



User Manual

Wireless N Network Camera

DCS-930L

Manual Overview

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

Manual Revisions

Revision	Date	Description
1.0	July 19, 2010	DCS-930L Revision A1 with firmware version 1.00

Trademarks

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

Copyright © 2010 by D-Link Corporation.

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

Table of Contents

Manual Overview.....	2	Configuration.....	19
Manual Revisions.....	2	Using the Configuration Menu.....	19
Trademarks	2	Live Video	21
Product Overview.....	5	Setup.....	21
Package Contents.....	5	Wizard	21
System Requirements.....	5	Internet Connection Setup Wizard.....	22
Introduction	6	Network Setup.....	24
Features.....	7	Wireless.....	25
Hardware Overview.....	8	DDNS	26
Front View.....	8	Image Setup	27
Rear View	9	Video	28
Installation.....	10	Video Configuration.....	28
Hardware Installation.....	10	Audio.....	29
Wireless Installation Considerations.....	11	Motion Detect.....	30
Camera Installation Wizard	12	Mail.....	31
WPS - Push Button Setup.....	13	Time Schedule	32
mydlink Portal	14	FTP.....	33
Camera Status.....	15	Time Schedule	34
Live Video	16	Time and Date.....	35
Camera Settings.....	17	Maintenance.....	36
Camera Info	18	Admin.....	36
		System.....	37
		Firmware Upgrade.....	38
		Device Info	39
		Active User	40

Wireless Security41
 What is WEP?41
 What is WPA?42
 Configuring the DCS-930L with a Router.....43

Troubleshooting49

Wireless Basics52
 Wireless Modes.....56

Networking Basics57
 Check your IP address.....57
 Statically Assign an IP Address58

Technical Specifications59

Contacting Technical Support61

Warranty.....62

Registration69

Package Contents

- DCS-930L Wireless N 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
- PC with 1.3GHz or above; at least 128MB RAM
- Internet Explorer 6 or above , Firefox 3.5 or above, Safari 4 and Chrome
- Existing 10/100 Ethernet-based network or 802.11n wireless network

Introduction

Congratulations on your purchase of the DCS-930L Wireless N Network Camera. The DCS-930L is a versatile and unique solution for your small office or home. Unlike a standard webcam, the DCS-930L is a complete system with a built-in CPU and web server that transmits high quality video images for security and surveillance. The DCS-930L 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-930L also comes with remote monitoring and motion detection features for a complete and cost-effective home security solution.

Features

Simple to Use

The DCS-930L is a stand-alone system with a built-in CPU, requiring no special hardware or software such as PC frame grabber cards. The DCS-930L 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-930L 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-930L offers wireless 802.11n and Ethernet/Fast Ethernet connectivity, making the DCS-930L easy to integrate into your existing network environment. The DCS-930L 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-930L 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

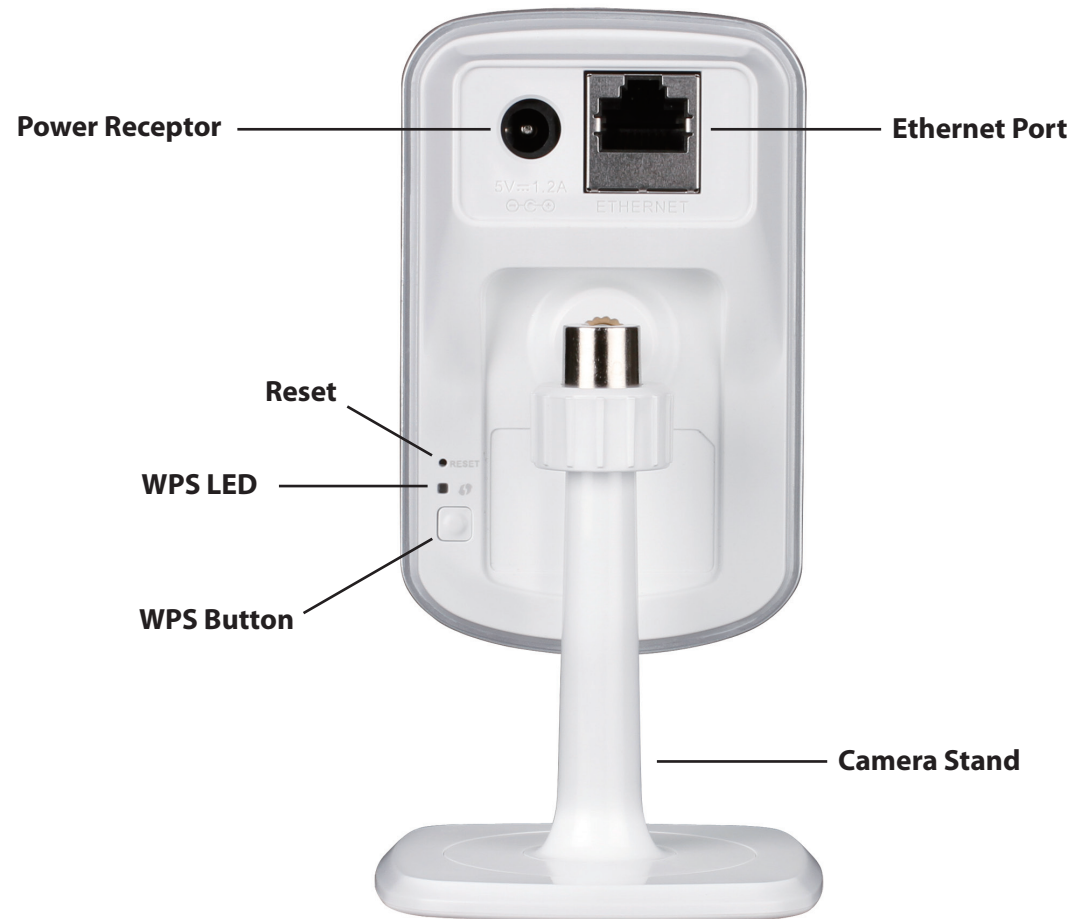
The D-ViewCam application adds enhanced features and functionality for the Network Camera and allows administrators to configure and access the Network Camera from a remote site via Intranet or Internet. Other features include image monitoring, recording images to a hard drive, viewing up to 32 cameras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

Hardware Overview

Front View



Rear View

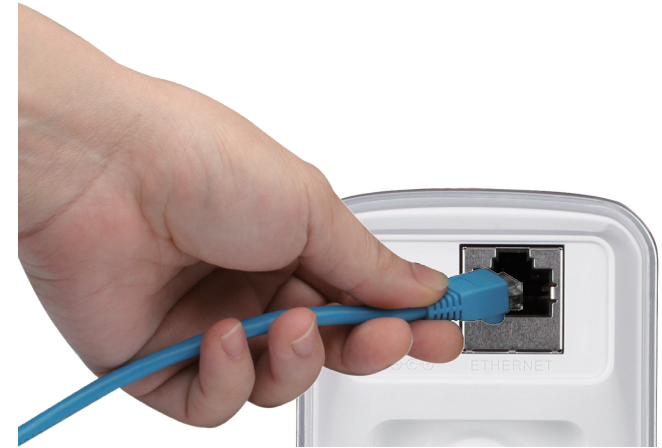


Installation

Hardware Installation

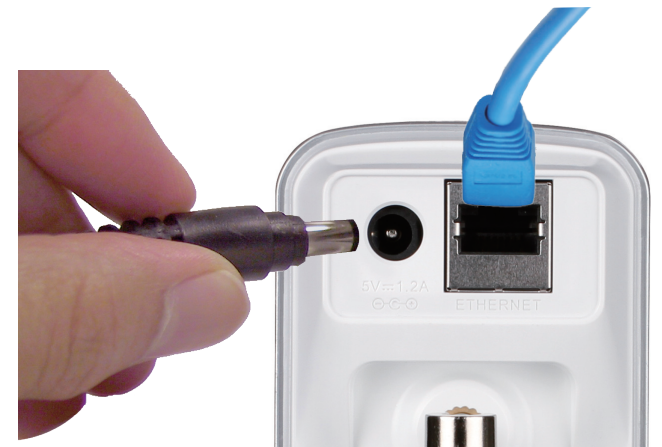
Connect the Ethernet Cable

Connect the included Ethernet cable to the network cable connector located on the bottom panel of the DCS-930L 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 back panel of the DCS-930L and connect it to your wall outlet or power strip. Power is confirmed when the green LED Power Indicator located below the lens on the DCS-930L 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 WPS connect using the WPS Button on the back of the camera.

