



User Manual

Enhanced Wireless N Day & Night Home Network Camera

DCS-942L

Manual Overview

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Manual Revisions

Revision	Date	Description
1.3	March 01, 2013	UI Changes to Firmware

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Package Contents

- DCS-942L Enhanced Wireless N Day & Night Home 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® 8/7/Vista/XP, or Mac with OS X 10.6 or higher
- PC with 1.3GHz or above and at least 128MB RAM
- Internet Explorer 7, Firefox 12, Safari 4, or Chrome 20 or higher version with Java installed and enabled
- Existing 10/100 Ethernet-based network or 802.11g/n wireless network

Introduction

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

Features

Simple to Use

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

Supports a Variety of Platforms

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

802.11n Wireless or Ethernet/Fast Ethernet Support

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

Web Configuration

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

Broad Range of Applications

With today's high-speed Internet connections, the DCS-942L can provide an ideal solution for delivering live video images over an Intranet or the Internet for remote monitoring. The Enhanced Wireless N Day & Night Home Network Camera allows remote access using a Web browser for live image viewing, and allows the administrator to manage and control the DCS-942L anytime, from 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 DCS-942L and allows administrators to configure and access from a remote site via Intranet or Internet. Other features include image monitoring, recording images to a hard drive, viewing up to 32 cameras on one screen, and taking snapshots.

IR LED for Day and night functionality

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

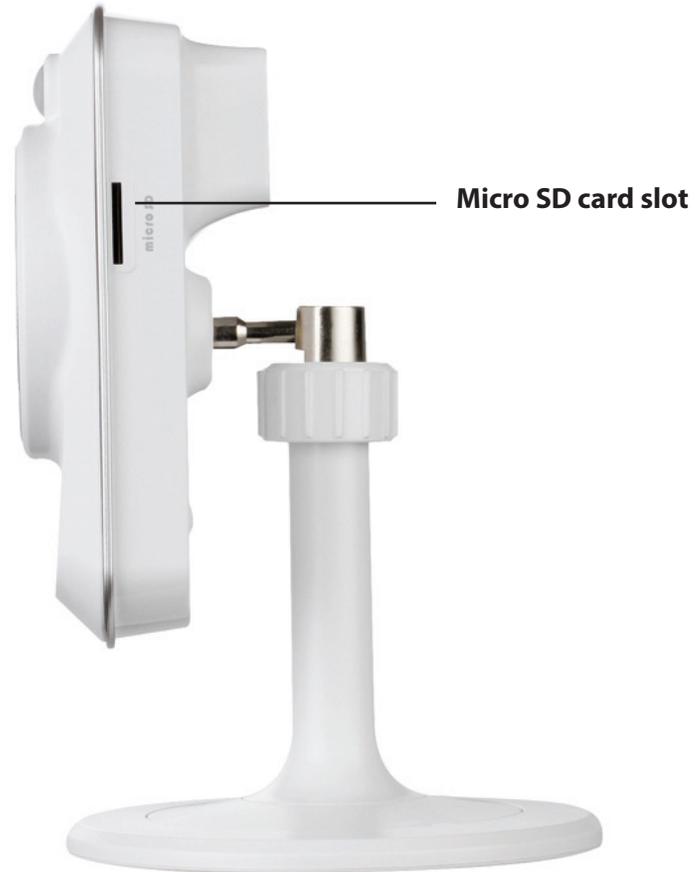
Hardware Overview

Front View

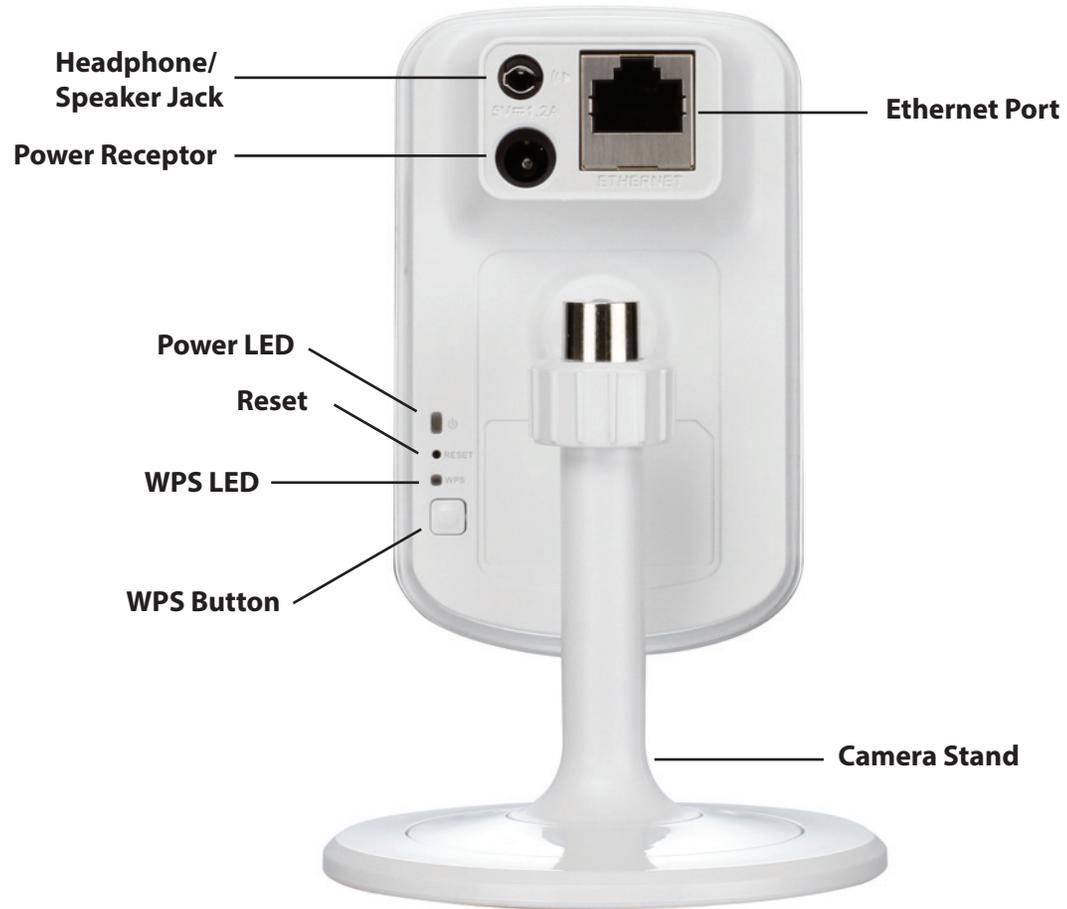


Hardware Overview

Side View



Rear View



Installation

There are three ways to set up your camera:

Zero Configuration Setup: If you have a mydlink-enabled router, this is the easiest way to set up your camera. Refer to page 12.

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

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

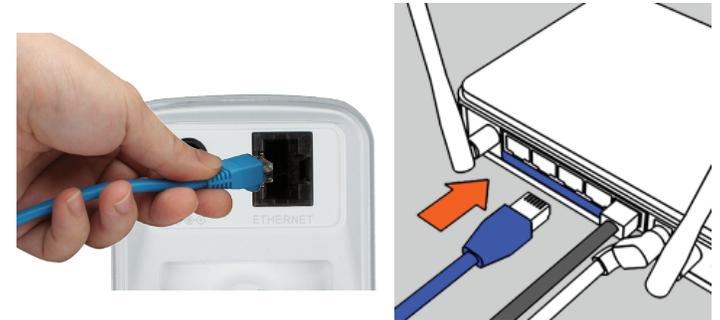
Zero Configuration Setup

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

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

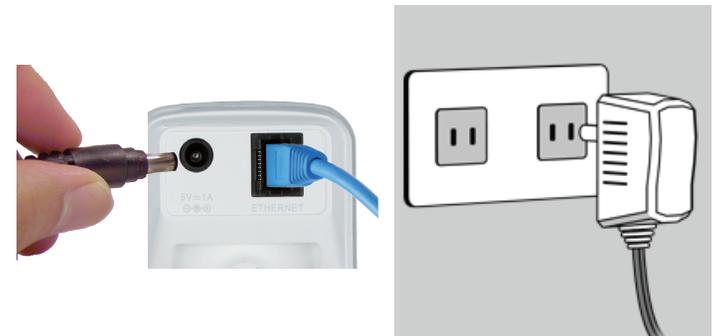
Connect the Ethernet Cable

Use the included Ethernet cable and plug it into the camera. Plug the other end into an available port on your router. If you wish to use your camera wirelessly, you will be able to remove the cable after Zero Configuration Setup is complete.



