D-Link®

Version 1.11 | July 29, 2015

User Manual

HD Pan & Tilt Day/Night Network Camera

Cloud Camera

DCS-5029L

Manual Overview

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

Manual Revision

Revision	Date	Description
1.00	September 29, 2014	• Initial release
1.10	October 8, 2014	• Minor changes
1.11	July 29, 2015	• Added DI/DO Specifications

Trademarks

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Safety Instructions

Follow the safety guidelines listed below to ensure your own personal safety and to help protect your product from potential damage.

If any of the following conditions occur, unplug the product from the electrical outlet and either replace the part that is damaged, or contact the place of purchase:

- The power cable, extension cable, or plug is damaged.
- An object has fallen into the product.
- The product has been exposed to water.
- The product has been dropped or damaged.
- The product does not operate correctly when you follow the operating instructions.

Follow the safety guidelines below:

- Do not spill food or liquids on product, and never operate the product in a wet environment. If the product gets wet, see the appropriate section in your troubleshooting guide.
- Operate the product only from the type of external power source indicated on the electrical ratings label. If you are not sure of the type of power source required, consult your local power company.
- Use only the power adapter that came with the product. Using another adapter, not recommended by the manufacturer, may damage the product and invalidate the warranty.
- To help prevent an electric shock, plug the product into properly grounded electrical outlets.
- Observe power strip ratings. Make sure that the total ampere rating of all products plugged into the power strip does not exceed 80 percent of the ampere ratings limit for the power strip.
- To help protect your product from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or uninterruptible power supply (UPS).

- Position product cables and power cables carefully. Route cables so that they cannot be stepped on or tripped over. Be sure that nothing rests on any cables. Do not modify power cables or plugs. Consult a licensed electrician or your power company for site modifications. Always follow your local/national wiring rules.
- This product is designed for indoor use only, and must always be positioned where it is not exposed to direct sunlight or strong halogen light. Exposure to direct sunlight or halogen light may cause permanent damage to the image sensor in the product.

Warnings

- **STRANGULATION HAZARD!** – Keep cords out of the reach of children. Keep and secure all cords a minimum of three feet away from a crib or other child sleeping area.
- This product contains small parts that may cause choking. **Keep out of reach of children.**
- This product is not a toy. Do not allow children to play with it.
- The product is designed for **Indoor Use Only!**
- The product should not be used in a location where it could become wet!
- Ensure the product is fixed securely otherwise it may fall and cause injury!
- This product is NOT intended to replace proper supervision of children. You must check your child's activity regularly, as this product will not alert parents to activity of children.
- Do not use extension cords. Only use the power adapter provided with this product.
- Do not use this product near a heat source.

THIS DEVICE REQUIRES THIRD-PARTY SERVICES AND PRODUCTS TO ACHIEVE FULL FUNCTIONALITY, INCLUDING BUT NOT LIMITED TO, BROADBAND INTERNET SUBSCRIPTION SERVICES AND PRODUCTS; MOBILE INTERNET SUBSCRIPTION SERVICES, COVERAGE AND PRODUCTS; CAMERA MANAGEMENT SOFTWARE, AND; A NETWORK CONNECTION. D-LINK HAS NO CONTROL OVER SUCH SERVICES AND PRODUCTS AND EXPRESSLY DISCLAIMS ANY AND ALL LIABILITY FOR THE FAILURE OF THE DEVICE OR ANY FEATURE THEREOF RESULTING FROM THE FAILURE OF ANY THIRD-PARTY SERVICE OR PRODUCT.

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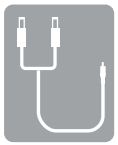
Product Overview
Package Contents

DCS-5029L HD Pan & Tilt Day/Night Network Camera

Ethernet Cable


Audio In/Out Cable

Power Adapter

Mounting Kit

Quick Install Guide

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.*

Minimum Requirements

Network Requirements	• Wired 10/100 Fast Ethernet or a wireless 802.11g/n wireless network (Wireless N network recommended for optimum performance)
Web-based Configuration Utility Requirements	**Computer with the following:** • 1.3 GHz processor or above and at least 128MB RAM • Windows® 8, 7, Vista®, or Mac OS®X (10.6 or higher) **Web Browser:** • Internet Explorer® 8 or higher • Firefox® • Chrome™ • Safari® 5 or higher **Windows® Users:** Make sure you have the latest version of Java installed and enabled. Visit **www.java.com** to download the latest version.
Network Device and Service	• A router (D-Link Cloud Router is recommended) • An Internet connection • An e-mail account (required to create a mydlink™ account)
mydlink Requirements	• For mydlink and mydlink app requirements refer to: **http://www.mydlink.com**

Introduction

The DCS-5029L HD Pan & Tilt Day/Night Network Camera is a versatile surveillance solution for your home or small office. The DCS-5029L is a complete system with a built-in CPU and Web server that transmits HD 720p video for superior image quality. 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 camera can be accessed remotely, and controlled from any PC/Notebook over your local network or through the Internet using a Web browser. The DCS-5029L features 802.11n wireless connectivity, allowing the camera to be placed anywhere within range of your wireless network.

Your DCS-5029L 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 camera's live video, 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-5029L is a stand-alone 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.

Supports a Variety of Platforms
The DCS-5029L supports TCP/IP networking, HTTP, and other Internet-related protocols. It can also be integrated easily into other Internet/Intranet applications because of it's standards-based features.

Pan/Tilt for Wide Viewing Area
Patrol a larger area with one camera, thanks to the DCS-5029L's 340° pan and 105° tilt capability. 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 nighttime viewing of up to 26 feet (8 meters), giving you clear images regardless of lighting conditions.

Motion Triggered Notifications and Recordings
The DCS-5029L can send e-mail notifications with snapshots or video clips whenever motion is detected. You can designate areas to monitor for motion, allowing you to keep watch over specific areas of interest. The DCS-5029L can also upload images to an FTP server whenever motion in these areas is detected.

802.11g/n Wireless or Ethernet/Fast Ethernet Support
The DCS-5029L offers wireless 802.11g/n and Ethernet/Fast Ethernet connectivity, making it easy to integrate into your existing network environment. The DCS-5029L works with either a 10 Mbps Ethernet-based network or 100 Mbps Fast Ethernet-based network for traditional wired environments, and works with 802.11g/n wireless routers or access points for added flexibility. The Site Survey feature also allows you to view and connect to any available wireless network within range of the camera.

Hardware Overview

Front View

1	**Light Sensor**	Detects light levels and adjusts IR-LEDs accordingly.
2	**Camera Lens**	Records video of the surrounding area.
3	**Passive Infrared Sensor**	Passive Infrared (PIR) sensor for motion detection.
4	**Power/Link LED**	The LED will be solid red while the camera boots, performs a self test, and searches for a network connection. The LED will switch to solid green when a proper connection has been achieved. The LED will blink green during data transfer.
5	**IR LEDs***	Used to illuminate the camera's field of view at night.
6	**Focus Adjustment Ring**	Turn the ring surrounding the camera lens to manually adjust the camera's focal length.
7	**Microphone**	Records audio from the surrounding area.
8	**WPS Status LED**	Indicates the WPS (Wi-Fi Protected Setup) connection status of the camera.

****Note:** If you see a white haze when viewing in night vision mode, the IR lights on the camera may be reflecting off a nearby surface. Try repositioning the camera in order to avoid glare from the IR LEDs.*

Rear View

1	**Audio In/Out**	3.5 mm jack for audio I/O devices such as microphones and speakers.
2	**Reset Button**	Press the reset button to return the device back to its factory default settings.
3	**Ethernet Port**	Connect 10/100 Ethernet devices such as computers, switches, and routers.
4	**DI/DO Port**	Attach digital I/O devices such as alarms or motion sensors.
5	**Power Receptor**	Connect to the supplied power adapter.

Left and Right Side

1	**Built in Speaker**	The speaker can be used in conjunction with the built-in microphone to enable the camera to act as an intercom.
2	**Antenna**	The external antenna increases the device's range of connectivity.
3	**WPS Button**	Use WPS (Wi-Fi Protected Setup) to easily create a secure connection to your network.
4	**microSD Slot**	Insert a microSD card to store recorded images and video.

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 router and other network devices (such as your network camera) - each wall or ceiling can reduce your adapter's range by 3-98 feet (1-30 meters).

2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (half a meter), at a 45-degree angle appears to be almost 3 feet thick (1 meter). At a 2-degree angle, it looks over 46 feet thick (about 14 meters). 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 (1-2 meters) 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.

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 16.

Camera Setup Wizard: If you do not have a mydlink-enabled router, use the Camera Setup Wizard to guide you through installation and initial configuration of your camera. Refer to "Camera Setup Wizard" on page 20.

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 Setup Wizard. Refer to "Manual Hardware Installation" on page 21.

Note: *If you experience issues registering this device with your mydlink account, or If you purchased an open box or resold unit, perform a hard reset by pressing and holding the reset button on the device for 10 seconds while the device is powered on.* ***If you are returning the device to the place of purchase, please perform the hard reset procedure to clear the device of any personal data.***

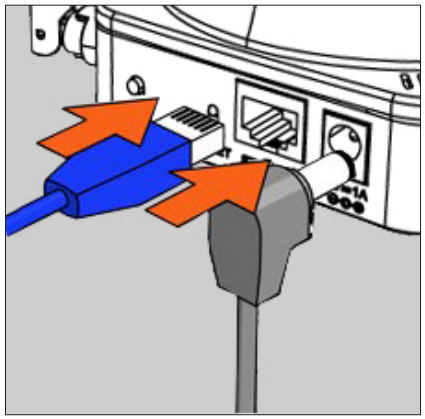
Zero Configuration Setup

The Zero Configuration Setup will only work with a registered Cloud Router an an active mydlink account. Your Cloud Router will automatically assign your network settings (both wired and wireless) to your camera, and add the camera to your mydlink account. If you do not have a D-Link Cloud Router, you can use the Setup Wizard. Refer to "Camera Setup Wizard" on page 20.

Connect the Power Cable and Ethernet Cable

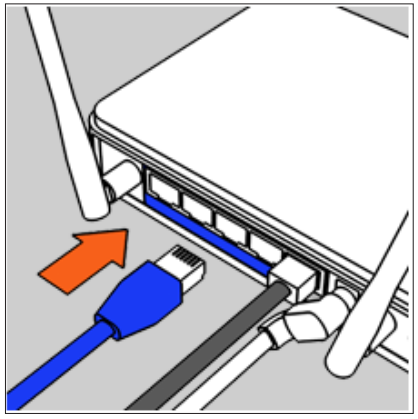
Step 1

Attach the power supply to the power receptor located on the back of the DCS-5029L and connect it to a wall outlet or surge protector. Power is confirmed when the Power LED is lit.



Step 2

Connect the included Ethernet cable to the Ethernet port located on the back of the DCS-5029L. Plug the other end into an available (LAN) port on your D-Link Cloud Router.



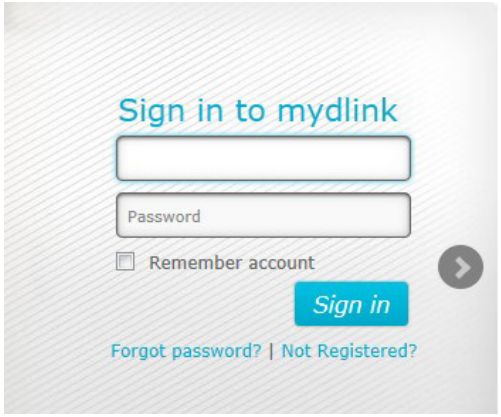
Note: *If you later decide to use your camera wirelessly, you will be able to remove the cable after the Zero Configuration Setup is complete and place the camera within your wireless network.*

If you prefer to initiate a wireless connection with your router, you can use WPS (Wi-Fi Protected Setup). Refer to "WPS - Push Button Setup" on page 19.

Add Your Camera to Your mydlink Account

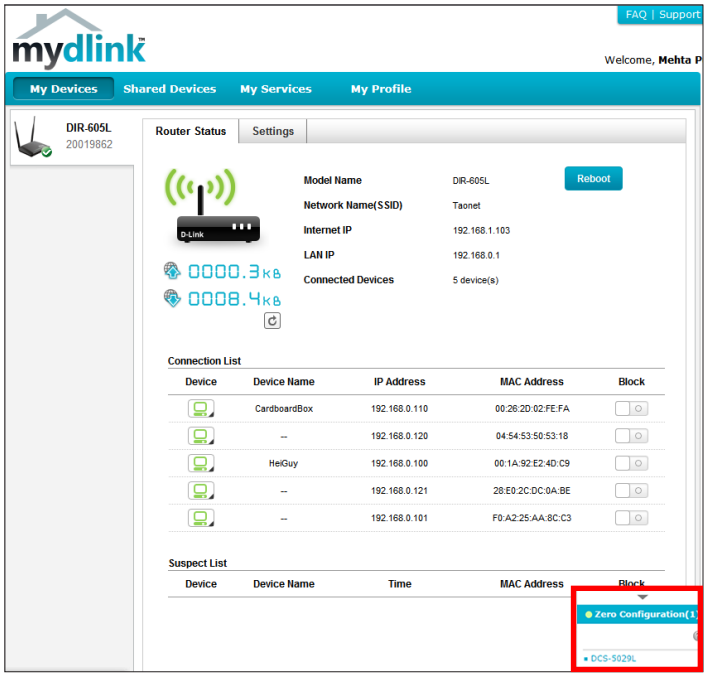
Step 3

From a computer connected to the Internet, open a Web browser (e.g., Internet Explorer, Chrome, Firefox, or Safari) and log in to your mydlink account.



Step 4

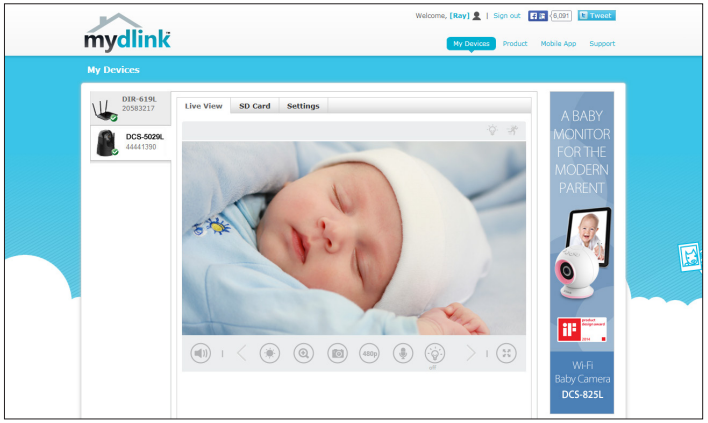
The mydlink page will automatically check for new devices. Once mydlink detects your camera, a notice will appear that says, **Zero Configuration** (at the bottom of the screen). Click the notification to continue.



Step 5
A confirmation request will appear with a summary of the configuration details. Make a note of the details and click **Yes** to add the camera to your account. Your setup is complete!

Note: *If you experience issues registering this device with your mydlink account, perform a hard reset by pressing and holding the reset button on the device for 10 seconds while the device is powered on.*

Next you will see the mydlink *Live View** for your camera. The screen will look similar to the screenshot on the right.



Note: *If you used an Ethernet connection and now want to connect your camera to your router wirelessly, you can simply disconnect the Ethernet cable and move the camera to the preferred location. Your router's wireless settings were automatically transferred to the camera during Zero Configuration Setup, so no further configuration is required.*

If you are interested in learning about advanced configuration of your camera, you can skip to "Configuration" on page 28.

Note: *If the live image is blurry, you can adjust the focus by rotating the manual focus adjustment ring that surrounds the camera lens. If you notice a white haze when viewing in night vision mode, the night vision light on the camera may be reflecting off a nearby surface. Try repositioning the camera.*

WPS - Push Button Setup

If you have a D-Link Cloud Router and an active mydlink account, the easiest way to create a secure wireless connection is by using the WPS Button on the back of the DCS-5029L. After you complete **Step 3** below, you can register your camera with mydlink. Refer to "Add Your Camera to Your mydlink Account" on page 17.

If you do not have a D-Link Cloud Router, use an Ethernet connection as shown under "Manual Hardware Installation" on page 21. WPS setup only establishes a wireless connection, so in order to use the mydlink features of your camera, you will still need to run the Camera Setup Wizard (proceed to the next page).

To create a WPS connection:

Step 1
Make sure the camera is plugged in, then press and hold the WPS button on the side of the camera 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. If you are not sure where the WPS button is located on your router, refer to your router's User Manual. 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.

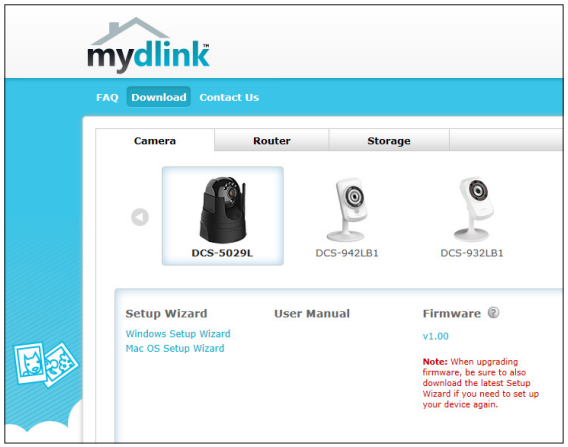
Step 3
Allow up to one minute to configure. The DCS-5029L will automatically create a secure wireless connection to your router. The blue LED will flash and your camera will reboot.

Camera Setup Wizard

If you do not have a mydlink-enabled Cloud Router, you can use either a Windows or Mac computer to go through the Camera Setup Wizard, which will guide you through the installation process. First you must download the Camera Setup Wizard from **http://www.mydlink.com/support**.

Windows Users - Download the **Windows Setup Wizard** file to your computer.

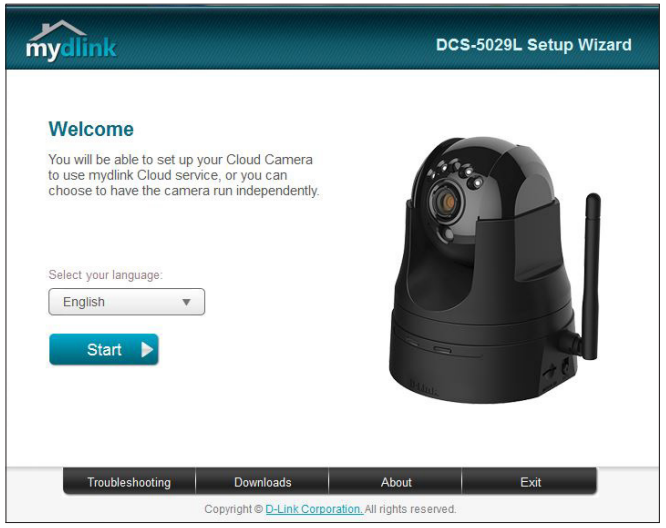
Mac Users - Download the **Mac OS Setup Wizard**. Open the **SetupWizard** file and launch the application.



Within 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.

Click **Start** to begin.

