



# User Manual

## Wireless N Day & Night Pan/Tilt Cloud Camera

DCS-5020L

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# Manual Overview

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## Manual Revision

Revision	Date	Description
1.00	14 March, 2013	Initial release

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# Product Overview

## Package Contents

- DCS-5020L Wireless N Day & Night Pan/Tilt Cloud Camera
- CAT5 Ethernet Cable
- Power Adapter
- Manual and Software on CD
- Quick Install Guide
- Mounting Bracket and Screws

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

**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.



## System Requirements

- Computer with 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
- Existing 10/100 Ethernet-based network or 802.11g/n wireless network

# Introduction

Congratulations on your purchase of the DCS-5020L Wireless N Day & Night Pan/Tilt Cloud Camera. The DCS-5020L is a versatile and unique solution for your home or small office. Unlike a standard webcam, the DCS-5020L is a complete system with a built-in CPU and web server that transmits high quality video images for security and surveillance. The pan/tilt function allows the camera to patrol a wide area, while the built-in IR LEDs provide around the clock surveillance regardless of the lighting conditions.

The DCS-5020L 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 802.11 b/g/n wireless network, and its Extender Mode even allows you to increase your existing wireless network's coverage. The DCS-5020L also comes with remote monitoring and sound/motion detection features for a complete and cost-effective security solution.

Your DCS-5020L is mydlink-enabled, which means that you can view and manage your camera from anywhere over the Internet through the mydlink website, or through the mydlink mobile app for iOS and Android. You can view your live video feed, take snapshots, and manage the camera's configuration, all from anywhere you have Internet access.

# Features

## **Easy to Use and mydlink-Enabled for Easy Access and Management**

The DCS-5020L is a standalone surveillance camera that requires no special hardware or software, and can operate independently, even without a PC. This camera is also mydlink-enabled, which means you can view and manage your camera through the mydlink website, or through the mydlink mobile app for iOS and Android mobile devices.

## **Pan/Tilt for Wide Viewing Area**

Patrol a large area with one camera thanks to the DCS-5020L's pan and tilt functions. You can use the web interface to manually adjust the camera lens position, or set up to 24 pre-defined preset positions, enabling you to quickly move to frequently used points of interest.

## **IR LEDs for Day and Night functionality**

The built-in infrared LEDs enable night time viewing of up to 8 meters (26 feet), giving you clear images regardless of lighting conditions.

## **H.264 Codec for Smooth, Space-Efficient Video**

This camera supports use of the H.264 video codec, which gives you high-quality video with reduced bandwidth requirements. This means that you can enjoy smoother, more reliable video streaming over the Internet, and less disk space is required to save recordings.

## **Motion and Sound Triggered Notifications and Recordings**

The DCS-5020L can send e-mail notifications with snapshots or video clips whenever motion or sound is detected. You can customize areas of the video to monitor for motion to keep watch over specific areas of interest, and you can set volume thresholds to determine the sound level required to trigger a sound notification.

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

The DCS-5020L offers wireless 802.11b/g/n and Ethernet/Fast Ethernet connectivity, making it easy to integrate into your existing network environment. The DCS-5020L works with either a 10 Mbps Ethernet-based network or 100 Mbps Fast Ethernet-based network for traditional wired environments, and works with 802.11b/g/n wireless routers or access points for added flexibility. The Site Survey feature also allows you to view and connect to any available wireless networks within range of the camera.

## **Extender Mode Increases the Range of Your Wireless Network**

You can use the DCS-5020L's Extender Mode to extend the range of your wireless network, giving your home or office better wireless coverage.

## **Remote Monitoring Utility**

This camera also includes the D-ViewCam software, which adds enhanced features and functionality that helps you create a full surveillance system for up to 32 cameras. With D-ViewCam, you can view multiple cameras at the same time, record video, and set up scheduled and triggered recordings.

# Hardware Overview

## Front View



## Rear View



# Installation

There are three ways to set up your camera:

**Zero Configuration Setup:** If you have a mydlink-enabled router (D-Link cloud router), this is the easiest way to set up your camera. Refer to “Zero Configuration Setup” on page 10.

**Camera Installation Wizard:** If you do not have a mydlink-enabled router, use the Camera Installation Wizard to guide you through setup and initial configuration of your camera. Refer to “Camera Setup Wizard” on page 13.

**Manual Hardware Installation:** This section shows you how to manually set up your camera, however in order to use the mydlink features of your camera, you will still need to run the Camera Installation Wizard. Refer to “Manual Hardware Installation” on page 15.

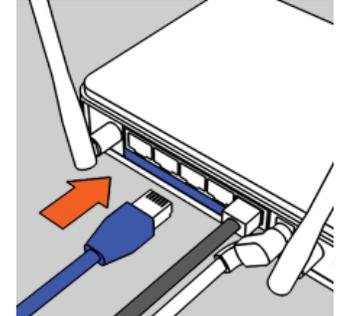
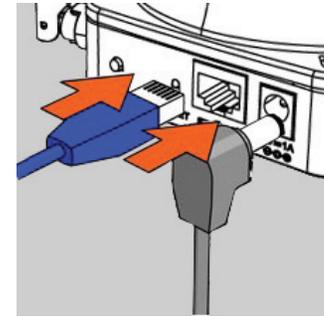
# Zero Configuration Setup

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

Connect your camera to your mydlink-enabled Cloud Router and Zero Configuration will automatically configure your DCS-5020L and add the camera to your mydlink account. After the short time it takes to do this you can remotely access your camera from the website (<http://www.mydlink.com>) to manage and monitor your DCS-5020L.

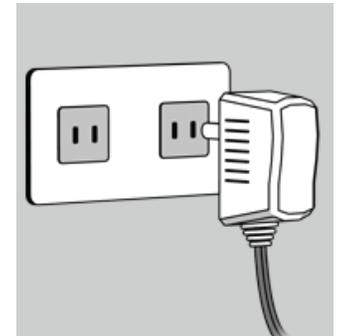
## Connect the Ethernet Cable and Power Cable

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



## Attach the External Power Adapter

Plug the power adapter in to a wall outlet.



## Check Your mydlink Account

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

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

The screenshot shows the mydlink web interface. At the top, there's a navigation bar with 'My Devices', 'Shared Devices', 'My Services', and 'My Profile'. The 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, including 'CardboardBox', 'HeiGuy', and several unnamed devices. At the bottom left, a 'New Devices!' notification is visible, and the device 'DCS-5020L' is listed.

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"/>

### Confirming New Device

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

**Device Name: DCS-5020L**

**mydlink Number: 44441252**

**Network name (SSID): dddddd**

**Admin Password: oic953XZ**

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

Not now

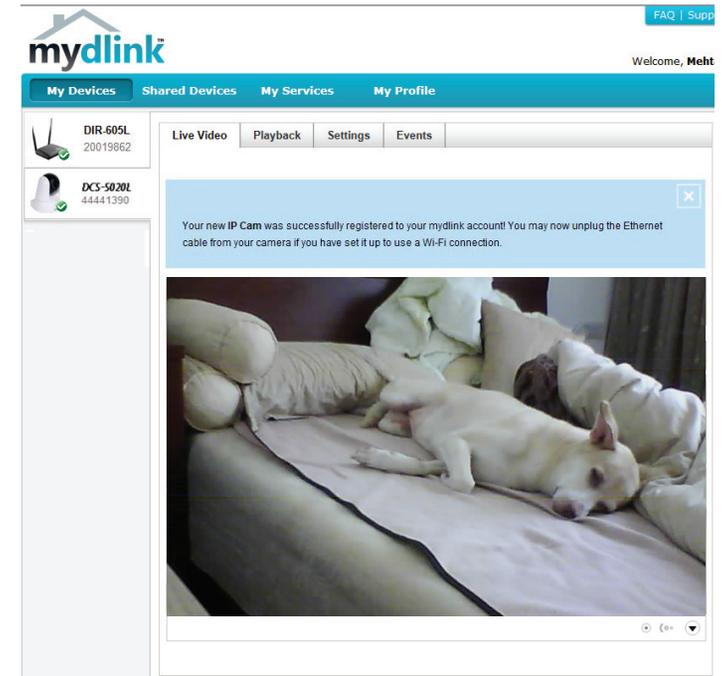
Yes

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 18 to learn more about the mydlink features of this camera, or to “Configuration” on page 19 for advanced configuration of your camera.