Attach the External Power Adapter

Connect the power adapter to the power connector on your camera, then plug the power adapter into a wall outlet.



Check Your mydlink Account

Open a web browser and login to your mydlink account. The mydlink page will check for new devices and display a **New device Found!** pop-up notification in the bottom-left corner. Click the notification to continue.

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

The screenshot shows the mydlink web interface. At the top, there's a navigation bar with 'My Devices', 'Shared Devices', 'My Services', and 'My Profile'. The main content area is titled 'Router Status' and 'Settings'. It displays the router model 'DIR-605L' and '20019862'. Below this, there's a 'Reboot' button. The interface shows network statistics: '0000.3kB' and '0008.4kB'. A 'Connected Devices' section shows '5 device(s)'. Below that is a 'Connection List' table with columns for Device, Device Name, IP Address, MAC Address, and Block. The table contains five entries:

Device	Device Name	IP Address	MAC Address	Block
	CardboardBox	192.168.0.110	00:26:2D:02:FE:FA	<input type="checkbox"/>
	--	192.168.0.120	04:54:53:50:53:18	<input type="checkbox"/>
	HeiGuy	192.168.0.100	00:1A:92:E2:4D:C9	<input type="checkbox"/>
	--	192.168.0.121	28:E0:2C:DC:0A:BE	<input type="checkbox"/>
	--	192.168.0.101	F9:A2:25:AA:8C:C3	<input type="checkbox"/>

Below the Connection List is a 'Suspect List' table with columns for Device, Device Name, Time, MAC Address, and Block. The table is currently empty.

In the bottom-left corner, there's a 'New Devices!' notification for 'DCS-5222L'.

Confirming New Device

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

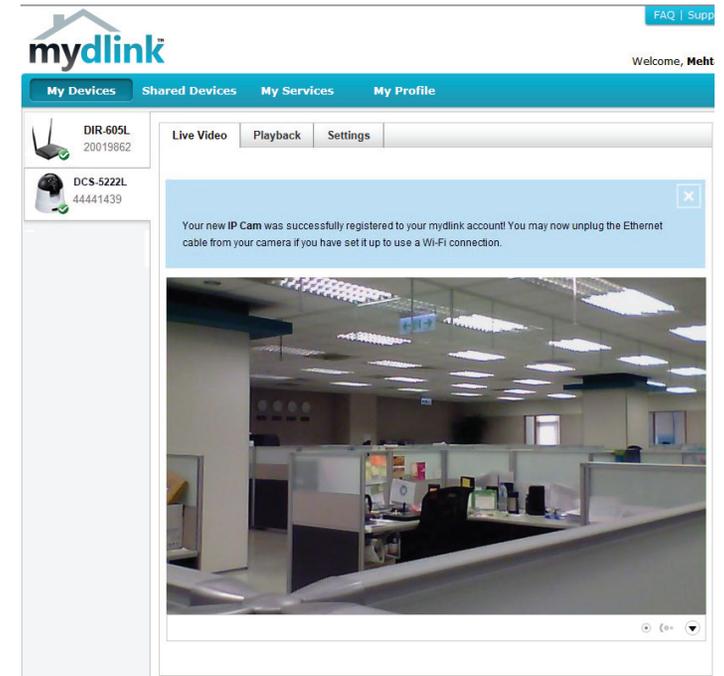
Device Name: DCS-5222L
mydlink Number: 44441252
Network name (SSID): dddddd
Admin Password: oic953XZ

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

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

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

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



Camera Setup Wizard

If you do not have a mydlink-enabled Cloud Router, you can use the Camera Setup Wizard to guide you through the process of adding your camera to the mydlink service.

Windows Users

Insert the Installation CD-ROM into your computer's optical drive to start the autorun program. If the autorun program does not open, go to My Computer, browse to your CD drive, and double-click on the autorun.exe file.

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

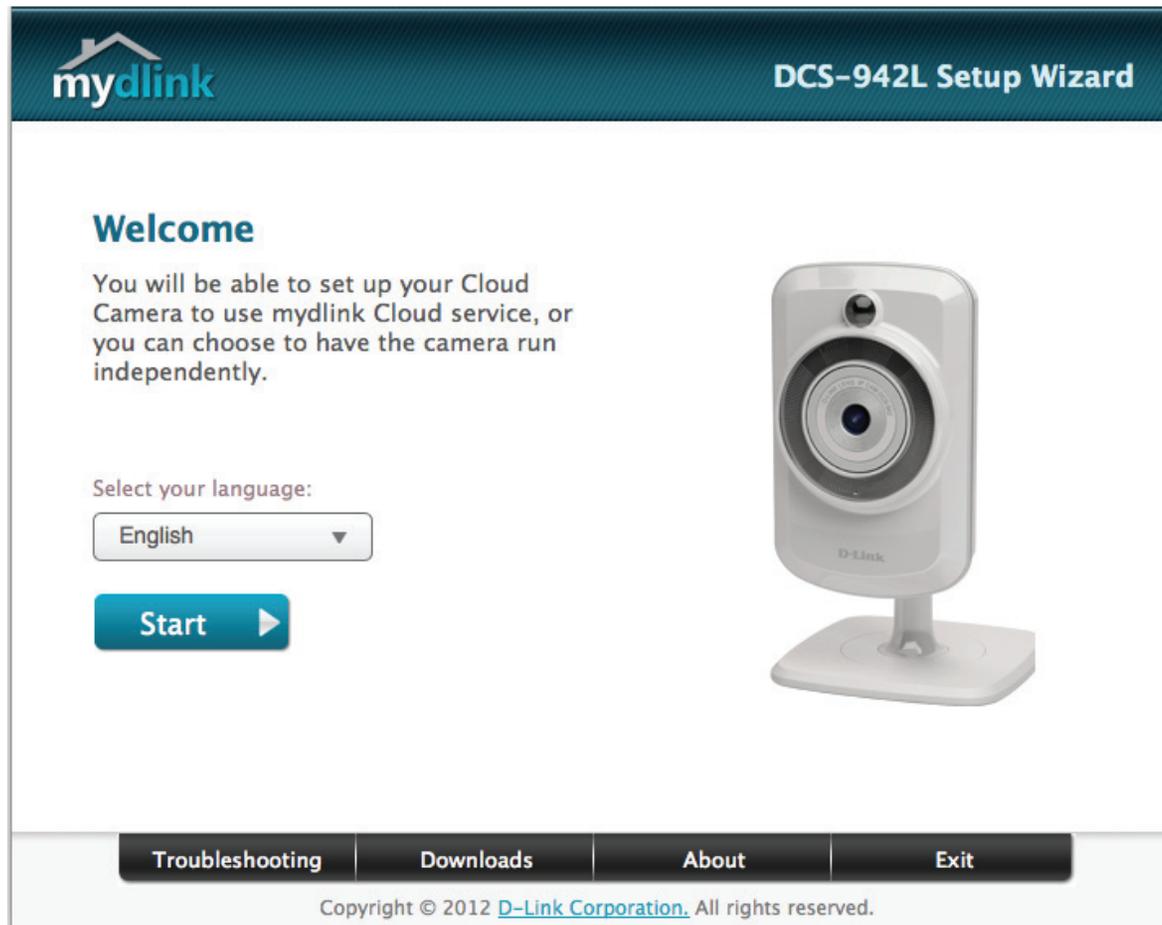


Mac Users

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



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



Manual Hardware Installation

If you choose to not run the Camera Setup Wizard, you will not be able to take advantage of the extra features that are provided by the mydlink service. It is recommended to use either the Zero Configuration Setup or Camera Setup Wizard to initially configure your network camera.

Connect the Ethernet Cable

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



Attach the External Power Supply

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



Wireless Installation Considerations

The D-Link Enhanced Wireless N Day & Night Home Network Camera lets you access your existing 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.

