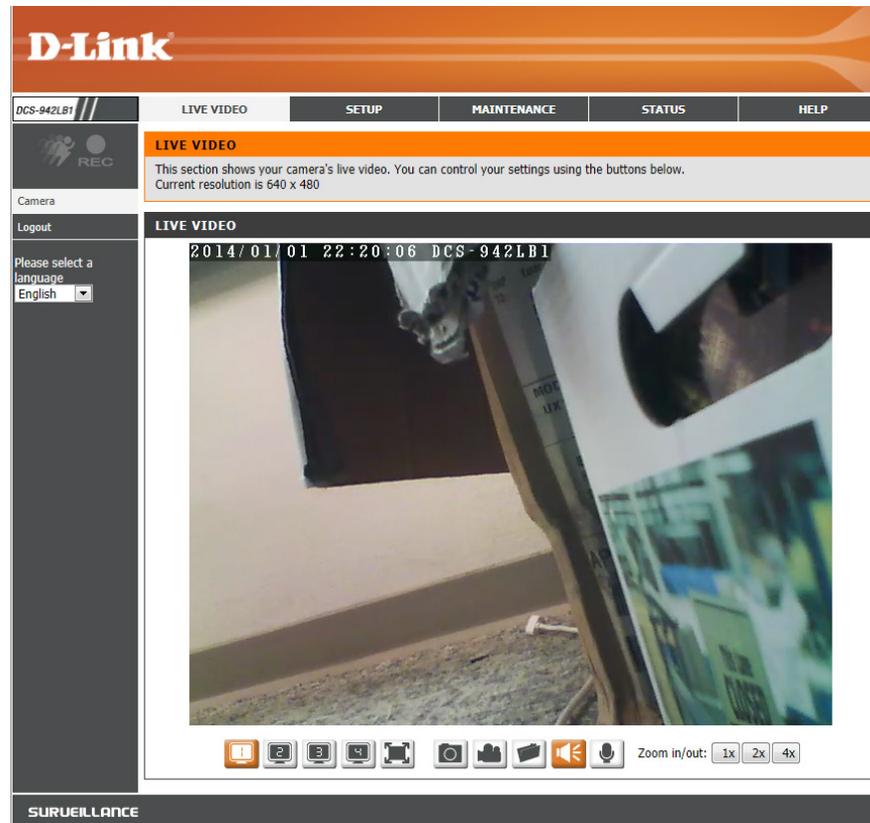
### 1. Assign a Local IP Address to Your Camera

Run the setup wizard from the CD included with the DCS-942L. Follow the steps in the Quick Installation Guide to configure the DCS-942L. The camera will be assigned a local IP Address that allows it to be recognized by the router. Write down this IP Address for future reference.

### 2. View the Network Camera Using Your Internet Explorer Web Browser

Run your Internet Explorer Web browser. In the address bar, type in the IP Address that was assigned to the Network Camera by the Setup Wizard. The DCS-942L Live Video Page appears with a window displaying live video from the camera. You are able to view this screen from any PC running Internet Explorer on your LAN.

Click on the **Setup** button at the top of the screen. Scroll to the bottom of the Network Setup page to display the ports used by HTTP and Streaming audio and video.



The **Setup > Network Setup** page displays the port settings for your camera. If necessary, these ports can be changed if they are already in use by other devices (e.g. in a multiple camera environment).

**Note:** The HTTP port is required to be opened for the DCS-942L.

**D-Link**

DCS-942L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Setup Wizard  
 Network  
 Wireless Setup  
 Dynamic DNS  
 Image Setup  
 Audio and Video  
 Time and Date  
 Video Clip  
 Snapshot  
 IP Filter  
 HTTPS Setup  
 SD Recording  
 Motion Detection  
 Sound Detection  
 SD Management  
 Logout