To create a WPS connection:

Step 1

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

Step 2

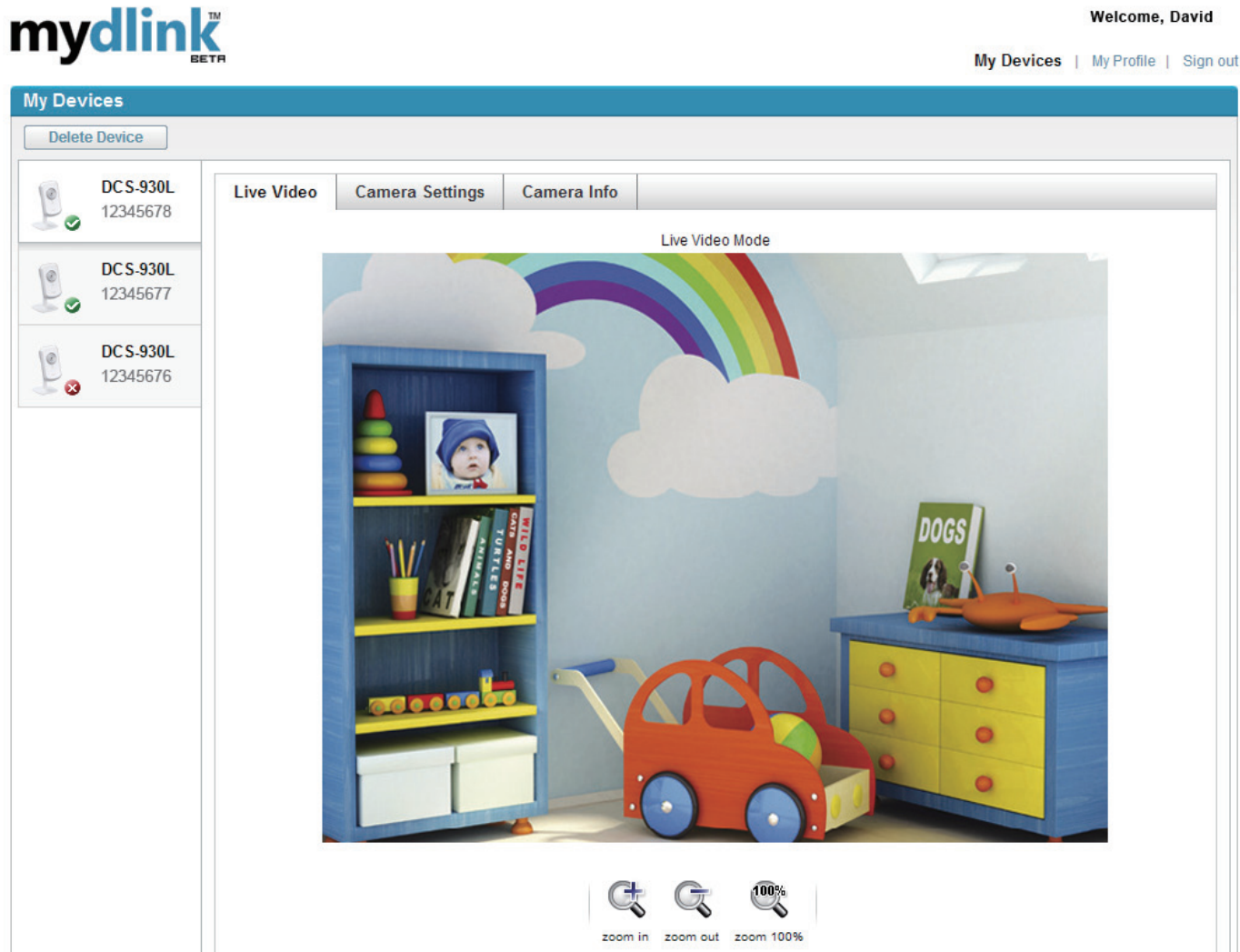
Press the WPS button on your router within 60 seconds. The WPS button is usually on the front or side of your router. On some routers, you may need to log in to the web interface and click on an on-screen button to activate the WPS feature. If you are not sure where the WPS button is on your router,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

The DCS-930L 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-930L camera with a mydlink account in the Camera Installation Wizard. You will be able to remotely access your camera from the www.mydlink.com website. After signing in to your mydlink account, you will see a screen similar to the following:



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 mydlink portal interface. At the top left is the mydlink logo with 'BETA' underneath. At the top right, it says 'Welcome, David' and provides navigation links for 'My Devices', 'My Profile', and 'Sign out'. Below the header is a 'My Devices' section with a 'Delete Device' button and a list of three DCS-930L cameras with their respective IDs (12345678, 12345677, and 12345676). The main content area is titled 'Live Video Mode' and features a large video feed of a child's room. The room contains a blue bookshelf with toys and books, a red toy car, and a blue and yellow dresser. Below the video feed are three control icons: 'zoom in', 'zoom out', and 'zoom 100%'. The interface is clean and user-friendly, with a blue and white color scheme.

Camera Settings

The Camera Settings tab allows you to access your camera's configuration interface. To open your camera's configuration interface, click **Camera web page** and enter the password exactly as listed on the **Camera Settings** page.

The screenshot displays the mydlink BETA portal interface. At the top left is the mydlink BETA logo. At the top right, it says "Welcome, David" and provides navigation links for "My Devices", "My Profile", and "Sign out". Below the navigation is a "My Devices" section with a "Delete Device" button. A list of three DCS-930L cameras is shown, each with a unique ID and a status icon (green checkmark or red X). The "Camera Settings" tab is selected, displaying a message: "Please use the following password to sign in to the Camera Utility after clicking Camera web page." Below this message, the "User name" is "admin" and the "Camera Password" is "XXXXXXXX" with a "Show Password" checkbox. A "Camera web page" button is located at the bottom of the settings panel.

mydlink™
BETA

Welcome, David

My Devices | My Profile | Sign out

My Devices

Delete Device

DCS-930L
12345678

DCS-930L
12345677

DCS-930L
12345676

Live Video | **Camera Settings** | Camera Info

Please use the following password to sign in to the Camera Utility after clicking Camera web page.

User name: admin

Camera Password: XXXXXXXX Show Password

Camera web page

Camera Info

The Camera Info tab shows you various information 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.

Camera Password: Displays the current password for your camera's configuration interface. Clicking on the **Show Password** checkbox will either show or hide the password. Clicking on the Password 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 Password.

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.

Device activated On: Displays the time and date that your device was added to mydlink.

Support: This section provides you with links to various support websites and downloads related to your product.

The screenshot shows the mydlink portal interface. At the top right, it says "Welcome, David" and "My Devices | My Profile | Sign out". The main content area is titled "My Devices" and has a "Delete Device" button. There are three device entries, each with a camera icon, a green checkmark, and the text "DCS-930L 12345678", "DCS-930L 12345677", and "DCS-930L 12345676". The "Camera Info" tab is selected, showing "Basic Information" with the following details: Device Name: DCS-930L; Camera Password: ***** Show Password; mydlink No.: 12345678; Model Name: DCS-930L; MAC: 1CBDB98C1631; Device activated on: 2010-06-23 14:57:09. Below this is a "Support" section with links for "Download" and "FAQ".