WPS - Push Button Setup

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

To create a WPS connection:

Step 1

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

Step 2

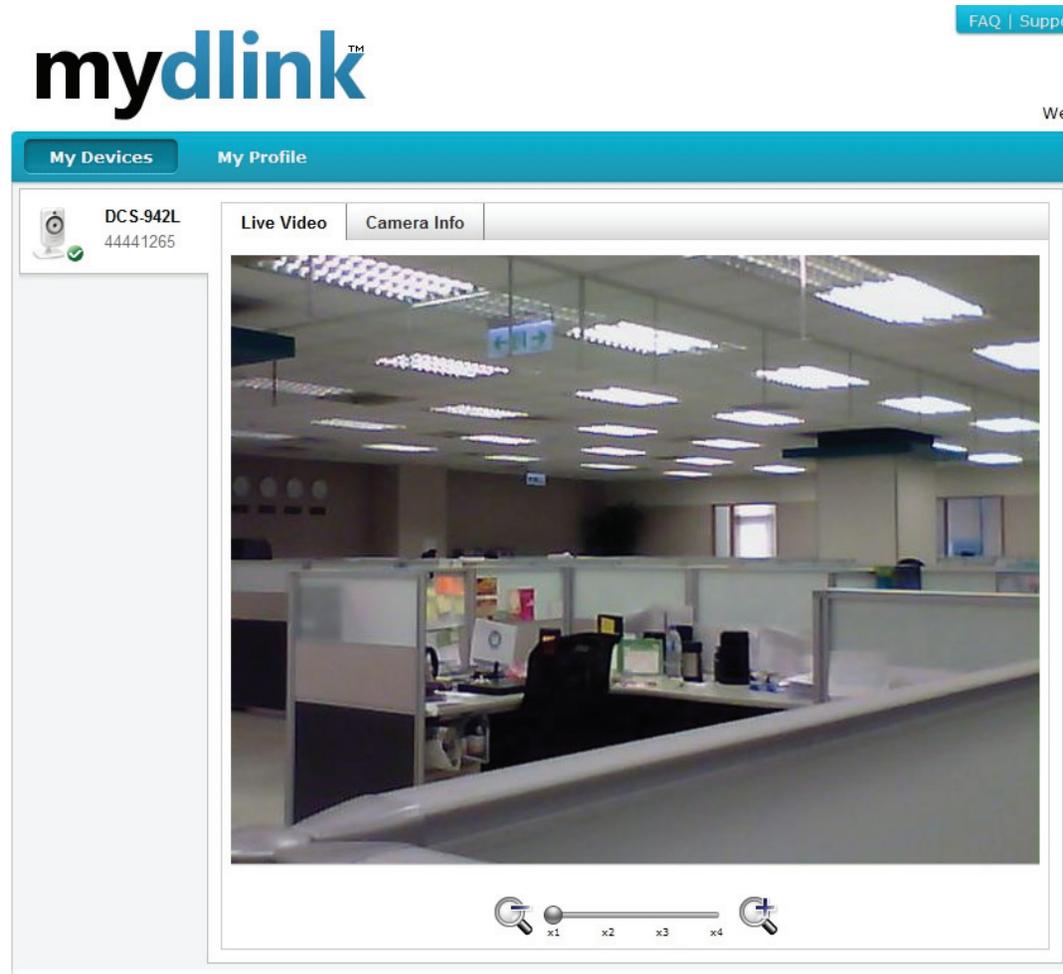
Press the WPS button on your router within 60 seconds. The WPS button is usually on the front or side of your router. On some routers, you may need to log in to the web interface and click on an on-screen button to activate the WPS feature. If you are not sure where the WPS button is on your router,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

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



mydlink

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



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

Configuration

Using the Configuration Menu

After completing the Camera Installation Wizard, you are ready to use your camera. The camera's built-in Web configuration interface is designed to allow you to easily access and configure your DCS-942L. At the end of the wizard, 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**.

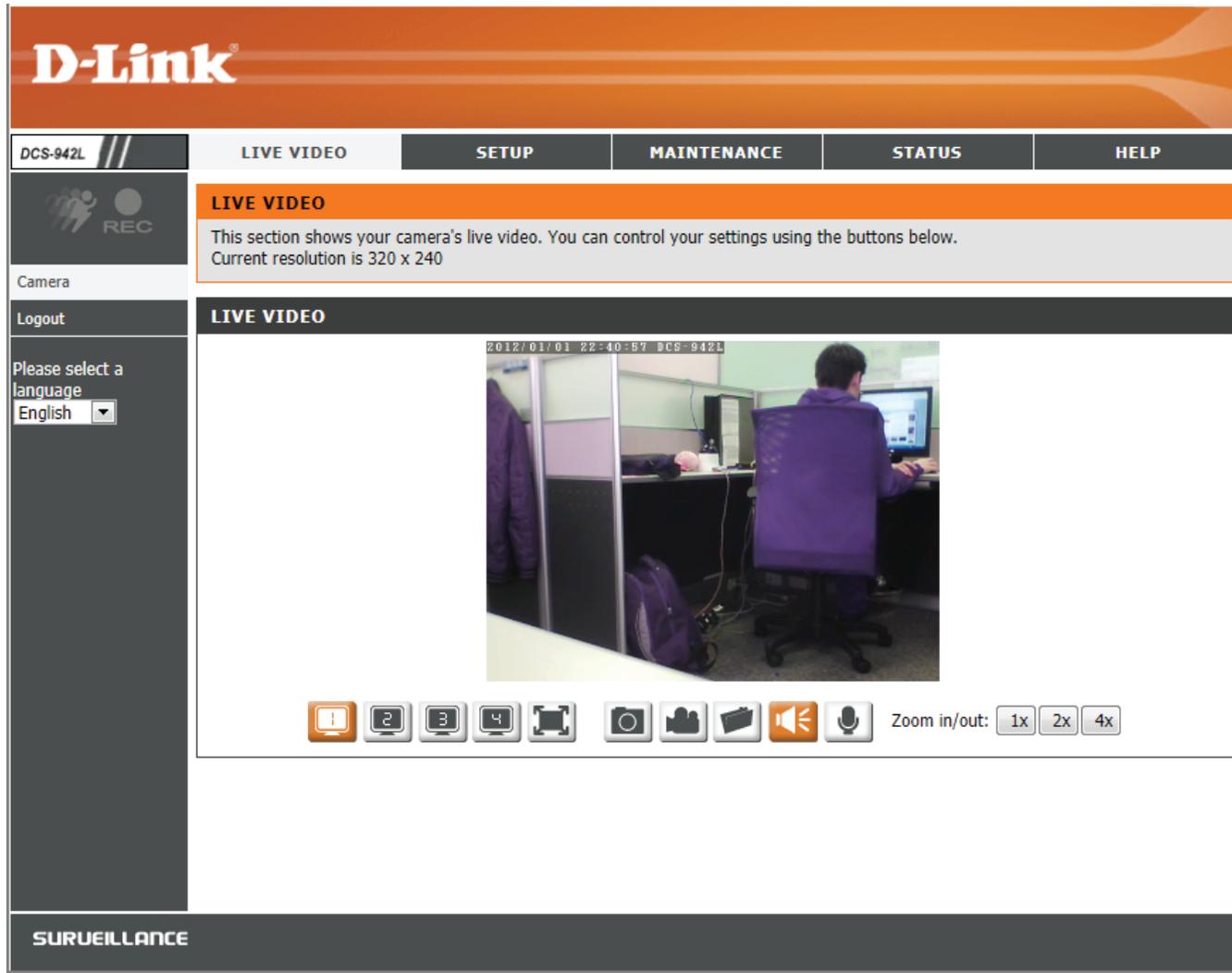
Note: If you are directly connecting your PC to the camera, or if you are using the camera on a closed network, the default IP is **192.168.0.20**.

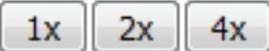


Live Video

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

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



Icon	Button Name	Function
	Profile buttons	Use these buttons to switch between video profiles. Refer to page 32 for more information on setting up profiles.
	Full Screen button	Makes the video occupy the entire of the browser screen for easier viewing of the video.
	Snapshot button	Takes a snapshot of the image currently displayed on the screen and write it to a file on the hard drive in the folder specified using the Storage folder button.
	Video recording button	Triggers the camera's recording function. This will record the video displayed on the screen and write it to a file on the hard drive in the folder specified using the Storage folder button.
	Storage folder button	Sets the storage folder for snapshots and video recordings.
	Listen button	Sends the audio received from the camera's microphone through to the PC's speakers.
	Talk button	Sends audio from a microphone connected to the PC through to the speakers connected to the camera.
	IR LED On/Off button	Turns the Infrared lights on or off. (The icon only appears when you activate the manual IR option which can be found under the Day/Night Mode section of the Audio and Video Setup tab.)
Zoom in/out: 	Zoom buttons	Zooms in or out of the picture.