**NETWORK**  
 You can configure your LAN and Internet settings here.  
 [Save Settings] [Don't Save Settings]

**LAN SETTINGS**

**IPv4 Settings**

Automatic IP Address  
 Static IP Address

IPv4 Address: 192.168.0.20  
 Subnet Mask: 255.255.255.0  
 Default Gateway (Router): 192.168.0.1  
 Optional Primary DNS:   
 Optional Secondary DNS:   
 Optional Search Domain:

PPPoE

User Name:   
 Password:   
 Confirm Password:   
 Status: Disabled

**IPv6 Settings**

Automatic IP Address  
 Static IP Address

IPv6 Address / Prefix Length:  / 64  
 Default Gateway(Router):   
 Optional Primary DNS:   
 Optional Secondary DNS:

**PORT SETTINGS**

HTTP Port: 80  
 HTTPS Port: 443  
 RTSP Port: 554

**UPnP**

UPnP  
 UPnP Port Forward

**Apple**

Bonjour

[Save Settings] [Don't Save Settings]

**Helpful Hints..**

**Automatic IP Address**  
 Select if you are running a DHCP server on your network and would like an IP address assigned to your camera automatically.

**Static IP Address**  
 This option is used to configure your IP Camera with IP address matched your network settings.

**PPPoE**  
 This option is used to configure your camera to connect directly to the Internet. If the camera is behind a router or a gateway, you do not need to configure this setting.

**HTTP Port**  
 Allocate the port of camera to allow you to connect via a standard web browser.

**RTSP Port**  
 Allocate the port of camera to allow you to connect by using QuickTime or streaming mobile devices.

**UPnP**  
 Enable UPnP will allow you to discover camera as an UPnP device in the network.

**UPnP Port Forward**  
 If router does support UPnP, your cameras and router can communicate with each other so that the router knows which ports are used by which camera.

**Bonjour**  
 Enable Bonjour will allow you to discover camera within an Apple computer.

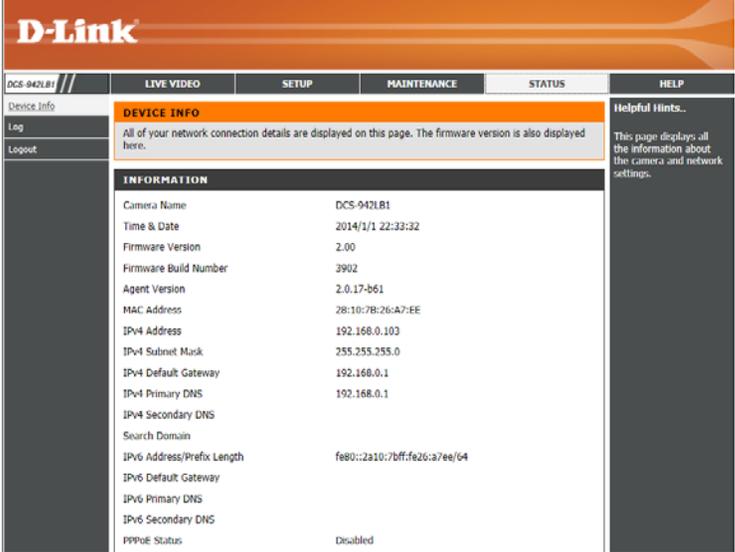
## Router Set-Up and Installation

The following steps generally apply to any router that you have on your network. The D-Link DIR-655 is used as an example to clarify the configuration process. Configure the initial settings of the DIR-655 by following the steps outlined in the DIR-655 Quick Installation Guide.

### 3. Access the Router with Your Web Browser

If you have cable or DSL Internet service, you will most likely have a dynamically assigned WAN IP Address. 'Dynamic' means that your router's WAN IP address can change from time to time depending on your ISP. A dynamic WAN IP Address identifies your router on the public network and allows it to access the Internet. To find out what your router's WAN IP Address is, go to the Status menu on your router and locate the WAN information for your router (as shown on the next page). The WAN IP Address will be listed. This will be the address that you will need to type in your Web browser to view your camera over the Internet.

Your WAN IP Address will be listed on the router's **Status > Device Info** page.