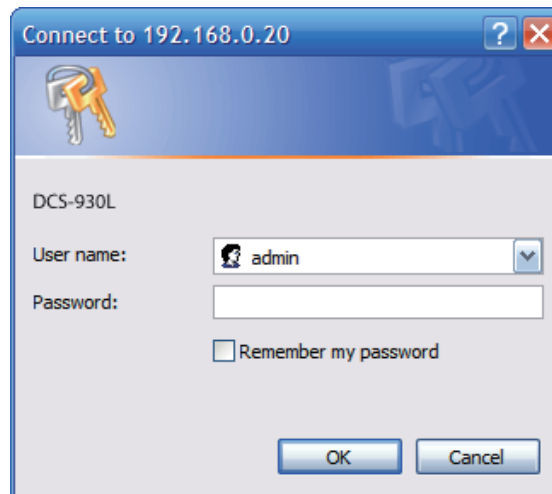
[Global D-Link](#) | [About mydlink](#) | [Terms of Use](#) | [Privacy Policy](#) | [Contact Us](#)
Copyright © 2008-2010 mydlinkD-Link Corporation Inc. All rights reserved.

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-930L. At the end of the wizard, click **Go To Camera**, or enter the IP address of your camera into a web browser, such as Internet Explorer®. To log in, use the User name **admin** and the password you created in the Installation Wizard. If you did not create a password, the default password is blank. After entering your password, click **OK**.

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

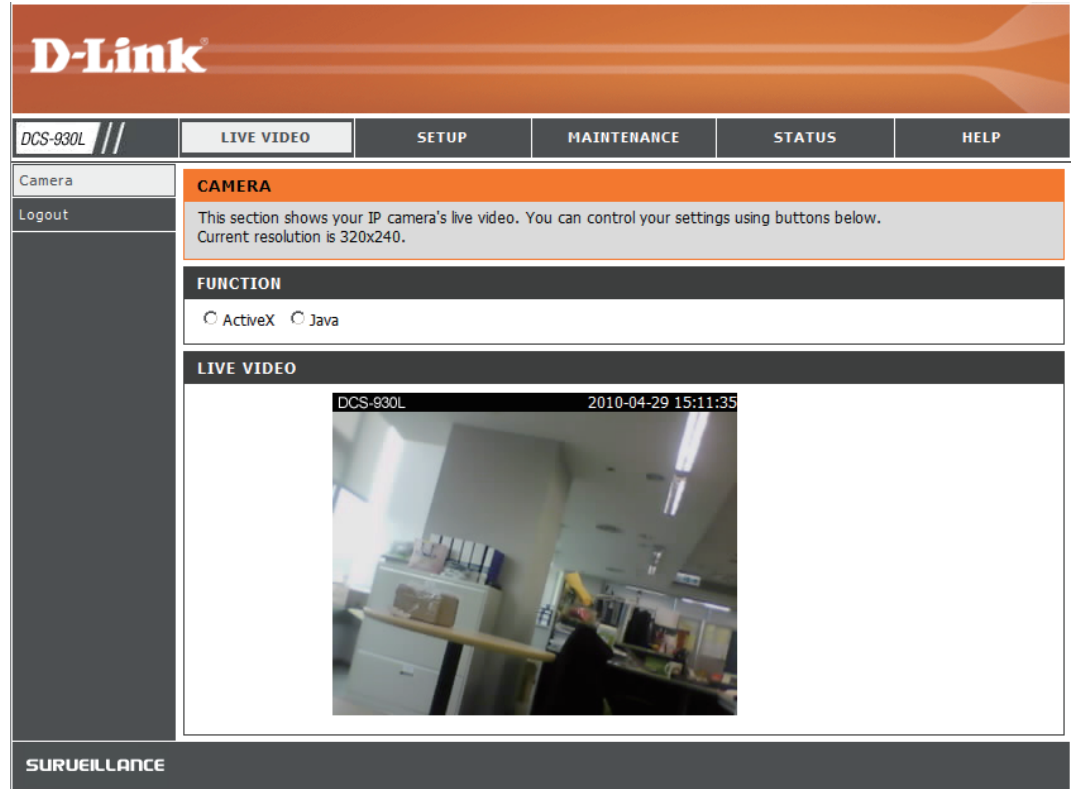


Section 4 - Configuration

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

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

Function: Click the **ActiveX** or **Java** radio button to view live video.

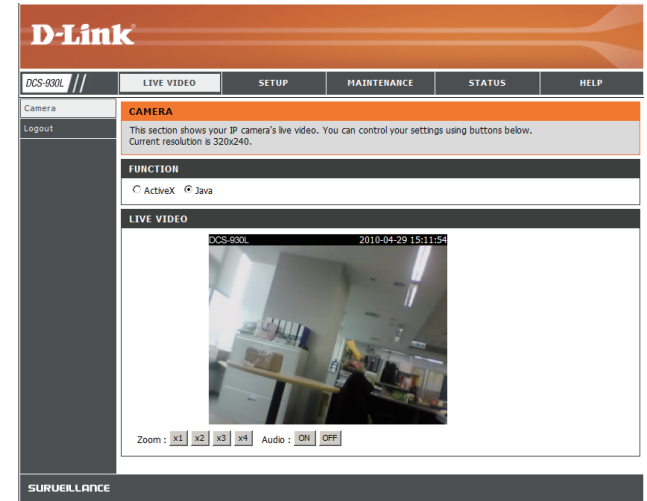


The screenshot displays the D-Link web interface for the DCS-930L camera. The top navigation bar includes the D-Link logo and menu items: LIVE VIDEO (selected), SETUP, MAINTENANCE, STATUS, and HELP. A left sidebar contains links for Camera and Logout. The main content area is titled 'CAMERA' and contains the following text: 'This section shows your IP camera's live video. You can control your settings using buttons below. Current resolution is 320x240.' Below this is a 'FUNCTION' section with two radio buttons: 'ActiveX' (selected) and 'Java'. The 'LIVE VIDEO' section features a video player window showing a live feed of an office interior. The video player has a timestamp 'DCS-930L 2010-04-29 15:11:35' at the top. The bottom of the interface has a 'SURVEILLANCE' label.

Live Video

ActiveX: For Windows® Users that do not have Java installed, please choose this option to view video streaming on the Live Video page.

Java: For Windows® users that have Java installed, you can also use this for viewing video. Mac users must choose this mode to view video.



Setup Wizard

You may choose to configure your network by using the **Internet Connection Setup Wizard** that includes step-by-step instructions. Otherwise, you may manually configure your connection using the **Manual Internet Connection Setup**.



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.

- **DHCP Connection** (by default), where your DHCP server will automatically assign dynamic IP to your device.
- **Static IP Address** allows you to manually enter your network settings for the camera.
- **PPPoE connection**, where your camera is directly connected to the Internet through a DSL modem.

Note: Input the DNS information if you have chosen and assigned a Static IP Address for your camera.

WELCOME TO D-LINK SETUP WIZARD - INTERNET CONNECTION SETUP

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.

- **Step 1:** Setup LAN Settings
- **Step 2:** Setup DDNS Settings
- **Step 3:** Server Name Settings
- **Step 4:** Setup Time Zone

Back Next Cancel

STEP 1: SETUP LAN SETTINGS

Please select whether your camera will connect to the Internet with a DHCP connection, Static IP address or PPPoE. 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 DHCP connection. Otherwise, click on Static IP address to manually assign an IP address before clicking on the **Next** button.

- DHCP Connection
- Static IP Address
- IP Address
- Subnet Mask
- Default Gateway
- PPPoE
- User ID
- Password
- Primary DNS
- Secondary DNS

Back Next Cancel

Section 4 - Configuration

Click **Next** to continue.

If you have a Dynamic DNS account and would like the camera to update your IP address automatically, enable **DDNS** and enter your host information.

Click **Next** to continue.

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

Configure the correct time to ensure that all events triggered, captured and scheduled at the right time. Click **Next** to continue.

This page displays your configured settings. Click **Apply** to save and activate the setting, or **Back** to change your settings.

STEP 2: SETUP DDNS SETTINGS

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

Enable
 Disable

Server Address <<

Host Name

User Name

Password

Timeout hours

STEP 3: SERVER NAME SETTINGS

D-Link recommends that you rename your camera for easy accessibility. Please assign a name of your choice before clicking on the **Next** button.