Setup

Setup Wizard

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

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

Manual Internet Connection If you would rather manually setup the camera internet connection, you can refer to **Setup:** to page 35 which provides more details on the information required.

Motion Detection You may choose to configure motion detection by using the Motion Detection Setup Wizard **Setup Wizard:** that includes step-by-step instructions. Please refer to page 29 for more details.

Manual Motion Detection If you would rather manually setup the camera's motion detection features, you can refer to **Setup:** refer to page 47 which provides more details on the information required.

The screenshot displays the D-Link web interface for the DCS-942L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' tab is active, showing a sidebar menu with options like Network, Wireless Setup, Dynamic DNS, Image Setup, Audio and Video, Time and Date, Video Clip, Snapshot, IP Filter, HTTPS Setup, SD Recording, Motion Detection, Sound Detection, SD Management, and Logout. The main content area is titled 'INTERNET CONNECTION SETTINGS' and contains the following text: 'In this section, you can setup the IP camera's network interface settings. If you are configuring this device for the first time, D-Link recommends that you select the Internet Connection Setup Wizard, and follow the instructions on screen. If you wish to modify or configure the IP camera settings manually, you may select the Manual Internet Connection Setup to input the network setting.' Below this text are two buttons: 'Internet Connection Setup Wizard' and 'Manual Internet Connection Setup'. A second section titled 'IP CAMERA MOTION DETECTION SETTINGS' contains the text: 'In this section, you can setup the IP camera's Motion Detection settings. If you are configuring this device for the first time, D-Link recommends that you select the Motion Detection Setup Wizard, and follow the instructions on screen. If you wish to modify or configure the Motion Detection manually, select the Manual Motion Detection Setup.' Below this text are two buttons: 'Motion Detection Setup Wizard' and 'Manual Motion Detection Setup'. On the right side of the interface, there is a 'Helpful Hints..' section with two paragraphs of advice for advanced users.

Internet Connection Setup Wizard

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

Click **Next** to continue.

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

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

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

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

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

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

Click **Next** to continue.

WELCOME TO D-LINK SETUP WIZARD - INTERNET CONNECTION SETUP

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

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

Back Next Cancel

STEP 1: LAN SETTINGS

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

IPv4 Settings

- Automatic IP Address
 Static IP Address

IPv4 Address

Subnet Mask

Default Gateway (Router)

Optional Primary DNS

Optional Secondary DNS

Optional Search Domain

IPv6 Settings

- Automatic IP Address
 Static IP Address

Back Next Cancel

Section 4 - Configuration

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

STEP 2: INTERNET SETTINGS

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

Enabled

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

Password

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

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

Select your Dynamic DNS Server from the pull down menu.

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

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

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

Timeout:

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

Click **Next** to continue.

STEP 3: DDNS SETTINGS

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

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

Enable

Server Address <<

Host Name

User Name

Password

Verify Password

Timeout Hour

Section 4 - Configuration

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

STEP 4: CAMERA NAME SETTINGS

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

Camera Name

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

Click **Next** to continue.

STEP 5: TIME ZONE

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

Time Zone

Enable Daylight Saving

Auto Daylight Saving

Set date and time manually

Offset

	Month	Week	Day of week	Hour	Minute
Start time	<input type="text" value="3"/>	<input type="text" value="2"/>	<input type="text" value="Sunday"/>	<input type="text" value="2"/>	<input type="text" value="0"/>
End time	<input type="text" value="11"/>	<input type="text" value="1"/>	<input type="text" value="Sunday"/>	<input type="text" value="2"/>	<input type="text" value="0"/>

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

STEP 6: SETUP COMPLETE

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

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

Motion Detection Setup Wizard

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

Click **Next** to continue.

WELCOME TO D-LINK SETUP WIZARD - MOTION DETECTION

This wizard will guide you through a step-by-step process to configure your camera's motion detection function. To setup the camera LAN or Internet settings, please click on the Back button to close this wizard and re-open the Internet Connection Setup Wizard. Otherwise click on the Next button to begin.

- Step 1: Specify Motion Detection Area Setting
- Step 2: Snapshot Notifications
- Step 3: Video Clip Notifications
- Step 4: SD Recording Notifications
- Step 5: Setup Complete

Section 4 - Configuration

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

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

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

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

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

Clear: Clears all motion detection areas from the picture.

Click **Next** to continue.

STEP 1: SPECIFY MOTION DETECTION AREA SETTING

This section will allow you to enable or disable motion detection function, draw or erase motion area, as well as configure the sensitivity setting of your camera to detect movement.

Enable Video Motion
 Enable PIR
PIR Sensitivity Medium



Sensitivity
90 %(0%~100%)

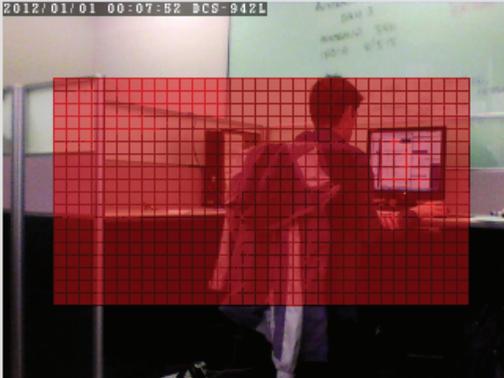
Drawing Mode
 Draw motion area
 Erase motion area
Clear

Back Next Cancel

STEP 1: SPECIFY MOTION DETECTION AREA SETTING

This section will allow you to enable or disable motion detection function, draw or erase motion area, as well as configure the sensitivity setting of your camera to detect movement.

Enable Video Motion
 Enable PIR
PIR Sensitivity Medium



Sensitivity
90 %(0%~100%)

Drawing Mode
 Draw motion area
 Erase motion area
Clear

Back Next Cancel

Section 4 - Configuration

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

Enable: Check this box to enable the Snapshot function.

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

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

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

Click **Next** to continue.

STEP 2: SNAPSHOT NOTIFICATIONS

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

Enable

Only during

Day: Sun Mon Tue Wed Thu Fri Sat

Time: Start 0 : 0 End 0 : 0

Snapshot Type

Source : Profile 3

Single snapshot

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

Target

FTP

FTP Server/Port : 21

User Name

Password

Path

Filename Prefix

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

Passive Mode

Test

E-mail

Recipient E-mail Address

SMTP Mail Server

Port 25 (Range : 1 to 65535)

User Name

Password

Sender E-mail Address

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

Use SSL-TLS None

Test

Back Next Cancel

Section 4 - Configuration

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

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

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

Video Clip Type: The Video Clip Wizard uses Profile 2 by default. More information about video profiles can be found on page 40. You can set the file type from the drop down menu. You can also specify how many seconds before the event that triggered recording should be sent, as well as how long the maximum duration of the video clip should be in seconds.

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

Click **Next** to continue.

STEP 3: VIDEO CLIP NOTIFICATIONS

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

Enable

Only during

Day: Sun Mon Tue Wed Thu Fri Sat

Time: Start 0 : 0 End 0 : 0

Video Clip Type

Source : Profile 2

File Format : AVI, .avi

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

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

Target

FTP

FTP Server/Port : 21

User Name

Password

Path

Filename Prefix

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

Passive Mode

Test

E-mail

Back Next Cancel

Section 4 - Configuration

SD Recording Notifications is a feature to record video to the SD card when a trigger is activated. The SD card must be formatted for use with the camera prior to running the wizard. This can be done by using the format option found under SD Management. For more details, please refer to page 49.

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

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

SD Recording Type The SD Recording Wizard uses Profile 2 by default.
Type: More information about video profiles can be found on page 40. You can set the file type from the drop down menu. You can also specify how many seconds before and after the event should be recorded, as well as how long the maximum duration of the video clip should be in minutes.

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

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

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

Click **Next** to continue.