The screenshot shows the D-Link web interface for a DCS-942L camera. The top navigation bar includes links for LIVE VIDEO, SETUP, MAINTENANCE, STATUS, and HELP. The main content area is titled 'DEVICE INFO' and contains a table of network and device information. A 'Helpful Hints...' sidebar is visible on the right.

INFORMATION	
Camera Name	DCS-942LB1
Time & Date	2014/1/1 22:33:32
Firmware Version	2.00
Firmware Build Number	3902
Agent Version	2.0.17-b61
MAC Address	28:10:78:26:A7:EE
IPv4 Address	192.168.0.103
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.168.0.1
IPv4 Primary DNS	192.168.0.1
IPv4 Secondary DNS	
Search Domain	
IPv6 Address/Prefix Length	fe80::2a10:7bff:fe26:a7ee/64
IPv6 Default Gateway	
IPv6 Primary DNS	
IPv6 Secondary DNS	
PPPoE Status	Disabled

Note: Because a dynamic WAN IP can change from time to time depending on your ISP, you may want to obtain a Static IP address from your ISP. A Static IP address is a fixed IP address that will not change over time and will be more convenient for you to use to access your camera from a remote location. The Static IP Address will also allow you to access your camera attached to your router over the Internet.

### 4. Open Virtual Server Ports to Enable Remote Image Viewing

The firewall security features built into the DIR-655 router prevent users from accessing the video from the DCS-942L over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the DCS-942L are blocked from access over the Internet. Therefore, these ports need to be made accessible over the Internet. This is accomplished using the Virtual Server function on the DIR-655 router. The Virtual Server ports used by the camera must be opened through the router for remote access to your camera. Virtual Server is accessed by clicking on the **Advanced** tab of the router screen.

Follow these steps to configure your router's Virtual Server settings:

1. Click **Enabled**.
2. Enter a different name for each entry.
3. Enter your camera's local IP Address (e.g., 192.168.0.120) in the Private IP field.
4. Select TCP for HTTP port and TCP for 5556 - 5559 ports.
5. If you are using the default camera port settings, enter 80 into the Public and Private Port section, click **Apply**.
6. Scheduling should be set to Always so that the camera images can be accessed at any time.

Important: Some ISPs block access to port 80 and other commonly used Internet ports to conserve bandwidth. Check with your ISP so that you can open the appropriate ports accordingly. If your ISP does not pass traffic on port 80, you will need to change the port the camera uses from 80 to something else, such as 800. Not all routers are the same, so refer to your user manual for specific instructions on how to open ports.

Enter valid ports in the Virtual Server section of your router. Please make sure to check the box next to the camera name on the Virtual Server List to enable your settings.

**D-Link**

DIR-655 // SETUP ADVANCED TOOLS STATUS SUPPORT

**VIRTUAL SERVER**

The Virtual Server option allows you to define a single public port on your router for redirection to an internal LAN IP Address and Private LAN port if required. This feature is useful for hosting online services such as FTP or Web Servers.

Save Settings Don't Save Settings

**24--VIRTUAL SERVERS LIST**

	Name	IP Address	Port	Traffic Type	Schedule
<input checked="" type="checkbox"/>	DCS-930L	192.168.0.120	80	TCP	Always
<input type="checkbox"/>		0.0.0.0	0	TCP	Always
<input type="checkbox"/>		0.0.0.0	0	TCP	Always

**Helpful Hints...**

Check the **Application Name** drop down menu for a list of predefined server types. If you select one of the predefined server types, click the arrow button next to the drop down menu to fill out the corresponding field.

You can select a computer from the list of DHCP clients in the **Computer Name** drop down menu, or you can manually enter the IP address of the computer at which you would like to open the specified port.

Select a schedule for when the virtual server will be enabled. If you do not see the schedule you need in

# Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DCS-942L.

Read the following descriptions if you are having problems. (The examples below are illustrated in Windows Vista® and XP. If you have a different operating system, the screenshots on your computer will look similar to the following examples.)