Note: If the live image is blurry or out of focus, you can manually adjust the focus by rotating the manual focus bezel surrounding the camera lens.



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

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



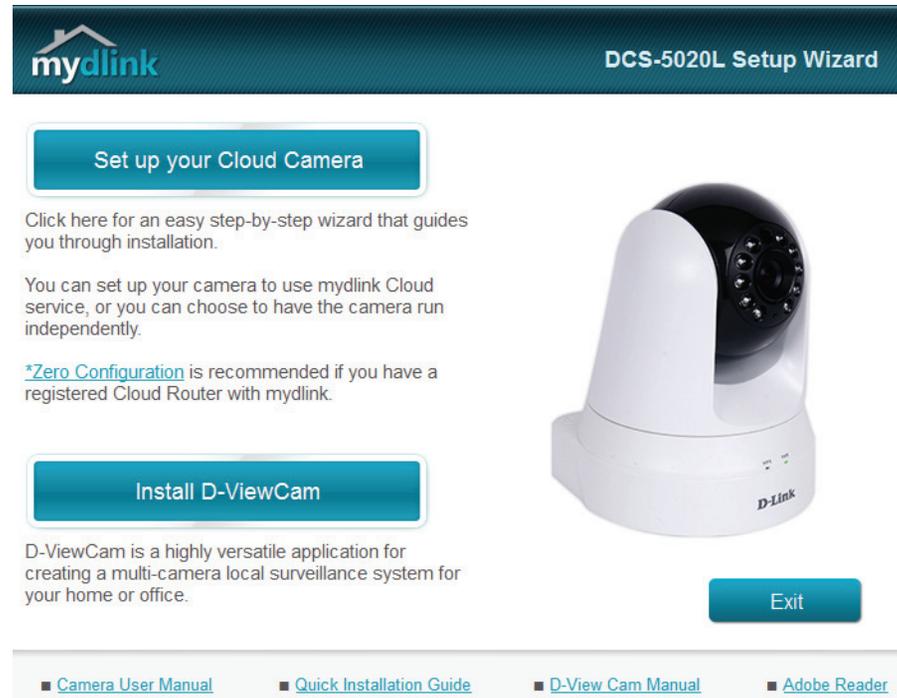
If you do not have a CD-ROM drive, or the CD is missing, please download the Setup Wizard from <http://www.mydlink.com/support>

## Mac Users

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



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



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

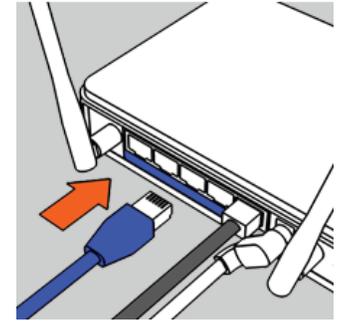
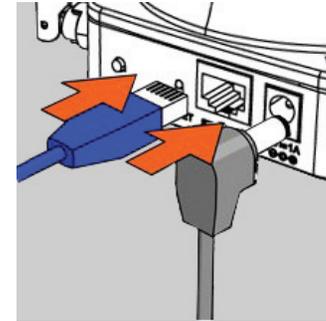
# Manual Hardware Installation

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

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

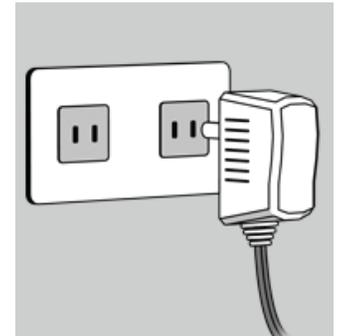
## Connect the Ethernet Cable and Power Cable

Use the included Ethernet cable and plug it into the camera. Plug the other end into an available LAN port on your router. Plug the supplied power adapter into the back of the camera



## Plug in the External Power Adapter

Plug the power adapter into a wall outlet.



## Configure Your Camera

Refer to "Configuration" on page 19 for information on how to configure your camera.

## Optional: Use WPS to Connect Wirelessly

You can use WPS to connect your camera to your network wirelessly. For more information, refer to "WPS - Push Button Setup" on page 17. If your router does not support WPS, you will still be able to set up your camera's wireless settings in the camera's web interface.

# Wireless Installation Considerations

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

1. Minimize the number of walls and ceilings between your adapter and other network devices (such as your Network Camera) - each wall or ceiling can reduce your adapter's range by 1-30 meters (3-90 feet).
2. Be aware of the direct line between network devices. A wall that is half a meter thick (1.5 feet), at a 45-degree angle appears to be almost 1 meter (3 feet) thick. At a 2-degree angle, it can appear over 14 meters (42 feet) 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 or 1-2 meters (3-6 feet ) away from electrical devices or appliances that generate RF noise.
5. If you are using 2.4 GHz cordless phones or other radio frequency sources (such as microwave ovens), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4 GHz 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

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

## To create a WPS connection:

### Step 1

Make sure the camera is plugged in, then press and hold the WPS button for ten seconds. The blue WPS status LED will start blinking.

### Step 2

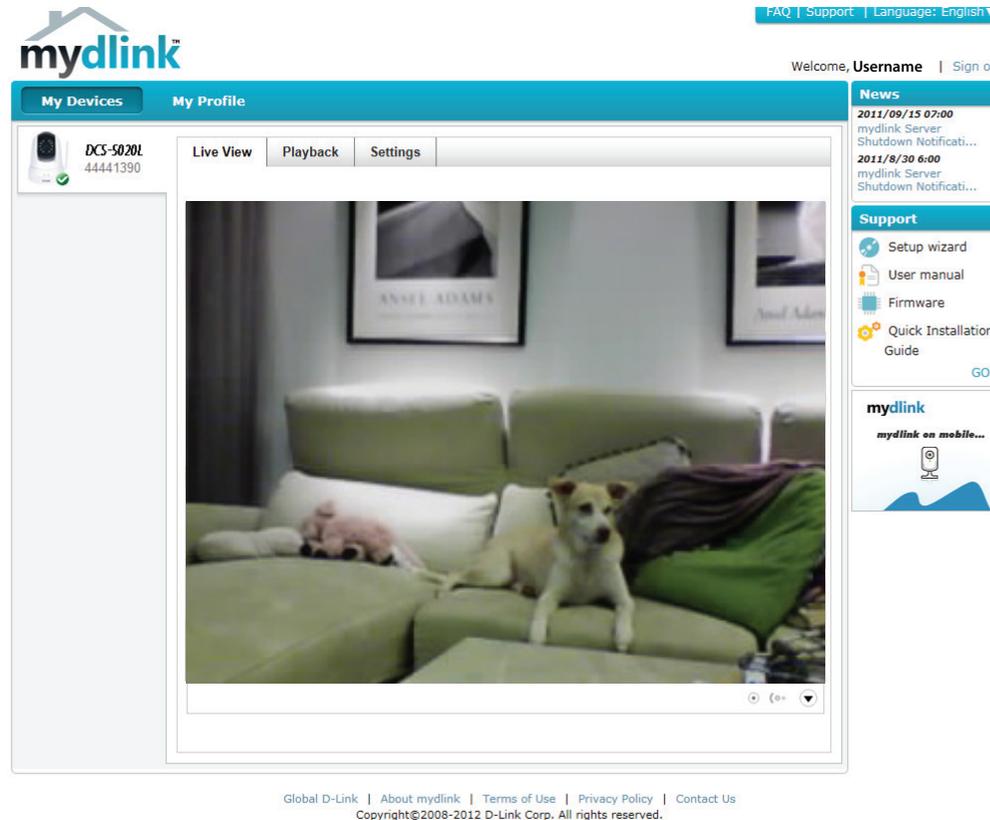
Press the WPS button on your router within 60 seconds. The WPS button is usually on the front or side of your router. On some routers, you may need to log in to the web interface and click on an on-screen button to activate the WPS feature. If you are not sure where the WPS button is on your router,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

The DCS-5020L will automatically create a secure wireless connection to your router. While connecting, the blue LED will flash and your camera will reboot.



# mydlink

After registering your DCS-5020L camera with a mydlink account in the Camera Installation Wizard, you will be able to remotely access your camera from the [www.mydlink.com](http://www.mydlink.com) website. After signing in to your mydlink account, you will see a screen similar to the following:



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 Web Configuration Interface

After completing the Camera Installation Wizard, your camera is ready to use. The camera's built-in web configuration interface is designed to allow you to easily access and configure your DCS-5020L. There are two ways in which you can access your camera's web configuration interface:

- Log in to your mydlink account to access your camera's configuration interface.
- You can also access the interface locally by entering 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, leave the password field blank. After entering your password, click **OK**.