STEP 4: SD RECORDING NOTIFICATIONS

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

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

Enable

Only during

Day: Sun Mon Tue Wed Thu Fri Sat

Time: Start 0 : 0 End 0 : 0

SD Recording Type

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

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

Snapshot

Video

Source : Profile 2

File Format : MP4, .mp4

Recording Length : 1 minutes per file

SD Card

Keep Free Space : 200 MB (Minimum is 200)

Cyclic

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

STEP 5: SETUP COMPLETE

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

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

Network

This section allows you to configure your network settings.

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

Static IP Address: You may obtain a static or fixed IP address and other network information from your network administrator for your camera. A static IP address will ease you for accessing your camera in the future.

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

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

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

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

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

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

D-Link

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

Setup Wizard

NETWORK

You can configure your LAN and Internet settings here.

Save Settings Don't Save Settings

LAN SETTINGS

IPv4 Settings

Automatic IP Address

Static IP Address

IPv4 Address: 192.168.0.20

Subnet Mask: 255.255.255.0

Default Gateway (Router): 192.168.0.1

Optional Primary DNS: []

Optional Secondary DNS: []

Optional Search Domain: []

PPPoE

User Name: []

Password: []

Confirm Password: []

Status: Disabled

IPv6 Settings

Automatic IP Address

Static IP Address

PORT SETTINGS

HTTP Port: 80

HTTPS Port: 443

RTSP Port: 554

UPnP

UPnP

UPnP Port Forward

Apple

Bonjour

Save Settings Don't Save Settings

Helpful Hints..

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

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

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

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

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

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

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

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

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 port 80. A corresponding port must be opened on the router. For example, if the port is changed to 1010, you must type **http://192.168.0.100:1010** instead of only "http://192.168.0.100".

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

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

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

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

Wireless Setup

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

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

Site Survey: The drop down menu lists all wireless access points that the camera was able to detect.

Wireless Mode: Infrastructure is a wireless connection using an access point as a transmission point of all wireless devices.

Ad-Hoc is a wireless connection used without an access point, where your DCS-942L is directly connecting to your PC. This is done using the on-board wireless adapter on the DCS-942L connected to a wireless adapter on the PC.

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

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

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

The screenshot shows the D-Link web interface for the DCS-942L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar lists various setup options, with 'Wireless Setup' selected. The main content area is titled 'WIRELESS SETUP' and contains the following configuration options:

- Wireless Setup:** A message stating 'In this section, you can setup and configure the wireless settings for your camera.' with 'Save Settings' and 'Don't Save Settings' buttons.
- WIRELESS CONFIGURATION:**
 - Wireless**
 - Network Name:
 - Site Survey: with a 'Rescan' button.
 - Wireless Mode:
 - Security Mode:
 - Key:
 - Show Hidden Key

At the bottom of the configuration area are 'Save Settings' and 'Don't Save Settings' buttons. The right-hand sidebar contains 'Helpful Hints..' with the following text:

Enable Wireless
Please enable wireless first before configuring camera's wireless connection. You may choose which wireless network for the connection by using the pull-down menu of 'Site Survey' or enter the SSID manually.

Network Name
Service Set Identifier (SSID) is the name of your wireless network such as Default, Conference, My network, and etc.

Rescan
Scan for the name of the wireless device in your wireless network again.

Wireless Mode
There are two connection modes. Infrastructure is a

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.

DDNS: Check this box to enable the DDNS function.

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

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

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

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

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

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

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

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DYNAMIC DNS

The Dynamic DNS feature allows you to use a domain name that you have purchased (www.yourdomain.com) to access your camera with a dynamically assigned IP address. Most broadband Internet service providers assign dynamic (changing) IP addresses. By using a DDNS service, you can enter your domain name to connect to your camera no matter what your IP address is.

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

Save Settings Don't Save Settings

DYNAMIC DNS SETTING

DDNS

Server Address <<

Host Name

User Name

Password

Confirm Password

Timeout hours

Status Disabled

Save Settings Don't Save Settings

Helpful Hints..

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

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

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

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

SURVEILLANCE

Image Setup

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

Brightness Control: Allows you to adjust the brightness level.

Contrast: Allows you to adjust the contrast level.

Mirror: Horizontally flip the video.

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

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

Saturation: Allows you to adjust the saturation level.

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

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

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

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

Changes made to these settings will take effect immediately.

The screenshot shows the D-Link DCS-942L web interface. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded to show 'IMAGE SETUP'. The main content area is divided into two sections: 'LIVE VIDEO' and 'IMAGE SETTINGS'. The 'LIVE VIDEO' section displays a real-time camera feed of a person sitting at a desk. The 'IMAGE SETTINGS' section contains various adjustable parameters:

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

A 'Reset to Default' button is located below the settings. The right sidebar contains 'Helpful Hints..' with explanations for Brightness, Contrast, Saturation, Contrast, B/W, Mirror, Flip, Light Source, and Frequency.

Audio and Video

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

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

Encode Type: The compression format used when viewing your camera's video feeds.

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

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

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

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

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

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

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

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

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

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DCS-942L //

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AUDIO AND VIDEO
You may configure audio and video settings (4 video profiles) here. Profile 3 has been set for snapshot, and profile 4 is set for your mobile phone or PDA device.
Save Settings Don't Save Settings

VIDEO PROFILE 1

Encode Type	Resolution	FPS	Encode Method	bps	RTSP URL
H.264	320x240	30	CBR	2 Mbps	play1.sdp

VIDEO PROFILE 2

Encode Type	Resolution	FPS	Encode Method	bps	RTSP URL
H.264	320x240	10	CBR	256 Kbps	play2.sdp

VIDEO PROFILE 3

Encode Type	Resolution	FPS	Encode Method	Quality	RTSP URL
JPEG	320x240	5	Quality	Standard	play3.sdp

VIDEO PROFILE 4 (FOR MOBILE DEVICE ONLY)

Encode Type	Resolution	FPS	Encode Method	bps	RTSP URL
MPEG4	320x240	5	CBR	384 Kbps	3gpp

DAY/NIGHT MODE

Day/Night Mode: Auto

AUDIO SETUP

Speaker
Volume: 50

Microphone
Volume: 70

Save Settings Don't Save Settings

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

Time and Date

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

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

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

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

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

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

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

The screenshot shows the D-Link DCS-942L web interface. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar lists various configuration options, with 'Time and Date' selected. The main content area is titled 'TIME AND DATE' and contains the following sections:

- TIME AND DATE:** A header section with a description: 'Here you may configure the internal clock of your camera.' and two buttons: 'Save Settings' and 'Don't Save Settings'.
- TIME CONFIGURATION:** A section with a 'Time Zone' dropdown menu set to '(GMT+08:00) Taipei'. Below it are two radio buttons: 'Enable Daylight Saving' (checked) and 'Set DST Manually'.
- AUTOMATIC TIME CONFIGURATION:** A section with a checkbox 'Synchronize with NTP Server' which is unchecked.
- SET DATE AND TIME MANUALLY:** A section with a checked checkbox 'Set Date and Time Manually'. Below it are dropdown menus for Year (2012), Month (1), Day (2), Hour (1), Minute (50), and Second (47). A button 'Copy Your Computer's Time Settings' is located below these fields.

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

The right sidebar contains 'Helpful Hints..' with the following text:

- Time Zone:** The geographical zone for the camera local time setting.
- Enable Daylight Saving:** Turns on Daylight Saving mode that will adjust the time depending on the daylight saving time offset and dates.
- Auto Daylight Saving:** When you select it, the clock is automatically adjusted according to the daylight saving time of the selected time zone.
- Set DST Manually:** Manually adjust and set the Daylight Saving rules.
- Offset:** Set the amount of time to add or remove from

Video Clip

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

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

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

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

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

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

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

VIDEO CLIP

Video Clip is a feature to send video clips via FTP or E-Mail when a trigger is activated.

[Save Settings](#) [Don't Save Settings](#)

VIDEO CLIP

Video Clip

Trigger by: Always

Video Clip Type

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

File Format: AVI, .avi

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

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

Target

FTP

FTP Server/Port: : 21

User Name:

Password:

Path:

Filename Prefix:

Interval: 300 Seconds (Range : 30 to 86400 seconds)

Passive Mode:

[Test](#)

E-mail

[Save Settings](#) [Don't Save Settings](#)

Helpful Hints..