## **1. What is Remote Access? How do I enable it?**

Remote Access allows you to access your camera from any PC connected to the Internet through a web browser. This lets you view your camera feed and manage your camera's settings when you're away from home.

To enable Remote Access, simply go through the Camera Installation Wizard included on the Installation CD that came in your package. You can also download the wizard from <http://www.mydlink.com/support>.

## **2. What can I do if I forget my password?**

If you forget your password, you will need to perform a hard reset of your camera. This process will change all your settings back to the factory defaults.

To reset your camera, please use an unfolded paperclip to press and hold the RESET button for at least 10 seconds while your camera is plugged in.

## **3. Why does the LED not light up?**

The power supply might be faulty. Confirm that you are using the provided DC 5V power supply for this network camera. Verify that the power supply is correctly connected. If the camera is functioning normally, the LED may have been disabled. See LED Control in "Admin" on page 48 for information about how to enable the LED.

## **4. Why is the camera's network connection unreliable?**

There might be a problem with the network cable. To confirm that the cables are working, PING the address of a known device on the network. If the cabling is OK and your network is reachable, you should receive a reply similar to the following (...bytes = 32 time = 2 ms).

Another possible problem may be that the network device such as a hub or switch utilized by the Network Camera is not functioning properly. Please confirm the power for the devices are well connected and functioning properly.

### **5. Why does the Network Camera work locally but not remotely?**

This might be caused by the firewall protection. Check the Internet firewall with your system administrator. The firewall may need to have some settings changed in order for the Network Camera to be accessible outside your local LAN. For more information, please refer to the section about installing your camera behind a router.

Make sure that the Network Camera isn't conflicting with any Web server you may have running on your network.

The default router setting might be a possible reason. Check that the configuration of the router settings allow the Network Camera to be accessed outside your local LAN.

### **6. Why does a series of broad vertical white lines appear through out the image?**

It could be that the CMOS sensor (a square panel situated behind the lens that measures the light signals and changes it into a digital format so your computer can present it into an image that you are familiar with) has become overloaded when it has been exposed to bright lights such as direct exposure to sunlight or halogen lights. Reposition the Network Camera into a more shaded area immediately as prolonged exposure to bright lights will damage the CMOS sensor.

### **7. The camera is producing noisy images. How can I solve the problem?**

The video images might be noisy if the Network Camera is used in a very low light environment.

### **8. The images are poor quality, how can I improve the image quality?**

Make sure that your computer's display properties are set to at least 6-bit color. Using 16 or 256 colors on your computer will produce dithering artifacts in the image, making the image look as if it is of poor quality.

The configuration on the Network Camera image display is incorrect. The Web Configuration Video section of the Web management allows you to adjust the related-parameters for improved images such as: brightness, contrast, hue and light frequency. Please refer to the Web Configuration section for detailed information.

### **9. Why are no images available through the Web browser?**

ActiveX might be disabled. If you are viewing the images from Internet Explorer make sure ActiveX has been enabled in the Internet Options menu. You may also need to change the security settings on your browser to allow the ActiveX plug-in to be installed.

If you are using Internet Explorer with a version number lower than 6, then you will need to upgrade your Web browser software in order to view the streaming video transmitted by the Network Camera.

# Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless\* connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

## **What is Wireless?**

Wireless or WiFi technology is another way of connecting your computer to the network without using wires. WiFi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

## **Why D-Link Wireless?**

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

## **How does wireless work?**

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

## **Wireless Local Area Network (WLAN)**

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point as seen in the picture, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like

manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

### **Who uses wireless?**

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, business, D-Link has a wireless solution for it.

#### **Home**

- Gives everyone at home broadband access
- Surf the Web, check email, instant message, and etc
- Gets rid of the cables around the house
- Simple and easy to use

#### **Small Office and Home Office**

- Stay on top of everything at home as you would at office
- Remotely access your office network from home
- Share Internet connection and printer with multiple computers
- No need to dedicate office space

## **Where is wireless used?**

Wireless technology is expanding everywhere not just at home or office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link Cardbus Adapter with your laptop, you can access the hotspot to connect to Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless network is easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

### **Tips**

Here are a few things to keep in mind, when you install a wireless network.

