

# USER MANUAL

DCS-942L

VERSION 1.0



**D-Link**<sup>®</sup>

**SURVEILLANCE**

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# Manual Overview

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## Manual Revisions

Revision	Date	Description
1.0	November 03, 2011	DCS-942L Revision A1 with firmware version 1.01

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## Package Contents

- DCS-942L Enhanced Wireless N Day & Night Network 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® 7, Vista®, or XP (for CD-ROM Setup Wizard), Mac OS or Linux
- PC with 1.3GHz or above; at least 128MB RAM
- Internet Explorer 7 or above , Firefox 3.5 or above, Safari 4 and Chrome 8.0 or above
- Existing 10/100 Ethernet-based network or 802.11n wireless network

# Introduction

Congratulations on your purchase of the DCS-942L Enhanced Wireless N Day & Night Network 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 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 802.11n/g wireless network. The DCS-942L also comes with remote monitoring and motion 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.

## **IR LED for Day and night functionality**

The built-in infrared LEDs enables night time viewing of up to 16 feet (5 meters).

# Hardware Overview

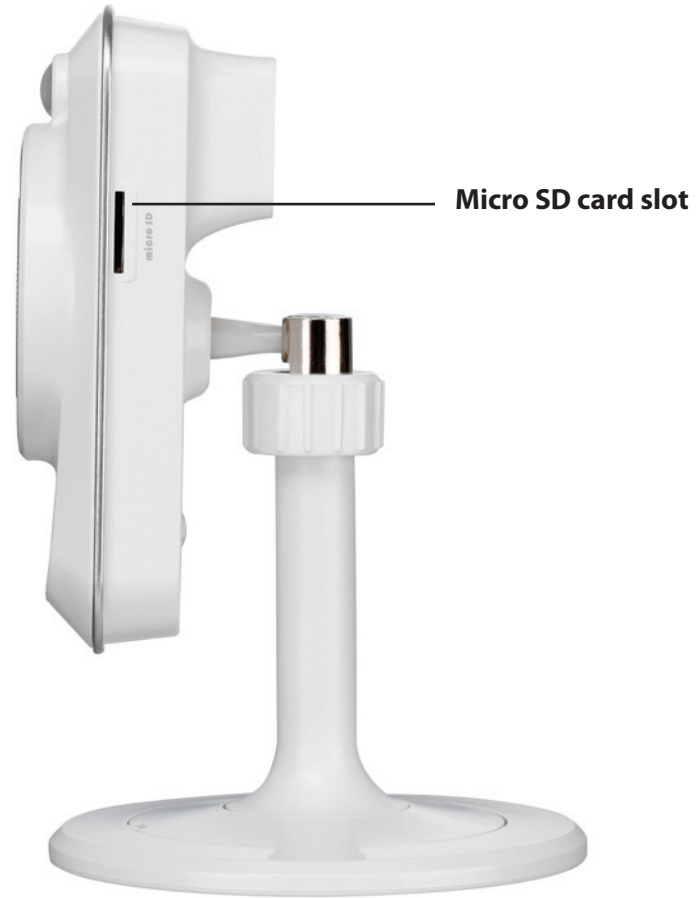
## Front View



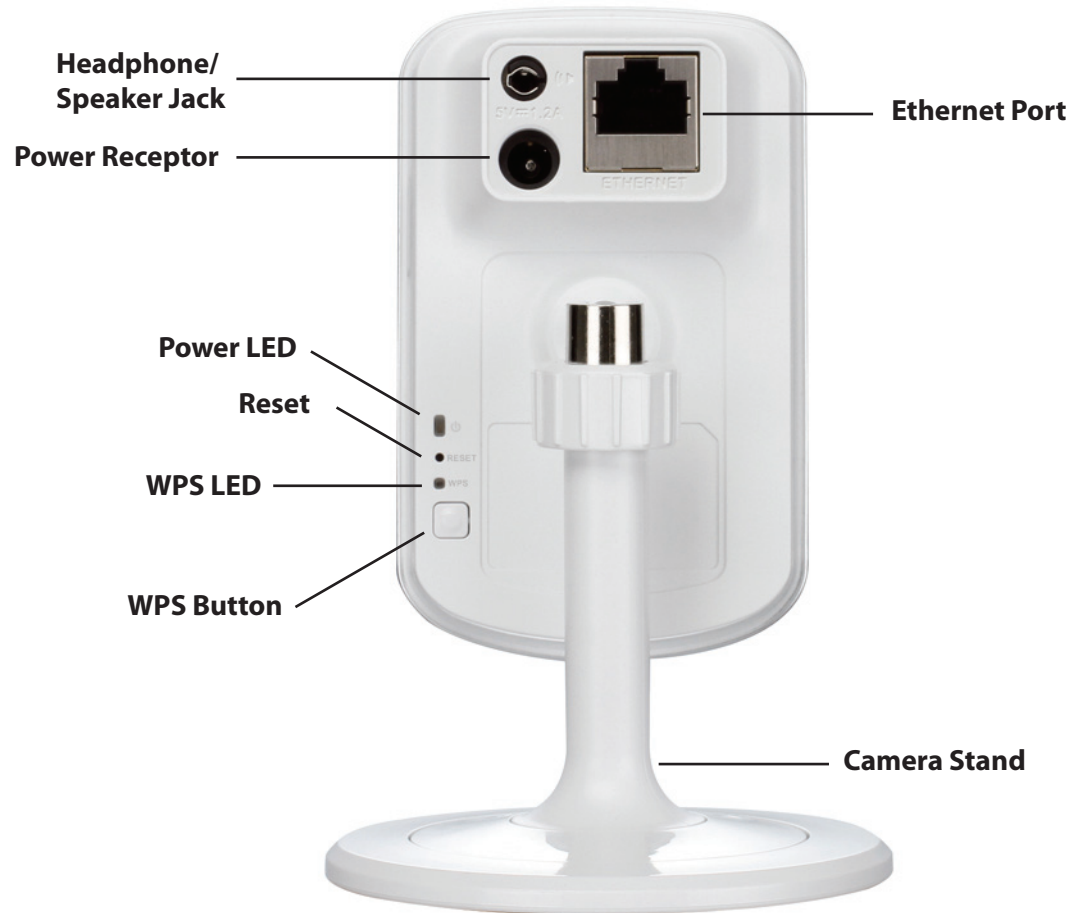


# Hardware Overview

## Side View



## Rear View



# Installation

## Hardware Installation

### Connect the Ethernet Cable

Connect the included Ethernet cable to the network cable connector located on the top panel at the rear of the DCS-942L and attach it to the network.



### Attach the External Power Supply

Attach the external power supply to the DC Power receptor located on the rear panel of the DCS-942L and connect it to your wall outlet or power strip. Power is confirmed when the green LED Power Indicator located back on the DCS-942L is illuminated.



# 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.

# Camera Installation Wizard

Insert the Installation CD-ROM into your computer's optical drive to start the autorun program.

The CD-ROM will open the Camera Installation Wizard. Simply click **Start** to go through the Installation Wizard, which will guide you through the installation process from connecting your hardware to configuring your camera.



## WPS - Push Button Setup

Alternatively, you may create a connection to the camera using Wi-Fi Protected Setup (WPS).