Video Clip is the ability to store or send video clips to a remote E-mail or FTP server based on motion detection, external sensor input triggered.

Trigger by

Motion
Begin video clipping after a motion is detected.

Schedule
Video clipping in a specified time.

Always
Continuous video clipping.

Sound
Begin video clipping after sound is detected.

Video Clip Type
You can set video profile, Pre-event recording and Maximum duration here.

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

Maximum duration
Specify how much seconds of video clip.

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

Test
Click the Test button to

Snapshot

Snapshot is a feature to send image snapshots via FTP or e-mail when a trigger is activated.

Snapshot: Check this box to enable the Snapshot function.

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

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

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

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

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SNAPSHOT

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

Save Settings Don't Save Settings

SNAPSHOT

Snapshot

Trigger by Always

Snapshot Type

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

Single snapshot

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

Target

FTP

FTP Server/Port : 21

User Name

Password

Path

Filename Prefix

Interval 300 Seconds (Range : 10 to 86400 seconds)

Passive Mode

Test

E-mail

Save Settings Don't Save Settings

Helpful Hints..

Snapshot is the ability to store or send pictures to a remote E-mail or FTP server based on motion detection, external sensor input triggered.

Trigger by Motion
Begin snapshot after a motion is detected.

Schedule
Snapshot in a specified time.

Always
Continuous Snapshot.

Sound
Begin snapshot after sound is detected.

Snapshot Type
You can set JPEG settings from Video Profile 3, Single snapshot or 6 snapshots here.

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

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

Test
Click the Test button to make sure the FTP or E-mail Target can be located and accessed.

SURVEILLANCE

IP Filter

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

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

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

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

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

Add New Filter. From the drop down menu, select whether to add a single IP, an entire subnet, or a range of IP addresses.

Administrator IP Address. Check this option and enter the correct IP address to always allow it to be able to access the device.

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

The screenshot shows the D-Link DCS-942L web interface. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar lists various setup options, with 'IP Filter' selected. The main content area is titled 'IP FILTER' and contains the following configuration options:

- Access List Filtering:** A checkbox that is checked.
- Filter Type:** A dropdown menu set to 'Deny'.
- IPv4 Filter List:** A text input field with a 'Delete' button below it.
- IPv6 Filter List:** A text input field with a 'Delete' button below it.
- Add New Filter:** A dropdown menu set to 'Single', followed by an 'IP address:' input field and an 'Add' button.
- Administrator IP Address:** A checkbox labeled 'Always allow the IP address to access this device'.

At the bottom of the main content area, there are 'Save Settings' and 'Don't Save Settings' buttons. The footer of the page reads 'SURVEILLANCE'.

HTTPS Setup

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

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

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

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

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

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

D-Link

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

HTTPS SETUP

Here you may set up your HTTPS settings.

Save Settings Don't Save Settings

HTTPS SETUP

HTTPS Secure Connection

Connection Type

Both HTTP and HTTPS

HTTPS only

Create and Install Certificate Method

Create self-signed certificate automatically **Create**

Create self-signed certificate manually

Create certificate request and install

Certificate Information

Status:	Active
Country:	TW
State or Province:	Asia
Locality:	Asia
Organization:	D-Link Corporation
Organization Unit:	D-Link Corporation
Common Name:	www.dlink.com
Validity:	3650 days
Key Length:	2048 bits

Property Remove

Save Settings Don't Save Settings

Helpful Hints..

HTTPS Secure Connection
Connection adds encryption capability to HTTP connection, you can use HTTP or HTTPS connection at the same time. And please note: video/audio streaming is always over HTTP connection.

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

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

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

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

Create certificate request and install
Select this method allows you to send a certificate authority and upload the signed certificate received from

SD Recording

This option allows you to configure and set a schedule for the recording feature of the camera to the local SD Card.

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

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

Motion: Enables SD recording after motion is detected. You may also enable scheduling based detection by enabling the “Only during” checkbox.

Schedule: Click day and time for SD recording during a specified time.

Always: This will enable continuous recording to the SD card.

Sound. Enables SD recording after sound is detected. You may also enable scheduling based detection by enabling the “Only during” checkbox.

Recording Type: You can select recording type as either Snapshot or video. Video profile options are found under the Audio and Video setup tab).

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

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

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

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

D-Link

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

SD RECORDING

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

Save Settings Don't Save Settings

SD RECORDING

SD Recording

Trigger by: Always

Recording Type

Snapshot

Video

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

File Format: AVI, .avi

Recording Length: 1 minutes per file

SD Card

Keep Free Space: 200 MB (Minimum is 200)

Cyclic

Save Settings Don't Save Settings

Helpful Hints..

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

Trigger by

Motion
Begin SD recording after a motion is detected.

Schedule
SD recording in a specified time.

Always
Continuous SD recording.

Sound
Begin SD recording after sound is detected.

Recording Type
You can set video profile, set pre-event recording, and post-event recording here when Trigger by is Motion. You can also select recording as Snapshot or Video.

Recording Length
Set the time length of each recording video.

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

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

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

SURVEILLANCE

Motion Detection

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

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

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

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

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

Clear: Clears all motion detection areas from the picture.

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

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

The screenshot shows the D-Link web interface for the DCS-942L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'MOTION DETECTION' section is highlighted in orange and contains the following text: "This section will allow you to enable or disable motion detection function, draw or erase motion area, as well as configure the sensitivity setting of your camera to detect movement. You must select the checkbox of 'Enable Video Motion' to turn on the feature." Below this text are 'Save Settings' and 'Don't Save Settings' buttons.

The 'LIVE VIDEO' section features a camera feed showing a person at a computer workstation. To the right of the feed are the following settings:

- Enable Video Motion
- Enable PIR
- PIR Sensitivity:
- Sensitivity: % (0%~100%)
- Drawing Mode:
 - Draw motion area
 - Erase motion area
-

At the bottom of the 'LIVE VIDEO' section are 'Save Settings' and 'Don't Save Settings' buttons. The bottom of the page is labeled 'SURUEILLANCE'.

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

PIR Sensitivity
There are three options for the level of sensitivity: Low, Medium and High, and the default is Low. You may want to experiment with these settings to find which one suits you best.

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

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

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

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

Sound Detection

Enabling Sound Detection will allow your camera to use the built-in microphone to trigger events with audio. If this option is selected, the trigger by option under SD recording, Video Clip, or Snapshot should also be selected.

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

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

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

The screenshot displays the D-Link web interface for the DCS-942L camera. The main content area is titled "SOUND DETECTION" and contains the following elements:

- A checkbox labeled "Sound Detection" which is checked.
- A "Detection Level" dropdown menu currently set to "70".
- Two buttons: "Save Settings" and "Don't Save Settings".

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

Sound Detection detects sound events using the microphone on the camera.

Detection Level
Set the Detection Level of sound detection algorithm to trigger sound events. Lower Detection Level makes small sound easier to be detected.

The left navigation menu includes: DCS-942L, LIVE VIDEO, SETUP, MAINTENANCE, STATUS, HELP, Setup Wizard, Network, Wireless Setup, Dynamic DNS, Image Setup, Audio and Video, Time and Date, Video Clip, Snapshot, IP Filter, HTTPS Setup, SD Recording, Motion Detection, Sound Detection (highlighted), SD Management, and Logout.

The footer of the page reads "SURVEILLANCE".

SD Management

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

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

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

Name: The name of file on the SD card.

Size: The file's size.

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

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

Pages: Shows the current and total number of pages.

The screenshot shows the D-Link DCS-942L web interface. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar lists various configuration options, with 'SD Management' selected. The main content area is titled 'SD MANAGEMENT' and contains the following elements:

- A header: 'SD MANAGEMENT' with a sub-header: 'Here you could browse and manage the files which stored in SD Card.'
- SD Card: DCS-942L /
- SD Status: Reinitialization
- Files per Page: 5 (dropdown) Refresh
- Pages: 0 (dropdown) of
- A 'Delete' button with a checkbox.
- A table with columns 'Name' and 'Size'.
- A 'Format SD Card' button.
- Total: KB, Used: KB, Free: KB

The right sidebar contains 'Helpful Hints..' with the following information:

- SD Card:** This can indicate the current path of SD Card.
- SD Status:** This can indicate the current SD Card status (whether it is inserted or detected).
- Files per Page:** The number of files per page.
- Pages:** You can select which page to display here.
- Format SD Card:** Click this button to automatically format the SD Card and create folder for snapshot and video. To format SD Card, you need to disable SD Recording first.
- Total:** The total capability of SD Card.
- Used:** The used capability of SD Card.
- Free:** The free capability of SD Card.