**Note:** If you are directly connecting your camera to your PC, or if you are using the camera on a closed network, the default IP is **192.168.0.20**. If the camera is connected to a router or network, a different IP address may have been assigned.



# Live Video

The Live Video screen shows you the live video feed from your camera. For information on how to configure your Live Video streams, refer to “Video” on page 29.

**Video Compression Format:** Click the **H.264** or **MJPEG** radio button to choose which stream to view.

**Pan/Tilt Wheel:** Click on the directional arrows on the pan/tilt wheel to manually control the pan and tilt functions of the camera. At any time, you can click the **home** button in the center of the wheel to return the camera to its home position.

**Go To:** Select one of the preset locations from the drop down menu to move the camera to that position. Preset positions can be set by going to the **Camera Control** section of the **Setup** menu.

**Pan Step:** Select the increment of movement for each press of a pan (up/down) arrow on the pan/tilt wheel.

**Tilt Step:** Select the increment of movement for each press of a tilt (left/right) arrow on the pan/tilt wheel.

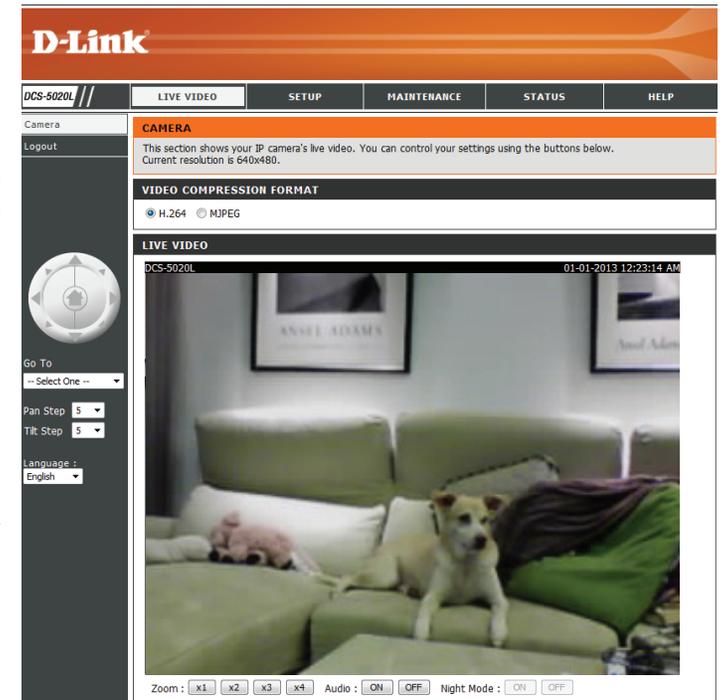
**Language:** You can select the desired language for the web interface from this drop-down menu.

**Zoom:** Click on these buttons to adjust the level of digital zoom applied to the image

**Audio:** Click on these buttons to turn audio playback on and off.

**Night Mode:** If you have set the night mode to manual, the night mode feature can be toggled using these buttons

**Note:** If the live image is blurry or out of focus, you can manually adjust the focus by rotating the manual focus bezel surrounding the camera lens.



# Setup Wizard

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

**Note:** To register your camera with mydlink and enable its mydlink-related features, you will need to use the Camera Installation Wizard. Please refer to “Camera Setup Wizard” on page 13 for more details.

The screenshot displays the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded, showing options like Wizard, Network Setup, Wireless Setup, Extender Setup, Dynamic DNS, Image Setup, Video, Audio, Motion Detection, Sound Detection, Mail, FTP, Time and Date, Day/Night Mode, Camera Control, 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 the device for the first time, D-Link recommends that you click the Internet Connection Setup Wizard button, and follow the instructions on screen. If you wish to modify or configure the IP camera settings manually, click the Manual Internet Connection Setup button.' Below this text are two buttons: 'Internet Connection Setup Wizard' and 'Manual Internet Connection Setup'. A 'Helpful Hints' sidebar on the right provides additional guidance 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.



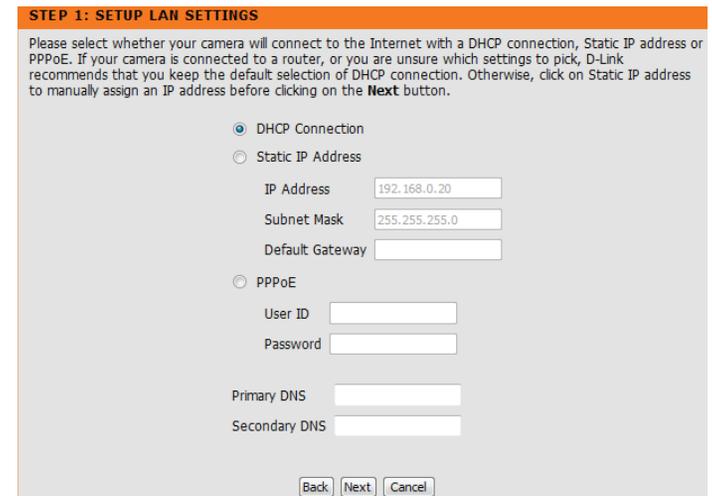
Select what kind of Internet connection your camera should use:

**DHCP Connection (Default):** If you are connected to a router, or are not sure which connection to use, select DHCP Connection.

**Static IP Address:** This will allow you to manually enter your network settings for the camera. Select this option if your Internet Service Provider or network administrator has provided you with a set of predefined IP addresses. If you are not sure what settings to enter, check with your Internet Service Provider or network administrator.

**PPPoE Connection:** If your camera is directly connected to a DSL modem, you may need to use PPPoE. Enter the username and password provided to you by your Internet Service Provider.

Click **Next** to continue.



## Section 3 - Configuration

If you have a Dynamic DNS account and would like the camera to update your IP address automatically, select **Enable** and enter your host information. Otherwise, simply select **Disable**.

Click **Next** to continue.

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

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

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

### STEP 2: SETUP DDNS SETTINGS

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

- Enable  
 Disable

Server Address  <<

Host Name

User Name

Password

Timeout  hours

### STEP 3: SERVER NAME SETTINGS

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

Camera Name

### STEP 4: SETUP TIME ZONE

Please select the camera's timezone and then click on the **Next** button.

Current Time 01 Jan 2012 12:37:14 A.M.

Time Zone

### STEP 5: SETUP COMPLETE

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

IP Address	DHCP Connection
IP Camera Name	DCS-5020L
Time Zone	(GMT+08:00) Taipei
DDNS	Disable

## Network Setup

This section allows you to configure your network settings.

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

**Static IP Client:** Select this connection type if your Internet Service Provider (ISP) or network administrator has provided you with a static or fixed IP address and other network information for your camera. Click on the **Static IP Address** radio button to activate this method.

**IP Address:** The fixed IP address

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

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

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

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

**PPoE** If you need to connect to the Internet using a PPoE connection, click on the **PPoE** radio button and enter the username and password provided to you by your Internet Service Provider or Network Administrator

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

**UPnP Settings:** Enable this setting to configure your camera as a UPnP device in the network. You can also enable UPnP port forwarding.

**Bonjour Settings:** Enable this setting to allow your camera to be discovered by the Bonjour service. You can also specify a Bonjour name for the device.