### To create a WPS connection:

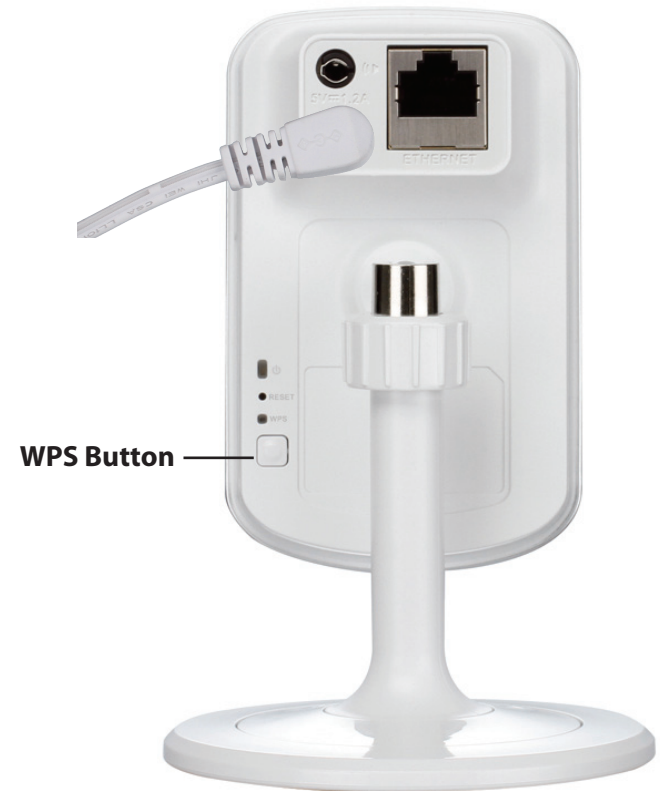
#### Step 1

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.



# mydlink Portal

After registering your DCS-942L camera with a mydlink account in the Camera Installation Wizard. You will be able to remotely access your camera from the [www.mydlink.com](http://www.mydlink.com) website. After signing in to your mydlink account, you will see a screen similar to the following:

The screenshot displays the mydlink web portal interface. At the top right, there are links for [FAQ](#), [Support](#), and [Language English](#). The main header includes the mydlink logo and a user greeting: "Welcome, David | [Sign out](#)". Below the header, there are two tabs: "My Devices" and "My Profile". Under "My Devices", a device named "DCS-942L" with ID "44441265" is listed. The main content area shows a "Live Video" feed of a child's room, featuring a blue bookshelf, a red toy car, and a blue dresser. The room has a rainbow and clouds painted on the wall. Below the video feed is a zoom control bar with markers for x1, x2, x3, and x4. On the right side, there is a "Support" section with links for "Setup wizard", "User manual", "Firmware", and "Quick Installation Guide", along with a "GO" button. Below that is a "mydlink on mobile..." section with a mobile device icon.

## Camera Status

Here, you can see the online status of each of your cameras. Your online status may be one of the following:



A green checkmark indicates that your camera is online and ready to use.



A yellow exclamation point indicates that your camera is online, but the camera password has changed. You will need to enter your new camera password to access your camera again.



A red X indicates that your camera is offline and currently cannot be accessed remotely.

If your camera is offline, try the following:

- Check to make sure that the Internet connection to your camera is working properly.
- Try restarting your Internet router.
- Check your camera's cable connections and make sure they are secure.
- Check to make sure that the LED on your camera is lit solid green.

If you still cannot access your camera, reset your camera and run the Camera Installation Wizard again from the CD-ROM included in your package.



# Live Video

In the main part of the screen, the Live Video tab will be selected by default. If the camera is available, a Live Video feed will be displayed. Video will be shown at VGA resolution (640x480) if viewing your camera from a PC on the same local network, or at QVGA resolution (320x240) if viewing your camera from a PC on a remote network.

The screenshot displays the mylink web portal interface. At the top right, there are links for [FAQ](#), [Support](#), and [Language English](#). The main header features the **mylink** logo and a user greeting: "Welcome, David | [Sign out](#)". Below the header, there are two tabs: "My Devices" and "My Profile". The "My Devices" tab is active, showing a device icon and the name "DCS-942L" with the ID "44441265". The main content area is titled "Live Video" and shows a camera feed of a child's room. The room contains a blue bookshelf with books, a red toy car, and a blue dresser with yellow drawers. A rainbow and clouds are painted on the wall. Below the video feed is a zoom control bar with a magnifying glass icon, a slider, and labels "x1", "x2", "x3", and "x4". On the right side, there is a "News" section and a "Support" section with links for "Setup wizard", "User manual", "Firmware", and "Quick Installation Guide". Below the support section is a "mylink on mobile..." banner with a mobile device icon.

# Camera Info

The Camera Info tab displays various details about your camera.

**Device Name:** The Device Name is a unique name that you can give to your device to help you identify it. Clicking on the **Device Name** will open a window for you to log in to your camera's configuration interface. Then, it will open the Maintenance > Admin page where you can change your Device Name.

**mydlink No.:** Displays the mydlink number of your device.


**Model Name:** Displays the model name of your device.

**MAC Address:** Displays the MAC address of your device.

**Camera activated on:** Displays the time and date that your device was added to mydlink.

**Advanced Setting:** You can set up advanced configuration by clicking Advanced Setting Button.

**Delete Camera:** You can remove your camera by clicking Delete Camera button.



The screenshot shows the mydlink portal interface. The main content area displays the 'Camera Info' tab for a device with ID DCS-942L and mydlink No. 44441265. The details shown are:

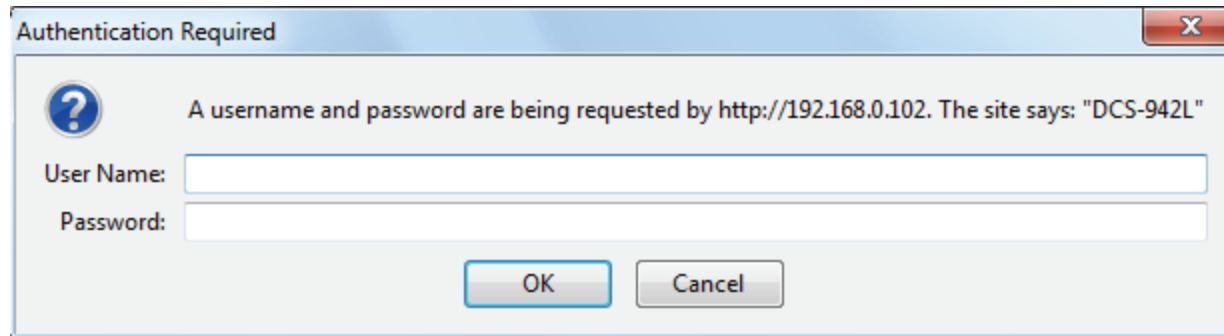
Camera Name:	DCS-942L
mydlink No.:	44441265
Model Name:	DCS-942L
MAC:	1CAFF774AA01
Camera activated on:	2011-07-14 10:06:14

Below the details, there are two buttons: 'Advance Setting' and 'Delete Camera'. The 'Advance Setting' button is highlighted. The page also includes a navigation menu on the right with options like 'Setup wizard', 'User manual', 'Firmware', and 'Quick Installation Guide'. The footer contains global links and copyright information.