Note: *If you experience issues registering this device with your mydlink account, perform a hard reset by pressing and holding the reset button on the device for 10 seconds while the device is powered on.*



Note: *At the end of the Setup Wizard, you can click* ***Go To Camera*** *if you wish to access the Configuration Utility. Refer to "Using the Web Configuration Utility" on page 28.*

Manual Hardware Installation

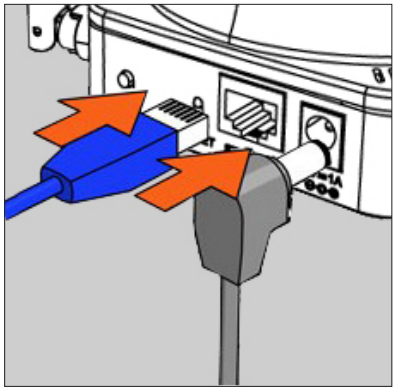
If you prefer to set up your camera without using the Camera Setup Wizard, follow the steps below.

Note: *In order to use the mydlink features of this product, you should use either the Camera Setup Wizard or Zero Configuration Setup. To learn more about mydlink, refer to "Live Video" on page 24.*

Connect the Power Cable and Ethernet Cable

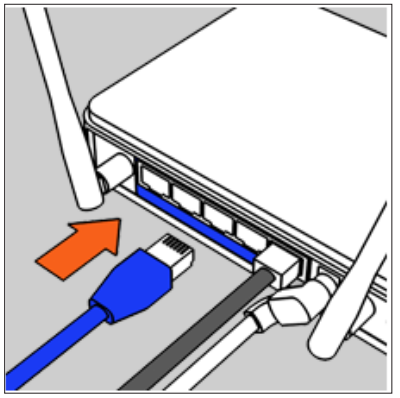
Step 1

Attach the power supply to the power receptor located on the back of the DCS-5029L and connect it to a wall outlet or surge protector. Power is confirmed when the Power LED is lit.



Step 2

Connect the included Ethernet cable to the Ethernet port located on the back of the DCS-5029L. Plug the other end into an available (LAN) port on your router.



Optional: WPS (Wi-Fi Protected Setup)

If your router supports WI-Fi Protected Setup, you can use WPS to connect your camera to your network wirelessly. For more information, refer to "WPS - Push Button Setup" on page 19. If your router does not support WPS, you will still be able to set up your camera's wireless settings using the camera's Web interface. Refer to "Wireless Setup" on page 39.

Configure Your Camera

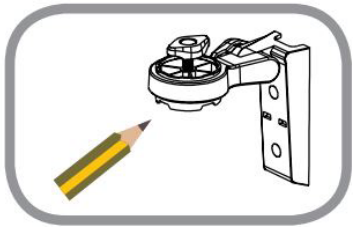
Refer to "Configuration" on page 28 for information on how to configure your camera.

Mounting Instructions

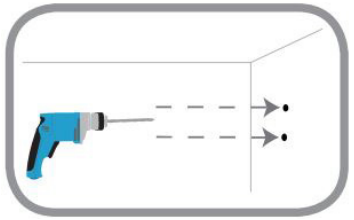
To mount your camera on a wall or ceiling, please follow the steps below.

We suggest that you configure the camera before mounting.

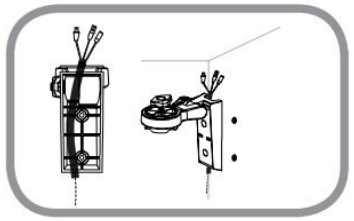
1. Place the arm mount where you want to position the camera and use a pencil to mark the holes. Make sure you allow adequate space for the necessary cables to be routed. The camera can be mounted to either side of the camera shoe.



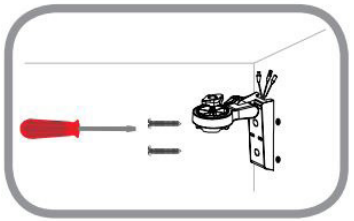
2. Depending on the material of the wall or ceiling, use a 6mm drill bit to drill two holes where you marked. If the wall is made out of concrete, after drilling the holes, insert the plastic anchors, and then insert the screws.



3. The power and Ethernet cables can be concealed behind the mounting bracket. When you run the cables through the channel, secure them with the built-in guides. Leave enough cable length protruding from the top to connect the cables to the camera.

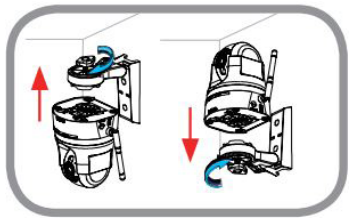


4. Fasten the arm mount to the wall using the screws provided. Lightly pull on the arm mount to make sure it is fastened securely.

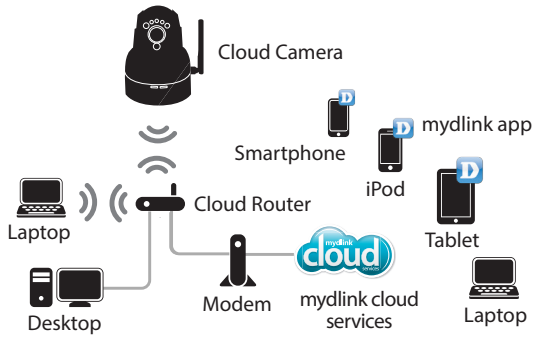


Do not overtighten the screws as this may crack the mounting bracket.

5. Align the camera base mounting guides with the camera shoe and thumbscrew on the arm mount. Tighten the thumbscrew to lock the camera in place.



What is mydlink?



mydlink provides users with a quick and easy way to view and to manage multiple cameras over the Internet. With a DCS-5029L mydlink-enabled camera, you can stay connected to everything you love from anywhere, anytime.

You can add the DCS-5029L to your mydlink account during the Setup Wizard. After downloading one of the mydlink apps (see below), you will be able access the camera with your smartphone or tablet.

mydlink Apps

mydlink Lite App (Free)

Search for "mydlink lite" to download and install the app on your smartphone or tablet when connected to the Internet. You can also find the app by scanning the QR code below with a QR code scan app.

Available on the App Store

ANDROID APP ON Google play

Download from Windows Phone Store

mydlink+ App (Paid - Tablet Only)

Search for the word "mydlink+" to download and install the app on your tablet when connected to the Internet. You can also find the app by scanning the QR code below with a QR code scan app.

Available on the App Store

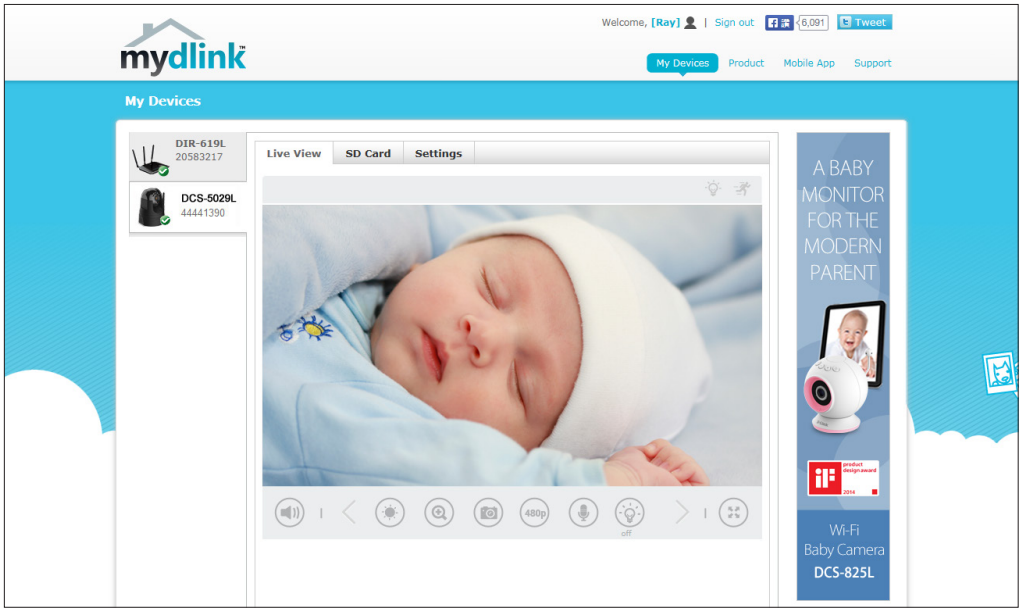
ANDROID APP ON Google play

mydlink Requirements: for mydlink and mydlink app requirements refer to: **www.mydlink.com**

Live Video

The DCS-5029L is a mydlink-enabled camera, which means you can register your camera with a mydlink account. This will allow you to use the mydlink Cloud Services, which include free access to the mydlink portal website.

After you register your DCS-5029L, you will be able to remotely access your camera from the **www.mydlink.com** website. When you log in to your mydlink account and select your camera from the device list, you will see a Live Video screen similar to the one shown below:



- Windows does not have Java installed by default. Please download it from **http://www.java.com**.
- In Mac OS X 10.7.x, Java applets are disabled by default. Click the **Finder** > **Applications** > **Utilities** > **Java Preferences** and check the **Enable applet plug-in and Web Start applications** option.
- The ActiveX® controls in IE will install automatically if needed. We suggest that you make sure that you have enabled the related options in **Tools** > **Internet Options** > **Security** > **Custom Level**.

Note: *If the live image is blurry or out of focus, you can adjust the focus by rotating the manual focus adjustment ring that surrounds the camera lens.*

Camera Status

The online status of each camera will be displayed. Your camera's online status may be one of the following:

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

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

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

If your camera is offline, try the following:

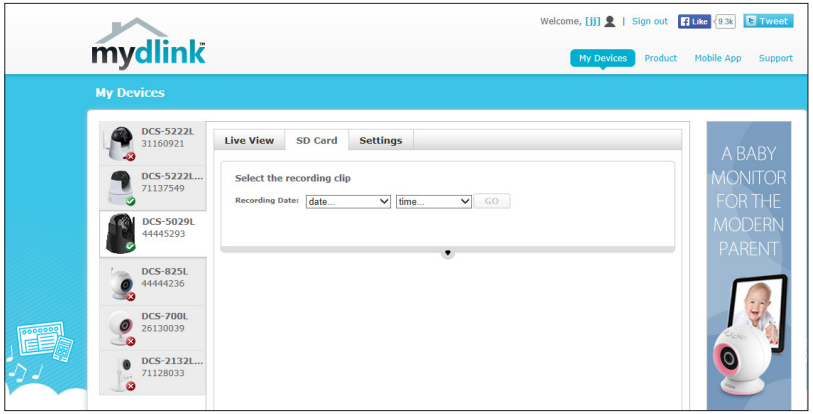
- Check to make sure that the power LED on your camera is lit (either solid red or solid green).
- If it is solid green, check to make sure that the Internet connection to your camera is working properly.
- If it is solid red, reconnect your camera to your router. Refer to "Zero Configuration Setup" on page 16 or "Manual Hardware Installation" on page 21.
- For a wired connection, make sure the Ethernet connection between your camera and router is secure.
- If the Power LED is off, check the power source.

LEDs	Color	Status	Description
Power	None	Off	Power OFF
	Red	On	Power ON/with no network connection
	Green	On	Connected to the network
		Blinking	Network traffic
WPS	Blue	Off	WPS not in use
		On	Successfully connected
		Blinking	Trying to connect

SD Card

Insert a microSD card into the microSD card slot, and you can start recording video from your camera. To play back recorded videos, log in to your mydlink account, access your camera, and click on the **SD Card** tab to locate videos for viewing.

Recording Date: Select the recording **date** and **time** from the drop-down menu. Click **GO** to view recorded video from your microSD card.



Settings

The Settings tab contains a *General Information* section that displays various details about your camera.

Device Name: You can enter a **Device Name** for your camera to help you identify it.

mydlink No.: Displays the *mydlink number* for your camera.

Model Name: Displays the *model name* for your camera.

MAC: Displays the *MAC address* for your camera.

Device activated on: Displays the *date* and *time* that your camera was added to your mydlink account.

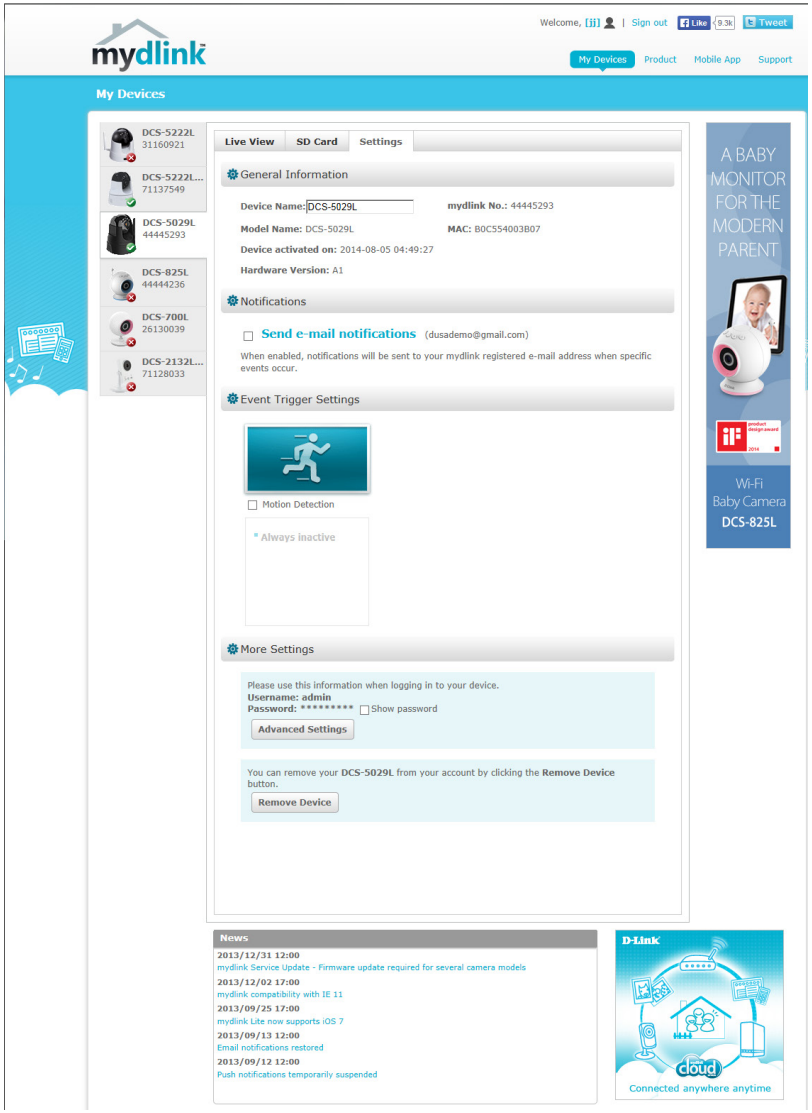
Hardware Version: Displays your camera's *hardware version*.

Send Email Notification: Check the box to enable email notification. Notifications will be sent to your mydlink registered email address when events are triggered.

Motion Detection: Check the box to enable motion detection and click the icon to configure the motion detection settings on your camera.

Advanced Settings: Click to configure advanced features for your camera. The *Username* will be **admin** by default. Enter your *Password* for the camera (not your mydlink password).

Remove Device: Click if you want to remove and un-register the camera from your mydlink account.

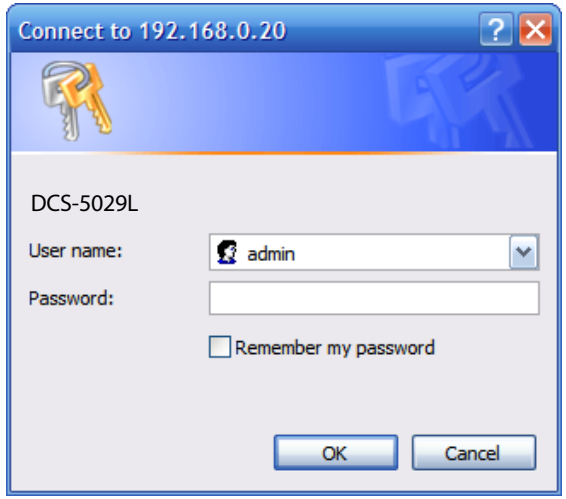


Configuration
Using the Web Configuration Utility

After completing the Camera Setup Wizard, you are ready to use your camera. The camera's built-in Web configuration utility is designed to allow you to easily access and configure your DCS-5029L. There are two ways in which you can access your camera's Web configuration interface:

- Log in to your mydlink account, click on the **Settings** tab, and click on **Advanced Settings** (as shown on the previous page) to access your camera's Web configuration utility.
- You can also access the configuration utility locally by entering the IP address of your camera into a Web browser, such as Internet Explorer. To log in, enter the *User name* **admin** and the *Password* you created in the Setup Wizard. (If you did not create a password, leave the password field blank.) After entering your password, click **OK**.

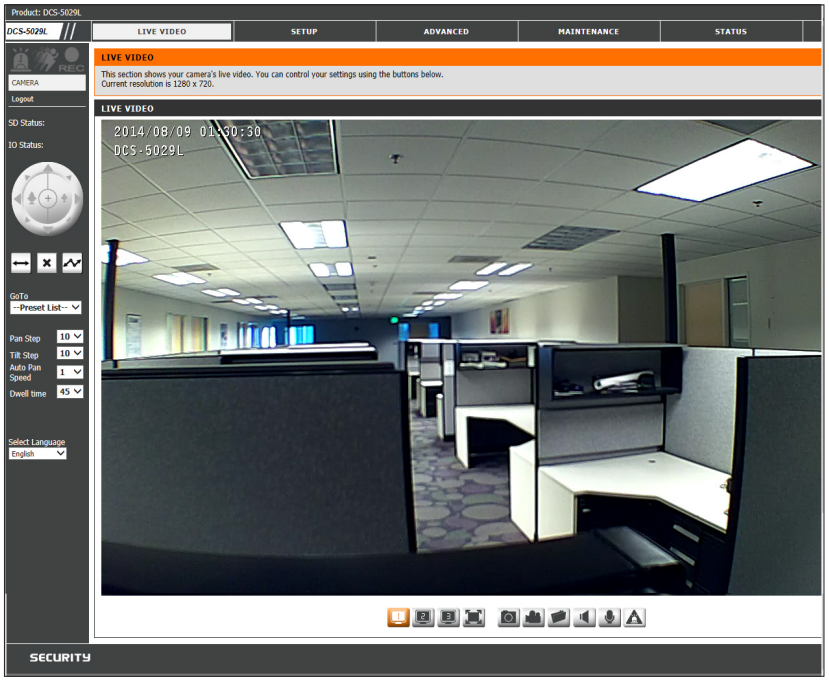
Note: *If you are directly connecting your camera to your PC, or if you are using the camera on a closed network, the default IP address is* ***192.168.0.20****. If the camera is connected to a router or network, a different IP address may have been assigned.*



Live Video

The Live Video screen displays the live video feed from your camera. Below are descriptions for the controls on the left side of the Live Video screen. For quick reference, see the control table on the next page. (The buttons at the bottom of the Live Video screen are described on the following page.)

For information on how to configure your video settings, refer to "Audio and Video" on page 43.



SD Status: This field displays the status of the microSD card if one has been inserted.

IO Status: This field displays the status of the I/O device if one has been connected.

PTZ Control: Click on the directional arrows around the rim of the *Pan/Tilt/Zoom Control* to manually control the pan and tilt functions of the camera. At any time, you can click the **(+)** button in the center of the wheel to return the camera to its Home position. The icons to the left and right of the **(+)** button are used to *Zoom In* and *Zoom Out*.