#### **Centralize your router or Access Point**

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

#### **Eliminate Interference**

Place home appliances such as cordless telephones, microwaves, and televisions as away as possible from the router/access point. This would significantly reduce any interfere that the appliances might cause since they operate on same frequency.

#### **Security**

Don't let you next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on the WPA or WEP security feature on the router. Refer to product manual for detail information on how to set it up.

# Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer, such as two or more DCS-942L wireless network Cardbus adapters.

An Infrastructure network contains an Access Point or wireless router. All the wireless devices, or clients, will connect to the wireless router or access point.

An Ad-Hoc network contains only clients, such as laptops with wireless cardbus adapters. All the adapters must be in Ad-Hoc mode to communicate.

# Networking Basics

## Check your IP address

After you install your new D-Link adapter, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e. wireless router) automatically. To verify your IP address, please follow the steps below.

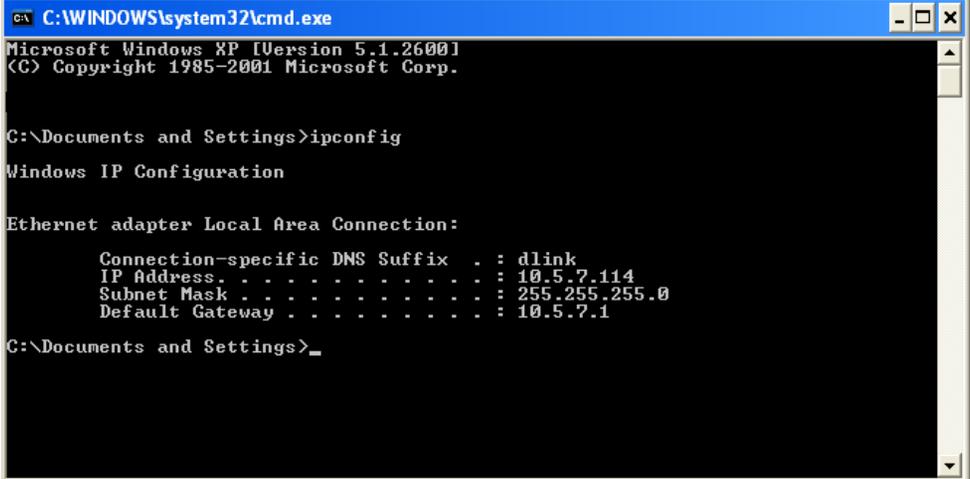
Click on **Start > Run**. In the run box type **cmd** and click **OK**.

At the prompt, type **ipconfig** and press **Enter**.

This will display the IP address, subnet mask, and the default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

If you are connecting to a wireless network at a hotspot (e.g. hotel, coffee shop, airport), please contact an employee or administrator to verify their wireless network settings.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address. . . . .                : 10.5.7.114
    Subnet Mask . . . . .              : 255.255.255.0
    Default Gateway . . . . .          : 10.5.7.1