# Configuration

## Using the Configuration Menu

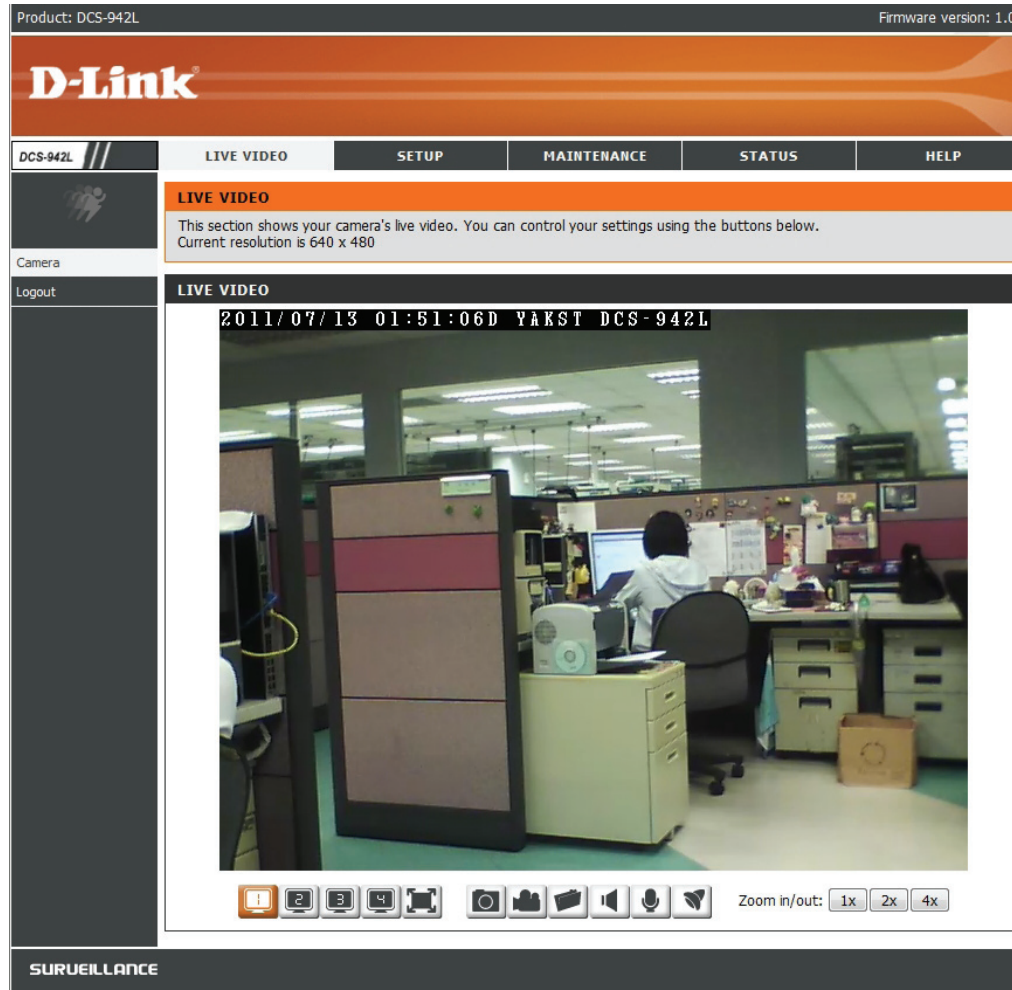
After completing the Camera Installation Wizard, you are ready to use your camera. The camera's built-in Web configuration utility is designed to allow you to easily access and configure your DCS-942L. At the end of the wizard, click **Go To Camera**, or enter the IP address of your camera into a web browser, such as Mozilla Firefox. 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**.









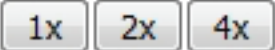


Please make sure that you have the latest version of Java application installed on your computer to ensure proper operation when viewing the video in Java mode. The Java application can be downloaded free from Sun's web site (<http://www.java.com>).

# Live Video

A Live feed of video from the camera is displayed upon logging into the camera's web interface.



Icon	Button Name	Function
	Profile buttons	Use these buttons to switch between video profiles. Refer to page 32 for more information on setting up profiles.
	Full Screen button	Makes the video occupy the entire of the browser screen for easier viewing of the video.
	Snapshot button	Takes a snapshot of the image currently displayed on the screen and write it to a file on 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 write it to a file on 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.  (Only appear the icon when you set to manual IR)
Zoom in/out: 	Zoom buttons	Zooms in or out of the picture.

# Setup Wizard

You may choose to configure your network by using the **Internet Connection Setup Wizard** that includes step-by-step instructions. Alternatively, if you prefer to have finer control over settings, you can manually configure your connection using the **Manual Internet Connection Setup**.

Product: DCS-942L
Firmware version: 1.01

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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

SD Recording

Motion Detection

SD Management

Logout

INTERNET CONNECTION SETTINGS

In this section, you can setup the IP camera's network interface settings. If you are configuring this device for the first time, D-Link recommends that you select the Internet Connection Setup Wizard, and follow the instructions on screen. If you wish to modify or configure the IP camera settings manually, you may select the Manual Internet Connection Setup to input the network setting.

**Helpful Hints..**

If you are an advanced user and have configured an Internet camera before, click 'Manual Internet Connection Setup' to input all settings manually.

If you consider yourself an advanced user and you want to manually set up motion detection settings, click 'Manual Motion Detection Setup' to input all the settings manually.

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## 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.

**WELCOME TO D-LINK SETUP WIZARD - INTERNET CONNECTION SETUP**

This wizard will guide you through a step-by-step process to configure and connect your D-Link Camera to the internet. For your camera motion detection settings, please click Back button to close this wizard and select the Motion Detection Setup Wizard.

- Step 1: LAN Settings
- Step 2: Internet Settings
- Step 3: DDNS Settings
- Step 4: Camera Name Settings
- Step 5: Time Zone
- Step 6: Setup Complete

Back Next Cancel

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:** The fixed IP address

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

**Default Gateway (Router):** 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.

Click **Next** to continue.

**STEP 1: LAN SETTINGS**

Please select whether your camera will connect to the Internet with an Automatic or a Static IP Address. If your camera is connected to a router, or you are unsure which settings to pick, D-Link recommends that you keep the default selection of Automatic IP Address. Otherwise, select Static IP Address to manually assign an IP address before clicking on the Next button.

Automatic IP Address  
 Static IP Address

IPv4 Address: 192.168.0.1

Subnet Mask: 255.255.255.0

Default Gateway (Router): 192.168.0.1

Optional Primary DNS: 172.19.10.32

Optional Secondary DNS: 172.19.10.33

Back Next Cancel

## Section 4 - 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:** (Dynamic Domain Name Server) will hold a DNS host name and synchronize the public IP address of the modem when it has been modified. The username and password are required when using the DDNS service.

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

**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

Click **Next** to continue.