Go To: If presets have been defined, you can select one of the preset locations from the drop-down menu to move the camera to that position. (Instructions for presets are provided under "PTZ Setup" on page 44.)

Pan Step: Select a number that controls how much the camera should move up or down each time the user presses the up/down (pan) arrow on the PTZ Control.

Tilt Step: Select a number that controls how much the camera should move left or right each time the user presses the left/right (tilt) arrow on the PTZ Control.

Auto Pan Speed: Select a number that controls how much the camera should speed up or slow down when automatically panning, with 0 being the slowest and 10 being the fastest.

Dwell Time: Select a number that controls how long the camera will remain in the same preset position. (Refer to "PTZ Setup" on page 44 for more information about presets.)

Language: You can select the preferred language for the Web interface from this drop-down menu.

Note: *If the live image is blurry or out of focus, you can adjust the focus by rotating the manual focus adjustment ring that surrounds the camera lens.*

Control Table

The icons and buttons in the table below are located in the first column of the Live Video screen. The table on the next page contains the buttons that appear across the bottom of the Live Video screen.

Icon/Button	Button Name	Function
	Digital Input Indicator	This indicator will change color when a digital input signal is detected.
	Motion Trigger Indicator	This indicator will change color when a motion trigger event occurs if the motion detection feature is enabled.
	Recording Indicator	When a recording is in progress, this indicator will change color.
	Zoom In/Zoom Out	The icons on each side of the **(+)** in the middle of the PTZ Control wheel are used to **Zoom In** (provide a close-up view of the image) and **Zoom Out** (show a wider view of the image).
	Auto Pan	Starts the automatic panning function. The ROI will pan from back and forth within the FOV (field of view).
	Stop	Stops the automatic panning function.
	Preset Path	Starts the camera's motion along the predefined path.

Below is a description of the buttons that appear across the bottom of the Live Video screen.

Button	Button Name	Function
	Profile Buttons	Use these buttons to switch between video profiles. Refer to "Audio and Video" on page 43 for information on setting up profiles.
	Full Screen Button	Click to display the video at full screen.
	Snapshot Button	Click to take a snapshot of the image currently displayed on the screen and save it to a file on the hard drive in a folder specified using the **Storage Folder** button.
	Video Recording Button	Click to trigger the camera's recording function. This will record the video displayed on the screen and will save it to a file on the hard drive in a folder specified using the **Storage Folder** button.
	Storage Folder Button	Click to select a **Storage Folder** for saving snapshots and video recordings to.
	Listen Button	Click to send the audio received from the camera's microphone to the PC's speakers. Click again to stop audio in.
	Talk Button	Click to end audio from a microphone connected to your PC to the speakers connected to the camera. Click again to stop audio out.
	Start/Stop Digital Output	Press this button to start and stop digital output.

Setup
Setup Wizards

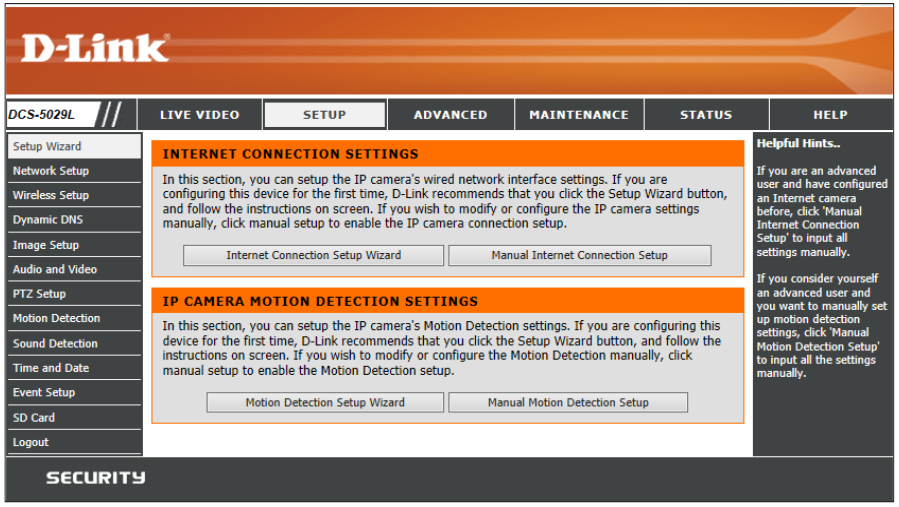
The *Camera Setup Wizard** is just one of the wizards provided for installation. There is also an *Internet Connection Setup Wizard*, which gives step-by-step instructions for simply configuring your new DCS-5029L and connecting it to the Internet.

Internet Connection Setup Wizard: You can use the wizard's step-by-step instructions to configure your camera and connect it to the Internet. Refer to "Internet Connection Setup Wizard" on page 33.

Manual Internet Connection Setup: Click to manually set up your camera's connection to your network and/or modify the network settings. Refer to "Network Setup" on page 37.

Motion Detection Setup Wizard: You can use the wizard's step-by-step instructions to configure your camera's motion detection setings. Refer to "Motion Detection Setup Wizard" on page 35.

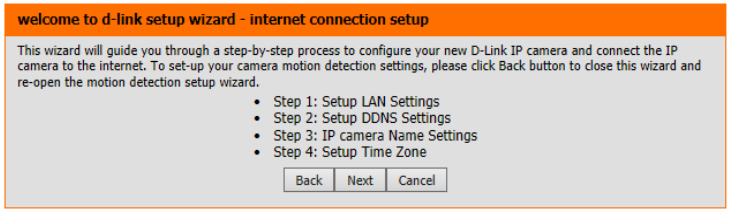
Manual Motion Detection Setup: Click to manually set up your camera's motion detection settings. Refer to "Motion Detection" on page 46.



***Note:** To register your camera with mydlink and enable its mydlink-related features, you should use the Camera Setup Wizard for installation. Please refer to "Camera Setup Wizard" on page 20.*

Internet Connection Setup Wizard

The Internet Connection Setup Wizard will guide you through a step-by-step process to configure your DCS-5029L and connect the camera to the Internet.



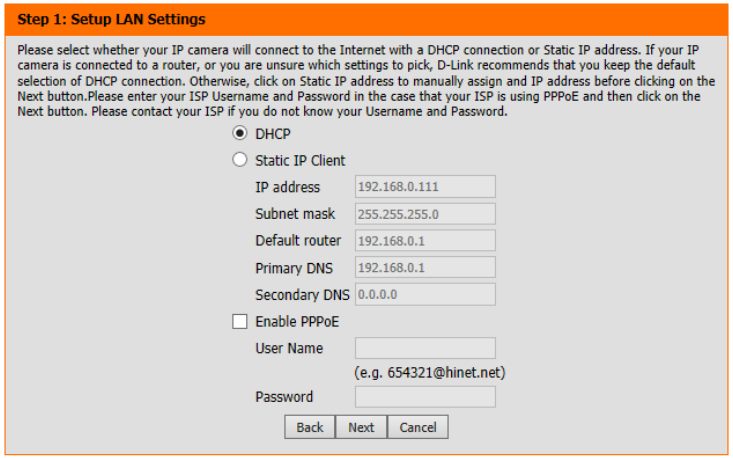
Click **Next** to continue.

Select what kind of Internet connection your camera should use:

DHCP (Default): Leave this option selected 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: This will allow you to manually enter your network settings for the camera. Select this option if your Internet Service Provider (ISP) 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 ISP or network administrator.

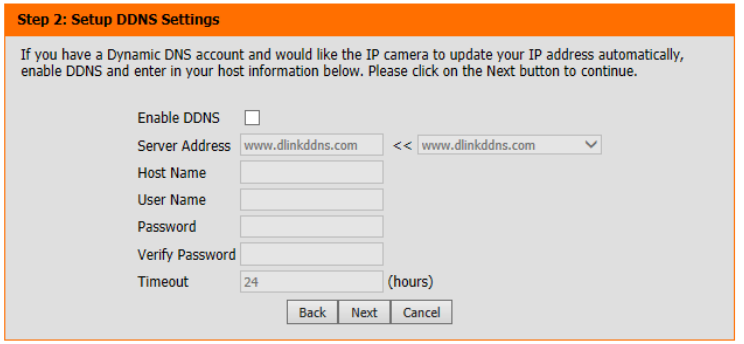
Enable PPPoE: If your camera is directly connected to the Internet through a DSL modem, you may select this option. Enter the **User Name** and **Password** provided to you by your ISP.



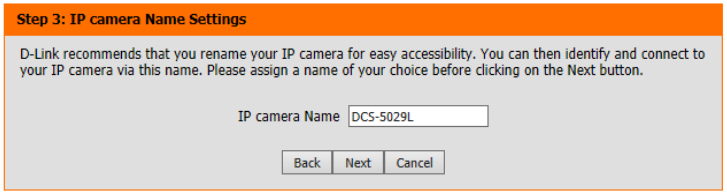
Click **Next** to continue.

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

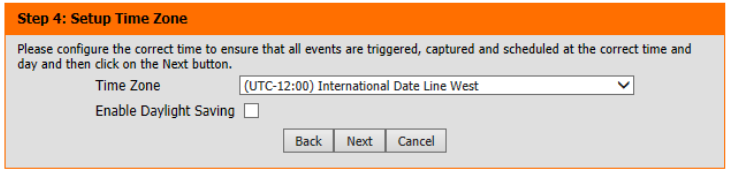
Click **Next** to continue.



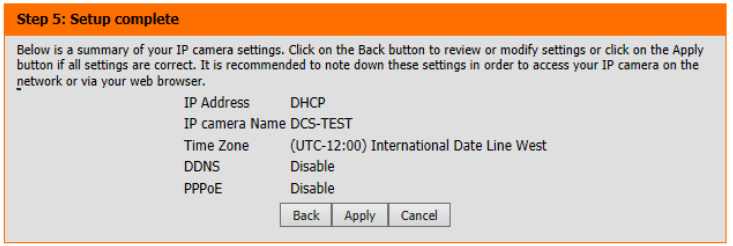
Enter a name for your camera. Click **Next** to continue.



Select the Time Zone that corresponds to your camera's location to ensure that all events are triggered, captured, and scheduled at the right time. Click **Next** to continue.



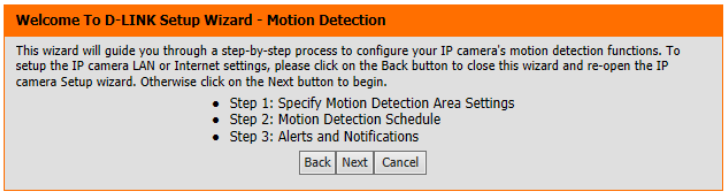
This page displays a summary of your settings. Click **Apply** to save and activate your settings. (Click **Back** if you need to change your settings.)



Motion Detection Setup Wizard

This wizard will guide you through a step-by-step process to configure your camera's motion detection functions.

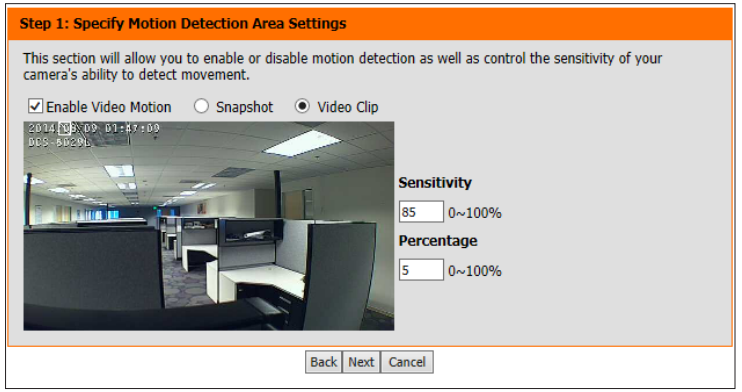
Click **Next** to continue.



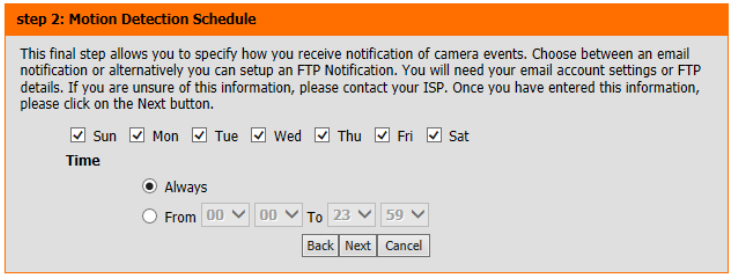
Step 1
This step will allow you to enable or disable motion detection, specify the detection sensitivity, and adjust the camera's ability to detect movement.

You can specify whether the camera should capture a snapshot or a video clip when motion is detected.

Refer to "Motion Detection" on page 46 for more information about how to configure motion detection.



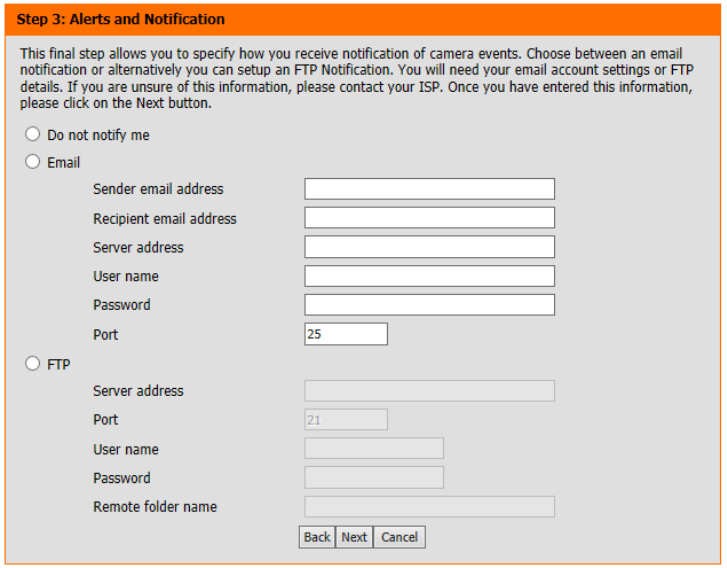
Step 2
Select **Always** to always detect motion. Otherwise, for motion detection based on a customized schedule, click **From** and specify the day(s) and hours.



Step 3
This step allows you to specify how you will receive event notifications from your camera. You may choose not to receive notifications, or to receive notifications via e-mail or FTP.

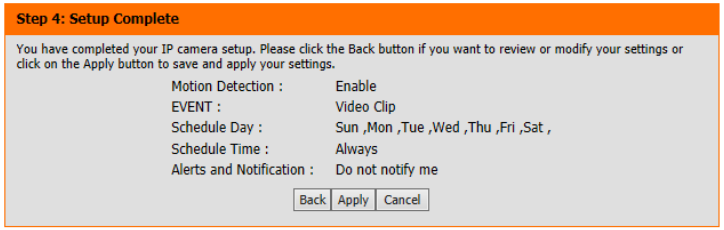
Enter the corresponding information for your e-mail or FTP account.

Click **Next** to continue.



Step 4
You have completed the Motion Detection Wizard.

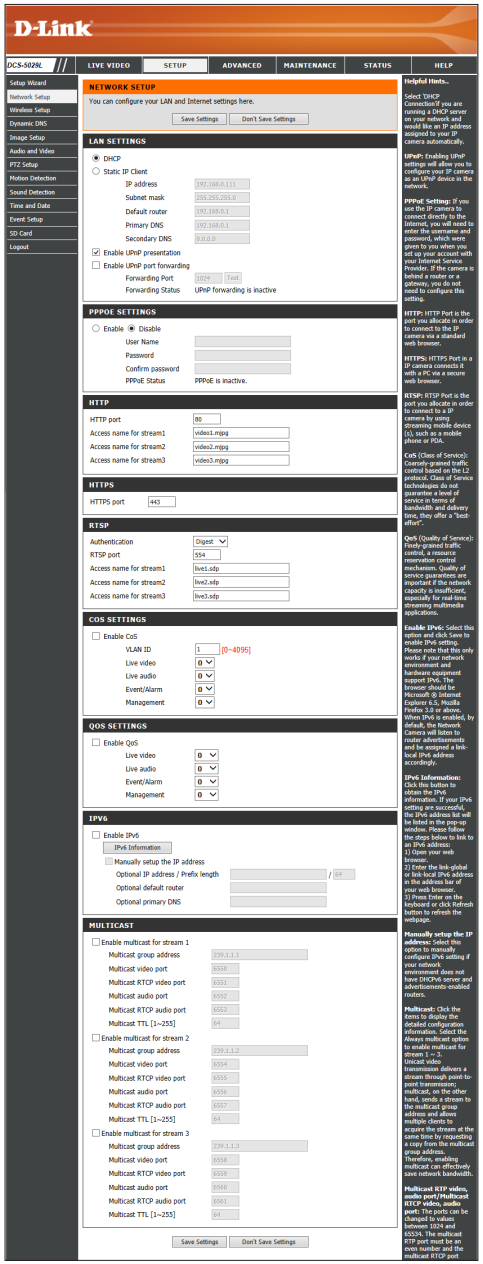
Please verify your settings and click **Apply** to save them.



Wait a few moments while the camera saves your settings and restarts.

Network Setup

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



DHCP: Select this connection type 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.

IP Address: Enter the fixed **IP Address** for your camera.
Subnet Mask: Enter the **Subnet Mask** for your network. This value is used to determine if the destination is in the same subnet as host devices. The default value is *255.255.255.0*.
Default Router: Enter the address for the gateway used to forward data to destinations in a different subnet. Invalid gateway settings may cause the failure of transmissions.
Primary DNS: Enter the IP address for the primary domain name server that translates names to IP addresses.
Secondary DNS: Enter the IP address for the secondary domain name server to backup the Primary DNS.

Enable UPnP presentation: Check to enable UPnP settings and allow you to configure your camera as a UPnP (Universal Plug and Play) device in the network.

Enable UPnP Port Forwarding: If you enable UPnP port forwarding, it will allow the camera to communicate with a UPnP compatible network router for simplified local network access and remote access using the Internet.

Enable PPPoE Settings: If your camera is directly connected to the Internet through a DSL modem, you may connect to the Internet using PPPoE. Click on **Enable** and enter the **User Name** and **Password** provided to you by your ISP or network administrator.

PPPoE Status: Displays the PPPoE status as either *active* or *inactive*.

HTTP Port: You may configure a second HTTP port that will allow you to connect to the camera using 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 *http://192.168.0.100*.

Access Name for Stream 1~3: The default name is video#.mjpg, where # is the number of the stream.

HTTPS Port: You may use a PC with a secure browser to connect to the HTTPS port of the camera. The default port number is 443.

Authentication: Click the drop-down menu to enable authentication of RTSP (Real Time Streaming Protocol).

RTSP Port: The port number that you use for RTSP streaming to mobile devices, such as mobile phones or PDAs. The default port number is 554.

Access Name for Stream 1~3: You may specify the address of a particular stream. For instance, live1.sdp can be accessed at rtsp://x.x.x.x/video1.sdp where the x.x.x.x represents the ip address of your camera.