Product: DCS-5020L Firmware version: 1.00

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

**Wizard**  
 Network Setup  
 Wireless Setup  
 Extender Setup  
 Dynamic DNS  
 Image Setup  
 Video  
 Audio  
 Motion Detection  
 Sound Detection  
 Mail  
 FTP  
 Time and Date  
 Day/Night Mode  
 Camera Control  
 Logout

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

**LAN SETTINGS**  
 DHCP Connection  Static IP Address  PPoE  
 IP Address 192.168.0.20 User ID  
 Subnet Mask 255.255.255.0 Password  
 Default Gateway  
 Primary DNS  
 Secondary DNS

**PORT SETTINGS**  
 HTTP Port 80

**UPnP SETTINGS**  
 UPnP  Enable  Disable  
 UPnP Port Forwarding  Enable  Disable

**BONJOUR SETTINGS**  
 Bonjour  Enable  Disable  
 Bonjour Name DCS-5020L  
 (Characters you may use in a Bonjour Name: "upper or lower case letters", "numbers" and "hyphens".)  
 Save Settings Don't Save Settings

**Helpful Hints.**  
 Select "DHCP Connection" if you are running a DHCP server on your network and would like an IP address assigned to your camera automatically. You may choose to manually enter a Static IP Address and all the relevant network information or select PPoE if you connect your DCS-5020L directly to the Internet that uses a PPoE service. If you choose PPoE you must enter the user ID and password that was given by your Internet Service Provider.  
 DNS (Domain Name System) server is an Internet service that translates domain names (i.e. www.dlink.com) into IP addresses (i.e. 192.168.0.20). The IP addresses can be obtained from your ISP.  
 Primary DNS: Primary domain name server that translates names to IP addresses.  
 Secondary DNS: Secondary domain name server to backup the primary one.  
 Port Settings - Most ISPs do not open port 80 (a DCS-5020L default video transfer port) for their residential customers, the DCS-5020L has the ability to use a different port by enabling the second http port for its video streaming. Any unused ports can be used such as

# Wireless Setup

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

**Enable Wireless:** Check this box to allow your camera to connect to your network wirelessly.

**SSID:** Enter the network name (SSID) of the wireless network you want to connect to. You can also click the **Site Survey** button below to choose an available network and fill in settings automatically.

**Channel:** If you are using **Ad-Hoc** as your connection mode, select the same channel that is being used by your wireless network.

**Connection Mode:** Select the connection mode used by your wireless network. In most cases, you should select **Infrastructure**. **Ad-Hoc** is only used if your camera is directly connecting to another PC or device without the use of a router or access point.

**Site Survey:** Clicking this button will allow you to select an available wireless network to connect to, and will fill in the necessary settings for you.

**Wireless Security Mode:** Select the wireless security mode used by your wireless network. If you select WEP or WPA-PSK/WPA2-PSK, enter the password for your wireless network in the text box that appears.

The screenshot shows the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded to show 'Wizard', 'Network Setup', 'Wireless Setup', 'Extender Setup', 'Dynamic DNS', 'Image Setup', 'Video', 'Audio', 'Motion Detection', 'Sound Detection', 'Mail', 'FTP', 'Time and Date', 'Day/Night Mode', 'Camera Control', and 'Logout'. The 'Wireless Setup' page is active, displaying the following sections:

- WIRELESS SETUP:** A heading with a sub-heading 'In this section, you can configure the wireless settings of your camera.' and two buttons: 'Save Settings' and 'Don't Save Settings'.
- WIRELESS SETTINGS:** A section with a checkbox for 'Enable Wireless' (checked), a text input for 'SSID' containing 'dlink', a dropdown for 'Channel' set to '6', radio buttons for 'Connection Mode' (selected: 'Infrastructure', unselected: 'Ad-Hoc'), and a 'Site survey' button.
- WIRELESS SECURITY MODE:** A section with radio buttons for 'Security Mode' (selected: 'None', unselected: 'WEP', unselected: 'WPA-PSK / WPA2-PSK') and 'Save Settings' / 'Don't Save Settings' buttons.

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

You may enable the wireless setting on your camera and connect to a wireless network by entering the SSID (unique name of your wireless network), or click the Site Survey button to select an available wireless network. Then you may choose a channel number. When there is interference from the wireless networks that overlap with one another, you may change the channel to obtain maximum performance from your connection.

There are two connection modes. Infrastructure is a wireless connection using an access point as the transmission point of all wireless devices. Ad-Hoc is a wireless connection used without an access point, which connects the PC directly to the DCS-5020L.

# Extender Setup

This section allows you to setup and configure the Extender Mode feature of your camera. Extender Mode allows your camera to extend the range of your existing wireless network by repeating the signal it receives. You can choose to use the same network name and settings as your existing wireless network, or you can create a new one.

**Enable Extender Mode:** Check this box to enable Extender Mode.

**Host Wireless Network Name:** This shows the name of the Host wireless network that the camera is connected to and will extend.

**Extended Wireless Network Name (SSID):** Select an option:

- **Same as Host Wireless Network Name:** Your extended network will use the same name and settings as your Host network. Your devices can use the same wireless information to connect to both the Host and Extended networks.
- **Create a New Wireless Network Name:** This allows you to manually set the name and security used for the extended network. You will need to add this information for each wireless device that connects to this Extended network.

**Maximum Clients Allowed to Connect:** Set the maximum number of clients that are allowed to connect to the extended network.

**Security Mode:** If you choose to **Create a New Wireless Network Name**, you can set your wireless security options here.

- **None** - No wireless encryption will be enabled. All data sent over the wireless connection could be viewed by third parties.
- **WEP** - WEP is the simplest form of wireless encryption, and should only be used if you devices do not support WPA/WPA2 encryption.
- **WPA/WPA2** - This is currently the most advanced encryption method. Enter a Pre-shared Key (PSK/password) in the text box provided. Wireless clients will require this password in order to access your extended network.

The screenshot shows the D-Link web interface for the DCS-5020L camera. The main navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' tab is active, and the 'Extender Setup' page is displayed. The page is titled 'EXTENDER SETUP' and contains the following sections:

- EXTENDER SETUP:** A message stating: "In this section, you can configure the wireless extender feature of your camera, which allows you to extend the range of an existing wireless network. You can choose to keep the same wireless network name for the extended network, or you can create a new one." Below this is a note: "Please note that you must be connected to another wireless network through the Wireless Setup page in order to use Extender Mode and configure these settings." There are 'Save Settings' and 'Don't Save Settings' buttons.
- EXTENDED WIRELESS NETWORK SETTINGS:** This section includes:
  - 'Enable Extender Mode' with a checked checkbox.
  - 'Host Wireless Network Name' set to 'dlink'.
  - 'Extended Wireless Network Name (SSID)' with two radio button options: 'Same as Host Wireless Network Name' (selected) and 'Create a new Wireless Network Name'.
  - 'Maximum clients allowed to connect' set to '3'.
- EXTENDED WIRELESS NETWORK SECURITY:** This section includes:
  - 'Security Mode' with three radio button options: 'None' (selected), 'WEP', and 'WPA-PSK / WPA2-PSK'.

There are 'Save Settings' and 'Don't Save Settings' buttons at the bottom of the security section. A 'Helpful Hints...' sidebar is visible on the right side of the page.

# Dynamic DNS (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.

**Enable:** Click to enable the DDNS function.

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

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

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

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

**Timeout:** This allows you to specify the periodic update time for the DDNS address.

The screenshot shows the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'SETUP' menu is expanded, showing options like Wizard, Network Setup, Wireless Setup, Extender Setup, Dynamic DNS, Image Setup, Video, Audio, Motion Detection, Sound Detection, Mail, FTP, Time and Date, Day/Night Mode, Camera Control, and Logout. The 'Dynamic DNS' option is selected, leading to the 'DYNAMIC DNS SETTINGS' page. This page has a title bar with 'DYNAMIC DNS' and a description: 'The Dynamic DNS feature allows you to host a server (Web, FTP, Camera, etc...) using a domain name that you have purchased (www.whattheyouname.com) from your broadband Internet Service Provider (ISP). Using a DDNS service, your friends can enter your host name to connect to your IP Camera regardless of your IP address.' Below this is a 'Helpful Hints...' section. The main settings area includes radio buttons for 'Enable' and 'Disable' (selected), a 'Server Address' dropdown menu (set to 'Select Dynamic DNS Server'), and input fields for 'Host Name', 'User Name', 'Password', and 'Timeout' (set to 576 hours). 'Save Settings' and 'Don't Save Settings' buttons are at the bottom.

# Image Setup

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

**Enable Antiflicker:** If you have lights flickering in your camera video, try enabling antiflicker. Otherwise, you should leave this disabled.