## Section 4 - Configuration

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

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

Enable Daylight Saving

Auto Daylight Saving

Set date and time manually

Offset

	Month	Week	Day of week	Hour	Minute
Start time	<input type="text" value="3"/>	<input type="text" value="2"/>	<input type="text" value="Sunday"/>	<input type="text" value="2"/>	<input type="text" value="0"/>
End time	<input type="text" value="11"/>	<input type="text" value="1"/>	<input type="text" value="Sunday"/>	<input type="text" value="2"/>	<input type="text" value="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	192.168.0.1
IP Camera Name	DCS-942L
Time Zone	(GMT+08:00) Taipei
DDNS	Disable
PPPoE	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. A static IP address will ease you for accessing your camera in the future.

**IPv4 Address:** The fixed IP address

**Subnet Mask:** The default value is "255.255.255.0." Used to determine if the destination is 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).

Product: DCS-942L Firmware version: 1.01

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

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

**LAN SETTINGS**

**LAN SETTINGS**

Automatic IP Address  
 Static IP Address

IPv4 Address   
Subnet Mask   
Default Gateway (Router)   
Optional Primary DNS   
Optional Secondary DNS

PPPoE

User Name   
Password   
Confirm Password   
Status Disabled

**PORT SETTINGS**

HTTP Port   
RTSP Port

**UPnP**

UPnP  
 UPnP Port Forward

External HTTP   
External RTSP

**Apple**

Bonjour

Save Settings Don't Save Settings

**Helpful Hints..**

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

**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.

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

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**Port Settings:** You may configure a Second HTTP port that will allow you to connect to the camera via a standard web browser. The port can be set to a number other than the default TCP ports 80. A corresponding port must be opened on the router. For example, if the port is changed to 1010, you must type **http://192.168.0.100:1010** instead of only "http://192.168.0.100".

**UPnP:** The RTSP port is used to establish and control media sessions between two endpoints for the Real Time Streaming Protocol. The default port is 554.

Enable this setting to configure your camera as a UPnP device in the network.

**Apple:** 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.

## Wireless

This section allows you to setup 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 wireless access points that the camera was able to detect.

**Wireless Mode: Infrastructure** is a wireless connection using an access point as a transmission point of all wireless devices. **Ad-Hoc** is a wireless connection used without an access point, where your DCS-942L is directly connecting to your PC. This is done using the on-board wireless adapter on the DCS-942L connected to a wireless adapter on the PC.

**Security Mode:** The DCS-942L provides three options for wireless security; **None**, **WEP**, and **WPA-PSK / WPA2-PSK**. Select the same encryption method that is being used by your wireless device/router.

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.

**Key:** An appropriate **Preshared Key**, which is needed in order to connect to the wireless network. Check the **Show Hidden Key** box to reveal the password you have entered.

**Channel:** The default setting is channel 6. Select the same channel that is being used by other wireless devices within your network. When there is an interference from the wireless networks that overlap with one another, you may change the channel to obtain maximum performance for your connection.

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

The screenshot displays the D-Link DCS-942L web interface. At the top, it shows 'Product: DCS-942L' and 'Firmware version: 1.01'. The D-Link logo is prominently displayed. Below the logo is a navigation menu with tabs for 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' tab is selected, and the 'WIRELESS SETUP' page is active. The page contains two main sections: 'WIRELESS SETUP' and 'WIRELESS CONFIGURATION'. The 'WIRELESS SETUP' section includes a 'Save Settings' button and a 'Don't Save Settings' button. The 'WIRELESS CONFIGURATION' section has a 'Wireless' checkbox checked, and fields for 'Network Name' (dlink), 'Site Survey' (===SSID List===), 'Wireless Mode' (Infrastructure), 'Security Mode' (None), and 'Key'. There is also a 'Rescan' button and a 'Show Hidden Key' checkbox. At the bottom of the configuration section, there are 'Save Settings' and 'Don't Save Settings' buttons. On the right side of the interface, there is a 'Helpful Hints..' section with text explaining the Network Name (SSID), Wireless Mode (Infrastructure vs Ad-Hoc), and Security Mode (None, WEP, WPA-PSK, WPA2-PSK). The bottom of the page features a 'SURVEILLANCE' banner.

## DDNS

This section allows you to configure the DDNS setting for your camera. DDNS will allow all users to access your camera using a domain name instead of an IP address.

Product: DCS-942L Firmware version: 1.01

**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  
SD Recording  
Motion Detection  
SD Management  
Logout

**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 www.DLinkDDNS.com.](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 modem IP address periodically. This will allow you to assign a website domain name to your camera instead of connecting through an IP address.

**SURVEILLANCE**

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

## 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 lens 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** depending on the television system used in your region of the world.

**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**.

Change to the image settings are effective immediately.

Product: DCS-942L
Firmware version: 1.01

D-Link

DCS-942L

LIVE VIDEO

SETUP

MAINTENANCE

STATUS

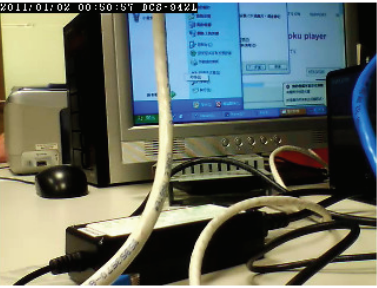
HELP

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

IMAGE SETUP

Your changes made for the image settings will be reflected immediately. The results can be seen and found in the Live Video window below.

**LIVE VIDEO**



**IMAGE SETTINGS**

Brightness	<input type="text" value="50"/>	Saturation	<input type="text" value="100"/>
Contrast	<input type="text" value="40"/>	B/W	<input type="checkbox"/>
Mirror	<input type="checkbox"/>	Flip	<input type="checkbox"/>
Light Source	<input type="text" value="Indoor"/>	Frequency	<input type="text" value="60Hz"/>
White balance	<input type="text" value="Auto"/>	Slow Shutter	<input type="text" value="Disable"/>

**Helpful Hints..**

Brightness, Contrast, Saturation can be adjusted from 0 to 100, allowing you to fine-tune your image settings.

**Brightness**  
It is used to compensate for backlit scenes.

**Saturation**  
It controls the strength of color from black and white to bold colors.

**Contrast**  
Adjustable to control the contrast of colors between the object. It helps to improve the image under a dull grey sky.

**B/W**  
Select to enable or disable black-and-white mode for your camera.

**Mirror**  
Select this feature to obtain mirror image.

**Flip**  
Select this feature when your camera is installed up-side down on the ceiling.

**Frequency**  
You may need to choose '50' or '60' Hz frequency (depends on country).

**White balance**  
It is 'Auto' by default. It will remove the unrealistic color casts, so that objects which appear white are rendered white in the video.

**Slow Shutter**  
Select minimum shutter speed when environment is in dim light.

SURVEILLANCE

## Audio and Video

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

**Video Profile:** This section allows you to change the **Encode Type, Resolution, FPS, and Quality**.

**Encode Type:** The compression format used when viewing your camera.

**Resolution:** Select the desired video resolution from three formats: 640x480, 320x240, and 160x120. The higher setting can obtain better quality. However, it will use more resource within your network.

**FPS:** Select the optimal setting depending on your network status. Please note that the higher setting can obtain better quality. However, it will use more resources within your network.

**bps:** Select the bitrate to assign the video. This is a constant bitrate. A higher bitrate will result in better looking video at the expense of a larger file size.