Camera Name

STEP 4: SETUP TIME ZONE

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

Current Time 29 Apr 2010 10:12:33 A.M.
Time Zone

STEP 5: SETUP COMPLETE

Here is a summary of your camera settings. Click **Back** to review or modify the settings, or click **Apply** if all settings are correct. It is recommended to note down this information for future access or reference.

IP Address	DHCP Connection
IP Camera Name	DCS-930L
Time Zone	(GMT-05:00) Eastern Time (US & Canada)
DDNS	Disable

Network Setup

This section allows you to configure your network settings.

DHCP: 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 Client: 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.

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: 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.

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

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

PPPoE Settings: 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).

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, users must type **http://192.168.0.100:1010** instead of only "http://192.168.0.100".

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

D-Link

DCS-930L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

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

LAN SETTINGS

DHCP Connection Static IP Address PPPoE

IP Address User ID

Subnet Mask Password

Default Gateway

Primary DNS

Secondary DNS

PORT SETTINGS

HTTP Port

UPnP SETTINGS

UPnP Enable Disable

UPnP Port Forwarding Enable Disable

Save Settings Don't Save Settings

Helpful Hints..
Select "DHCP Connection" if you are running a DHCP server on your network and would like an IP address assigned to your camera automatically. You may choose to manually enter a Static IP Address and all the relevant network information or select PPPoE if you connect your DCS-930 directly to the Internet that uses a PPPoE service. If you choose PPPoE you must enter the user ID and password that was given by your Internet Service Provider.
DNS (Domain Name System) server is an Internet service that translates domain names (i.e. www.dlink.com) into IP addresses (i.e. 192.168.0.20). The IP addresses can be obtained from your ISP.
Primary DNS: Primary domain name server that translates names to IP addresses.
Secondary DNS: Secondary domain name server to backup the primary one.

Wireless

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

SSID: Service Set Identifier, an identifier for your wireless network.

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

Connection 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-930L is directly connecting to your PC. This is done using the on-board wireless adapter on the DCS-930L connected to a wireless adapter on the PC.

Site Survey: This page will allow you to select a wireless network that the DCS-930L was able to detect.

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

WEP: 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.

WPA-PSK / WPA2PSK Settings: An appropriate **Preshared Key**, which is needed in order to connect to the wireless network.

The screenshot shows the D-Link web interface for the DCS-930L camera. The 'SETUP' tab is selected, leading to the 'WIRELESS SETUP' page. The page includes a sidebar with navigation options like Wizard, Network Setup, and Wireless Setup. The main content area is organized into several sections: 'WIRELESS SETUP' with save buttons, 'WIRELESS SETTINGS' with enable/disable options, 'BASIC WIRELESS SETTINGS' with input fields for SSID, Channel, and Connection Mode, 'WIRELESS SECURITY MODE' with radio buttons for None, WEP, and WPA-PSK/WPA2-PSK, and 'WPA-PSK / WPA2-PSK SETTINGS' with a field for the Pre-Shared Key. A 'Helpful Hints...' sidebar on the right provides additional information about wireless setup and security modes.

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.

The screenshot shows the D-Link DCS-930L web interface. At the top, there's a navigation bar with 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. Below this is a sidebar with a 'Wizard' menu containing: Wizard, Network Setup, Wireless Setup, Dynamic DNS (highlighted), Image Setup, Video, Audio, Motion Detection, Mail, FTP, Time and Date, and Logout. The main content area is titled 'DYNAMIC DNS' and contains the following text: 'The Dynamic DNS feature allows you to host a server (Web, FTP, Camera , etc...) using a domain name that you have purchased (www.whateveryournameis.com) from your broadband Internet Service Provider (ISP). Using a DDNS service, your friends can enter your host name to connect to your IP Camera regardless of your IP address.' Below this text are two buttons: 'Save Settings' and 'Don't Save Settings'. The 'DYNAMIC DNS SETTING' section includes radio buttons for 'Enable' and 'Disable' (selected), a 'Server Address' field with a dropdown arrow and a 'Select Dynamic DNS Server' dropdown menu, and input fields for 'Host Name', 'User Name', 'Password', and 'Timeout' (set to 576 hours). At the bottom of this section are 'Save Settings' and 'Don't Save Settings' buttons. A 'Helpful Hints...' section on the right explains that Dynamic DNS is useful for DSL or Cable service providers that change IP addresses periodically, allowing a website domain name to be assigned to the camera instead of an IP address. The bottom of the page has a 'SURVEILLANCE' banner.

DDNS: (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.

Enable: 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 used to connect to the DDNS.

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

Image Setup

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

The screenshot shows the D-Link web interface for the DCS-930L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar lists various setup options: Wizard, Network Setup, Wireless Setup, Dynamic DNS, Image Setup (selected), Video, Audio, Motion Detection, Mail, FTP, Time and Date, and Logout. The main content area is titled 'IMAGE SETUP' and contains the following text: 'In this section, you can configure the image settings for your camera.' Below this are two buttons: 'Save Settings' and 'Don't Save Settings'. The 'IMAGE SETTINGS' section includes:

- Enable Anti Flicker:
- Flip Image:
- Mirror:
- Brightness Control: +0 (dropdown)
- Contrast Control: +0 (dropdown)
- Saturation Control: +0 (dropdown)

 At the bottom of the settings area are 'Save Settings' and 'Don't Save Settings' buttons. The right sidebar, titled 'Helpful Hints..', contains the following information:

- Anti Flicker** - This feature will help to offset the interference of the lighting system and avoid the image flicker issue. ONLY use this option when it is necessary.
- Flip Image** - Flip the image vertically.
- Mirror** - Flip the image horizontally.
- Brightness, Contrast, or Saturation Control** - There are 11 settings (-5 to 5).
- Note:** Please wait a few seconds for the camera to adjust the image after the setting has been selected.

 The bottom of the page features a 'SURUEILLANCE' banner.

Enable Antiflicker: Select this box to enable antiflicker.

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

Mirror: Horizontally flip the video.

Brightness Control: Allows you to adjust the brightness level.

Contrast Control: Allows you to adjust the contrast level.

Saturation Control: Allows you to adjust the saturation level.

Video

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

VIDEO

In this section, you can configure the camera video quality, resolution, and frame rate.

VIDEO PROFILE

Encode Type	Resolution	FPS	Jpeg Quality	View Mode
JPEG	320 x 240 ▼	Auto ▼	Medium ▼	Image ▼

LIGHT FREQUENCY

50 Hz
 60 Hz

Video Configuration

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.

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

View Mode: Select the mode for viewing the camera image. Select Image for a still images, ActiveX for Internet Explorer, or Java for other web browsers.

Light Frequency: Select the proper frequency (50Hz or 60Hz) to reduce image flicker.

Audio

Enabling audio setting will allow you to listen to audio from the camera through your PC's audio output.

Note: Please wait a few seconds for the camera to adjust the audio after the setting has been selected.

Audio Settings: You may **Enable** or **Disable** the camera audio feed.

Volume Settings: Select the desired volume percentage level.

The screenshot displays the D-Link web interface for the DCS-930L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded, showing options like Wizard, Network Setup, Wireless Setup, Dynamic DNS, Image Setup, Video, Audio, Motion Detection, Mail, FTP, Time and Date, and Logout. The 'Audio' section is selected and highlighted in orange. It contains an 'AUDIO' header, a descriptive text box, and two buttons: 'Save Settings' and 'Don't Save Settings'. Below this is the 'AUDIO SETTINGS' section with radio buttons for 'Enable' (selected) and 'Disable'. The 'VOLUME SETTINGS' section features a dropdown menu set to '100' and another pair of 'Save Settings' and 'Don't Save Settings' buttons. A 'Helpful Hints..' sidebar on the right provides instructions on enabling audio and a note to wait for the camera to adjust the audio.

D-Link

DCS-930L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

AUDIO

In this section, you can configure the audio settings for your camera.