**Flip Image:** Select this box to vertically flip the video.

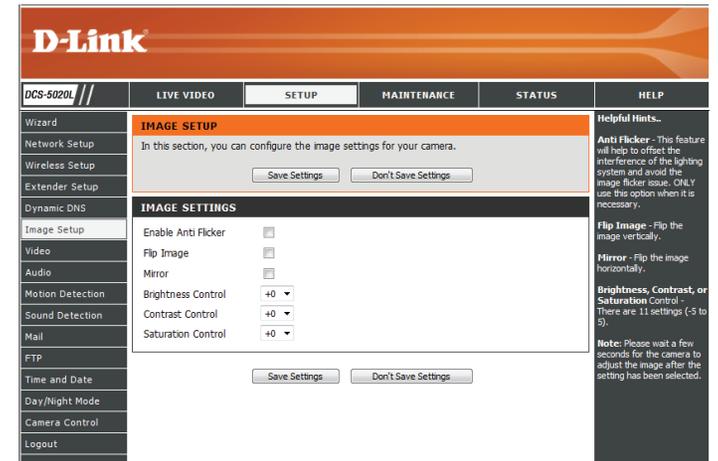
**Mirror:** Horizontally flip the video.

**Note:** If the camera is installed upside down, Flip Image and Mirror should both be checked

**Brightness Control:** Allows you to adjust the brightness level. Select a setting between -5 and +5.

**Contrast Control:** Allows you to adjust the contrast level. Select a setting between -5 and +5.

**Saturation Control:** Allows you to adjust the saturation level. Select a setting between -5 and +5.



# Video

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

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

**Encode Type:** Your camera has separate settings for the H.264 and MJPEG video streams.

**Resolution:** Select the desired video resolution from three formats: 640x480, 320x240, and 160x112. Higher settings offer better quality, but will require more bandwidth to stream.

**Bit Rate** Select the desired bit rate for the video. A higher bit rate will increase image quality, but will require more bandwidth to stream.

**FPS:** Select the frame rate (FPS) to use for the video stream. Higher settings offer better quality, but will require more bandwidth to stream.

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

**Default View Mode:** Select the default encoding to use when viewing your video on the **Live Mode: Video** page.

**Light Frequency:** Select the frequency used by your lighting and power to help reduce image flicker.

**D-Link**

DCS-5020L //

LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Wizard

Network Setup

Wireless Setup

Extender Setup

Dynamic DNS

Image Setup

Video

Audio

Motion Detection

Sound Detection

Mail

FTP

Time and Date

Day/Night Mode

Camera Control

Logout

**VIDEO**

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

Save Settings Don't Save Settings

**VIDEO PROFILE**

Encode Type	Resolution	Bit Rate	Frame Rate
H.264	640 x 480	2 Mbps	30

Encode Type	Resolution	Jpeg Quality	Frame Rate
MJPEG	640 x 480	Medium	Auto

Default View Mode : H.264

**LIGHT FREQUENCY**

50 Hz 60 Hz  Auto

Save Settings Don't Save Settings

**Helpful Hints-**

**Resolution** - 3 settings are available:  
 1. QVGA @ 160x112 - Usually used for display on handheld devices.  
 2. QVGA @ 320x240 - Standard resolution for mobile phones, and PDAs  
 3. VGA @ 640x480 - Standard resolution for computer display.

**Bit Rate** (bits per second) - Select a fixed bandwidth for your camera operation. Higher value means a higher quality image but consumes more network bandwidth.

**Frame Rate** (frames per second) - The higher the frame rate, the smoother the video will appear. Note that a higher frame rate setting also uses more bandwidth.

**Jpeg Quality** - Default value is Medium.

**Light Frequency** - 3 options, 50 Hz, 60 Hz or Auto. Default value is Auto.

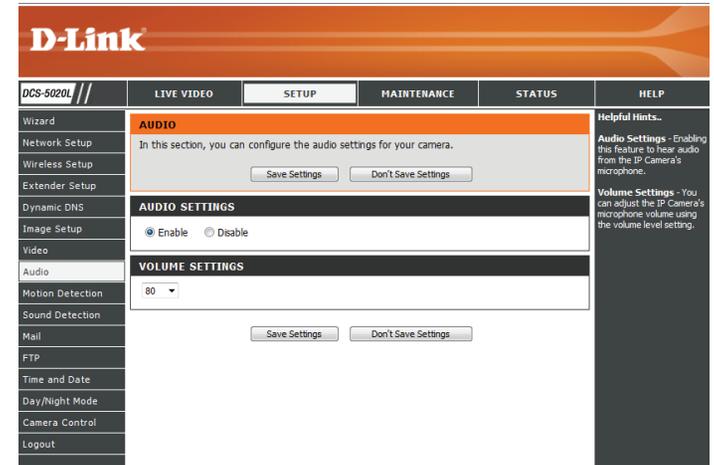
# Audio

This section allows you to adjust the audio settings for your camera.

**Note:** Please wait a few seconds for the camera to adjust the audio after making changes.

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

**Volume Settings:** Select the desired volume percentage level.



# Motion Detection

Motion detection allows you to mark areas of your camera's video to monitor for motion, which can be used to trigger snapshots or recordings. Refer to "Mail" on page 33 and "FTP" on page 35 for more details.

**Motion Detection:** Select whether you want to enable or disable the motion detection feature of your camera.

**Time:** Specify whether you want to **Always** have motion detection enabled, or according to a **Schedule** that you define.

**Sensitivity:** Specify the amount of difference required to determine whether there was motion.

**Detection Areas:** Use your mouse to click on the areas of the video that you would like to monitor for motion.

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

**MOTION DETECTION**

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

Please note that your computer needs to have Java installed in order to view the motion detection configuration window. If you do not see the live video below, please visit <http://www.java.com> to download and install Java.

Save Settings Don't Save Settings

**MOTION DETECTION SETTINGS**

Motion Detection  Enable  Disable

Time

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

Time Period Start: 00:00:00 (Example : 06:30:00)  
Stop: 00:00:00 (Example : 22:30:00)

Sensitivity 50 % (0~100%, high sensitivity makes the motions easier to be detected.)

Detection Areas Use mouse to click the blocks where you want to monitor for motion.

Save Settings Don't Save Settings

# Sound Detection

Sound detection allows you to detect when there is a loud sound in the area, which can be used to trigger snapshots or recordings. Refer to “Mail” on page 33 and “FTP” on page 35 for more details.

**Sound Detection:** Select whether you want to enable or disable the sound detection feature of your camera.

**Time:** Specify whether you want to **Always** have motion detection enabled, or according to a **Schedule** that you define.

**Detection Level:** Specify the volume level that a sound must exceed in order to trigger the sound detection feature. The graph at the bottom of the page will show the current volume levels being detected by the camera.

Product: DCS-5020L Firmware version: 1.00

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

**SOUND DETECTION**

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

Please note that your computer needs to have Java installed in order to view the sound dB/Time window. If you do not see the sound dB/Time window below, please visit <http://www.java.com> to download and install Java.

Save Settings Don't Save Settings

**SOUND DETECTION SETTINGS**

Sound Detection  Enable  Disable

Time  Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop : 00:00:00 (Example : 22:30:00)

Detection Level 90 dB

dB

100

90

80

70

60

50

40

Time

Save Settings Don't Save Settings

# Mail

This section allows you to configure your camera to send snapshots and video clips to an e-mail address. If you are not sure what settings to use, check with your e-mail service provider.

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

**SMTP Server Port:** This allows you to set the port for the SMTP Server. The default value is 25, and should only be changed if advised by your e-mail provider.

**Sender e-mail Address:** This is the e-mail address listed as the sender for your notification e-mails.

**Receiver e-mail Address:** This is the e-mail address that your notification e-mails will be sent to.

**User Name:** If the SMTP server uses authentication, enter your user name.

**Password:** If the SMTP server uses authentication, enter your password.

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

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

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

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

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

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

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

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

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

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

**Note:** If you want to use a Yahoo SMTP server, the SMTP server address will be different between each registered region, and only SMTP port **465** is supported for **SSL-TLS**.