**JPEG Quality:** Select one of five levels of image quality: Highest, High, Medium, Low, and Lowest.

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

**Day/Night Mode:** Allows you to control the IR LEDs on the front of the camera.

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

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

Product: DCS-942L Firmware version: 1.01

D-Link

DCS-942L	LIVE VIDEO	SETUP	MAINTENANCE	STATUS	HELP										
Setup Wizard Network Wireless Setup Dynamic DNS Image Setup <b>Audio and Video</b> Time and Date Video Clip Snapshot SD Recording Motion Detection SD Management Logout	AUDIO AND VIDEO				<p>Higher frame size, frame rate and bit rate rate gives better video quality. At the same time, it requires more network bandwidth.</p> <p><b>Encode Type</b> Select the video codec 'MJPEG', 'MPEG4', or 'H.264'.</p> <p><b>Resolution</b> 3 options depend on display system used.</p> <p><b>FPS</b> The amount of image frames rendered by the camera per second.</p> <p><b>bps</b> Select a fixed bandwidth for your camera operation. Higher value means a higher quality image but consumes more network bandwidth.</p> <p><b>JPEG Quality</b> Set the quality of JPEG image.</p> <p><b>RTSP URL</b> The URL used to connect to the camera when viewing from QuickTime or a mobile device.</p> <p><b>Day/Night mode</b> Select night mode to use camera's IR LED in a dim light area.</p> <p><b>Speaker</b> When this option is selected, you can talk into your PC's microphone and your voice will be heard through the external speaker connected to the camera.</p> <p><b>Microphone</b> Enable this feature to hear audio from the camera's microphone.</p>										
You may configure audio and video settings (4 video profiles) here. Profile 3 has been set as the for snapshot while profile 4 is set for your mobile phone or PDA device. <div style="text-align: right; margin-top: 5px;"> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </div>															
VIDEO PROFILE 1															
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Encode Type</th> <th style="width: 15%;">Resolution</th> <th style="width: 10%;">FPS</th> <th style="width: 10%;">bps</th> <th style="width: 50%;">RTSP URL</th> </tr> </thead> <tbody> <tr> <td>H.264</td> <td>640x480</td> <td>30</td> <td>2 Mbps</td> <td>play1.sdp</td> </tr> </tbody> </table>						Encode Type	Resolution	FPS	bps	RTSP URL	H.264	640x480	30	2 Mbps	play1.sdp
Encode Type	Resolution	FPS	bps	RTSP URL											
H.264	640x480	30	2 Mbps	play1.sdp											
VIDEO PROFILE 2															
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Encode Type</th> <th style="width: 15%;">Resolution</th> <th style="width: 10%;">FPS</th> <th style="width: 10%;">bps</th> <th style="width: 50%;">RTSP URL</th> </tr> </thead> <tbody> <tr> <td>H.264</td> <td>320x240</td> <td>30</td> <td>1 Mbps</td> <td>play2.sdp</td> </tr> </tbody> </table>						Encode Type	Resolution	FPS	bps	RTSP URL	H.264	320x240	30	1 Mbps	play2.sdp
Encode Type	Resolution	FPS	bps	RTSP URL											
H.264	320x240	30	1 Mbps	play2.sdp											
VIDEO PROFILE 3															
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Encode Type	Resolution	FPS	JPEG Quality	RTSP URL											
JPEG	640x480	10	Good	play3.sdp											
VIDEO PROFILE 4 FOR MOBILE DEVICE ONLY															
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Encode Type	Resolution	FPS	bps	RTSP URL											
MPEG4	320x240	5	384 Kbps	3gpp											
DAY/NIGHT MODE															
Day/Night mode: <input type="text" value="Auto"/>															
AUDIO SETUP															
<input checked="" type="checkbox"/> Speaker Volume: <input type="text" value="50"/> <input checked="" type="checkbox"/> Microphone Volume: <input type="text" value="50"/> <div style="text-align: right; margin-top: 10px;"> <input type="button" value="Save Settings"/> <input type="button" value="Don't Save Settings"/> </div>															

SURVEILLANCE



## Time and Date

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

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

**Enable Daylight Saving:** Check this if the camera is in a region where daylight saving is observed.

**Synchronize NTP Server:** NetworkTime 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:** Select this to set the time manually.

**Copy your Computer's Time Settings:** Click to synchronize the time information from your PC.

Product: DCS-942L Firmware version: 1.01

**D-Link**

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

**TIME AND DATE**

Here you may configure the internal clock of your camera.

Save Settings Don't Save Settings

**TIME CONFIGURATION**

Time Zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

Enable Daylight Saving

Auto Daylight Saving

Set date and time manually

Offset: +1:00

Start time: Month 3 Week 2 Day of week Sunday Hour 2 Minute 0

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

**AUTOMATIC TIME CONFIGURATION**

Synchronize with NTP Server

**SET DATE AND TIME MANUALLY**

Set date and time manually

Year 2011 Month 1 Day 1

Hour 21 Minute 51 Second 22

Copy Your Computer's Time Settings

Save Settings Don't Save Settings

**Helpful Hints..**

Setting the correct time and time zone will allow you to have accurate logs and proper scheduling for recordings.

**SURVEILLANCE**

## Video Clip

Video Clip is a feature 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 the event is triggered by **Motion**, **Schedule** or if the video is **Always** recording.

**Video Clip Type:** Displays the profile used for the recording and allows you to specify whether to start recording up to 5 seconds before the event to ensure the event is captured and the maximum duration of the video clip.

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

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

**D-Link**

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

**VIDEO CLIP**

Video Clip is a feature to send video clips via FTP or E-Mail when a trigger is activated.  
(The target can't be select both FTP and E-mail for the video clip.)

Save Settings Don't Save Settings

**VIDEO CLIP**

Video Clip

Trigger by: Always

**Video Clip Type**

Source: Profile 2 (Configurable in Audio And Video.)

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:

Interval: 300 Seconds (range 60 to 86400 seconds)

Passive Mode:

E-mail

Save Settings Don't Save Settings

**Helpful Hints..**

Video Clip is the ability to store or send Profile 2 (MPEG4/H.264) video clips to a remote email or FTP server based on motion detection, external sensor input triggered.

**Trigger by**

**Motion**  
Begin video clipping after a motion is detected.

**Schedule**  
Video clipping in a specified time.

**Always**  
Continuous video clipping.

**Video Clip Type**  
You can set video clip codec from profile2 (MPEG4/H.264), Pre-event recording and Maximum duration here.

**Pre-event recording**  
Specify how much seconds of video will be recorded before the video clip is taken.

**Maximum duration**  
Specify how much seconds of video clip.

**Target**  
You can select the target as FTP or E-mail for the video clip.

SURVEILLANCE

## Snapshot

Snapshot is a feature to send static images captured by the camera via FTP or E-MAIL when a trigger is activated.

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

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

**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 E-mailed to an e-mail address.

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

**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**  
SD Recording  
Motion Detection  
SD Management  
Logout

**SNAPSHOT**

In order to enable your camera to take snapshots, you must select the checkbox of 'Snapshot'. Then, you can determine the trigger event(s) and FTP and/or email notification(s).