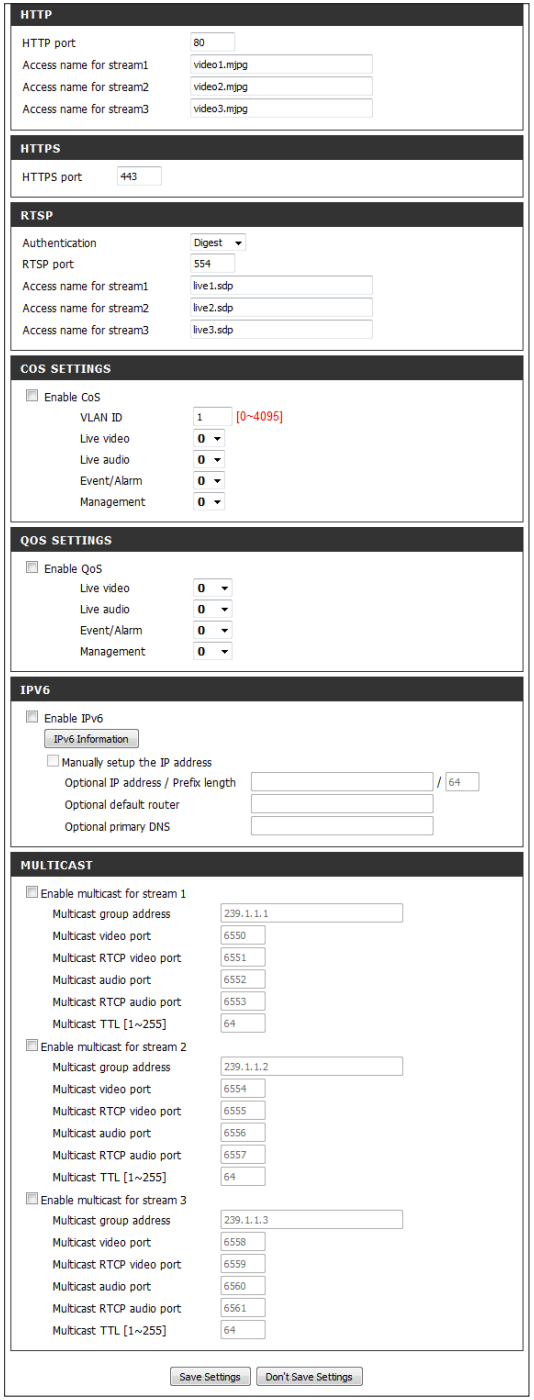
Enable CoS: Check to enable CoS (Class of Service), which implements assignment of priority using a best-effort policy without making any bandwidth reservations.

Enable QoS: Check to enable QoS (Quality of Service), which allows you to specify a traffic priority policy to ensure a consistent Quality of Service during busy periods. If the network camera is connected to a router that itself implements QoS, the router's settings will override the QoS settings of the camera.

Enable IPV6: Enable the IPV6 setting to use the IPV6 protocol. Enabling the option allows you to manually set up the IP address, specify an optional IP address, specify an optional router and an optional primary DNS.

Enable Multicast for stream: The DCS-5029L allows you to multicast each of the available streams using a group address. You can specify the TTL value for each stream. Enter the port and TTL settings you wish to use if you do not want to use the default settings.

Click **Save Settings**.



Wireless Setup

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

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

Site Survey: Click **Rescan** to scan for an available wireless network. Then click the drop-down menu to select a wireless network.

SSID: Displays the *SSID* (network name) of the wireless network you want to connect to.

Wireless 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.

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

Authentication: Select the wireless security mode used by your wireless network.

Encryption: If you select **WPA-PSK** or **WPA2-PSK** for your authentication type, you must specify what type of encryption your wireless network uses.

Key: If you select **WPA-PSK** or **WPA2-PSK** for your authentication type, enter the **Key** (also known as password) for your wireless network.

Click **Save Settings**.

Dynamic DNS (DDNS)

This section allows you to configure the DDNS (Dynamic Domain Name Server) settings for your camera. DDNS will allow users to access your camera using a domain name instead of an IP address.

Enable DDNS: Check to enable the DDNS function.

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

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

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

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

Timeout: This allows you to specify the periodic update time for notifying the DDNS server of the camera's current IP address.

Status: Displays the connection status as *Active* or *Inactive*.

Click **Save Settings**.

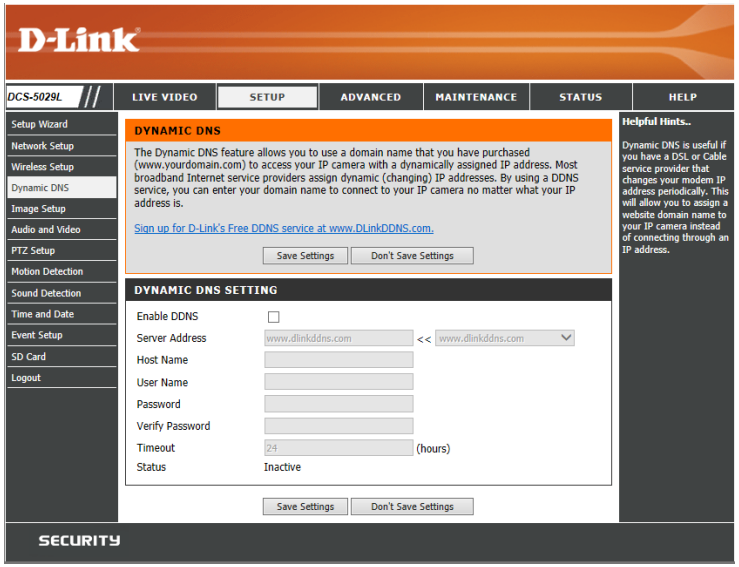
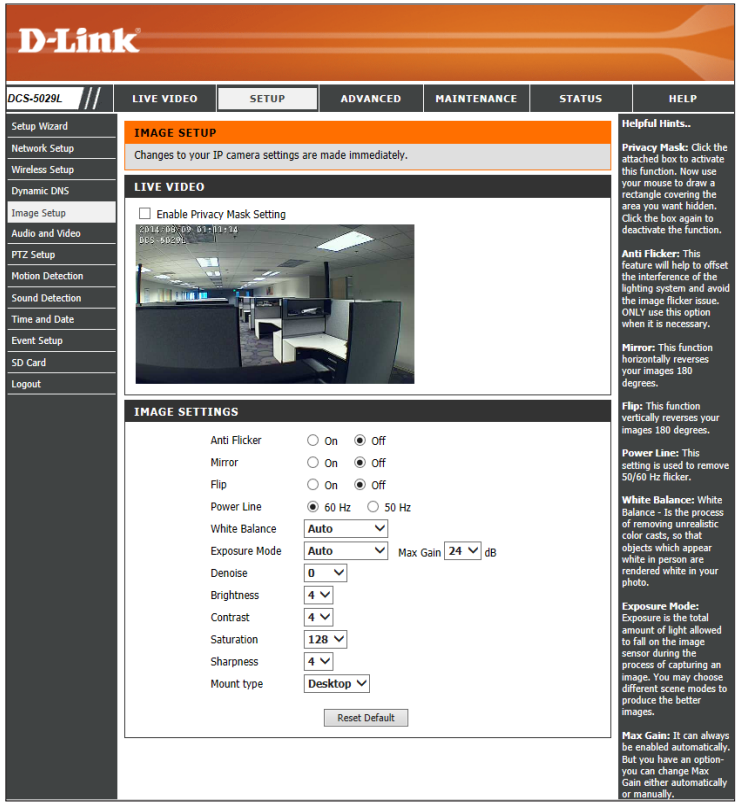


Image Setup

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



Enable Privacy Mask Setting: Check the box to enable the privacy mask function. This allows you to specify rectangular areas on the screen that should be blocked from recording and taking snapshots with your DCS-5029L.

You may click and drag the mouse cursor over the camera image to draw a privacy mask area. Right click on the camera image to bring up the following menu options:

Disable All: Disables all mask areas.
Enable All: Enables all mask areas.
Reset All: Clears all mask areas.

Anti Flicker: If you notice flickering when you view the image from your camera, click **On** to enable anti flicker. Otherwise, you can leave this feature disabled.

Mirror: Click **On** to flip the image horizontally.

Flip: Click **On** to flip the image vertically.

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

Power Line: Select the frequency used by your power lines so you can avoid interference.

White Balance: Use the drop-down menu to change the white balance settings to help balance colors in different lighting environments.

Exposure Mode: Use the drop-down menu to change the exposure mode. Set the camera for **Indoor, Outdoor**, or **Night** environments. Or select **Moving** to capture moving objects. The **Low Noise** option will focus on creating a high-quality picture without noise. You can also create three different custom exposure modes. The *Max Gain* setting will allow you to control the maximum amount of gain to apply to brighten the picture.

Denoise: Select a number from the drop-down menu representing the amount of noise reduction that will be applied to the picture.

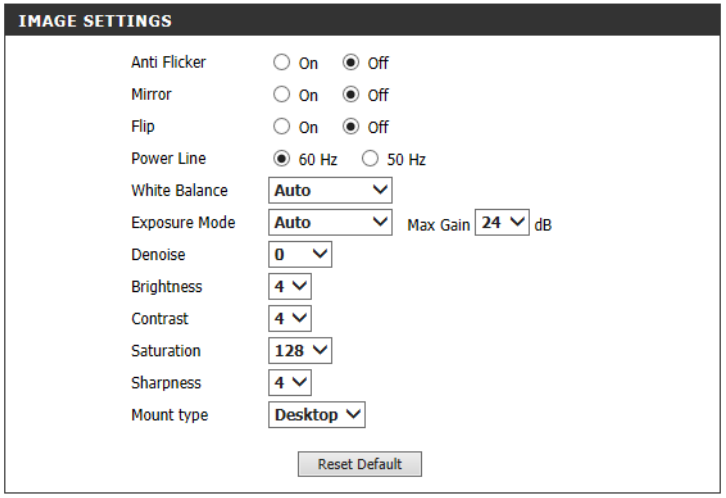
Brightness: Adjust this setting to control th brightness of the camera image.

Contrast: Adjust this setting to alter the contrast of the camera image.

Saturation: Adjust the color saturation level.

Sharpness: Select a number from 0 to 8 to specify how much sharpening to apply to the image.

Mount Type: Select the mount type , either **Ceiling** or **Desktop**, to ensure the PTZ controls respond accurately.



Audio and Video

You may configure up to three video profiles for your camera. Hence, you can have a profile for viewing content from a PC, and another for viewing content from a mobile device.

Aspect Ratio: Select the aspect ratio for the video to either 4:3 (standard) or 16:9 (widescreen).

Mode: Set the video codec to **H.264** or **JPEG**.

Frame size: Frame size determines the total capture resolution.

16:9 1280 x 720, 800 x 448, 640 x 360, 480 x 272, 320 x 176

4:3 960 x 720, 800 x 592, 640 x 480, 480 x 352, 320 x 240

Maximum frame rate: Selecting a higher frame rate results in smoother motion in videos, but requires more bandwidth. Lower frame rates require less bandwidth, but video will appear to be stuttering or "choppy".

Video Quality: This limits the *Maximum frame rate*, which can be combined with the *Fixed quality* to optimize the bandwidth utilization and video quality. If fixed bandwidth utilization is desired regardless of the video quality, choose **Constant bit rate** and select the desired bandwidth.

Constant bit rate: Click the radio button to select **Constant bit rate** and use the drop-down menu to select the desired fixed bandwidth.

Fixed quality: Select the image quality level for the camera to try to maintain. High quality levels, like **excellent**, will result in increased bit rates.

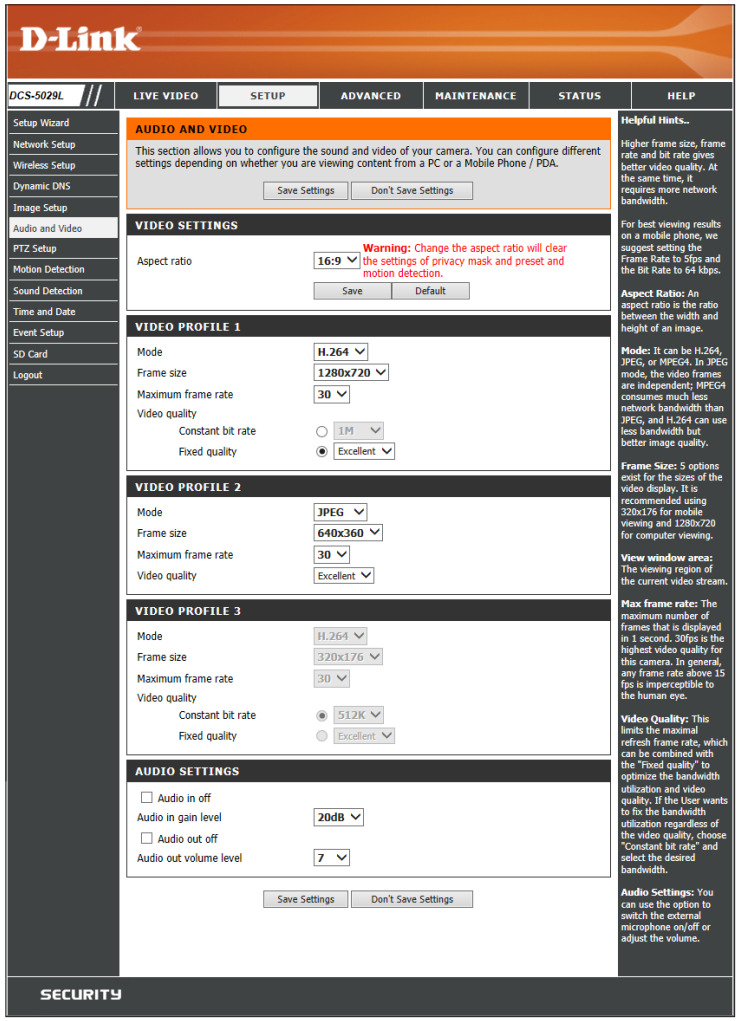
Audio in off: Check this check box to mute incoming audio.

Audio in gain level: Select a number from the drop-down menu representing the amount of gain applied to incoming audio. A higher number increases volume.

Audio out off: Check this check box to mute outgoing audio.

Audio out volume level: Select a number from the drop-down menu representing the amount of gain applied to outgoing audio. A higher number increases volume.

Click **Save Settings**.



PTZ Setup

This section allows you to configure the pan and tilt operations for your camera. You can set the lens location for the Home **(+)** button, and specify up to 24 pre-set points, allowing you to view these pre-determined areas from the Live Video screen. You can also create preset sequences.

Pan Step: Select the increment of movement for each press of a pan (up/down) arrow on the PTZ Control. (A low number for slower pan speed, and a high number for a faster pan speed.)

Tilt Step: Select the increment of movement for each press of a tilt (left/right) arrow on the PTZ Control. (A low number for slower tilt speed, and a high number for a faster tilt speed.)

Preset No: Select an available number from the drop-down menu for the preset point you want to create. (Available numbers will be listed as "nonsetting".)

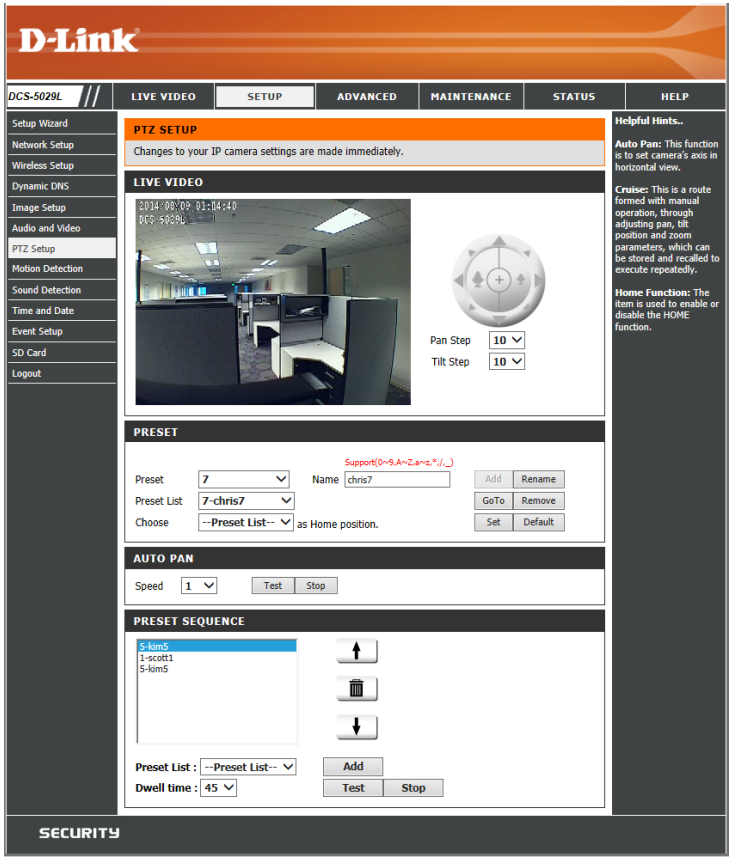
Preset Name: Enter a name for your new preset. point Use the PTZ Control to set the view you want to assign to the preset, and click **Add**. If you select an existing *Preset Name* from the *Preset List*, you can change the name by typing in a new name and then clicking **Rename**.

Preset List: Click on the drop-down menu to view the list of preset points. You can select a name from this list to **Rename** or **Remove** from the list.

Choose as Home: Select a name from the drop-down menu and click **Set** to assign the selected preset point as the Home **(+)** position.

Auto Pan Speed: Select a number from the drop-down menu representing the speed at which the camera will pan. You can choose a value between 0 and 10, with 0 being the slowest. Click the **Test** button to view the camera movement at the selected pan speed.

Proceed to the next page for instructions for creating a preset sequence.

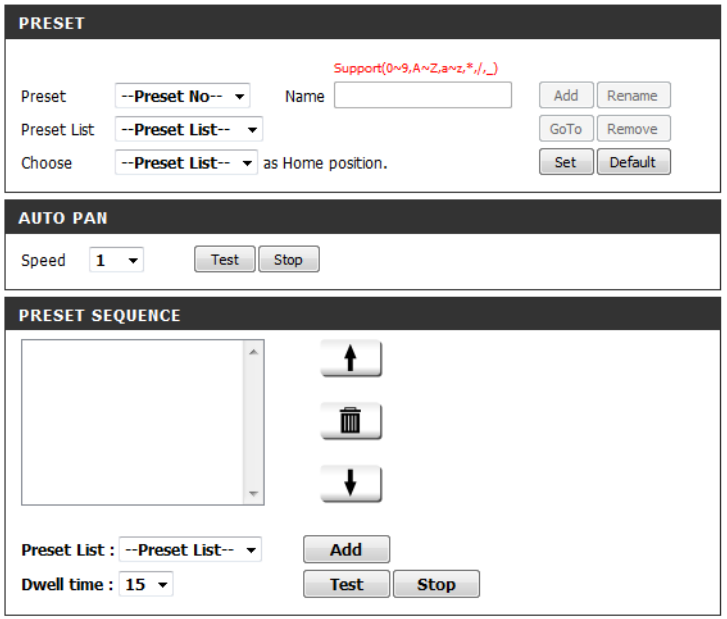


Preset Sequence: Create a preset sequence, which will automatically move the camera's view from one preset point to another.