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

**MAIL**

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

Save Settings Don't Save Settings

**E-MAIL ACCOUNT**

SMTP Server Address

SMTP Server Port 25 (Default is 25)

Sender E-mail Address

Receiver E-mail Address

User Name

Password

Use SSL-TLS/STARTTLS  No  SSL-TLS  STARTTLS

**TIME SCHEDULE**

Enable the emailing of images to an email account

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop:  (Example : 22:30:00)

Motion/Sound Detection

E-mail frame immediately

E-mail attached with 6 frames (3 frames before and 3 frames after detection)

Frame interval time:  second

E-mail Interval  Seconds

Enable the emailing of video clip to an email account

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop:  (Example : 22:30:00)

Motion/Sound Detection

E-mail Interval  Seconds

Video Limit: Size  KBytes (max is 3072 KBytes)

Time  Seconds (max is 15 Seconds)

**TEST E-MAIL ACCOUNT**

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

Save Settings Don't Save Settings

**Helpful Hints..**

**SMTP Server Address:** This is the domain name or IP address of your external email server.

**Sender E-mail Address:** This is the email address of the person sending the camera snapshots.

**Receiver E-mail Address:** This is the email address of recipient for the SMTP server.

**User Name:** The user name of your email account.

**Password:** The password of your email account.

**Use SSL-TLS/STARTTLS:** Select SSL-TLS or STARTTLS if SMTP server requires TLS authentication.

**Enable the emailing of images to an email account:** Select Always to enable the camera to always send images to the recipient's email account. Select Schedule if you would like to specify the time and day when the camera will start and stop sending images to the recipient's email account. The interval of the snapshot can be configured from 1 to 65535 seconds.

**Enable the emailing of video clip to an email account:** Select Always to enable the camera to always send video clip to the recipient's email account. Select Schedule if you would like to specify the time and day when the camera will start and stop sending video clip to the recipient's email account. The interval of the video clip can be configured from 1 to 65535 seconds.

**Enable the e-mailing of images to an e-mail account:**

Enabling this will allow snapshots to be e-mailed to you in different ways:

- Choosing **Always** will e-mail snapshots continuously based on the **E-mail Interval** specified.
- Choosing **Schedule** will allow you to schedule when to start and stop the e-mailing of snapshots.
- Select **Motion/Sound Detection** if you would like the camera to e-mail images only when motion or sound is detected. You can choose whether to e-mail a snapshot immediately, or e-mail 6 snapshots together, with 3 frames before and after motion/sound was detected. You can also set the **Frame interval time** to specify how far apart the snapshots should be.

**E-mail Interval:**

This sets the limit for how frequently e-mail notifications will be sent. This can be set from 1 to 65535 seconds.

**Enable the e-mailing of video clips to an e-mail account:**

Enabling this will allow video clips to be e-mailed to you in different ways. This is the same as e-mailing images, as specified above, but will take video clips according to the **Video Limit** settings you specify.

**Test E-mail Account:**

This will send a test e-mail according to the e-mail settings you have specified above.

**TIME SCHEDULE**

Enable the emailing of images to an email account

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop :  (Example : 22:30:00)

Motion/Sound Detection

E-mail frame immediately

E-mail attached with 6 frames (3 frames before and 3 frames after detection)

Frame interval time :  second

E-mail Interval  Seconds

Enable the emailing of video clip to an email account

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop :  (Example : 22:30:00)

Motion/Sound Detection

E-mail Interval  Seconds

Video Limit : Size  KBytes (max is 3072 KBytes)

Time  Seconds (max is 15 Seconds)

**TEST E-MAIL ACCOUNT**

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

# FTP

This section allows you to configure your camera to send snapshots and video clips to an FTP server.

**Host Name:** Enter the IP address of the FTP server that you will be connecting to.

**Port:** Enter the port of the FTP server that you will be connecting to.

**User Name:** Enter the user name of your FTP server account.

**Password:** Enter the password of your FTP server account.

**Path:** Enter the destination path/folder to save files to on the FTP server.

**Passive Mode:** Enabling passive mode may help you reach your FTP server if your camera is behind a router protected by a firewall.

**Enable the uploading of images to an FTP server:** Enabling this will allow snapshots to be uploaded in different ways:

- Choosing **Always** will upload snapshots continuously based on the **Image Frequency** specified.
- Choosing **Schedule** will allow you to schedule when to start and stop the uploading of snapshots.
- Select **Motion/Sound Detection** if you would like the camera to upload images only when motion or sound is detected.

**Image Frequency:** Set how frequently you want images to be taken and uploaded. You can choose to upload by frames per second, or by seconds per frame.

**Base File Name:** Set the desired base file name for your snapshots.

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

Wizard  
Network Setup  
Wireless Setup  
Extender Setup  
Dynamic DNS  
Image Setup  
Video  
Audio  
Motion Detection  
Sound Detection  
Mail  
FTP  
Time and Date  
Day/Night Mode  
Camera Control  
Logout

**FTP**

In this section, you can configure the camera to send images to an FTP server.

Save Settings Don't Save Settings

**FTP SERVER**

Host Name  
Port 21 (Default is 21)  
User Name  
Password  
Path /  
Passive Mode  Yes  No

**TIME SCHEDULE**

Enable uploading of images to an FTP server

Always  
 Schedule  
Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun  
Time Period Start: 00:00:00 (Example: 06:30:00) Stop: 00:00:00 (Example: 22:30:00)  
 Motion/Sound Detection

Image Frequency  1 Frames/Second  1 Seconds/Frame  
Base File Name DCS-5020L  
File  Overwrite  Date/Time Suffix  Create subfolder by 0.5 hour  Sequence Number Suffix Up to 1024

Enable uploading of video clip to an FTP server

Always  
 Schedule  
Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun  
Time Period Start: 00:00:00 (Example: 06:30:00) Stop: 00:00:00 (Example: 22:30:00)  
 Motion/Sound Detection

File Name Prefix DCS-5020L  
Video Limit: Size 2048 KBytes (max is 3072 KBytes) Time 10 Seconds (max is 15 Seconds)

**TEST FTP SERVER**

A JPEG file will be sent to the above FTP server for testing.  
(File name: test\_date\_time.jpg) Test

Save Settings Don't Save Settings

**Helpful Hints.**

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

**Port:** The default port is 21.

**User Name:** The user name required for accessing the external FTP server.

**Password:** The password of the external FTP server.

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

**Enable uploading of images to an FTP server:** Checking this box will enable the camera to upload images to FTP server shown above. Select **Always** to enable the camera to always upload images to the FTP server. Select **Schedule** if you would like to specify the time and day when the camera starts and stops uploading images to the FTP server. Select **Motion/Sound Detection** if you would like the camera to upload images to the FTP server only when motion/sound is detected.

**Image Frequency:** User can choose and define the numbers for both **Frames/Second** and **Seconds/Frame**.

**Base File Name:** The name that contains the time stamp information. For example DCS-5020L\_2010072116425101.jpg. This means that the camera took a snapshot in the year 2010, July 21 at 16:42:51 (hour:minute) and 01 represents the 1st picture.

**File:** Select **Overwrite** and only one image filename is constantly refreshed. Select **Date/Time Suffix** and the pictures will be named with a date and time (refer to **Base File Name**). Enable this **Create subfolder** function to have the camera auto create the subfolder by 0.5 hour, 1 hour or 1 day. An example of this can be

**File:** Select how you want uploading of snapshots to be handled:

- **Overwrite** will replace the old snapshot with the new one. This means you will only have one snapshot that is updated every time a new one is taken.
- **Date/Time Suffix** will add the date and time to the end of the snapshot file name. You can also choose to make subfolders based on a period of time you specify to help you organize your snapshots.
- **Sequence Number Suffix** will add a number to the end of the snapshot file name up to the number you specify, after which the oldest files will be overwritten.

**Enable the uploading of video clip to an FTP server:**

Enabling this will allow video clips to be uploaded to your FTP server in various ways.

- Choosing **Always** will upload video continuously, based on the Video Limit specified below.
- Choosing **Schedule** will allow you to schedule when to start and stop the uploading of video.
- Select **Motion/Sound Detection** if you would like the camera to upload video only when motion or sound is detected.

**File Name Prefix:** Set the desired base file name for your videos.

**Video Limit:** Specify the maximum file size and duration of the videos to be uploaded.

**Test FTP Server:** Clicking on the **Test** button will send a test JPEG snapshot to the FTP server specified above to make sure that your settings are correct.

**TIME SCHEDULE**

Enable uploading of images to an FTP server

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop :  (Example : 22:30:00)

Motion/Sound Detection

Image Frequency  1 Frames/Second  
 1 Seconds/Frame

Base File Name

File  Overwrite  
 Date/Time Suffix  
 Create subfolder by   
 Sequence Number Suffix Up to

Enable uploading of video clip to an FTP server

Always

Schedule

Day  Mon  Tue  Wed  Thu  Fri  Sat  Sun

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

Stop :  (Example : 22:30:00)

Motion/Sound Detection

File Name Prefix

Video Limit : Size  KBytes (max is 3072 KBytes)  
 Time  Seconds (max is 15 Seconds)

**TEST FTP SERVER**

A JPEG file will be sent to the above FTP server for testing.  
 (File name: test\_date\_time.jpg)

# Time and Date

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

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

**Synchronize NTP Server:** Enabling this will allow the camera to update its clock automatically from an NTP server. Select the NTP server closest to you, and select whether you want to apply daylight saving corrections.