Save Settings Don't Save Settings

**SNAPSHOT**

Snapshot

Trigger by: Always

Snapshot Type

Source: Profile 3 (configurable in [Audio And Video.](#))

Single snapshot

6 snapshot 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:

Interval: 300 Seconds (range 10 to 86400 seconds)

Passive Mode:

E-mail

Save Settings Don't Save Settings

**Helpful Hints..**

Snapshot is the ability to store or send Profile 3 (JPEG) pictures to a remote email or FTP server based on motion detection, external sensor input triggered.

**Trigger by Motion**  
Begin snapshot after a motion is detected.

**Schedule**  
Snapshot in a specified time.

**Always**  
Continuous Snapshot.

**Snapshot Type**  
You can set snapshot codec from profile3 (JPEG), Signal snapshot or 6 snapshot here.

**6 snapshot**  
Select to take continuous 6 pictures for each snapshot.

**Target**  
You can select the target as FTP or E-mail for the snapshot.

SURUEILLANCE

## SD Recording

This option allows you to configure and scheduling the recording of your camera. You can record video to the local SD Card.

**SD recording:** Check this checkbox to enable the recording feature.

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

**Motion:** You can click “only during” after choose day and time. It begins SD recording after a motion is detected.

**Schedule:** click day and time for SD recording in a specified time.

**Always:** Continuous SD recording.

**Recording Type:** You can select recording as Snapshot or video. Video you can set recording codec from profile 2 (MPEG4/H.264), pre-event recording, and post-event recording from Audio and Video.

**SD Card:** You can set how much free space to keep in SD card and if recording cyclically or not.

**Keep Free Space:** Set the capacity of your local SD Card to prevent the system from becoming unstable.

**Cyclic:** continues recording and 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.

**D-Link**

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

**SD RECORDING**

Here you may configure and schedule the recording of you camera. You must select the checkbox of 'SD Recording' to turn on the feature.

Save Settings Don't Save Settings

**SD RECORDING**

SD Recording

Trigger by: Always

**Recording Type**

Snapshot

Source : Profile 3 (Configurable in [Audio and Video.](#))

Video

Source : Profile 2 (Configurable in [Audio and Video.](#))

**SD Card**

Keep Free Space: 64 MB (minimum is 30)

Cyclic

Save Settings Don't Save Settings

**Helpful Hints..**

SD Recording is the ability to record video or snapshot (per second) to local SD Card based on motion detection or in a specified time.

**Trigger by**

**Motion**  
Begin SD recording after a motion is detected.

**Schedule**  
SD recording in a specified time.

**Always**  
Continuous SD recording.

**Recording Type**  
You can set recording codec from profile 2 (MPEG4/H.264), pre-event recording, and post-event recording here. You can also select recording as Snapshot of Video.

**SD Card**  
You can set how much free space to keep in SD card and if recording cyclicly or not.

**Keep Free Space**  
Set the capacity of your local SD Card to prevent the system from becoming unstable.

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

**SURVEILLANCE**

## Motion Detect

Enabling Video Motion will allow your camera to use the motion detection feature. You may draw a finite motion area that will be used for monitoring.

**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 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 snapshot. Use your mouse to click on the blocks that you would like to monitor for motion. Select **Erase Motion Area** to remove the blocks 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.

Product: DCS-942L Firmware version: 1.01

**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  
SD Recording  
Motion Detection  
SD Management  
Logout

**MOTION DETECTION**

This section will allow you to enable or disable motion detection function, draw or erase motion area, as well as configure the sensitivity setting of your camera to detect movement. You must select the checkbox of 'Enable Video Motion' to turn on the feature.

Save Settings Don't Save Settings

**LIVE VIDEO**

Enable Video Motion  
 Enable PIR

2011/01/07 00:55:16 DCS-942L

**Sensitivity**  
90 %~100%

**Drawing Mode**  
 Draw motion area  
 Erase motion area  
Clear

Save Settings Don't Save Settings

**Helpful Hints..**

**Sensitivity**  
Set the sensitivity of camera to trigger motion detection. High sensitivity makes the motions easier to be detected.

**Draw motion area**  
Drag your mouse to add motion detection range.

**Erase motion area**  
Drag your mouse to erase motion detection range.

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

SURVEILLANCE

## SD Management

You could browse and manage the record files which stored in SD Card.

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

**Delete:** Click the checkbox in front of the Delete button to select all the files and catalogs below. The Delete button is used to delete the files or catalogs which are selected.

**Name:** The name of file or catalog.

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

**Refresh:** Click it reload data to webpage.

**Files per page:** how many files are to be showed on the page, maximum 100 files.

**Pages:** Show the current and total pages.

The screenshot shows the D-Link web interface for the DCS-942L camera. The main content area is titled 'SD CARD' and contains the following information:

- SD Card: DCS-942L /
- SD Status: Ready
- Files per Page: 5 (dropdown menu) Refresh
- Pages: 1 of 4 (dropdown menu)

<input type="checkbox"/>	Delete	Name	Size
<input type="checkbox"/>		<a href="#">20110921</a>	
<input type="checkbox"/>		<a href="#">20110922</a>	
<input type="checkbox"/>		<a href="#">20110923</a>	
<input type="checkbox"/>		<a href="#">20110924</a>	
<input type="checkbox"/>		<a href="#">20110925</a>	

At the bottom of the table area, there is a 'Format SD Card' button and a status summary: Total : 15556096 KB, Used : 15365952 KB, Free : 190144 KB.

The left sidebar contains a navigation menu with the following items: Setup Wizard, Network, Wireless Setup, Dynamic DNS, Image Setup, Audio and Video, Time and Date, Video Clip, Snapshot, SD Recording, Motion Detection, SD Management (highlighted), and Logout.

The right sidebar contains 'Helpful Hints..' with the text: 'Format SD Card Click this icon to automatically format the SD Card and create folder for video.'

# 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 to 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 for accessing the video image. Enter the user name, password, and password confirmation, and click **Add**. A maximum of 8 user accounts can be added into the user list.

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

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

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

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

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

**OSD:** In the **Label** field, you may enter a name to display on the image and check a box to put the current time on the image also.

**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.

Product: DCS-942L Firmware version: 1.00

**D-Link**

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

Admin System Firmware Upgrade Logout

**ADMIN**  
Here you can change the administrator's password for your account as well as add and/or delete user account(s). You can also configure a unique name for your camera, and enable its OSD (On-Screen Display) feature in order to display camera name and time stamp for both live video and recordings of your camera.

**ADMIN PASSWORD SETTING**  
Old Password  30 characters maximum  
New Password  30 characters maximum  
Confirm New Password

**ADD USER ACCOUNT**  
User Name  30 characters maximum  
New Password  30 characters maximum  
Confirm New Password   
 20 users maximum

**USER LIST**  
User Name -- User list --

**AUTHENTICATION**  
 RTSP Authentication  
 HTTP Authentication  
 Snapshot URL Authentication (<http://192.168.0.101/image/jpeg.cgi>)

**DEVICE SETTING**  
Camera Name  DCS-942L 36 characters maximum  
 OSD  
Label  DCS-942L 30 characters maximum  
 Time Stamp  
LED light  Power/Link

**Helpful Hints..**  
For security purposes, it is recommended to change the password for your administrator account. Be sure to write down the new password to avoid having to reset the camera in the event that it is forgotten.  
**User Account**  
User account is given to an user a privilege to login into Live View page and use functions in the page.  
**RTSP Authentication**  
Enable user validation for RTSP streaming.  
**HTTP Authentication**  
Enable user validation for HTTP streaming.  
**Snapshot URL Authentication**  
Enable user validation for Snapshot URL.  
**OSD**  
Enable OSD, the camera name and time will be displayed on the video screen.  
**LED light Power/Link**  
Normal LED blinking depending on power and linkage status.  
**Off**  
Always turn off LED.  
**Flicker**  
Always flicking LED.