To add a preset to the sequence, select it from the drop-down menu at the bottom of the *Preset Sequence* window, and then click the **Add** button to the right. The preset name will appear in the box below the *Preset Sequence* heading. After you add the final preset, make sure you select a **Dwell time** from the drop-down menu, and then click **Add**. The selected Dwell time will be applied to all preset points in the sequence.

To remove a preset from the sequence, select the preset name and click the **trash** icon. You can rearrange your preset points in the sequence by selecting a preset name, and then clicking the arrow buttons to the right to move the preset name higher or lower in the sequence.

When you have the preset points in the preferred order, you can click the **Test** button to view the preset sequence.



Motion Detection

This section allows you to set up motion detection on your DCS-5029L. You can define a specific area that will be monitored by your camera.

Enable Video Motion: Check this box to enable the motion detection feature of your camera. Then you will be able to use your mouse to define the area you want the camera to monitor for motion. (See *Drawing Mode* below.)

Enable PIR: Check this box to use the PIR sensor (passive infrared) to detect motion.

Sensitivity: This setting adjusts how sensitive the camera will be to motion. 100% will be the most sensitive setting and 0% will be the least sensitive setting.

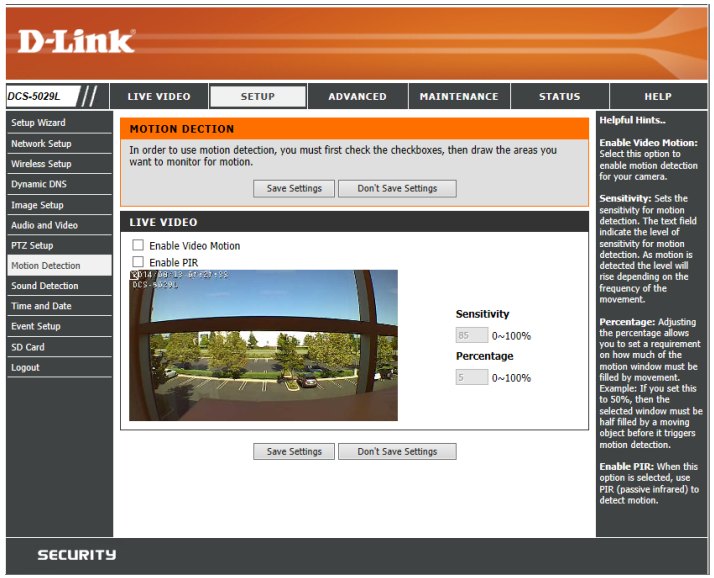
Percentage: This setting adjusts the amount of area being monitored that will trigger an alert. If set at 100%, motion detected anywhere within the window will trigger an alert.

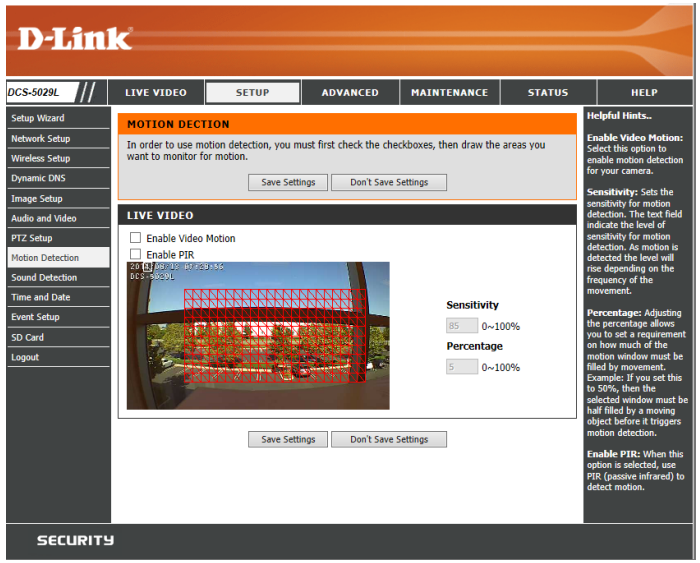
Drawing Mode: To define the part of the picture that you want the camera to monitor for movement, first click and drag your mouse over the image area to bring up the grid. Click on the blocks within the grid where you would like to monitor for motion. If you need to de-select the blocks and draw a new grid, just right-click to access the drop-down menu and click **Clear All**. When you have defined the area correctly that you wish to monitor, click **Save Settings**.

The red grid shown on the right indicates the area that has been selected for motion detection. When motion is detected within this area, you will see the *Motion* icon blinking orange from the Live Video screen. (See orange icon below.)

No Motion **Motion**

The *Motion* icon on the Live Video screen will continue blinking orange as long as motion is detected.





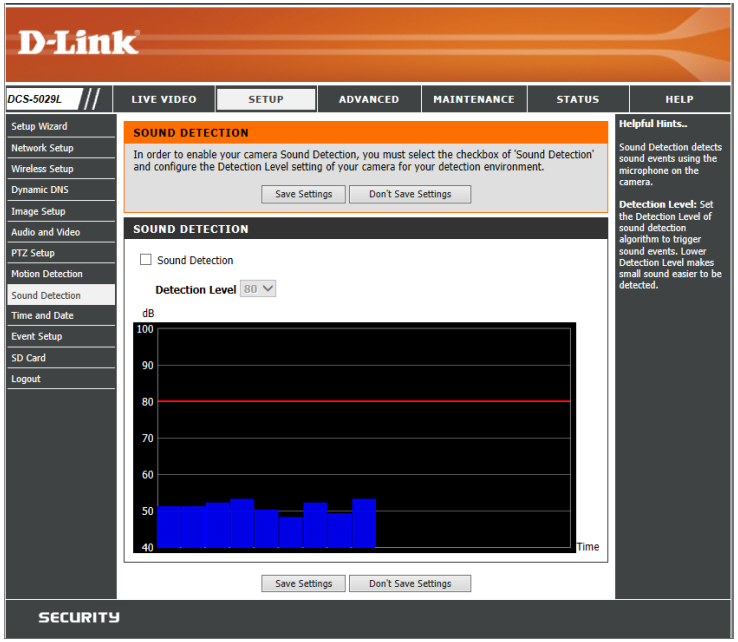
Sound Detection

Enabling Sound Detection will allow your camera to use the built-in microphone to trigger events with audio, which can be used to trigger snapshots or recordings.

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

Detection Level: Specifies the measurable detection level. When the sound level exceeds the detection level, the camera will trigger an event. Enter a value between 50 and 90. The higher the number, the less sensitive the camera will be.

Click **Save Settings**.



Time and Date

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

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

Enable Daylight Saving: Click to enable Daylight Saving Time (DST).

Auto Daylight Saving: Click this option if you want the clock to be automatically adjusted according to the DST of the selected *Time Zone*.

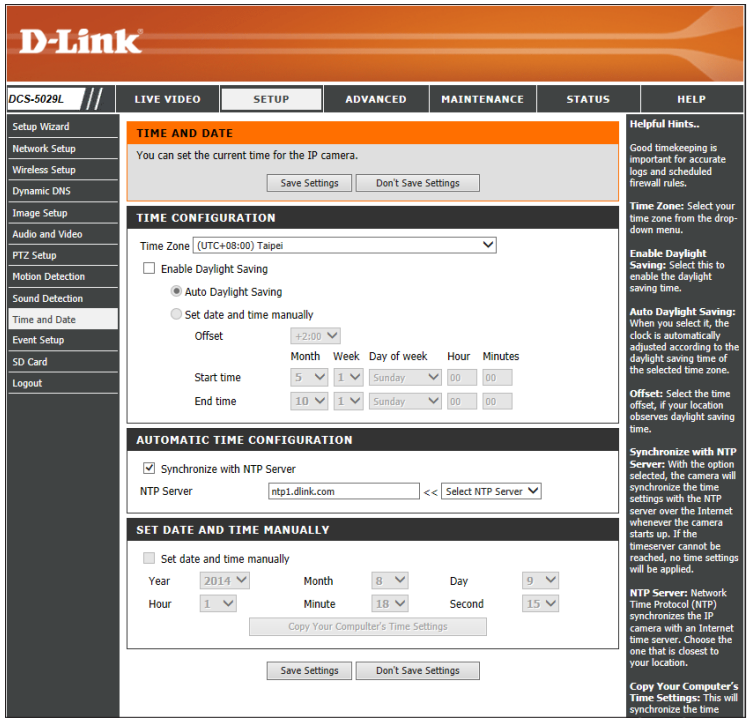
Set date and time manually: Click to set DST manually. You can select a time **Offset** using the drop-down menu, or enter a **Start time** and **End time** with the **Month**, **Week**, **Day of Week**, **Hour,** and **Minutes**.

Synchronize with NTP Server: Enabling this option will allow the camera to update its system clock automatically from an NTP server.

NTP Server: When *Synchronize NTP Server* is enabled, you can select the **NTP Server** closest to your location from the drop-down menu.

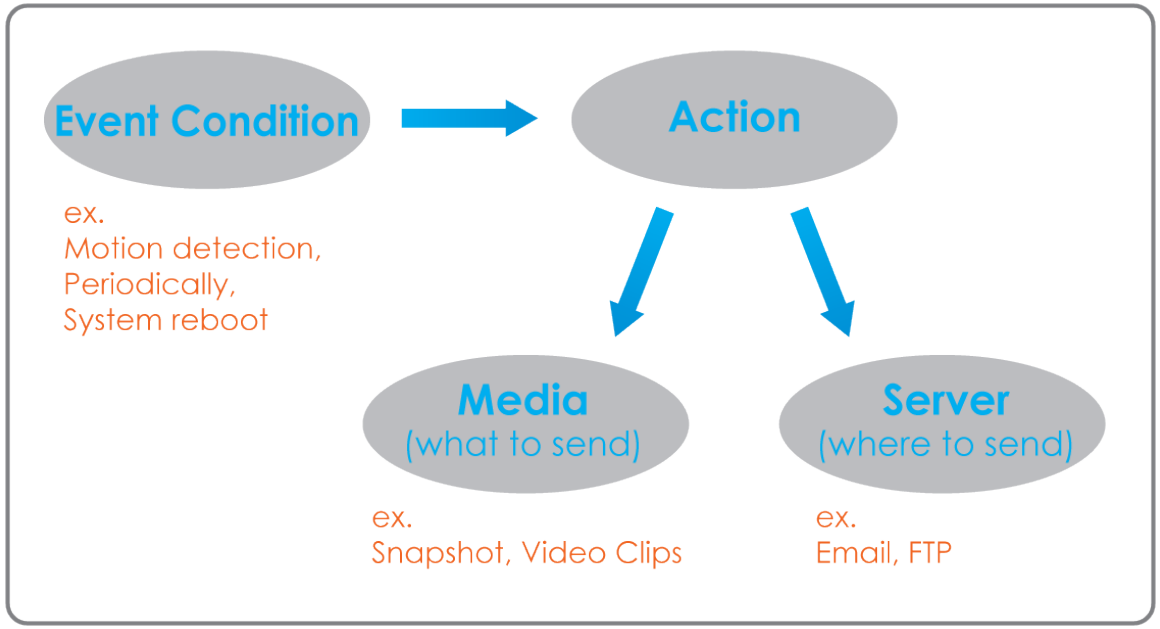
Set the Date and Time Manually: When *Synchronize NTP Server* is not enabled, you can set the date and time of the internal system clock manually. Or you can click on **Copy Your Computer's Time Settings** to automatically set the date and time based on your computer's settings.

Click **Save Settings**.



Event Setup

In a typical application, when motion is detected, the DCS-5029L sends images to a FTP server, using e-mail for event notification. As shown in the diagram below, an event can be triggered by various sources, such as motion detection or external digital input devices. When an event is triggered, a specified action will be performed. You can configure the camera to send snapshots or videos to your e-mail address or to an FTP server.



To start plotting an event, we suggest that you configure *Server* and *Media* columns first so that the network camera will know what action will be performed when a trigger is activated.

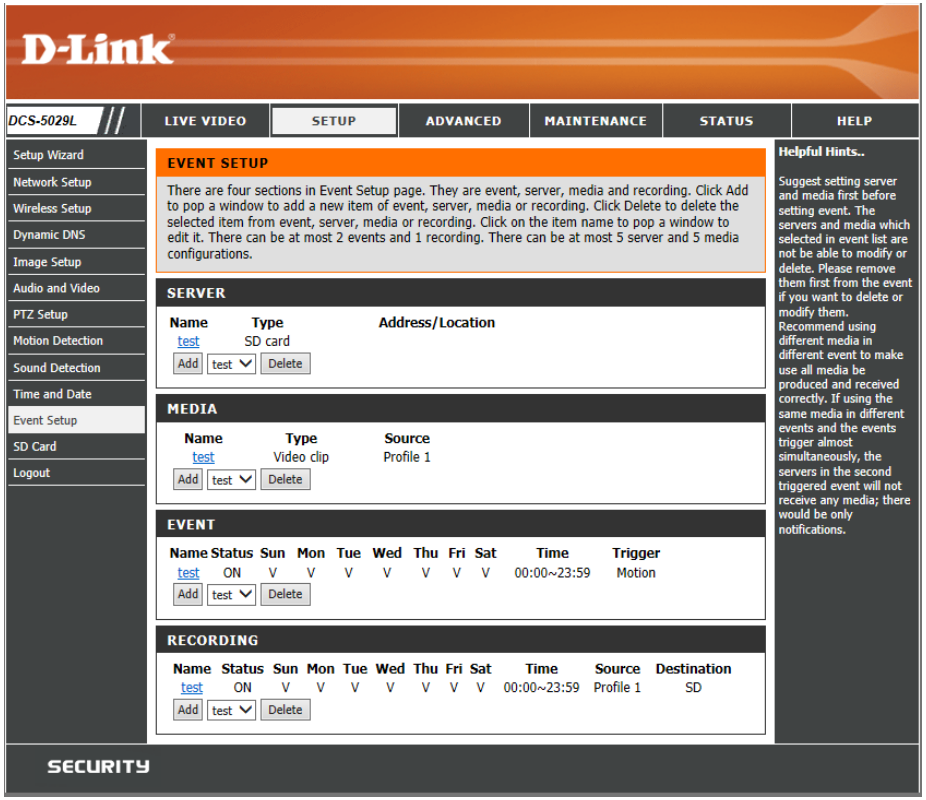
The Event Setup page includes these four sections:

- Server
- Media
- Event
- Recording

1. To add a new item, start with **Server** or **Media** first. Click **Add**. A corresponding screen will appear, and you will be able to specify an event trigger and a specified action.

2. To delete an item, select the name from the drop-down menu of *Server*, *Media*, *Event*, or *Recording* and click **Delete**.

3. To edit an item, click on the item name and a window will open for modifying the selected item.



Add Server

You can configure up to five servers to save snapshots and/or video to. After making any changes, click the **Save Settings** button to save your changes.

Server Name: Enter the unique name of your server.

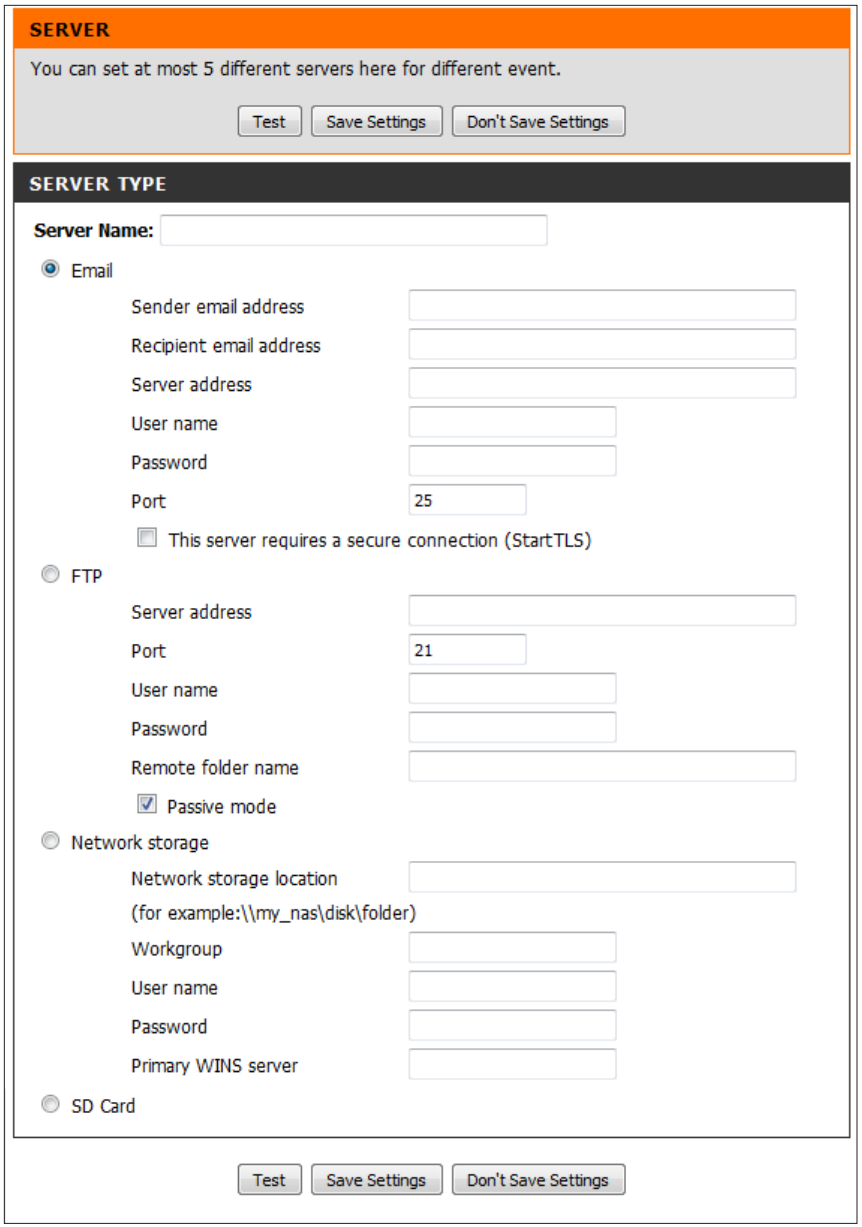
E-mail: Enter the configuration for the target e-mail server account.

FTP: Enter the configuration for the target FTP server account.

Network Storage: Specify a network storage device. Only one network storage device is supported.

SD Card: Use the camera's onboard SD card storage.

Click **Save Settings**.



Add Media

There are three types of media, **Snapshot**, **Video Clip**, and **System Log**. After making any changes, click the **Save Settings** button to save your changes.

Media Name: Enter a unique name for media type you want to create.

Snapshot: Select this option to set the media type to snapshots.

Source: Set the video profile to use as the media source. Refer to "Audio and Video" on page 43 for more information on video profiles.

Send pre-event image(s) [0~3]: Set the number of pre-event images for the camera to take. Pre-event images are images taken before the main event snapshot is taken. You can set up to three pre-event images.

Send post-event image(s) [0~7]: Set the number of post-event images for the camera to take. Post-event images are images taken after the main event snapshot is taken. You can set up to seven post-event images to be taken.

File name prefix: Enter the prefix name to be added to the file name.

Add date and time suffix to file name: Check this box to add date and time information as file name suffix.

Video Clip Source: Select this option to set the media type to video clips. Set the video profile to use as the media source. Refer to "Audio and Video" on page 43 for more information on video profiles.