**Set the Date and Time Manually:** If Synchronize NTP Server is disabled, you can set the date and time manually. You can also click on the **Copy Your Computer's Time Settings** to automatically set the date and time based on your computer's settings.

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

**TIME AND DATE**

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

Save Settings Don't Save Settings

**TIME CONFIGURATION**

Current Time 01 Jan 2013 10:13:30 P.M.  
Time Zone GMT+08:00 Taipei

**AUTOMATIC TIME CONFIGURATION**

Synchronize NTP Server   
NTP Server Used << Select NTP Server >>  
Daylight Saving  Enable  Disable  
Offset : +1:00  
Start Month Week Day of Week Time  
Jan 1st Sun 12 am  
End Jan 1st Sun 12 am

**SET THE DATE AND TIME MANUALLY**

Year 2013 Month 1 Day 1  
Hour 22 Minute 13 Second 27

Copy Your Computer's Time Settings

Save Settings Don't Save Settings

**Helpful Hints...**

**Time Zone** - The geographical zone for the local time setting.

**Automatic Time Configuration** - With this option selected, the camera will synchronize its date and time settings with an NTP server over the Internet upon camera start up. If the timeserver cannot be reached, no time settings will be applied.

**NTP server** - The IP address or domain name of the Time Server.

**Daylight Saving** - Enable daylight saving that will adjust the time depending on the daylight saving time offset and date.

You may also **Set the Date and Time Manually** or **Copy your Computer's Time Settings**.

# Day/Night Mode

This section allows you to configure when Day and Night modes are used. Day mode uses the infrared cut filter to provide a corrected color image for times where there is available lighting. Night mode moves the filter out of the way to use all available light, and turns on the IR LED illuminators to allow for clear black and white video in dark areas with little or no light.

**Auto:** This mode will automatically switch between Day and Night mode based on the amount of available lighting.

**Manual:** This mode allows you to manually switch between modes through the **Live Video** page.

**Always Day Mode:** This sets the camera to always use Day mode.

**Always Night Mode:** This sets the camera to always use Night mode.

**Day Mode Schedule:** This sets the camera to use Day mode during the times you specify, and will switch to Night mode outside the times you specify.

**D-Link**

DCS-5020L // LIVE VIDEO SETUP MAINTENANCE STATUS HELP

**DAY/NIGHT MODE**

In this section, you can configure the Day/Night mode switching method. Day/Night mode ensures good video illumination in both day and night environments.

In Day mode, IR illumination is off, IR light is blocked and the video is in color. In Night mode, IR illumination is on, IR light is visible and the video is in black & white.

Save Settings Don't Save Settings

**DAY/NIGHT MODE SETTINGS**

Day/Night Mode

- Auto
- Manual
- Always Day Mode
- Always Night Mode
- Day Mode Schedule

Mon	: 00:00 ~ 00:00	(Example : 08:00 ~ 18:30)
Tue	: 00:00 ~ 00:00	(Example : 08:00 ~ 18:30)
Wed	: 00:00 ~ 00:00	(Example : 08:00 ~ 18:30)
Thu	: 00:00 ~ 00:00	(Example : 08:00 ~ 18:30)
Fri	: 00:00 ~ 00:00	(Example : 08:00 ~ 18:30)
Sat	: 00:00 ~ 00:00	(Example : 00:00 ~ 00:00)
Sun	: 00:00 ~ 00:00	(Example : 00:00 ~ 24:00)

Save Settings Don't Save Settings

**Helpful Hints...**

**Auto** - Camera automatically switches between Day and Night mode. The camera normally works in Day mode. It automatically changes to Night mode in darker lighting.

**Manual** - User can manually control the camera to work in Day or Night mode on the live video view page.

**Always Day Mode** - The camera always works in the Day mode.

**Always Night Mode** - The camera always works in the Night mode.

**Day Mode Schedule** - The camera works in Day mode based on the day and time configured in the schedule. The camera changes to Night mode during all other times. The example displayed on the right side of the Mon/Tue/Wed/Thu/Fri/Sat/Sun fields mean that the camera works in Day mode from 08:00 to 18:30 on Monday, Tuesday, Wednesday, Thursday and Friday, works in Night mode for all of Saturday, and works in Day mode for all of Sunday.

# Camera Control

This section allows you to configure the pan and tilt operations of your camera. You can specify the lens location for the **Home** button, and specify up to 24 pre-set lens locations, allowing you to quickly view these pre-determined areas of the camera's range from the **Live Video** screen.

**Pan/Tilt Wheel:** Use the directional arrows on the wheel to move the camera lens through its pan and tilt ranges.

**Set as Home:** Click this button to set the current lens location as the **Home** location. Once set, the camera will return to this location whenever the Home button in the center of the pan/tilt wheel is clicked.

**Default Home:** Clicking on this button returns the **Home** location to the factory default setting.

**Pan Step:** Select the increment of movement for each press of a pan (up/down) arrow on the pan/tilt wheel.

**Tilt Step:** Select the increment of movement for each press of a tilt (left/right) arrow on the pan/tilt wheel.

**Preset Position:** The camera allows you to specify up to 24 pre-determined lens positions, which can be used to quickly move the camera's view to areas of interest.

- Select the number of the position that you would like to specify.
- Use the pan/tilt wheel to move the camera's lens to the desired preset position.
- Enter a name to help you easily identify the preset.
- Click on the Set button to save the preset.
- Any pre-saved positions can be cleared by selecting the desired preset and clicking on the Clear button.

The screenshot shows the D-Link camera web interface. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar lists various setup options like Wizard, Network Setup, Wireless Setup, etc. The main content area is titled 'CAMERA CONTROL' and contains a live video window showing a view through a window. Below the video is a 'PRESET POSITION SETTING' section with a pan/tilt wheel, 'Set As Home' and 'Default Home' buttons, and dropdown menus for 'Preset Position' (set to 1) and 'Preset Name' (set to 'Window'). There are also 'Clear' and 'Set' buttons. The right sidebar contains 'Helpful Hints...' with instructions on how to use the pan/tilt wheel and Home button.

# 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 are allowed to access to your camera.

**Admin Password:** To change the admin password used to log into the web interface, enter the old password, then enter the new password and retype it in the next text box, then click **Apply**.

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

**LED Control:** Select **Normal** to enable the LEDs on the front of the device, or select **Off** to disable the LED. Disabling the LED function may be useful if you want to make the camera less obvious.

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

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

**OSD Time:** Select **Enable** to allow the current time to be added to the camera video, and select a color to use for the text.

**Add User Account:** You can create new users to provide viewing access for your camera's video. User accounts will only be able to access the **Live Video** section of the web configuration interface, but cannot access any other parts or change any settings.

To create a new user, enter a user name, password, and retype the password, then click **Add**. A maximum of 8 user accounts can be created.

**User List:** Displays the account names of authorized users. You can modify or delete an account by clicking on its modify or delete icon.

The screenshot shows the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE' (selected), 'STATUS', and 'HELP'. The 'ADMIN' section is active, providing instructions on password changes and user management. Below this are four main sections: 'ADMIN PASSWORD SETTING' with fields for Old, New, and Retype Password; 'SERVER SETTING' with options for Camera Name, LED Control, User Access Control, Snapshot URL Authentication, OSD Time, and Color; 'ADD USER ACCOUNT' with fields for User Name, Password, and Retype Password; and 'USER LIST' showing a table with columns for 'no.', 'name', 'modify', and 'delete'. The table contains one entry: '1 Guest'.

no.	name	modify	delete
1	Guest		

# System

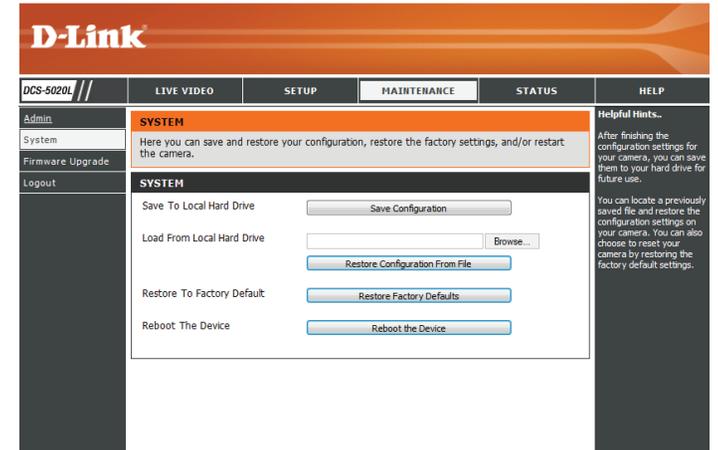
This section allows you to save and restore your configuration, restore the factory settings, and/or restart the camera.