Save Settings Don't Save Settings

AUDIO SETTINGS

Enable Disable

VOLUME SETTINGS

100

Save Settings Don't Save Settings

Helpful Hints..

Enabling audio setting will allow you to listen to audio from the camera through your PC's audio output.

Note: Please wait a few seconds for the camera to adjust the audio after the setting has been selected.

SURUEILLANCE

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.

Motion Detection: Select this box to enable the motion detection feature of your camera.

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

Detection Areas: Use your mouse to click on the blocks that you would like to monitor for motion.

The screenshot shows the D-Link web interface for the DCS-930L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar contains a menu with options: Wizard, Network Setup, Wireless Setup, Dynamic DNS, Image Setup, Video, Audio, Motion Detection (highlighted), Mail, FTP, Time and Date, and Logout. The main content area is titled 'MOTION DETECTION' and contains the following settings:

- MOTION DETECTION:** In this section, you can configure the motion detection settings for your camera. Buttons: Save Settings, Don't Save Settings.
- MOTION DETECTION SETTINGS:**
 - Motion Detection: Enable Disable
 - Sensitivity: 90 % (0~100%, high sensitivity makes the motions easier to be detected.)
 - Detection Areas: Use mouse to click the blocks where you want to monitor for motion.

The 'Detection Areas' section shows a live video feed of an office interior with a blue grid overlay. Below the video feed are buttons for 'Save Settings' and 'Don't Save Settings'. The footer of the page reads 'SURVEILLANCE'.

Mail

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

SMTP Server Address: This is the domain name or IP address of your external e-mail server.

Sender e-mail Address: This is the e-mail address of the person sending the camera snapshots.

Receiver e-mail Address: This is the e-mail address of the recipient.

User Name: If the SMTP server uses authentication, you must enter your user name here.

Password: This is the password that corresponds to your user name to connect to the SMTP server.

For example, if you want to use Gmail by SSL-TLS for the e-mail notification, you can follow the setup procedure as below:

Step 1 - Enter "smtp.gmail.com" in SMTP Server Address.

Step 2 - Change the SMTP server port number from 25 to **465**.

Step 3 - Enter your gmail E-mail address in Sender E-mail Address.

Step 4 - Enter the destination E-mail address in Receiver E-mail Address.

Step 5 - Enter the user name required to access the SMTP server.

Step 6 - Enter the password required to access the SMTP server.

Step 7 - Select **SSL-TLS** and then click **Save Settings**.

Step 8 - Click the **Test** button to send a test e-mail will be sent to the e-mail account listed above.

Note: You can also use **STARTTLS** which will use SMTP server port number **587**.

Note: If you want to use the Yahoo SMTP server, the SMTP server address will be different between each registered region. And it only supports the SMTP server port number **465** for the **SSL-TLS**.

MAIL

This section allows you to setup and configure the email notification settings for your camera. If your details change or you are experiencing issues with alert notifications, you may need to modify these settings.

E-MAIL ACCOUNT

SMTP Server Address

SMTP Server Port (Default is 25)

Sender E-mail Address

Receiver E-mail Address

User Name

Password

Use SSL-TLS/STARTTLS No SSL-TLS STARTTLS

TIME SCHEDULE

Enable emailing images to email account

Always

Schedule

Day Mon Tue Wed Thu Fri Sat Sun

Time Period Start : (Example : 06:30:00)

Stop : (Example : 22:30:00)

Motion Detection

Interval Seconds

TEST E-MAIL ACCOUNT

A test e-mail will be sent to the e-mail account listed above.

Time Schedule

Enable e-mail image Choosing **Always** will start sending snapshots to the recipient's e-mail account right away. Choosing **Schedule** will allow you to schedule **to e-mail account:** when to start and stop the sending of snapshots to the recipient's e-mail account.

Interval: The frequency of the snapshot interval can also be configured from 1 to 65535 seconds.

Test E-mail This will send a snapshot to the e-mail account that you have configured in the **E-mail** section. If you have configured the SMTP account **Account:** correctly, you will be able to send a test file to the e-mail account of the recipient.

FTP

This section allows you to configure a FTP server to receive images from the camera.

Host Address: This is the IP address of the FTP server that you will be connecting to.

Port Number: Default is port 21. If changed, external FTP client program must change the server connection port accordingly.

User Name: Specifies the user name to access the external FTP server. If you are to upload snapshots to an FTP server you will need to fill in the Domain name or IP address of your external FTP server. The following user settings must be correctly configured for remote access.

Password: Specifies the password to access the external FTP server.

Directory Path: Specifies the destination folder in the external FTP server.

Passive Mode: Enabling passive mode will allow access to an external FTP server if your camera is behind a router protected by a firewall.

FTP

In this section, you may configure a FTP server to receive the images.

FTP SERVER

Host Name

Port (Default is 21)

User Name

Password

Path

Passive Mode Yes No

TIME SCHEDULE

Enable uploading images to the FTP server

Always

Schedule

Day Mon Tue Wed Thu Fri Sat Sun

Time Period Start : (Example : 06:30:00)

Stop : (Example : 22:30:00)

Motion Detection

Image Frequency 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132

Time Schedule

Enable upload image to FTP server: Checking this box will enable video uploads to the FTP server you have selected.

Always: Selecting this option allows snapshots to be uploaded to your FTP as soon as you click **Apply**.

Schedule: Selecting this option allows you to configure specific times when you want the snapshots to be uploaded to your FTP server.

Image Frequency: Users can select in frames per second (1, 2, 3 or auto, in auto this could go to 4). The user can also select a duration for each frame from 1 to 65535 seconds.

Base File Name: This will be the name that precedes the time, for example DCS9302010072116425101.jpg. This means that the camera took a snapshot in the year 2010, July 21 at 16th hour (4 o'clock), 42 minutes and 51 seconds and it is picture number one.

File: Select **Overwrite** and there will be only one images that are constantly refreshed. Select **Date/Time Suffix** and the pictures will be named with a date and time (may refer to **Base File Name**). Enable the **Create subfolder function**, the system will auto create the subfolder by **0.5 hour, 1 hour or 1 day**. An example of this can be seen above under the **Base file name** category. Select **Sequence Number Suffix up to 1024** and all the pictures will be numbered from 1-1024. The total amount of pictures can be configured up to 1024 pictures.

Test FTP Server: This will send a snapshot to the FTP server that you have configured in the **Upload** section. If you have configured the FTP correctly, you will be able to see a test file on your FTP server.

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.

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

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

Set the Date and Time Manually: Select this to set the time manually.

TIME AND DATE

The Time Configuration option allows you to configure, update, and maintain the internal system clock. From this section you can set the time zone that you are in, and set the NTP (Network Time Protocol) Server.

TIME CONFIGURATION

Current Time 29 Apr 2010 3:14:16 P.M.
Time Zone

AUTOMATIC TIME CONFIGURATION

Synchronize NTP Server
NTP Server Used <<

SET THE DATE AND TIME MANUALLY

Year Month Day
Hour Minute Second

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.

Camera Name: Specify a name for your camera

LED Control: Select **Normal** to enable the LED on the front of the device, or select off to disable the LED.

User Access Control: Select **Enable** to enable user access control or Disable to allow only the administrator account to access the camera.

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

Add User Account: Create 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: Displays the account names of authorized users.

ADMIN

Here you can change the administrator's password and configure the server setting for your camera. You can also add, modify and/or delete the user account(s).

ADMIN PASSWORD SETTING

Old Password

New Password

Retype Password

SERVER SETTING

Camera Name

LED Control Normal Off

User Access Control Enable Disable

Snapshot URL Authentication Enable Disable (http://172.17.5.72/image/jpeg.cgi)

ADD USER ACCOUNT

User Name

Password

Retype Password

USER LIST

no.	name	modify	delete
1	Ronald		

System

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

The screenshot displays the 'SYSTEM' configuration page. It features a header bar with the title 'SYSTEM' and a descriptive paragraph: 'Here you can save and restore your configuration, restore the factory settings, and/or restart the camera.' Below this, there are four main sections, each with a label and a corresponding button:

SYSTEM	
Save To Local Hard Drive	Save Configuration
Load From Local Hard Drive	<input type="text"/> Browse... Restore Configuration From File
Restore To Factory Default	Restore Factory Defaults
Reboot The Device	Reboot the Device

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-930L, 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 displays the D-Link web interface for the DCS-930L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'MAINTENANCE' tab is active. On the left, a sidebar menu shows '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 this text is a section titled 'FIRMWARE INFORMATION' with the following details:

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

At the bottom of the main content area is another 'FIRMWARE UPGRADE' section with a 'File Path' label, a text 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.