Pre-event recording: Set the number of seconds to record before the main event video clip starts. You can record up to three seconds of pre-event video.

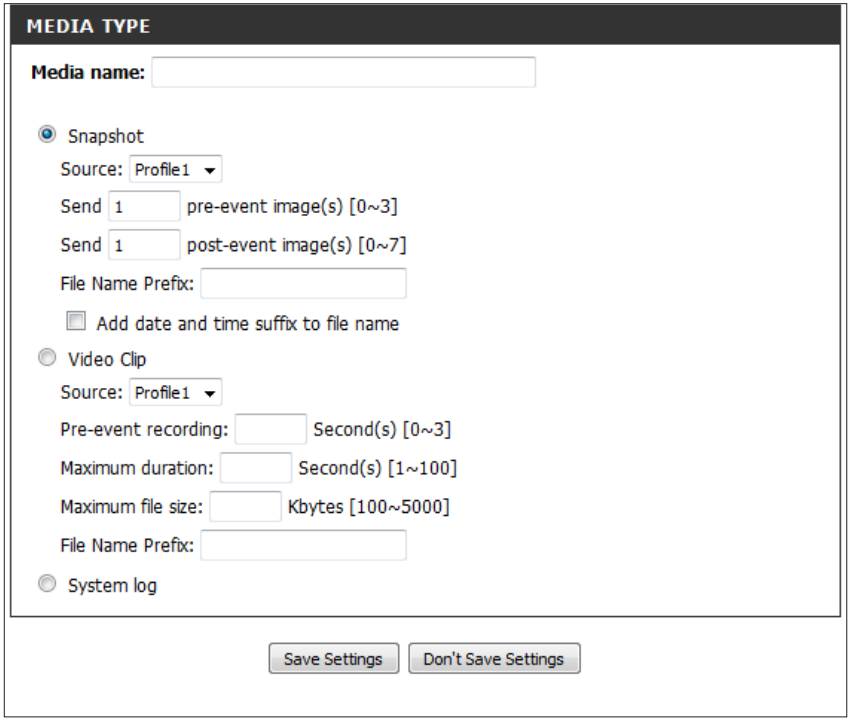
Maximum duration: Set the maximum length (in seconds) of video to record for your video clips.

Maximum file size: Set the maximum file size (in Kbytes) for your video clips.

File name prefix: This is the prefix that will be added to the filename of saved video clips.

System log: Select this option to set the media type to system logs. This will save the event to the camera system log, but will not record any snapshots or video.

Click **Save Settings**.



Add Event

Create and schedule up to two events with their own settings. After making any changes, click the **Save Settings** button to save your changes.

Event name: Enter a name for the event.

Enable this event: Check this box to activate this event.

Priority: Set the priority for this event. The event with higher priority will be executed first.

Delay: Enter the delay time (in seconds) before checking for the next event. It is used for events of motion detection type, as well as for triggers like digital input and passive infrared sensor.

Trigger: Specify the input type that triggers the event.

Video Motion Detection: Triggers an event when motion is detected.

Periodic: The event is triggered in specified intervals. The trigger interval unit is in minutes.

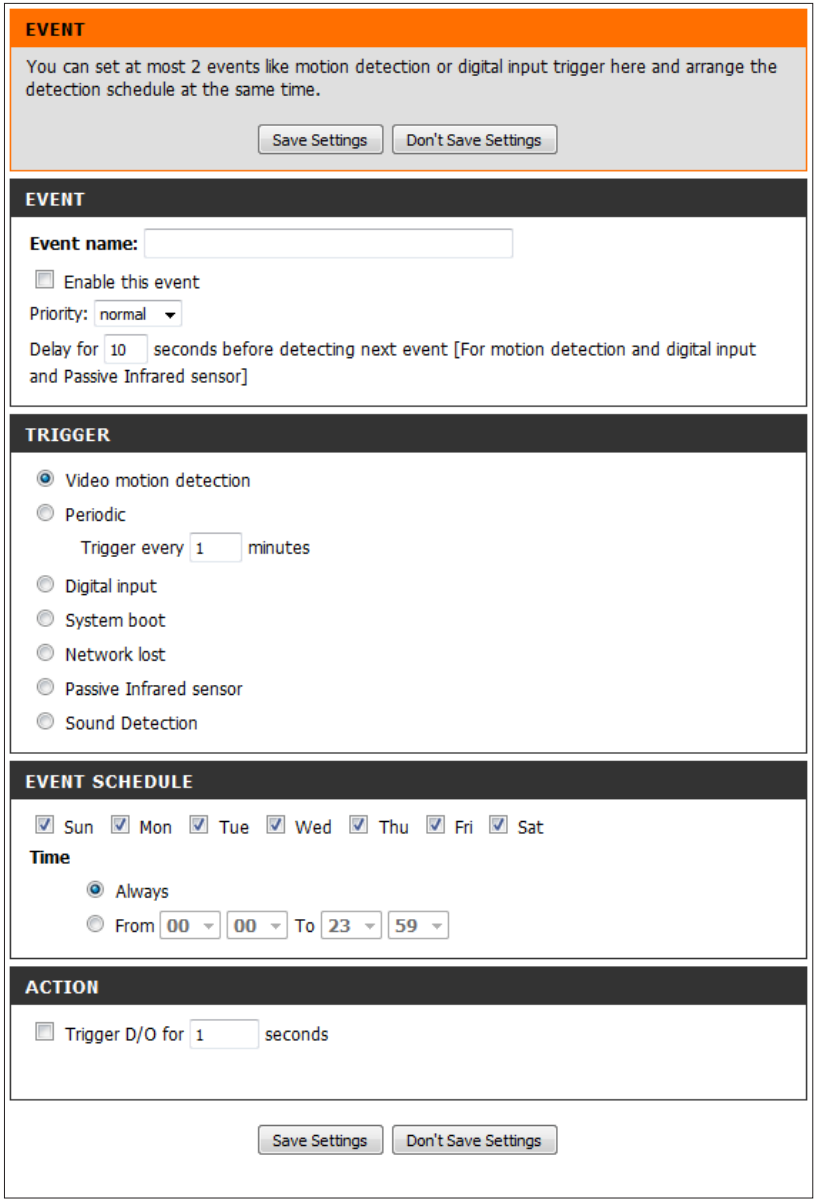
Digital input: The external digital input triggers an event.

System Boot: Triggers an event when the system boots up.

Network Lost: Triggers an event when the network connection is lost.

Passive Infrared Sensor: Triggers an event when the PIR sensor is activated by moving infrared objects, even in a dark environment.

Sound Detection: Triggers an event when sound is detected.

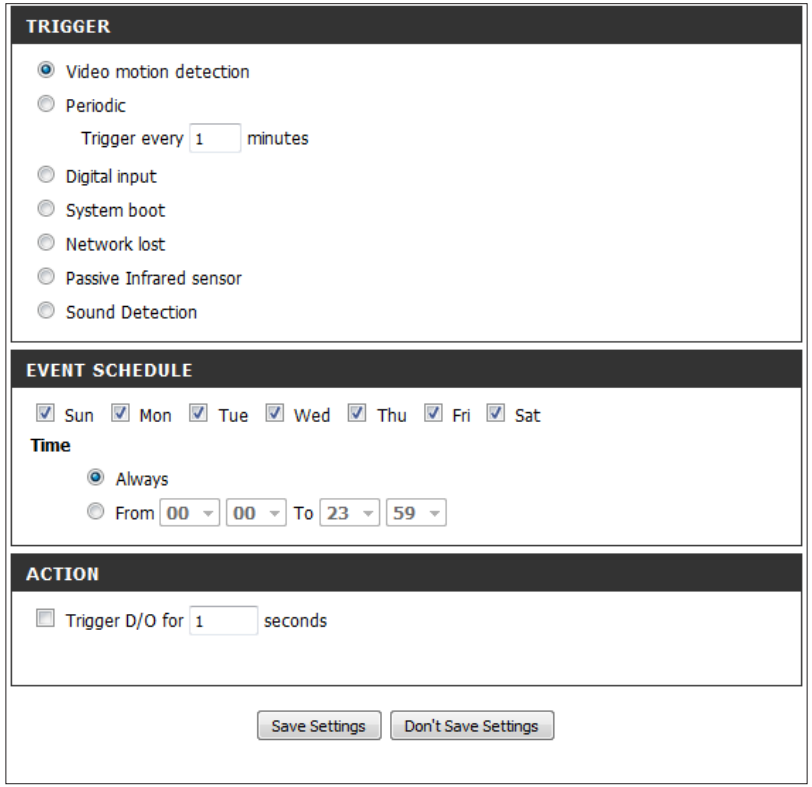


Event Schedule: Check the boxes by the days of the week that you would like to schedule the event.

Time: Select **Always** for 24 hours per day, or select **From** and enter the time interval using the drop-down menu.

Trigger D/O: Check the box to trigger the digital output for a specific number of seconds when an event occurs.

Click **Save Settings**.



Add Recording

Set up a schedule for recording video and saving the file. After making any changes, click the **Save Settings** button to save your changes.

Recording entry name: Enter the unique name for the entry.

Enable this recording: Check this box to enable the recording function.

Priority: Set the priority for this entry. The entry with a higher priority value will be executed first.

Source: Set the profile to use as the recording source. Refer to "Audio and Video" on page 43 for more information on video profiles.

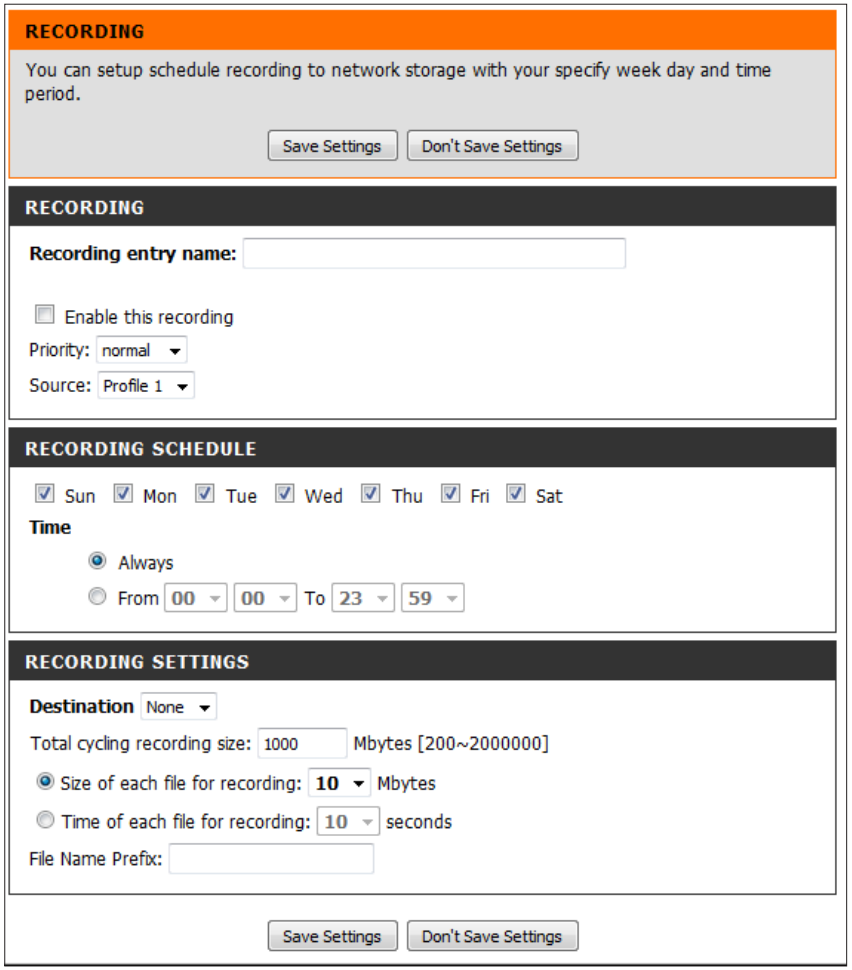
Recording Schedule: Check the boxes by the days of the week that you would like to schedule the recording.

Time: Select **Always** for 24 hours per day, or select **From** and enter the time interval using the drop-down menu.

Recording Settings: The fields in this section allow you to configure the settings for recording video.

Destination: Select **None** if you do not wish to store the recordings, or select a location where the recording file will be stored.

Total cycling recording size: Input a HDD volume between 1MB and 2TB of recording space. New recordings will replace the oldest recordings when the total recording size exceeds this value. For example, if each recording file is 6MB, then the camera will record 100 files in the specified location (folder) and then will delete the oldest file and create a new file for cyclical recording.



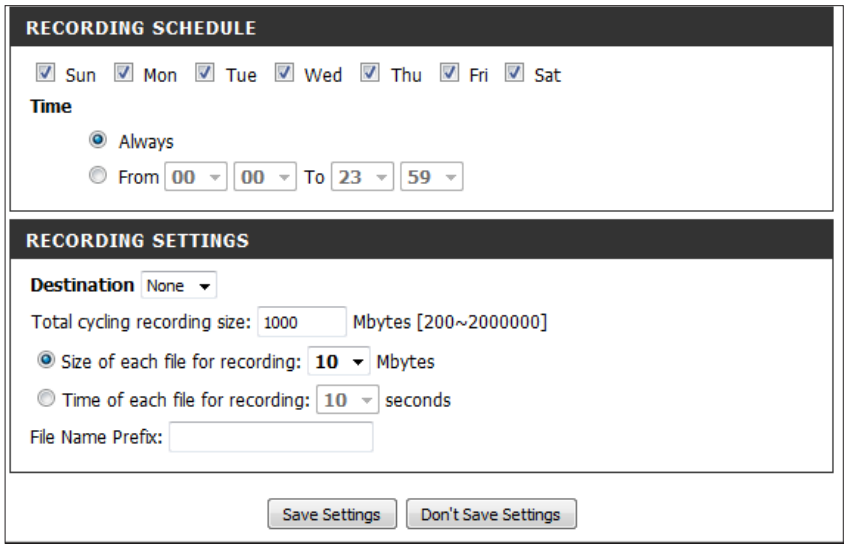
Note: *When you specify the total cycling recording size, make sure that you leave enough HDD space for the size that is specified. Otherwise, the recording will stop.*

Size of each file for recording: If you select this option, files will be separated based on the file size you specify.

Time of each file for recording: If you select this option, files will be separated based on the maximum length you specify.

File Name Prefix: The prefix name will be added on the file name of the recording file(s).

Click **Save Settings**.



SD Card

After you insert and format the microSD card, you will be able to browse and manage the stored files.

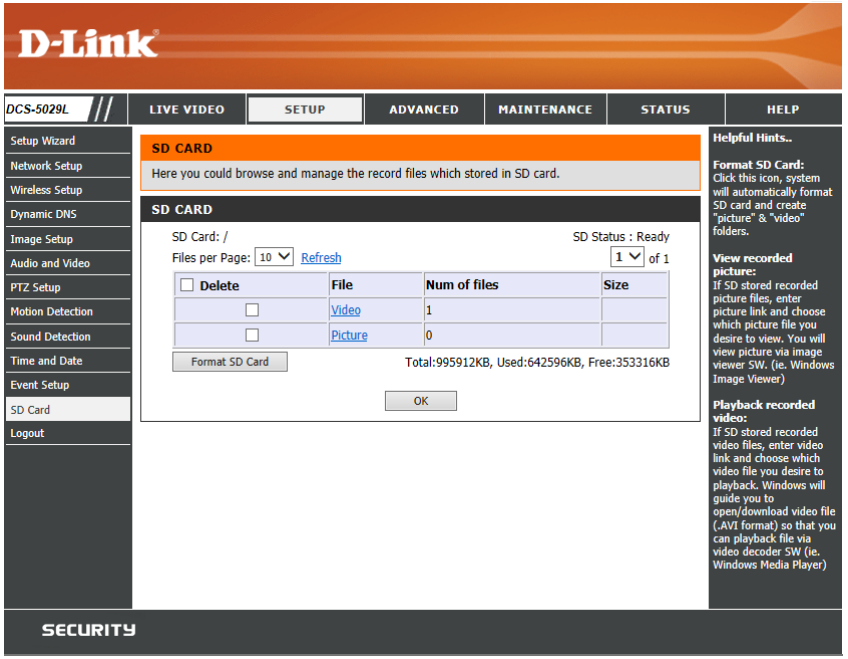
Files per Page: Select a number from the drop-down menu representing the number of files to view on this page.

Refresh: Click the link to reload the file and folder information from the microSD card.

Video: If video files are stored on the microSD card, click on the link and locate the file you would like to play back.

Picture: If picture files are stored on the microSD card, click on the link and locate the file you would like to view.

Format SD Card: Click this button and the system will automatically format the microSD card and create folders for pictures and video.



Advanced
DI and DO

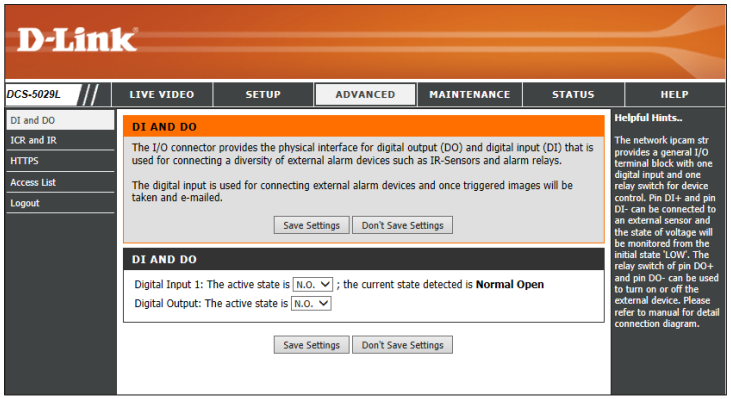
This screen allows you to control the behavior of digital input and digital output devices. The I/O connector provides the physical interface for digital output (DO) and digital input (DI) that is used for connecting a variety of external alarm devices such as IR-Sensors and alarm relays. The digital input is used for connecting external alarm devices. Once an alert is triggered, video will be recorded or snapshots will be taken and alerts will be e-mailed as specified. (Refer to "Event Setup" on page 49.)

D/I and D/O: The camera sends a signal whenever an event is triggered by a digital input or digital output device.

N.C. stands for **Normally Closed**. This means that the normal state of the circuit is closed. Therefore events are triggered when the device status changes to "Open."

N.O. stands for **Normally Open**. This means that the normal state of the circuit is open. Therefore events are triggered when the device status changes to "Closed."

Click **Save Settings**.



ICR and IR

Here you can configure the ICR and IR settings. The IR (Infrared) Cut-Removable (ICR) filter can be removed for increased sensitivity in low-light environments. (The ICR filter blocks IR light when it is inserted.)

Automatic: Click **Automatic,** and the Day/Night mode is set automatically. Generally, the camera uses Day mode and switches to Night mode when needed.

Day Mode: Day mode enables the IR Cut Filter.

Night Mode: Night mode disables the IR Cut Filter.

Schedule Mode: Click **Schedule mode**, and then set up the Day/Night mode using a schedule. Select the starting time (**From**) for Day Mode, and the ending time (**To**) for return to Night Mode.

IR Light Control: Select from the options below to enable or disable the IR (infrared) light according to your preferences. This setting provides additional controls depending on your specific application.