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

Maintenance

Admin

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

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

Add User Account: Create a new user for accessing the video image. Enter the user name, password, and password confirmation, and click **Add**. A maximum of 8 user accounts can be added into the user list.

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

RTSP Authentication: Enable user validation for RTSP streaming.

HTTP Authentication: Enable user validation for HTTP streaming.

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

Camera Name: Specify a name for your camera.

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

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

D-Link

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

Admin

System

Firmware Upgrade

Logout

ADMIN

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

ADMIN PASSWORD SETTING

Old Password 30 characters maximum

New Password 30 characters maximum

Confirm New Password

ADD USER ACCOUNT

User Name 30 characters maximum

New Password 30 characters maximum

Confirm New Password

20 users maximum

USER LIST

User Name -- User list --

AUTHENTICATION

RTSP Authentication

HTTP Authentication

Snapshot URL Authentication
(<http://192.168.0.101/image/ipeq.cgi>)

DEVICE SETTING

Camera Name DCS-942L 36 characters maximum

OSD

Label DCS-942L 30 characters maximum

Time Stamp

Power/Link LED Light On

Helpful Hints..

For security purposes, it is recommended to change the password for your administrator account. Be sure to write down the new password to avoid having to reset the camera in the event that it is forgotten.

User Account
User account is given to a user a privilege to login into Live View page and use functions in the page.

RTSP Authentication
Enable user validation for RTSP streaming.

HTTP Authentication
Enable user validation for HTTP streaming.

Snapshot URL Authentication
Enable user validation for Snapshot URL.

OSD
Enable OSD, the Label and Time Stamp will be displayed on the Live Video Image.

Power/Link LED Light
On
Normal LED blinking depending on power and wired/wireless link and video/audio stream transmission status.
Off
Always turn off LED.
Flicker
Always flickering Link LED as video being monitored.

System

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

Save To Local Click the **Save Configuration** button to save **Hard Drive:** the current camera configuration to your local PC.

Load From Local To load a previously saved configuration, **HardDrive:** click the **Choose File** button, select your saved configuration file, then click the **Load Configuration** button.

Restore To Click the **Restore Factory Defaults** button to **Factory Default:** reset all settings back to the factory defaults. Please note that this will erase any changes you have made to the settings of the camera.

Reboot The Click the **Reboot Device** button to reboot the **Device:** camera.

The screenshot displays the D-Link web interface for the DCS-942L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SYSTEM' page is active, showing options for configuration management. A sidebar on the left contains 'Admin', 'System', 'Firmware Upgrade', and 'Logout'. A 'Helpful Hints..' section on the right provides instructions for restoring factory defaults. The main content area lists four actions with corresponding buttons: 'Save To Local Hard Drive' (Save Configuration), 'Load From Local Hard Drive' (Choose File, No file chosen, Load Configuration), 'Restore To Factory Defaults' (Restore Factory Defaults), and 'Reboot Device' (Reboot Device). The bottom of the page features a 'SURVEILLANCE' banner.

DCS-942L //	LIVE VIDEO	SETUP	MAINTENANCE	STATUS	HELP
Admin	SYSTEM				Helpful Hints.. After the factory's default settings have been restored, use the installation wizard software provided with your camera to search and connect to the camera.
System	Here you may backup, restore, and reboot your camera.				
Firmware Upgrade	SYSTEM				
Logout	Save To Local Hard Drive <input type="button" value="Save Configuration"/>	Load From Local Hard Drive <input type="button" value="Choose File"/> No file chosen <input type="button" value="Load Configuration"/>	Restore To Factory Defaults <input type="button" value="Restore Factory Defaults"/>	Reboot Device <input type="button" value="Reboot Device"/>	
SURVEILLANCE					

Firmware Upgrade

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

To upgrade the firmware on your DCS-942L, please download and save the latest firmware version from the D-Link Support Page to your local hard drive. Locate the file on your local hard drive by using the **Browse** button. Then, click the **“Upload”** button to start the firmware upgrade.

The screenshot shows the D-Link web interface for the DCS-942L camera. The top navigation bar includes the D-Link logo and tabs for LIVE VIDEO, SETUP, MAINTENANCE, STATUS, and HELP. The left sidebar contains links for 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 IP camera. It is recommended to keep your IP camera firmware up-to-date to maintain and improve the functionality and performance of your internet camera. Click here [D-Link Support Page](#) to check for the latest firmware version availability. To upgrade the firmware on your IP camera, please download and save the latest firmware version from the D-Link Support Page to your local hard drive. Locate the file on your local hard drive by clicking the Browse button. Once you have found and opened the file using the browse button, click the "Upload" button to start the firmware upgrade.

Below this text is a section titled 'FIRMWARE INFORMATION' with the following details:

Current Firmware Version:	1.20
Current Firmware Build Number:	2328
Current Agent Version:	2.0.16-b45

At the bottom of the main content area is another 'FIRMWARE UPGRADE' section with a file upload form:

File Path: No file chosen

The right sidebar contains 'Helpful Hints..' with the following text:

Firmware upgrade is released periodically to improve the functionality of your IP camera and also to add new features. If you run into a problem with a specific feature of the IP camera, check our support site by clicking [here](#) to check for an upgrade and see if updated firmware is available for your IP camera.

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

Status

Device Info

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

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

INFORMATION	
Camera Name	DCS-942L
Time & Date	2012/1/2 02:43:43
Firmware Version	1.20
Firmware Build Number	2328
Agent Version	2.0.16-b45
MAC Address	F0:7D:68:07:E7:88
IPv4 Address	192.168.0.101
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.168.0.1
IPv4 Primary DNS	192.168.0.1
IPv4 Secondary DNS	
Search Domain	
IPv6 Address/Prefix Length	fe80::f27d:68ff:fe07:e788/64
IPv6 Default Gateway	
IPv6 Primary DNS	
IPv6 Secondary DNS	
PPPoE Status	Disabled
DDNS Status	Disabled

Log

The system log records camera events that have occurred.

D-Link

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

Device Info

Log

Logout

SYSTEM LOG

The system log records camera events that have occurred.

CURRENT LOG

2012-01-02 02:44:24 admin is streaming video.
2012-01-02 02:44:36 admin is streaming video.

Clear Download

Helpful Hints..

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

SURUEILLANCE

Wireless Security

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

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

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

What is WEP?

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

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

What is WPA?

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

The 2 major improvements over WEP:

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

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

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

Configuring the DCS-942L with a Router

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

Components Needed:

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

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

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

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

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

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

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

1. Assign a Local IP Address to Your Camera

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

2. View the Network Camera Using Your Web Browser

Open a new web browser window and in the address bar type in the IP Address that was assigned to the Network Camera. The DCS-942L Live Video Page should appear with a window displaying live video from the camera. You are able to view this screen from any PC running a modern internet browser 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. If necessary, these ports can be changed if they are already in use by other devices (e.g. in a multiple camera environment).

Note: Both the HTTP port and RTSP port are required to be opened for the DCS-942L.

Product: DCS-942L
Firmware Version:1.20

DCS-942L //
 Setup Wizard
 Network
 Wireless Setup
 Dynamic DNS
 Image Setup
 Audio and Video
 Time and Date
 Video Clip
 Snapshot
 IP Filter
 HTTPS Setup
 SD Recording
 Motion Detection
 Sound Detection
 SD Management
 Logout

LIVE VIDEO
SETUP
MAINTENANCE
STATUS
HELP

NETWORK

You can configure your LAN and Internet settings here.

LAN SETTINGS

IPv4 Settings

Automatic IP Address

Static IP Address

IPv4 Address

Subnet Mask

Default Gateway (Router)

Optional Primary DNS

Optional Secondary DNS

Optional Search Domain

PPPoE

User Name

Password

Confirm Password

Status Disabled

IPv6 Settings

Automatic IP Address

Static IP Address

PORT SETTINGS

HTTP Port

HTTPS Port

RTSP Port

UPnP

UPnP

UPnP Port Forward

Apple

Bonjour

Helpful Hints..