Device Info

This section displays all the details information about your device and network settings.

DEVICE INFO

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

BASIC INFORMATION

Camera Name	DCS-930L
Time & Date	03 May 2010 11:06:11 A.M.
Firmware Version	0.80 (2010-04-29)
IP Address	172.17.5.72
Subnet Mask	255.255.255.0
Default Gateway	172.17.5.254
Primary DNS	192.168.168.250
Secondary DNS	192.168.168.201
DDNS	Disable
FTP Server Test	No test conducted.
E-mail Test	No test conducted.

WIRELESS STATUS

Connection Mode	Infrastructure
Link	No
SSID	dlink (MAC : 00 00 00 00 00 00)
Channel	6
Encryption	WPA2PSK-AES

Refresh

Active User

This page lists all the active user's information including the User Name, IP address, and the time that camera access began.

ACTIVE USER

This page lists all the active user's informations include user name, IP address and the time start accessing the camera.

USER LIST			
no.	user name	IP address	time
1	Ronald	172.17.5.95	2010-05-03 11:12:35

Refresh

Wireless Security

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

The DCS-930L 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-930L with a Router

D-Link's DCS-930L 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-930L 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-930L 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-930L for Use Behind a Router

Installing a DCS-930L 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-930L, follow the steps outlined in the Quick Installation Guide.

After you have completed the setup of the DCS-930L 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.

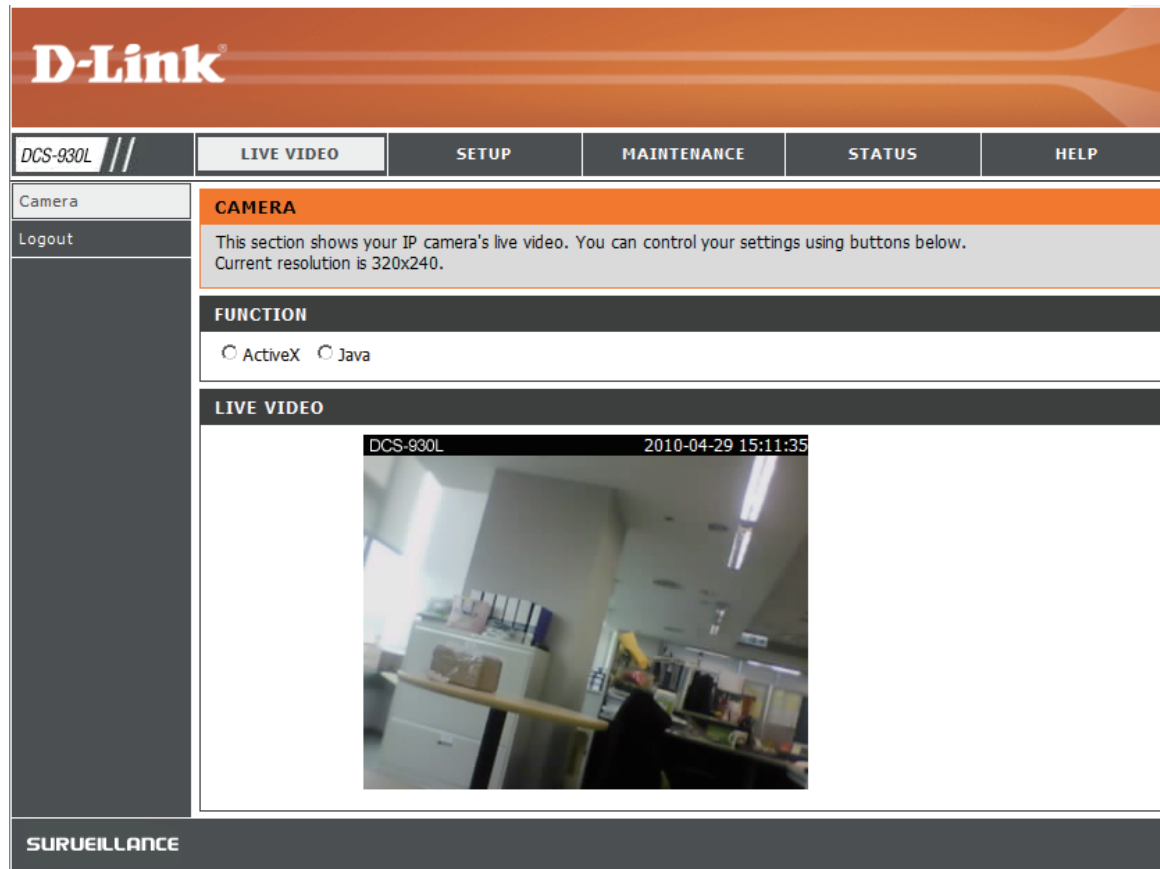
1. Assign a Local IP Address to Your Camera

Run the setup wizard from the CD included with the DCS-930L. Follow the steps in the Quick Installation Guide to configure the DCS-930L. 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-930L 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.



The screenshot displays the D-Link DCS-930L web interface. At the top, the D-Link logo is visible. Below it, a navigation bar contains buttons for LIVE VIDEO, SETUP, MAINTENANCE, STATUS, and HELP. The main content area is divided into sections: CAMERA, FUNCTION, and LIVE VIDEO. The CAMERA section includes a description of the live video and current resolution (320x240). The FUNCTION section has radio buttons for ActiveX and Java. The LIVE VIDEO section shows a live video feed from the camera, with a timestamp of 2010-04-29 15:11:35. The video feed shows an indoor setting with a counter and a person. The bottom of the page features a SURVEILLANCE banner.

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

Note: Both the HTTP port and RTSP port are required to be opened for the DCS-930L.

The screenshot shows the D-Link DCS-930L web interface. At the top, it displays 'Product: DCS-930' and 'Firmware version: 0.80'. The D-Link logo is prominent. A navigation bar includes 'DCS-930L', 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded to show 'Wizard', 'Network Setup', 'Wireless Setup', 'Dynamic DNS', 'Image Setup', 'Video', 'Audio', 'Motion Detection', 'Mail', 'FTP', 'Time and Date', and 'Logout'. The 'Network Setup' page is titled 'NETWORK SETUP' and contains the following sections:

- LAN SETTINGS:** Includes radio buttons for 'DHCP Connection' (selected), 'Static IP Address', and 'PPPoE'. Fields for IP Address (192.168.0.20), Subnet Mask (255.255.255.0), Default Gateway, User ID, and Password are present. There are also fields for Primary DNS and Secondary DNS.
- PORT SETTINGS:** Includes a field for 'HTTP Port' set to 80.
- UPnP SETTINGS:** Includes radio buttons for 'UPnP' (selected 'Enable') and 'UPnP Port Forwarding' (selected 'Disable').

At the bottom of the settings area are 'Save Settings' and 'Don't Save Settings' buttons. On the right side, there is a 'Helpful Hints..' section with detailed text about DHCP, Static IP Address, and PPPoE configurations, and a 'DNS' section explaining Primary and Secondary DNS servers.