Off: Click **Off**, and the IR light will always be off.

On: Click **On**, and the IR light will always be on.

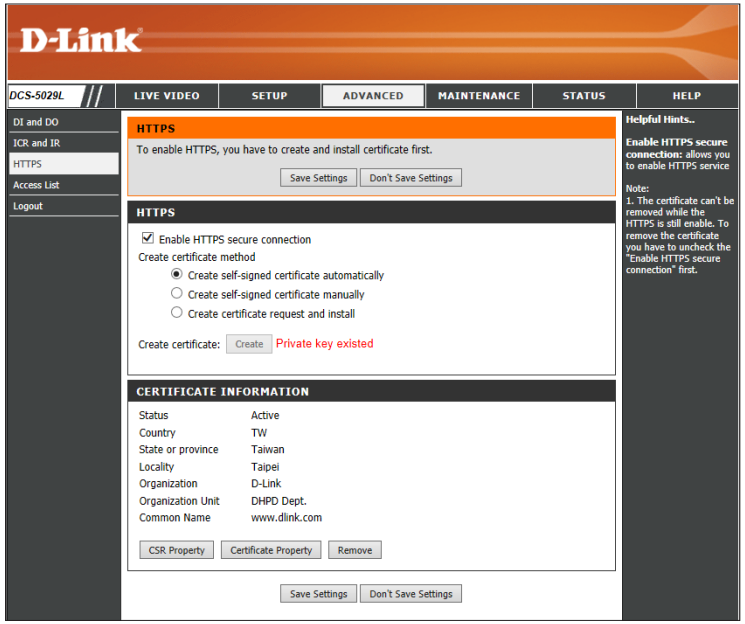
Sync with ICR: Click **Sync with ICR** to synchronize your IR LEDs with the ICR filter. IR lights will come on when the ICR filter is removed.

Schedule: Click **Schedule,** and the IR light will turn on or off according to the schedule that you specify. Select a starting time (**From**) and ending time (**To**) from the drop-down menu.

Click **Save Settings**.

HTTPS

This page allows you to install and activate an HTTPS certificate for secure access to your camera.



Enable HTTPS Secure Connection: Check the box to enable the HTTPS (Hypertext Transfer Protocol Secure) service.

Create Certificate Method: Choose the way the certificate should be created. Three options are available:

1. Create a self-signed certificate automatically
2. Create a self-signed certificate manually
3. Create a certificate request and install

Create certificate: Click **Create** to create the certificate.

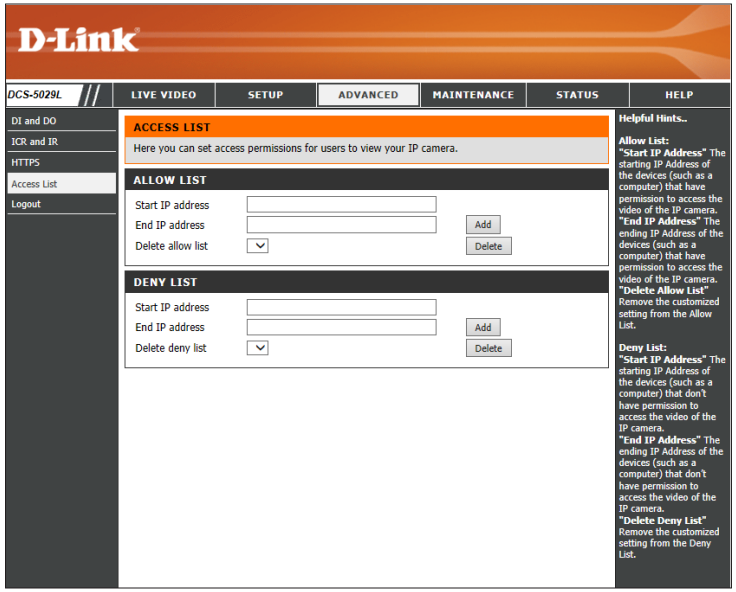
Certificate Information: Displays the *Status* and other details about the certificate.

Note: *The certificate cannot be removed while the HTTPS is still enabled. To remove the certificate, you must first uncheck* ***Enable HTTPS secure connection*** *and then click* ***Remove****.*

Click **Save Settings**.

Access List

Here you can set access permissions for users to view your DCS-5029L. A total of seven lists can be created for the Allow list and the Deny list.



Allow List: The list of IP addresses that have access to the camera.

Start IP address: Enter the starting **IP Address** for the devices (such as a computer) that have permission to access the video from the camera. Click **Add** to save the specified IP address.

End IP address: Enter the ending **IP Address** for the devices (such as a computer) that have permission to access the video from the camera. Click **Add** to save the specified IP address.

Delete allow list: Click to remove the customized setting from the Allow List.

Deny List: The list of IP addresses that have no access to the camera.

Start IP address: Enter the starting **IP Address** for the devices that should have no access the video from the camera. Click **Add** to save the specified IP address.

End IP address: Enter the ending **IP Address** for the devices that should have no access the video from the camera. Click **Add** to save the specified IP address.

Delete deny list: Click to remove the customized setting from the Deny List.

For example:
When the range of the Allowed List is set from **1.1.1.0** to **192.255.255.255** and the range of the Denied List is set from **1.1.1.0** to **170.255.255.255**, only users with IP addresses located between 171.0.0.0 and 192.255.255.255 can access your DCS-5029L.

Maintenance

Admin

This section allows you to change the administrator's password and configure the settings for your camera. You can also create user account(s) for individuals allowed to access your camera. These users will only be able to access the Live Video page, and will not be able to change settings.

New Password: To change the admin password used to log into the Web interface, enter the **New Password** and enter it again in the next field to confirm. Click **Save**.

Add User Account: To create a new user account, enter a **User Name**, **New Password**, and enter the password again in the **Retype Password** field to confirm. Click **Add**. A maximum of eight user accounts can be created.

User List: Displays a *User Name* for each authorized user. The administrator can delete an account by clicking on the **Delete** button.

IP Camera Name: Enter a name for your camera.

Enable OSD: Check the box to enable the on-screen display (OSD) that you will see when viewing the video from your camera.

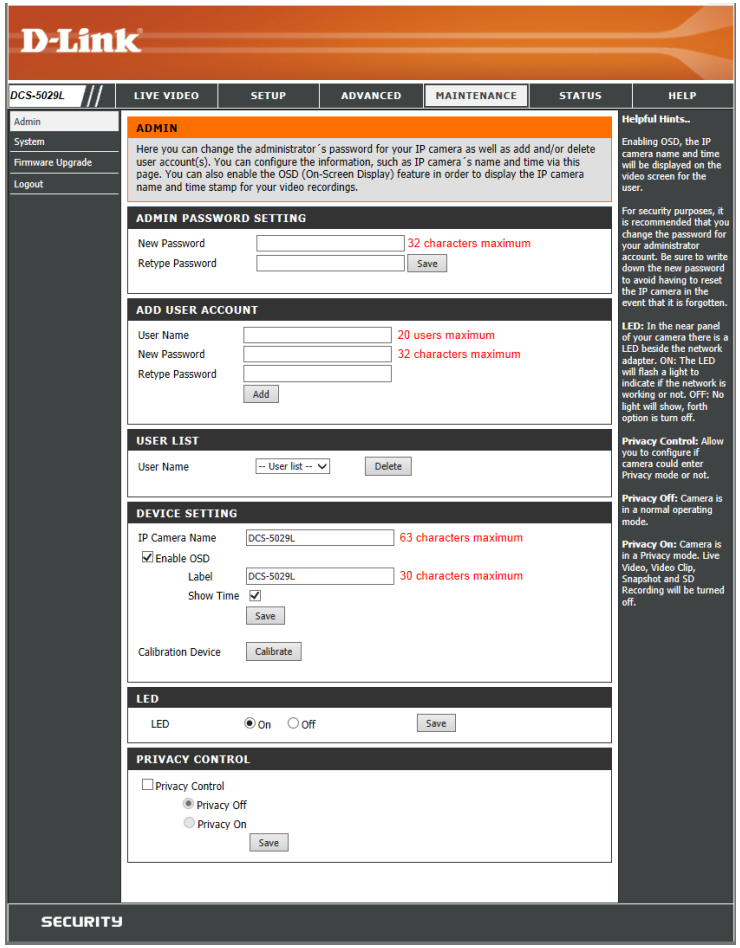
Label: Enter a **Label** that will be displayed when the OSD is enabled.

Show Time: Check the box to enable the time-stamp display on the screen, and click **Save** to save your settings.

Calibration Device: Click **Calibrate** to ensure that the camera's pan, tilt, zoom functions correctly. Should the camera's P/T/Z function incorrectly, or if the camera has been jarred, you may need to click the **Calibrate** button.

LED Control: When **On** is selected, the camera's status LED will function normally. Select **Off** to disable the status LED. Disabling the LED function may be useful if you want to make the camera less obvious.

Privacy Control: Check the box to enable privacy control. Click **Privacy On** to put the camera in **Privacy Mode**, and click **Save**. (When privacy mode is turned on, the camera lens is hidden.)



System

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

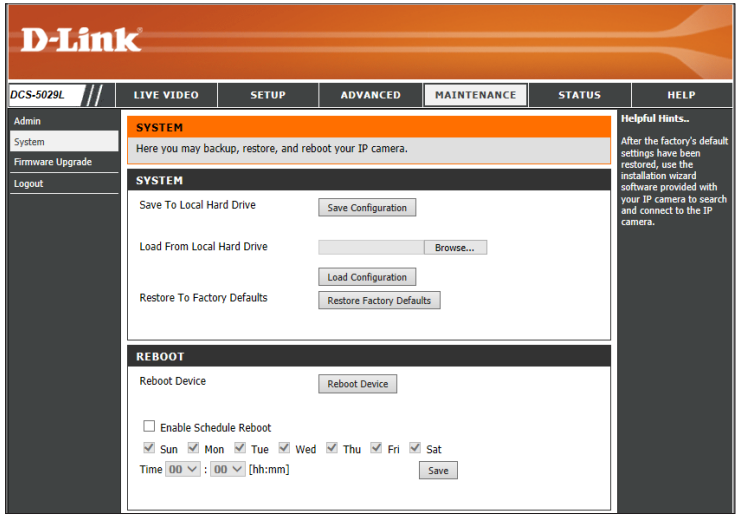
Save To Local Hard Drive: Click **Save Configuration** to save the current camera configuration to your local PC.

Load From Local Hard Drive: To load a previously saved configuration, click **Browse...** and select your saved configuration file. Then click **Load Configuration** to load the file from the local hard drive.

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

Enable Schedule Reboot: Check the box to enable a scheduled reboot, meaning the camera will reboot on a specific day or days, at a specific time. Then select a schedule by checking the boxes by the days of the week and selecting a time from the drop-down menu. Click **Save** to save your schedule.

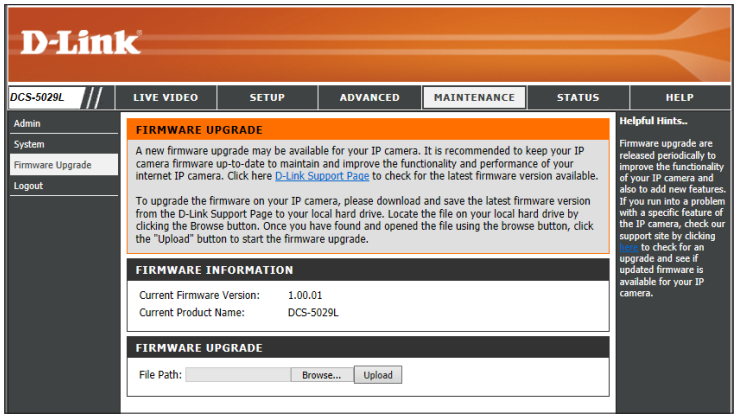


Firmware Upgrade

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

To upgrade the firmware on your DCS-5029L, go to **support.dlink.com** and download the latest firmware from the D-Link Support Page to your local hard drive. Click **Browse...** and select the firmware file, then click the **Upload** button to start the firmware upgrade.

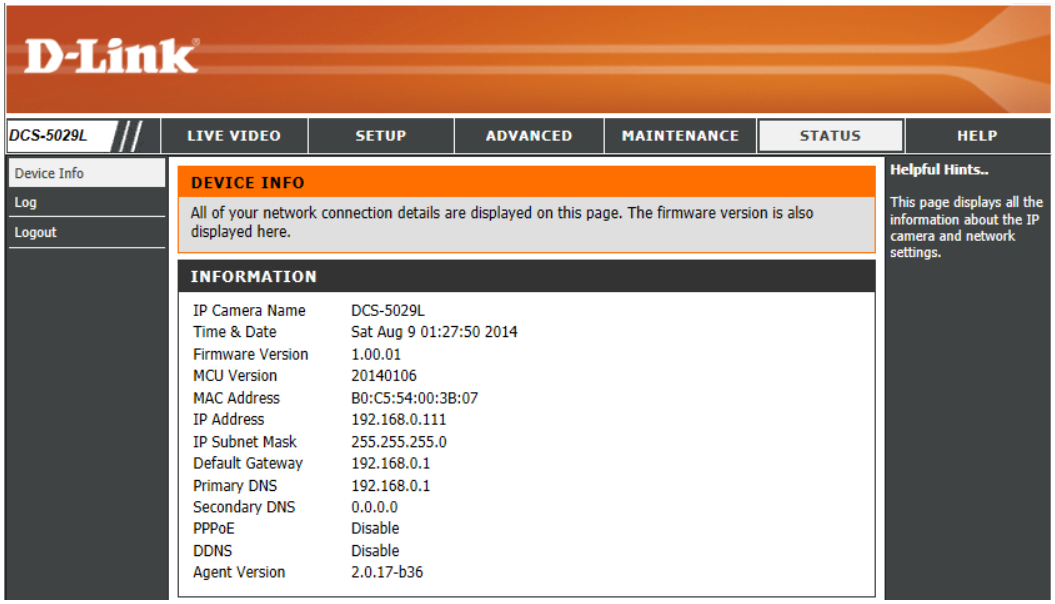
Warning: The firmware upgrade process must not be interrupted or the camera may be damaged. When upgrading firmware, do not unplug the camera or your PC, or close your Web browser until the process is complete. It is also highly recommended that you use a wired connection for your camera and PC when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



Status

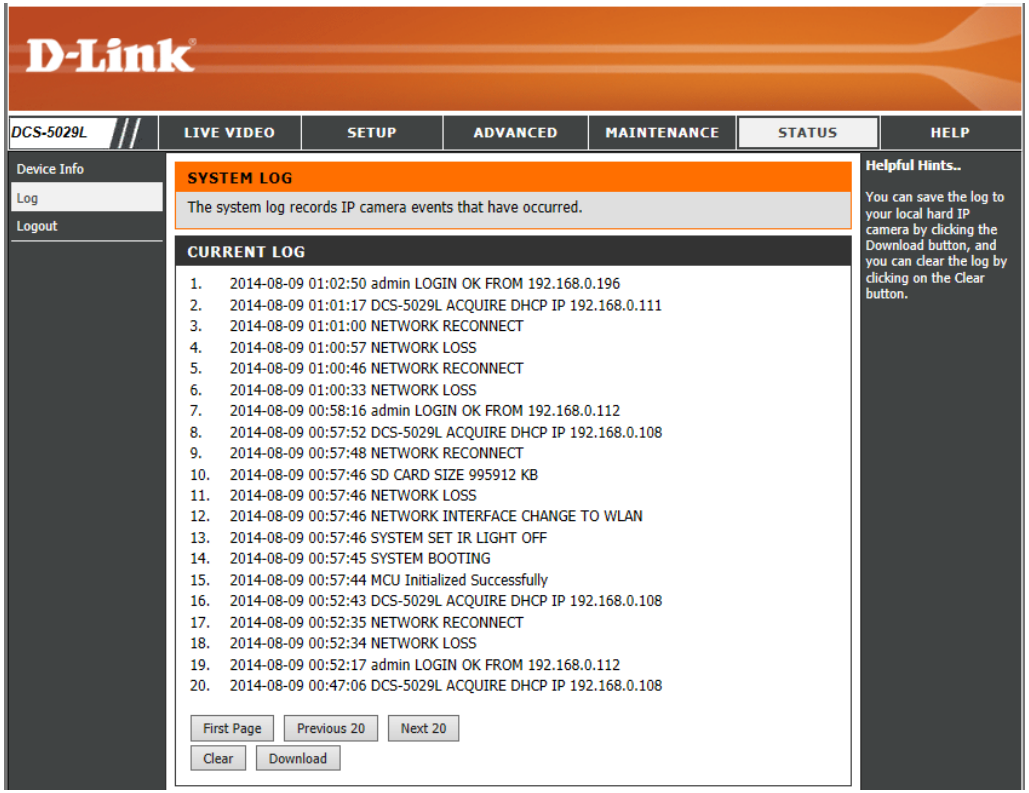
Device Info

This section displays important information about your camera and network settings, including the *MAC Address* and *Firmware Version*.



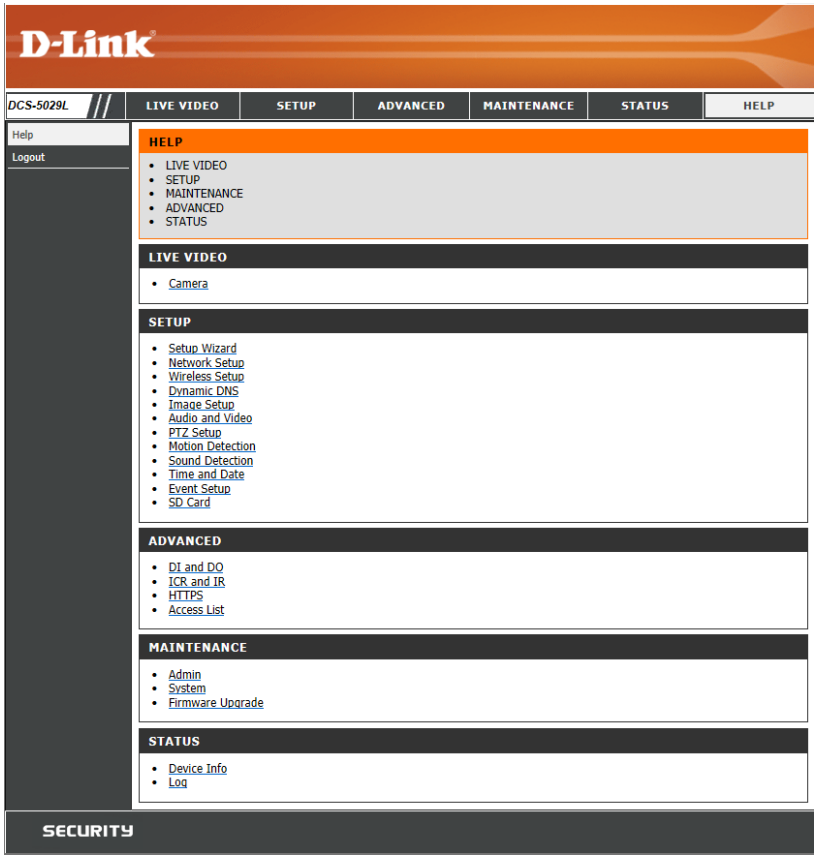
Log

This section displays log information for your camera, which is the list of events that occurred most recently. You can download the log by clicking the **Download** button, or clear the log by clicking the **Clear** button.