C:\Documents and Settings>
```

## Statically Assign an IP Address

If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

### Step 1

Windows® Vista - Click on **Start > Control Panel > Network and Internet > Network and Sharing Center > Manage Network Connections**.

Windows XP - Click on **Start > Control Panel > Network Connections**.

### Step 2

Right-click on the **Local Area Connection** which represents your D-Link network adapter and select **Properties**.

### Step 3

Highlight **Internet Protocol (TCP/IP)** and click **Properties**.

### Step 4

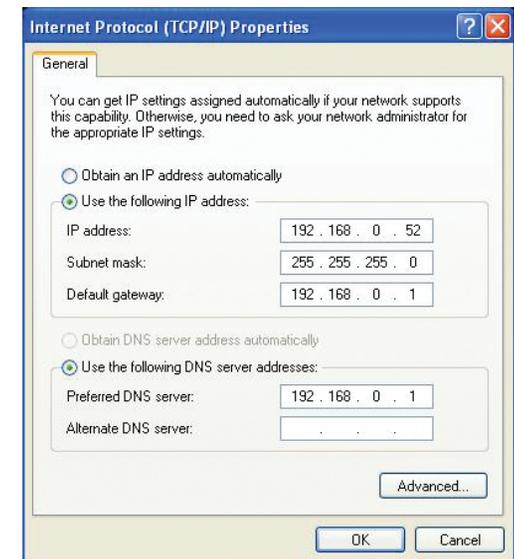
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

**Example:** If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network. Set Default Gateway the same as the LAN IP address of your router (192.168.0.1).

Set Primary DNS the same as the LAN IP address of your router (192.168.0.1). The Secondary DNS is not needed or you may enter a DNS server from your ISP.

### Step 5

Click **OK** twice to save your settings.



# Technical Specifications

## SYSTEM REQUIREMENTS

- Microsoft Windows® 8/7/Vista, or Mac with OS X 10.6 or higher
- PC with 1.3 GHz or above and at least 128 MB RAM
- Internet Explorer 7, Firefox 12, Safari 6, or Chrome 20 or higher version with Java installed and enabled

## NETWORKING PROTOCOL

- IPv4, IPv6, ARP, TCP, UDP, ICMP
- DHCP Client
- NTP Client (D-Link)
- DNS Client
- DDNS Client (D-Link)
- SMTP Client
- FTP Client
- HTTP Server
- HTTPS (for configuration)
- PPPoE
- UPnP Port Forwarding
- LLTD
- RTP
- RTSP
- RTCP
- Bonjour
- ONVIF compliant

## BUILT-IN NETWORK INTERFACE

- 10/100BASE-TX Fast Ethernet
- 802.11b/g/n WLAN

## WIRELESS CONNECTIVITY

- 802.11b/g/n Wireless with WEP/WPA/WPA2 security

## STORAGE

- microSD card slot

## SDRAM

- 128 MB

## FLASH MEMORY

- 16 MB

## RESET BUTTON

- Reset to factory default

## VIDEO CODECS

- H.264/MPEG4/MJPEG
- JPEG for still images

## VIDEO FEATURES

- Adjustable image size and quality
- Time stamp and text overlay
- Flip and Mirror

## RESOLUTION

- 640 x 480/320 x 240/160 x 120 at up to 30 fps

## LENS

- Focal length: 3.15 mm, F2.8

## SENSOR

- VGA 1/5 inch CMOS sensor
- PIR motion sensor

### MINIMUM ILLUMINATION

- 0 lux with IR LEDs on

### VIEWING ANGLE

- Horizontal: 45.3°
- Vertical: 34.5°
- Diagonal: 54.9°

### DIGITAL ZOOM

- Up to 4x

### 3A CONTROL

- AGC (Auto Gain Control)
- AWB (Auto White Balance)
- AES (Auto Electronic Shutter)

### POWER

- Input: 100-240 V AC, 50/60 Hz
- Output: 5 V DC, 1.2 A
- External AC-to-DC switching power adapter

### DIMENSIONS (W X D X H)

- Camera only: 60 x 34.85 x 96 mm (2.36 x 1.37 x 3.78 in.)
- With base: 80 x 80 x 126.6 mm (3.15 x 3.15 x 4.98 in.)

### WEIGHT

- Camera only: 78.1 grams (2.75 ounces)
- With base: 112 grams (3.95 ounces)

### MAX POWER CONSUMPTION

- 4.2 watts maximum

### OPERATION TEMPERATURE

- 0 °C to 40 °C (32 °F to 104 °F)

### STORAGE TEMPERATURE

- -20 °C to 70 °C (-4 °F to 158 °F)

### HUMIDITY

- 20-80% RH non-condensing

### EMISSION (EMI), SAFETY & OTHER CERTIFICATIONS

- CE
- FCC
- IC
- RCM