SURUEILLANCE

## System

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

Product: DCS-942L Firmware version: 1.00

**D-Link**

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

Admin  
System  
Firmware Upgrade  
Logout

**SYSTEM**

Here you may backup, restore, and reboot your camera.

**SYSTEM**

Save To Local Hard Drive

Load From Local Hard Drive

Restore To Factory Defaults

Reboot Device

**Helpful Hints..**

After the factory's default settings have been restored, use the installation wizard software provided with your camera to search and connect to the camera.

**SURUEILLANCE**



## 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 the firmware on your DCS-942L, 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 'DCS-942L', 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'MAINTENANCE' tab is active. On the left, a sidebar menu lists 'Admin', 'System', 'Firmware Upgrade', and 'Logout'. The main content area is titled 'FIRMWARE UPGRADE' and contains the following text:

A new firmware upgrade may be available for your camera. It is recommended to keep your camera firmware up-to-date to maintain and improve the functionality and performance of your internet camera. Click here [D-Link Support Page](#) to check for the latest firmware version available.

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.

Below the text is a 'FIRMWARE INFORMATION' section showing:

- Current Firmware Version : 1.00
- Current Firmware Date : 2010-04-29

The 'FIRMWARE UPGRADE' section at the bottom contains a 'File Path' label, an input field, a 'Browse...' button, and an 'Upload' button.

On the right side, there is a 'Helpful Hints..' section with the following text:

Firmware updates are 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 [here](#) and see if updated firmware is available for your IP camera.

# Status

## Device Info

This section displays detailed information about your device and network settings.

Product: DCS-942L Firmware version: 1.00

**D-Link**

DCS-942L // 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-942L
Time & Date	Sat Jan 1 05:29:03 2011 DST
Firmware Version	1.00
Firmware Build Number	0506
MAC Address	1C:AF:F7:74:AA:01
IPv4 Address	192.168.0.101
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.168.0.1
IPv4 Primary DNS	192.168.0.1
IPv4 Secondary DNS	
PPPoE Status	Disable
DDNS Status	Disable

**SURVEILLANCE**

# Log

The system log records camera events that have occurred.

The screenshot shows the D-Link DCS-942L web interface. At the top, it displays 'Product: DCS-942L' and 'Firmware version: 1.00'. The D-Link logo is prominently featured. Below the logo is a navigation menu with tabs for 'DCS-942L', 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'DCS-942L' tab is active, and a sub-menu on the left includes 'Device Info', 'Log', and 'Logout'. The main content area is titled 'SYSTEM LOG' and contains the text: 'The system log records camera events that have occurred.' Below this is a section for 'CURRENT LOG' with the following entries:

Timestamp	Event
2011-01-01 00:02:48	admin is streaming video.
2011-01-01 00:02:48	admin is streaming video.
2011-01-01 02:40:50	admin is streaming video.
2011-01-01 02:40:56	admin is streaming video.

At the bottom of the log entries are two buttons: 'Clear' and 'Download'. On the right side of the interface, there is a 'Helpful Hints..' section with the text: '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.'

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

# 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:

- 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 DCC program. 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 on the left side of the display. Scroll to the bottom of the Network Setup page to display the ports used by HTTP and Streaming audio and video.

DIR-655	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT
DEVICE INFO	<b>DEVICE INFORMATION</b>				Helpful Hints...
LOGS	All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.				All of your WAN and LAN connection details are displayed here.
STATISTICS	<b>GENERAL</b>				More...
INTERNET SESSIONS	Time : 2007/10/10 PM 10:10:33				
WIRELESS	Firmware Version : 1.02, 2006/10/13				
WISH SESSIONS	<b>WAN</b>				
	Connection Type : DHCP Client				
	QoS Engine : Active				
	Cable Status : connected				
	Network Status : connected				
	Connection Up Time : N/A				
	<input type="button" value="Renew"/> <input type="button" value="Release"/>				
	MAC Address : 00:19:5B:03:04:E9				
	IP Address : 210.21.33.48				
	Subnet Mask : 255.255.255.248				
	Default Gateway : 210.21.33.254				
	Primary DNS Server : 168.95.1.1				
	Secondary DNS Server : 0.0.0.0				
	<b>LAN</b>				
	MAC Address : 00:19:5B:03:04:E8				
	IP Address : 192.168.0.1				
	Subnet Mask : 255.255.255.0				
	DHCP Server : Enabled				
	<b>WIRELESS LAN</b>				
	Wireless Radio : Enabled				
	WISH : Active				
	MAC Address : 00:19:5B:03:04:E8				
	Network Name (SSID) : dlink				
	Channel : 4				
	Security Mode : Disabled				
	Wi-Fi Protected Setup : Enabled/Not Configured				

The **Setup > Network** 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:** Both the HTTP port and RTSP port are required to be opened for the DCS-942L.

Product: DCS-942L Firmware version: 1.01

**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  
 SD Recording  
 Motion Detection  
 SD Management  
 Logout

**NETWORK**  
 You can configure your LAN and Internet settings here.

**LAN SETTINGS**

**LAN SETTINGS**

Automatic IP Address  
 Static IP Address

IPv4 Address   
 Subnet Mask   
 Default Gateway (Router)   
 Optional Primary DNS   
 Optional Secondary DNS

PPPoE

**PORT SETTINGS**

HTTP Port   
 RTSP Port

**UPnP**

UPnP  
 UPnP Port Forward

External HTTP   
 External RTSP

**Apple**

Bonjour

**Helpful Hints..**

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

**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.

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

**SURVEILLANCE**



## 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.

IP Address	Name (if any)	MAC
192.168.0.155	end_user	00:05:5d:ce:b3:8d

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, both (TCP and UDP) for RTSP and both (TCP and UDP) 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.

Repeat the above steps adding the port 554 to both the Public and Private Port sections. A check mark appearing before the entry name will indicate that the ports are enabled.

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-942L	192.168.0.120	80	TCP	Always
<input checked="" type="checkbox"/>	DCS-942L	192.168.0.120	554	TCP	Always
<input type="checkbox"/>		0.0.0.0	0	TCP	Always
<input type="checkbox"/>		0.0.0.0	0	6	Allow All

**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 the following websites:

DCS-942L: <http://DCS-942L.mydlink.com>

After going through the wizard, you should see Remote Status: Enabled on the summary page.

If you see Remote Status: Disabled, make sure that:

...the front LED on your camera is lit solid green

...your Internet connection is working

...your router's LAN & WAN connections are working properly

...your router has UPnP enabled (if your router does not support UPnP, please refer to Appendix A)

...your router can get a public IP

...your router is upgraded to the latest firmware

...you have tried rebooting your router by unplugging it, then plugging it back in

After checking the above items, you can click the Retry button to refresh the summary screen to see if Remote Access has been enabled.