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

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

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

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

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

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

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

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

SURVEILLANCE

Router Set-Up and Installation

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

3. Access the Router with Your Web Browser

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

Your WAN IP Address will be listed on the router's

Status > Device Info page.

DIR-655	SETUP	ADVANCED	TOOLS	STATUS	SUPPORT						
DEVICE INFO	DEVICE INFORMATION				Helpful Hints...						
LOGS	All of your Internet and network connection details are displayed on this page. The firmware version is also displayed here.				All of your WAN and LAN connection details are displayed here.						
STATISTICS	GENERAL				More...						
INTERNET SESSIONS	Time : 2007/10/10 PM 10:10:33										
WIRELESS	Firmware Version : 1.02, 2006/10/13										
WISH SESSIONS	WAN										
	Connection Type : DHCP Client QoS Engine : Active Cable Status : connected Network Status : connected Connection Up Time : N/A <input type="button" value="Renew"/> <input type="button" value="Release"/> MAC Address : 00:19:5B:03:04:E9 IP Address : 210.21.33.48 Subnet Mask : 255.255.255.248 Default Gateway : 210.21.33.254 Primary DNS Server : 168.95.1.1 Secondary DNS Server : 0.0.0.0										
	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										
	<table border="1"> <thead> <tr> <th>IP Address</th> <th>Name (if any)</th> <th>MAC</th> </tr> </thead> <tbody> <tr> <td>192.168.0.155</td> <td>end_user</td> <td>00:05:5d:ce:b3:8d</td> </tr> </tbody> </table>				IP Address	Name (if any)	MAC	192.168.0.155	end_user	00:05:5d:ce:b3:8d	
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										

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

4. Open Virtual Server Ports to Enable Remote Image Viewing

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

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

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

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

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

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

D-Link

DIR-655 // SETUP ADVANCED TOOLS STATUS SUPPORT

VIRTUAL SERVER

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

Save Settings Don't Save Settings

24--VIRTUAL SERVERS LIST

	Name	IP Address	Port	Traffic Type	Schedule
<input checked="" type="checkbox"/>	DCS-942L	192.168.0.120	80	TCP	Always
<input checked="" type="checkbox"/>	DCS-942L	192.168.0.120	554	TCP	Always
<input type="checkbox"/>		0.0.0.0	0	TCP	Always

Helpful Hints...

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

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

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

Troubleshooting

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

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

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

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

To enable Remote Access, simply go through the Camera Installation Wizard included on the Installation CD that came in your package. You can also download the wizard from the following websites:

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

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

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

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

...your Internet connection is working

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

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

...your router can get a public IP

...your router is upgraded to the latest firmware

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

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

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

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

To reset your camera, please use an unfolded paperclip to press and hold the RESET button for at least 3 seconds while your camera is plugged in.

3. 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 43 for information about how to enable the LED.

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

There might be a problem with the network cable. To confirm that the cables are working, PING the address of a known device on the network. If the cabling is OK and your network is reachable, you should receive a reply.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

If you are using another browser such as Google's Chrome or Apple's Safari, you may need to install the appropriate plugin before the streaming video will work.

If you are using Java, you may need to update to the latest version of the Java application. Please visit Sun's website in order to obtain the newest version Java for your computer platform (<http://www.java.com>).

Your browser may also have 3rd party applications blocked. Please make sure that the browser you are using does not have 3rd party plugin support disabled. You may need to refer to your particular browsers help function in order to turn this functionality on or off.

10. The PIR is not operating well, how can I improve the PIR quality?

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

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

Wireless Basics

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

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

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

What is Wireless?

Wireless or WiFi technology is another way of connecting your computer to a 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 as 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 e-mail, instant message, and etc
- Gets rid of the cables around the house
- Simple and easy to use

Small Office and Home Office

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

Where is wireless used?

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

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

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

Tips

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

Centralize your router or Access Point

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

Eliminate Interference

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

Security

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

Wireless Modes

There are basically two modes of networking:

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

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

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

Networking Basics

Check your IP address

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.

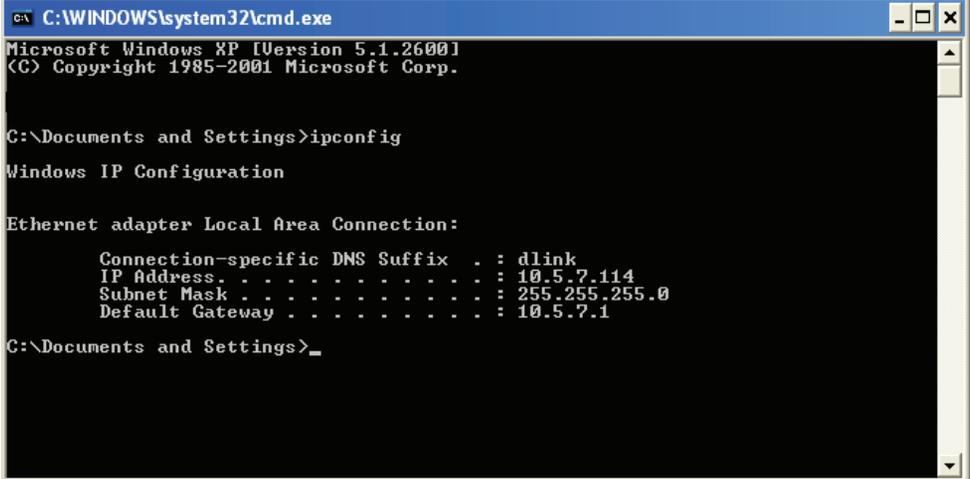
Click on **Start > Run**. In the run box type **cmd** and click **OK**.

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

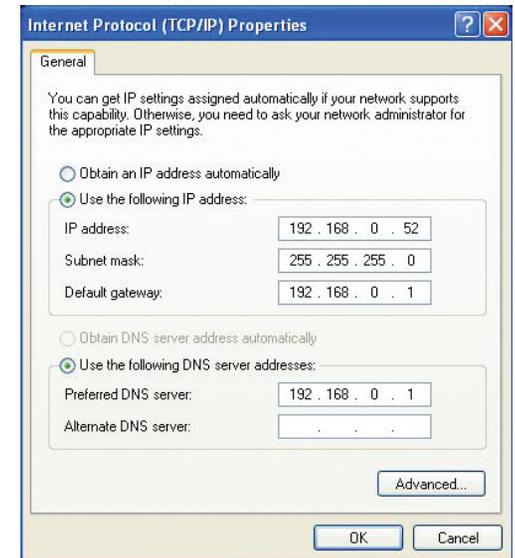
Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or the LAN IP address on your router.

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 to the same as the LAN IP address of your router (192.168.0.1).

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

Step 5

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



Technical Specifications

SYSTEM REQUIREMENTS

- Microsoft Windows® 8/7/Vista/XP, or Mac with OS X 10.6 or higher
- PC with 1.3 GHz or above and at least 128 MB RAM
- Internet Explorer 7, Firefox 12, Safari 4, or Chrome 20 or higher version with Java installed and enabled

NETWORKING PROTOCOL

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

BUILT-IN NETWORK INTERFACE

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

WIRELESS CONNECTIVITY

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

WIRELESS TRANSMIT OUTPUT POWER

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

SDRAM

- 128 MB

FLASH MEMORY

- 16 MB

RESET BUTTON

- Reset to factory default

VIDEO CODECS

- H.264
- Mpeg4
- Mjpeg

VIDEO FEATURES

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

RESOLUTION

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

LENS

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

SENSOR

- VGA 1/5 inch CMOS sensor

MINIMUM ILLUMINATION

- 1 lux @ F2.8

VIEW ANGLE

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

IR LED

- 4 IR LEDs (5 meter distance)

DIGITAL ZOOM

- Up to 4x

3A CONTROL

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

MICROPHONE

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

AUDIO

- ADPCM

SD CARD SLOT

- Micro SD card

PIR SENSOR

- Built-in piezoelectric passive infrared sensor for motion detection

POWER

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

DIMENSIONS (W X D X H)

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

WEIGHT

- 76.9 g (without bracket and stand)

MAX POWER CONSUMPTION

- 5.5 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