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

**Load From Local Hard Drive:** To load a previously saved configuration, click the **Browse...** button, select your saved configuration file, then click the **Restore Configuration From File** button.

**Restore To Factory Default:** Click the **Restore Factory Defaults** button to 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 Device:** Click the **Reboot the Device** button to reboot the camera.



# 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-5020L, download the latest firmware from the D-Link Support Page to your local hard drive. Click the **Browse...** button and select the firmware file, then click the **Upload** button to start the firmware upgrade.

**Warning:** The firmware upgrade process must not be interrupted or the camera may be damaged. When upgrading firmware, do not unplug the camera or your PC, or close your web browser until the process is complete. It is also highly recommended that you use a wired connection for your camera and PC when upgrading firmware.

The screenshot displays the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The left sidebar contains 'Admin', 'System', 'Firmware Upgrade', and 'Logout'. The main content area is titled 'FIRMWARE UPGRADE' and contains the following text:

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

To upgrade the firmware on your IP camera, please download and save the latest firmware version from the D-Link Support Page to your local hard drive. Locate the file on your local hard drive by clicking the Browse button. Once you have found and opened the file using the browse button, click the **Upload** button to start the firmware upgrade.

**FIRMWARE INFORMATION**

Current Firmware Version :	1.00
Current Firmware Date :	2013-01-25
Current Agent Version :	2.0.16-b43

**FIRMWARE UPGRADE**

File Path :

**Helpful Hints...**

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

# Status

## Device Info

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

The screenshot shows the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'STATUS' tab is selected, and the 'DEVICE INFO' sub-tab is active. The main content area is divided into two sections: 'BASIC INFORMATION' and 'WIRELESS STATUS'. A 'Refresh' button is located at the bottom of the page.

DCS-5020L		LIVE VIDEO	SETUP	MAINTENANCE	STATUS	HELP
Device Info	<b>DEVICE INFO</b>					Helpful Hints..
Active User	All of your network connection details are displayed on this page. The firmware version is also displayed here.					All of your network connection details are displayed on this page.
Logout						
<b>BASIC INFORMATION</b>						
Camera Name	DCS-5020L					
Time & Date	01 Jan 2013 10:56:33 P.M.					
Firmware Version	1.00 (2013-01-25)					
Agent Version	2.0.16-b43					
MAC Address	00 FF AA CC 00 52					
IP Address	192.168.0.102					
Subnet Mask	255.255.255.0					
Default Gateway	192.168.0.1					
Primary DNS	192.168.0.1					
Secondary DNS	192.168.168.201					
DDNS	Disable					
UPnP Port Forwarding	Disable					
FTP Server Test	No test conducted.					
E-mail Test	No test conducted.					
<b>WIRELESS STATUS</b>						
Connection Mode	Infrastructure					
Link	No					
SSID	dlink (MAC : 00 00 00 00 00 00)					
Channel	6					
Encryption	No					
Wireless Client List	<input type="button" value="Wireless Client List"/>					
<input type="button" value="Refresh"/>						

# Active User

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

The screenshot shows the D-Link web interface for the DCS-5020L camera. The top navigation bar includes 'LIVE VIDEO', 'SETUP', 'MAINTENANCE', 'STATUS', and 'HELP'. The 'STATUS' tab is selected. On the left sidebar, 'Device Info' is expanded, showing 'Active User' and 'Logout' options. The main content area displays the 'ACTIVE USER' section with a description: 'This page lists active user information, including user name, IP address and the initial access time.' Below this is a 'USER LIST' table with columns for 'no.', 'user name', 'IP address', and 'time'. A 'Refresh' button is located below the table. On the right side, there is a 'Helpful Hints..' section with text explaining that the time information indicates when each user started accessing the camera.

no.	user name	IP address	time

# Troubleshooting

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

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

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

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 address

...your router's firmware has been upgraded to the latest version

...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 the password for my camera's web configuration interface?**

If you forget your password, you will need to perform a factory reset of your camera. This process will change all your settings back to the factory defaults. It is therefore recommended that you make a record of the password for future reference.

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

## **3. The image on the live view is blurry or out of focus, what can I do?**

You can manually adjust the focus of the lens by rotating the bezel on the front of the camera (surrounding the lens). While watching the live view, rotate the bezel until the desired level of focus is achieved.

### **4. Why don't the LEDs light up?**

The power supply might be faulty. Confirm that you are using the provided DC 12V power supply for this network camera. Verify that the power supply is correctly connected. The WPS LED will only turn on if there is a WPS connection present, the camera may still be functioning correctly even if this LED is not lit. If the camera is functioning normally, the LEDs may have been disabled. See "Admin" on page 40 for information about how to enable the LEDs.

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

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

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

If you are using a wireless connection to connect the camera, be aware of the range limitations of the wireless N standard. Most wireless N devices have a maximum indoor range of around 70 metres (230 feet). Also be aware that obstacles such as walls, floors, doors and other solid objects can have an adverse effect on signal range.

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

It could be that the image sensor has become overloaded when it has been exposed to bright light such as direct exposure to sunlight or halogen lights. Reposition the camera into a more shaded area immediately, as prolonged exposure to bright lights will damage the sensor.

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

The video images might be noisy if the camera is used in a very low light environment. Try switching to night mode if you are consistently monitoring a low light area.

### **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.

You may also need to check your image settings to make sure the brightness, contrast, and other settings are set properly. For more, refer to "Image Setup" on page 28.

### **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. Also, check that you have the latest version of Java installed. Java can be downloaded from <http://www.java.com>

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

# 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
- LLTD

## BUILT-IN PROTOCOL

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

## WIRELESS CONNECTIVITY

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

## WIRELESS TRANSMIT OUTPUT POWER (TYPICAL)

- 11b - 16 dbm
- 11g/11n - 12 dbm

## SDRAM

- 64 MB

## FLASH MEMORY

- 8 MB

## RESET BUTTON

- Reset to factory default

## VIDEO CODECS

- H.264
- MJPEG
- JPEG for still images

## VIDEO FEATURES

- Adjustable image size and quality
- Time stamp and text overlay
- Flip and Mirror
- **RESOLUTION**
- 640 x 480 at up to 30 fps
- 320 x 240 at up to 30 fps
- 160 x 112 at up to 30 fps

### **LENS**

- Focal length: 2.2 mm, F2.0

### **SENSOR**

- VGA 1/5 inch CMOS sensor

### **IR LED**

- 8 meter illumination distance with 10 LEDs and light sensor

### **MINIMUM ILLUMINATION**

- Color: 1 lux @ F2.0 (Day)
- B/W: 0 lux @ F2.0 (Night)

### **VIEWING ANGLE**

- Horizontal: 66.2°
- Vertical: 49.08°
- Diagonal: 77.04°

### **PAN/TILT RANGE**

- Pan Range: +170° ~ -170° (Total 340°)
- Tilt Range: +95° ~ -25° (Total 120°)

### **DIGITAL ZOOM**

- Up to 4x

### **3A CONTROL**

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

### **POWER**

- Input: 100-240 V AC, 50/60 Hz
- Output: 12 V DC, 1 A

### **DIMENSIONS (W X D X H)**

- Camera Only - 102.35 x 101.27 x 133.6 mm (4.03 x 3.99 x 5.26 inches)
- Camera Including Mounting Bracket - 102.35 x 101.27 x 230.0 mm (4.03 x 3.99 x 9.06 inches)

### **WEIGHT**

- Device: 292.4 grams (0.64 lbs)
- Stand: 60.8 grams (0.13 lbs)

### **MAX POWER CONSUMPTION**

- 8.64 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