Router Set-Up and Installation

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

3. Access the Router with Your Web Browser

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

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

The screenshot shows the D-Link router's web interface. The top navigation bar includes tabs for SETUP, ADVANCED, TOOLS, STATUS, and SUPPORT. The left sidebar contains menu items: DEVICE INFO, LOGS, STATISTICS, INTERNET SESSIONS, WIRELESS, and WISH SESSIONS. The main content area is titled 'DEVICE INFORMATION' and contains the following sections:

- GENERAL:** Time: 2007/10/10 PM 10:10:33, Firmware Version: 1.02, 2006/10/13
- WAN:** Connection Type: DHCP Client, QoS Engine: Active, Cable Status: connected, Network Status: connected, Connection Up Time: N/A. Includes buttons for Renew and 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
- LAN:** MAC Address: 00:19:5B:03:04:E8, IP Address: 192.168.0.1, Subnet Mask: 255.255.255.0, DHCP Server: Enabled
- WIRELESS LAN:** 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
- LAN COMPUTERS:** A table listing connected devices:

IP Address	Name (if any)	MAC
192.168.0.155	end_user	00:05:5d:ce:b3:8d
- IGMP MULTICAST MEMBERSHIPS:** Multicast Group Address: 239.255.255.250

On the right side, there is a 'Helpful Hints...' section with a 'More...' link.

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-930L over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the DCS-930L 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

DCS-930L // 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-5220 << HTTP	192.168.0.120 << Computer Name	Public 80	Protocol TCP	Schedule Always
<input checked="" type="checkbox"/>	DCS-5220 << Application Name	192.168.0.120 << Computer Name	Public 554	Protocol TCP	Schedule Always
<input type="checkbox"/>	<< Application Name	0.0.0.0 << Computer Name	Public 0	Protocol TCP	Schedule Always

Helpful Hints...

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

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

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

Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DCS-930L.

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-930L: <http://dcs-930L.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.

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-930L 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.

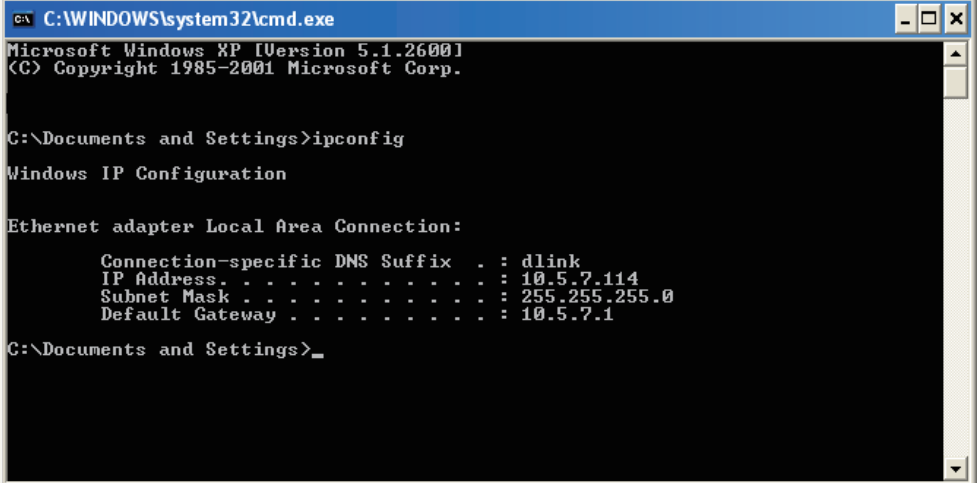
Click on **Start > Run**. In the run box type **cmd** and click **OK**.

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

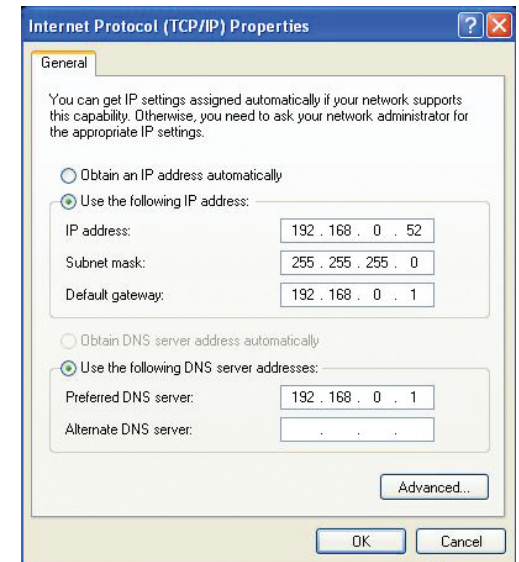
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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
- Internet Explorer 6 or above , Firefox 3.5 or above, Safari 4

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

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

- 32 MB

FLASH MEMORY

- 4 MB

RESET BUTTON

- Reset to factory default

VIDEO CODECS

- MJPEG
- JPEG for still images

VIDEO FEATURES

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

RESOLUTION

- 640 x 480 at up to 20 fps
- 320 x 240 at up to 30 fps
- 160 x 120 at up to 30 fps

LENS

- Focal length: 5.01 mm, F2.8

SENSOR

- VGA 1/5 inch CMOS Sensor

MINIMUM ILLUMINATION

- 1 lux @ F2.8

VIEW ANGLE

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

DIGITAL ZOOM

- Up to 4x

3A CONTROL

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

POWER

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

DIMENSIONS (W X D X H)

- 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

Contacting Technical Support

U.S. and Canadian customers can contact D-Link technical support through our web site or by phone.

Before you contact technical support, please have the following ready:

- Model number of the product (e.g. DCS-930L)
- Hardware Revision (located on the label on the bottom of the Network Camera (e.g. rev A1))
- Serial Number (s/n number located on the label on the bottom of the Network Camera).

You can find software updates and user documentation on the D-Link website as well as frequently asked questions and answers to technical issues.

For customers within the United States:

Phone Support:

(877) 453-5465

Internet Support:

<http://support.dlink.com>

For customers within Canada:

Phone Support:

(800) 361-5265

Internet Support:

<http://support.dlink.ca>

Warranty

Subject to the terms and conditions set forth herein, D-Link Systems, Inc. (“D-Link”) provides this Limited Warranty:

- Only to the person or entity that originally purchased the product from D-Link or its authorized reseller or distributor, and
- Only for products purchased and delivered within the fifty states of the United States, the District of Columbia, U.S. Possessions or Protectorates, U.S. Military Installations, or addresses with an APO or FPO.

Limited Warranty:

D-Link warrants that the hardware portion of the D-Link product described below (“Hardware”) will be free from material defects in workmanship and materials under normal use from the date of original retail purchase of the product, for the period set forth below (“Warranty Period”), except as otherwise stated herein.

- Hardware (excluding power supplies and fans): One (1) year
- Power supplies and fans: One (1) year
- Spare parts and spare kits: Ninety (90) days

The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to repair or replace the defective Hardware during the Warranty Period at no charge to the original owner or to refund the actual purchase price paid. Any repair or replacement will be rendered by D-Link at an Authorized D-Link Service Office. The replacement hardware need not be new or have an identical make, model or part. D-Link may, at its option, replace the defective Hardware or any part thereof with any reconditioned product that D-Link reasonably determines is substantially equivalent (or superior) in all material respects to the defective Hardware. Repaired or replacement hardware will be warranted for the remainder of the original Warranty Period or ninety (90) days, whichever is longer, and is subject to the same limitations and exclusions. If a material defect is incapable of correction, or if D-Link determines that it is not practical to repair or replace the defective Hardware, the actual price paid by the original purchaser for the defective Hardware will be refunded by D-Link upon return to D-Link of the defective Hardware. All Hardware or part thereof that is replaced by D-Link, or for which the purchase price is refunded, shall become the property of D-Link upon replacement or refund.

Limited Software Warranty:

D-Link warrants that the software portion of the product (“Software”) will substantially conform to D-Link’s then current functional specifications for the Software, as set forth in the applicable documentation, from the date of original retail purchase of the Software for a period of ninety (90) days (“Software Warranty Period”), provided that the Software is properly installed on approved hardware and operated as contemplated in its documentation. D-Link further warrants that, during the Software Warranty Period, the magnetic media on which D-Link delivers the Software will be free of physical defects. The customer’s sole and exclusive remedy and the entire liability of D-Link and its suppliers under this Limited Warranty will be, at D-Link’s option, to replace the non-conforming Software (or defective media) with software that substantially conforms to D-Link’s functional specifications for the Software or to refund the portion of the actual purchase price paid that is attributable to the Software. Except as otherwise agreed by DLink in writing, the replacement Software is provided only to the original licensee, and is subject to the terms and conditions of the license granted by D-Link for the Software. Replacement Software will be warranted for the remainder of the original Warranty Period and is subject to the same limitations and exclusions. If a material non-conformance is incapable of correction, or if D-Link determines in its sole discretion that it is not practical to replace the non-conforming Software, the price paid by the original licensee for the non-conforming Software will be refunded by D-Link; provided that the non-conforming Software (and all copies thereof) is first returned to D-Link. The license granted respecting any Software for which a refund is given automatically terminates.