## **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 3 seconds while your camera is plugged in.

## **3. In addition to using mydlink.com, is there another way to access my camera remotely over the Internet?**

Yes, you can access your camera over the Internet through the following URL after successfully installing your camera through the Camera Installation Wizard:

http://[mydlink No.].mydlink.com

For example, if your camera's mydlink No. was 12345678, you would be able to access your camera remotely by opening your web browser and going to <http://12345678.mydlink.com>

This URL will open a webpage where you will be asked to log in by entering your camera's password. After entering your password, your camera's Live View window will open, and you will be able to configure your camera as well.

### **4. 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 page 36 for information about how to enable the LED.

### **5. 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.

### **6. 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.

### **7. 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.

### **8. 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.

### **9. 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.

### **10. 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.

### **11. The PIR is no operation well, how can I improve the PIR quality?**

- For the Passive Infrared Sensor (PIR) to function properly it is required to have direct line of site to the object. When the room has many obstacles or the line of site is obstructed by glass, the PIR will not function properly.
- When the environment temperature is too high, the PIR detection will slow down and should not be mistaken for a faulty PIR.
- This Network Camera can only be installed indoors. Do not install this camera in a place where IR interference can be a problem. IR interference can be found close to glass doors or windows, where direct sunlight can cause interference or in the path of car headlights.

- Do not install this camera next to or in front of an air conditioner outlet or vent.
- Do not install this camera close to wireless devices with high frequencies as the PIR is easily affected by RF radiation.
- The PIR functions at best when detecting lateral movements. Radial movements cannot be detected as well as lateral movements.
- Do not install this camera directly under an extreme bright light. The PIR cannot fully suppress a bright white light.
- Any movements from an object with a normal body temperature, like humans or animals, can be detected. To avoid any malfunctions, install this camera at the proper height.
- To avoid any malfunctions, install this camera in an environment with an average temperature of 25°C. Only within a distance of 2.5 meters can smaller movements of an object, with the average adult human's height, be detected. Between a distance of 2.5 and 5 meters, a larger movement of an object is required for detection.
- Install this camera on a firm, static, anti-shock surface.

# 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.

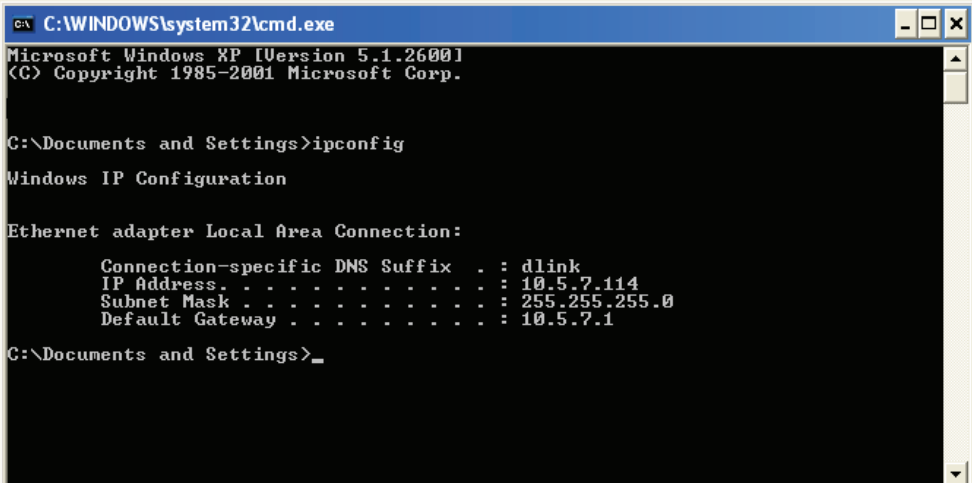
Click on **Start > Run**. In the run box type **cmd** and click **OK**.

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

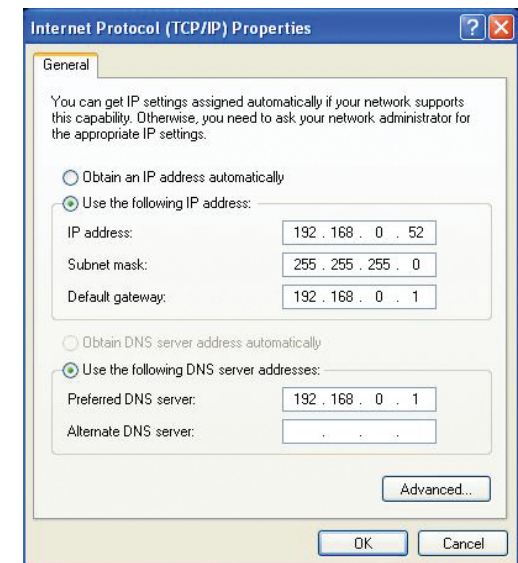
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

**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

- Operating System: Microsoft Windows XP, Vista, Windows 7, Mac OS or Linux.
- Internet Explorer 7 or above , Firefox 3.5 or above, Safari 4 or Chrome 8.0

## NETWORKING PROTOCOL

- IPV4, ARP, TCP, UDP, ICMP
- DHCP Client
- NTP Client (D-Link)
- DNS Client
- DDNS Client (DynDNS and D-Link)
- SMTP Client
- FTP Client
- HTTP Server
- PPPoE
- UPnP Port Forwarding
- 3GPP (Video only)
- Bonjour

## 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

## WIRELESS TRANSMIT OUTPUT POWER

- 16 dbm for 11b, 12 dbm for 11g, 12 dbm for 11n (typical)

## SDRAM

- 128 MB

## FLASH MEMORY

- 16 MB

## RESET BUTTON

- Reset to factory default

## VIDEO CODECS

- H.264
- Mpeg4
- Mjpeg

## VIDEO FEATURES

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

## RESOLUTION

- 640 x 480 at up to 30 fps
- 320 x 240 at up to 30 fps
- 160 x 112 at up to 30 fps

## LENS

- Focal length: 3.15 mm, F2.8
- Shutter Speed: 1/15, 1/10, 1/7.5, 1/3.75

## SENSOR

- VGA 1/5 inch CMOS Sensor

### MINIMUM ILLUMINATION

- 1 lux @ F2.8

### VIEW ANGLE

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

### IR LED

- 4 IR LEDs (5 Meter distance)

### DIGITAL ZOOM

- Up to 4x

### 3A CONTROL

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

### MICROPHONE

- Omni-directional
- Frequency 20 to 20,000 Hz
- S/N ratio: over 58 dB

### AUDIO

- ADPCM

### SD CARD SLOT

- Micro SD card

### PIR SENSOR

- Built-in Piezoelectricity Passive Infrared sensor for motion detection

### 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)

- Including the bracket and stand:  
65.8 x 65 x 126 mm
- Camera only:  
27.2 x 60 x 96 mm

### WEIGHT

- 76.9 g (without bracket and stand)

### MAX POWER CONSUMPTION

- 2 W

### 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

- FCC Class B
- IC
- C-Tick
- CE