Non-Applicability of Warranty:

The Limited Warranty provided hereunder for Hardware and Software portions of D-Link’s products will not be applied to and does not cover any refurbished product and any product purchased through the inventory clearance or liquidation sale or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product and in that case, the product is being sold “As-Is” without any warranty whatsoever including, without limitation, the Limited Warranty as described herein, notwithstanding anything stated herein to the contrary.

Submitting A Claim (USA):

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow DLink to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-877-354-6555, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization (“RMA”) number by completing the RMA form and entering the assigned Case ID Number at <https://rma.dlink.com/>.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. DLink will only replace the defective portion of the product and will not ship back any accessories.
- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will either be rejected by D-Link or become the property of D-Link. Products shall be fully insured by the customer and shipped to D-Link Systems, Inc., 17595 Mt. Herrmann, Fountain Valley, CA 92708. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via UPS Ground or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in the United States, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.

Submitting A Claim (Canada):

The customer shall return the product to the original purchase point based on its return policy. In case the return policy period has expired and the product is within warranty, the customer shall submit a claim to D-Link as outlined below:

- Customers need to provide their receipt (proof of purchase) even if the product is registered. Without a receipt, no warranty service will be done. The registration is not considered a proof of purchase.
- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.
- The customer must obtain a Case ID Number from D-Link Technical Support at 1-800-361-5265, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization (“RMA”) number by completing the RMA form and entering the assigned Case ID Number at <https://rma.dlink.ca/>.
- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.

- The customer is responsible for all in-bound shipping charges to D-Link. No Cash on Delivery (“COD”) is allowed. Products sent COD will be rejected by D-Link. Products shall be fully insured by the customer and shipped to D-Link Networks, Inc., 2525 Meadowvale Boulevard Mississauga, Ontario, L5N 5S2 Canada. D-Link will not be held responsible for any packages that are lost in transit to D-Link. The repaired or replaced packages will be shipped to the customer via Purolator Canada or any common carrier selected by D-Link. Return shipping charges shall be prepaid by D-Link if you use an address in Canada, otherwise we will ship the product to you freight collect. Expedited shipping is available upon request and provided shipping charges are prepaid by the customer. D-Link may reject or return any product that is not packaged and shipped in strict compliance with the foregoing requirements, or for which an RMA number is not visible from the outside of the package. The product owner agrees to pay D-Link’s reasonable handling and return shipping charges for any product that is not packaged and shipped in accordance with the foregoing requirements, or that is determined by D-Link not to be defective or non-conforming.
- RMA phone number: 1-800-361-5265 Hours of Operation: Monday-Friday, 9:00AM – 9:00PM EST

What Is Not Covered:

The Limited Warranty provided herein by D-Link does not cover:

Products that, in D-Link’s judgment, have been subjected to abuse, accident, alteration, modification, tampering, negligence, misuse, faulty installation, lack of reasonable care, repair or service in any way that is not contemplated in the documentation for the product, or if the model or serial number has been altered, tampered with, defaced or removed; Initial installation, installation and removal of the product for repair, and shipping costs; Operational adjustments covered in the operating manual for the product, and normal maintenance; Damage that occurs in shipment, due to act of God, failures due to power surge, and cosmetic damage; Any hardware, software, firmware or other products or services provided by anyone other than D-Link; and Products that have been purchased from inventory clearance or liquidation sales or other sales in which D-Link, the sellers, or the liquidators expressly disclaim their warranty obligation pertaining to the product.

While necessary maintenance or repairs on your Product can be performed by any company, we recommend that you use only an Authorized D-Link Service Office. Improper or incorrectly performed maintenance or repair voids this Limited Warranty.

Disclaimer of Other Warranties:

EXCEPT FOR THE LIMITED WARRANTY SPECIFIED HEREIN, THE PRODUCT IS PROVIDED “AS-IS” WITHOUT ANY WARRANTY OF ANY KIND WHATSOEVER INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT.

IF ANY IMPLIED WARRANTY CANNOT BE DISCLAIMED IN ANY TERRITORY WHERE A PRODUCT IS SOLD, THE DURATION OF SUCH IMPLIED WARRANTY SHALL BE LIMITED TO THE DURATION OF THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. EXCEPT AS EXPRESSLY COVERED UNDER THE LIMITED WARRANTY PROVIDED HEREIN, THE ENTIRE RISK AS TO THE QUALITY, SELECTION AND PERFORMANCE OF THE PRODUCT IS WITH THE PURCHASER OF THE PRODUCT.

Limitation of Liability:

TO THE MAXIMUM EXTENT PERMITTED BY LAW, D-LINK IS NOT LIABLE UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR ANY LOSS OF USE OF THE PRODUCT, INCONVENIENCE OR DAMAGES OF ANY CHARACTER, WHETHER DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL (INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF GOODWILL, LOSS OF REVENUE OR PROFIT, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, FAILURE OF OTHER EQUIPMENT OR COMPUTER PROGRAMS TO WHICH D-LINK'S PRODUCT IS CONNECTED WITH, LOSS OF INFORMATION OR DATA CONTAINED IN, STORED ON, OR INTEGRATED WITH ANY PRODUCT RETURNED TO D-LINK FOR WARRANTY SERVICE) RESULTING FROM THE USE OF THE PRODUCT, RELATING TO WARRANTY SERVICE, OR ARISING OUT OF ANY BREACH OF THIS LIMITED WARRANTY, EVEN IF D-LINK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE SOLE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY IS REPAIR, REPLACEMENT OR REFUND OF THE DEFECTIVE OR NONCONFORMING PRODUCT. THE MAXIMUM LIABILITY OF D-LINK UNDER THIS WARRANTY IS LIMITED TO THE PURCHASE PRICE OF THE PRODUCT COVERED BY THE WARRANTY. THE FOREGOING EXPRESS WRITTEN WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ANY OTHER WARRANTIES OR REMEDIES, EXPRESS, IMPLIED OR STATUTORY.

Governing Law:

This Limited Warranty shall be governed by the laws of the State of California. Some states do not allow exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the foregoing limitations and exclusions may not apply. This Limited Warranty provides specific legal rights and you may also have other rights which vary from state to state.

Trademarks:

D-Link is a registered trademark of D-Link Corporation/D-Link Systems, Inc. Other trademarks or registered trademarks are the property of their respective owners.

Copyright Statement:

No part of this publication or documentation accompanying this product may be reproduced in any form or by any means or used to make any derivative such as translation, transformation, or adaptation without permission from D-Link Corporation/D-Link Systems, Inc., as stipulated by the United States Copyright Act of 1976 and any amendments thereto. Contents are subject to change without prior notice.

Copyright ©2010 by D-Link Corporation/D-Link Systems, Inc. All rights reserved.

CE Mark Warning:

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

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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

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

If this device is going to be operated in 5.15 ~ 5.25GHz frequency range, then it is restricted in indoor environment only.

IMPORTANT NOTICE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

For detailed warranty information applicable to products purchased outside the United States, please contact the corresponding local D-Link office.

Industry Canada Statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

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

IMPORTANT NOTE:

Radiation Exposure Statement:

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

This device has been designed to operate with an antenna having a maximum gain of 2 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

Registration

Register your product online at support.dlink.com/register



Product registration is entirely voluntary and failure to complete or return this form will not diminish your warranty rights.

Version 1.0
July 19, 2010