Help

Click on the link to the help topic for more information.



Configuring the DCS-5029L without mydlink

The DCS-5029L is a versatile network camera offering both video and audio monitoring. It serves as a powerful surveillance system. The DCS-5029L can be used with any wired or 802.11g/n wireless router. This section explains how to view the camera from either the Internet or from inside your internal network.

For the basic setup of the DCS-5029L, follow the steps outlined in the Quick Install Guide. After you have completed the setup of the DCS-5029L as instructed in the Quick Install Guide, you will have an operating camera with an assigned IP address. Because you are using a router to share the Internet with one or more PCs, the IP address assigned to the network camera will be a local IP address. This allows viewing within your Local Area Network (LAN) until the router is configured to allow remote viewing of the camera over the Internet.

Components Needed:

- 1 DCS-5029L HD Pan & Tilt Day/Night Network Camera
- 1 Ethernet Cable
- A Wired or Wireless Router Like the D-Link DIR-655 Wireless Router
- Ethernet-based PC for System Configuration

Setting up the DCS-5029L for Use Behind a Router

Installing a DCS-5029L on your network is an easy four–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 the steps for manual installation. However, if you decide to use the Setup Wizard, it will perform all steps automatically.*

This section is designed to walk you through the setup process for installing your camera behind a router and enable remote video viewing.

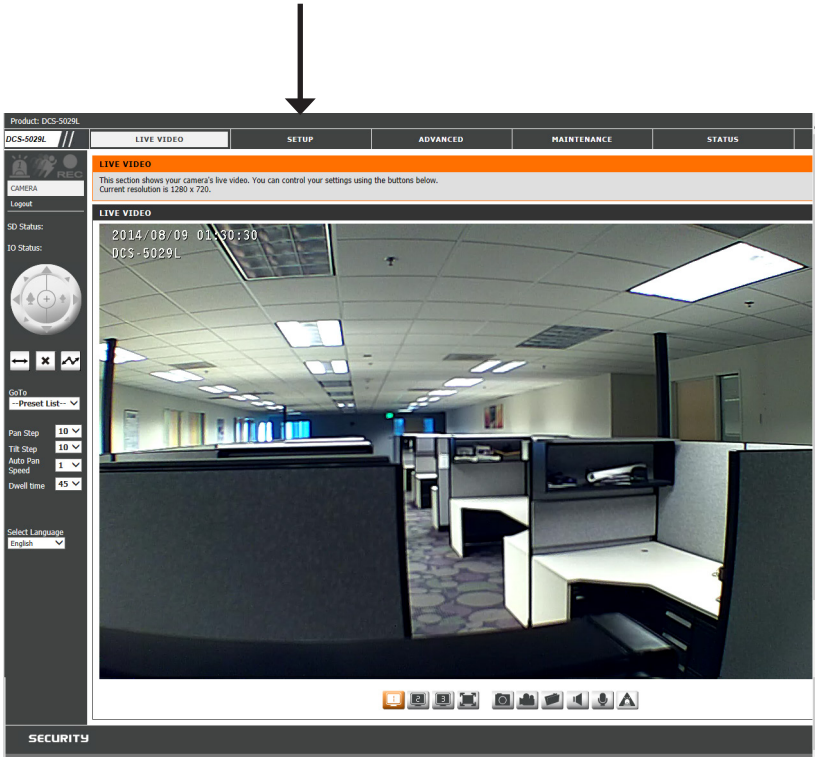
1. Assign a Local IP Address to Your Camera

After you complete initial setup (refer to "Zero Configuration Setup" on page 16 or "Camera Setup Wizard" on page 20), your camera will be assigned a local IP address that allows it to be recognized by the router. Write down this IP address for future reference.

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

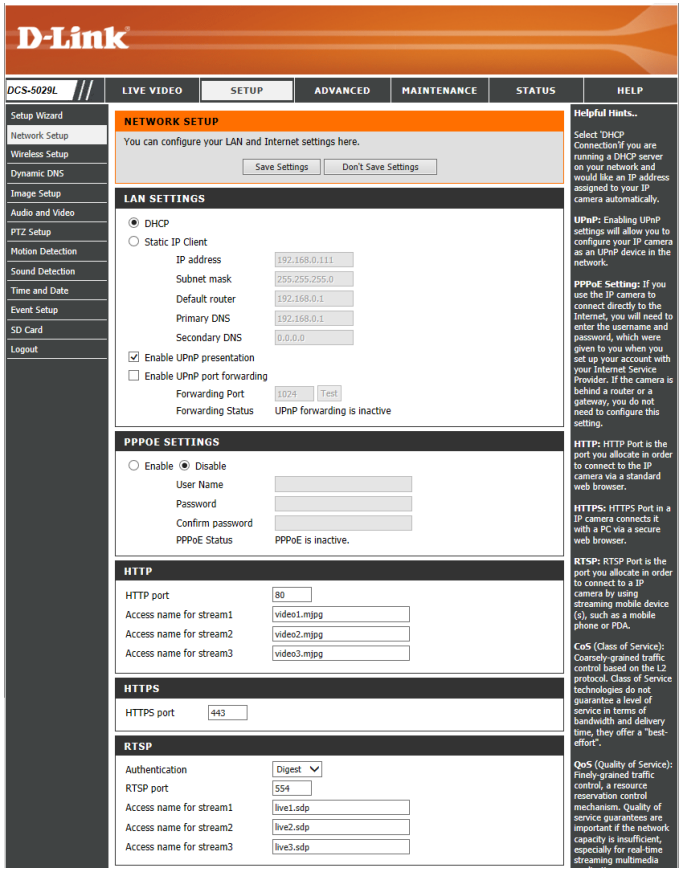
Open a Web browser. In the address bar, type in the IP address that was assigned to the camera by the Setup Wizard. The DCS-5029L *Live Video* page appears with a window displaying live video from the camera. You are able to view this screen from any PC running Internet Explorer on your LAN.

Click on **Setup** at the top of the Live Video screen. Click on **Network Setup** so you can learn about port settings. (Instructions on the next page.)



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

Note: *Both the HTTP port and RTSP port are required to be opened for the DCS-5029L.*



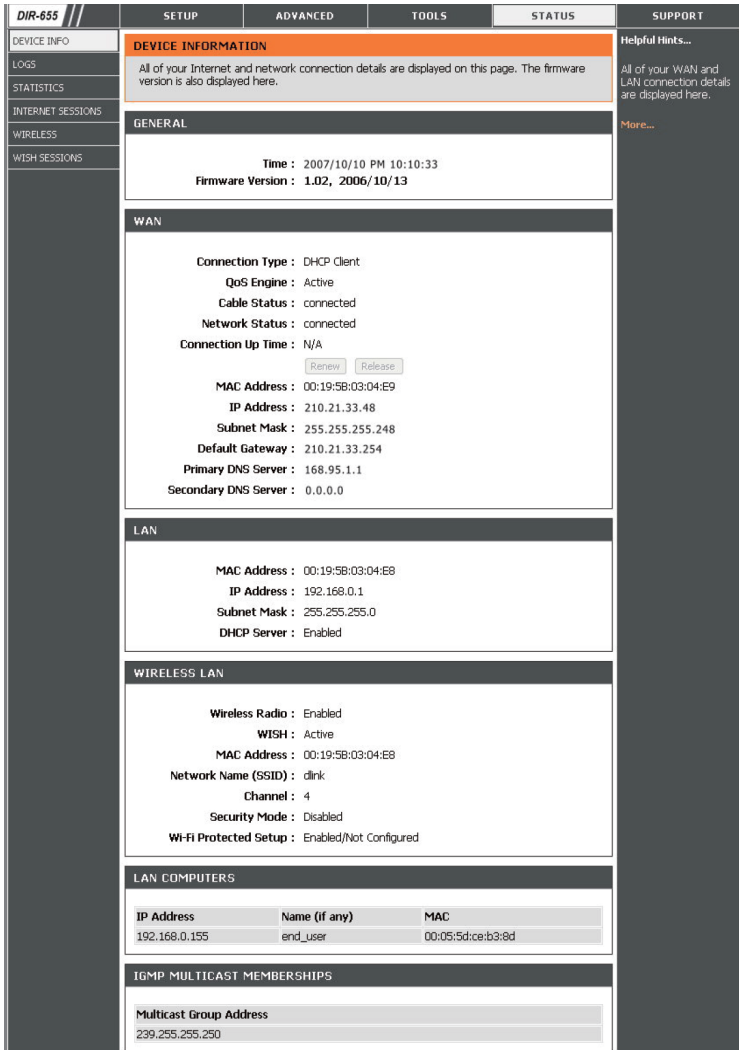
Router Set-Up and Installation

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. Refer to the router's user manual for more information on router operation and configuration.

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 your router's WAN IP address, go to the *Status* page on your router and locate the WAN information. The WAN IP address will be listed. This is the address that you will need to type into your Web browser to view your camera over the Internet.

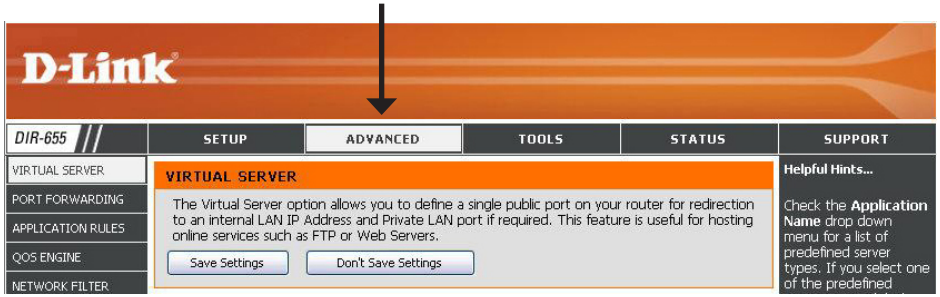
Your WAN IP address will be listed on the router's **Status** > **Device Info** page.



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 Ports to Enable Remote Image Viewing (Port Forwarding)

The firewall security features built into the DIR-655 router prevent users from accessing the video from the DCS-5029L over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the DCS-5029L 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:

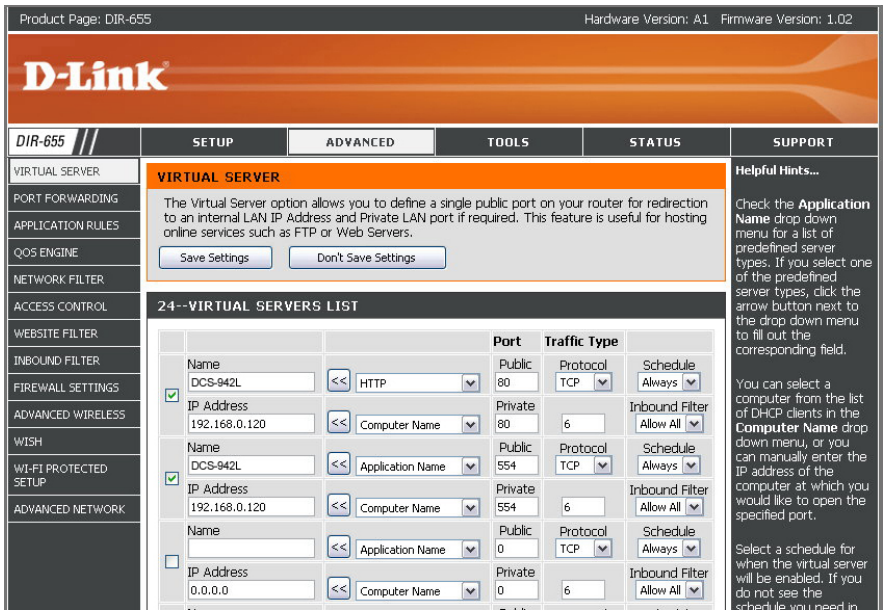
1. Click **Enabled**.
2. Enter a different name for each entry.
3. Enter your camera's local IP address (e.g., **192.168.0.120**) in the *Private IP* field.
4. Select **TCP** for HTTP port, both (**TCP and UDP**) for RTSP and both (**TCP and UDP**) for 5556 - 5559 ports.
5. If you are using the default 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.

Note: *Instructions for Virtual Server continue on the next page.*

Repeat the previous 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.

Note: *Some ISPs may 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.



Troubleshooting

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

Remote Access allows you to access your camera from the **www.mydlink.com** website. You can view live video from your camera and manage your camera's settings when you're away from home. Simply use the Camera Setup Wizard to register your camera with your mydlink account. (Refer to "Camera Setup Wizard" on page 20.)

After running the Camera Setup 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 (refer to your router's user manual)
- 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. Unfortunately, this will change all your settings back to the factory default settings.

To reset your camera, use an unfolded paper clip to press and hold the **RESET** button on the back of your camera for about 10 seconds while your camera is plugged in.

3. The image in the Live View is blurry or out of focus, what can I do?

You can manually adjust the focus. While watching the live view, rotate the focus adjustment ring (the ring surrounding the lens of the camera) 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 5V power supply for this 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 63 for information about how to enable the LEDs.

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

If you are using a wired connection to connect the camera, 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 possibility may be that a network device such as a hub or switch utilized by the 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 230 feet (70 meters). 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 throughout 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. Move 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 appear to be of poor quality. How can I improve the image quality?

Make sure that your computer's display properties are set to at least 16-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 41.

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 camera.

10. The PIR sensor (passive infrared sensor) is not operating well, how can I improve the quality?

- For the PIR sensor to function properly, it must have a direct line of sight to the object in motion. When the room is filled with obstacles or the line of sight is obstructed by glass, the PIR will not function properly.
- Do not install the camera in direct sunlight or under extremely bright lights. As the temperature of the environment rises, the PIR detection may work slower, making the PIR sensor slow to detect movement. (For quicker response time, select an environment with an average temperature of 77°F (25°C) or lower.)
- This camera should only be installed indoors. Do not install this camera where IR interference can be a problem, like pointing through a glass door or window. Placing the camera in the path of car headlights or in direct sunlight can also cause interference.
- 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 sensor is affected by RF radiation.
- Any movement from someone or something with a normal body temperature, like a human or an animal, will be detected by the PIR sensor. Smaller movements can be detected within a distance of 8 feet (about 2.5 meters), at the height of an average adult.* However, for motion detection between a distance of 8 and 16 feet (2.5 and 5 meters), larger movements are required.
- For best results, install this camera on a firm, stationary, anti-shock surface.

***Note:** The PIR sensor will operate most effectively when installed at the proper height. (Keep in mind that the average height of an adult in the United States currently ranges from about 5' 4" for women to 5"10" for men.)*

Technical Specifications

SYSTEM REQUIREMENTS

- Microsoft Windows® 8, 7, Vista®, or Mac OS® X (10.6 or higher)
- PC with 1.3 GHz or above and at least 128 MB RAM
- Internet Explorer 8 or higher, Firefox, Chrome, Safari 5 or higher, with the latest version of Java installed and enabled

NETWORKING PROTOCOL

- IPV4, ARP, TCP, UDP, ICMP
- DHCP Client
- NTP Client (D-Link)
- DNS Client
- DDNS Client (D-Link)
- SMTP Client
- FTP Client
- HTTP Server
- Samba Client
- PPPoE
- UPnP
- UPnP Port Forwarding
- RTP
- RTSP
- RTCP
- IP Filtering
- QoS/CoS
- Multicast

BUILT-IN PROTOCOL

- 10/100 M BaseT Ethernet
- 802.11 g/n WLAN

WIRELESS SECURITY

- WPA-PSK
- WPA2-PSK

VIDEO CODECS

- H.264
- JPEG for Still Images

VIDEO FEATURES

- Adjustable Image Size, Quality, Frame Rate, and Bit Rate
- Time Stamp and Text Overlays
- Configurable Motion Detection
- Flip and Mirror
- Pre-event Snapshot
- Pre-event Recording

16:9 RESOLUTION

- 1280 x 720 at up to 30 fps
- 800 x 448 at up to 30 fps
- 640 x 360 at up to 30 fps
- 480 x 272 at up to 30 fps
- 320 x 176 at up to 30 fps

4:3 RESOLUTION

- 960 x 720 at up to 30 fps
- 800 x 592 at up to 30 fps
- 640 x 480 at up to 30 fps
- 480x 352 at up to 30 fps
- 320 x 240 at up to 30 fps

LENS

- Focal Length: 2.4 mm
- Aperture: F2.0

SENSOR

- 1/4" Progressive CMOS Sensor

IR LED

- 26 feet illumination distance with 4 IR LEDs

MINIMUM ILLUMINATION

- 0 lux with IR LEDs on

VIEWING ANGLE

- Horizontal: 98°
- Vertical: 52°
- Diagonal: 115°

PAN/TILT RANGE

- Pan Range: +170° to -170° (total 340°)
- Tilt Range: +95° to -10° (total 105°)

DIGITAL ZOOM

- Up to 10x

POWER

- Input: 100-240 VAC, 50/60Hz
- Output: 5VDC, 2.5 A

DIMENSIONS (W X D X H)

- 4.72 x 4.06 x 5.11 in (119.89 x 103.12 x 129.79 mm)

WEIGHT

- Device: 0.75 lbs (340.2 grams)

MAX POWER CONSUMPTION

- 8.64 W

OPERATING TEMPERATURE

- 32 ˚F to 104 ˚F (0 ˚C to 40 ˚C)

STORAGE TEMPERATURE

- -4 ˚F to 158 ˚F (-20 ˚C to 70 ˚C)

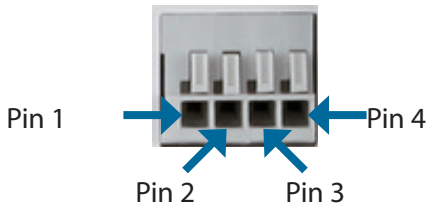
HUMIDITY

- 20-80% RH Non-condensing

EMISSION (EMI), SAFETY & OTHER CERTIFICATIONS

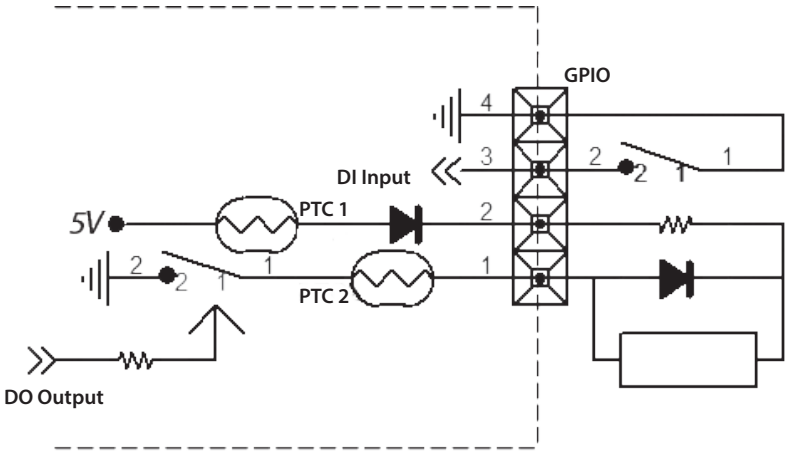
- FCC Class B
- ICES
- CE-LVD
- CE

DI/DO Specifications

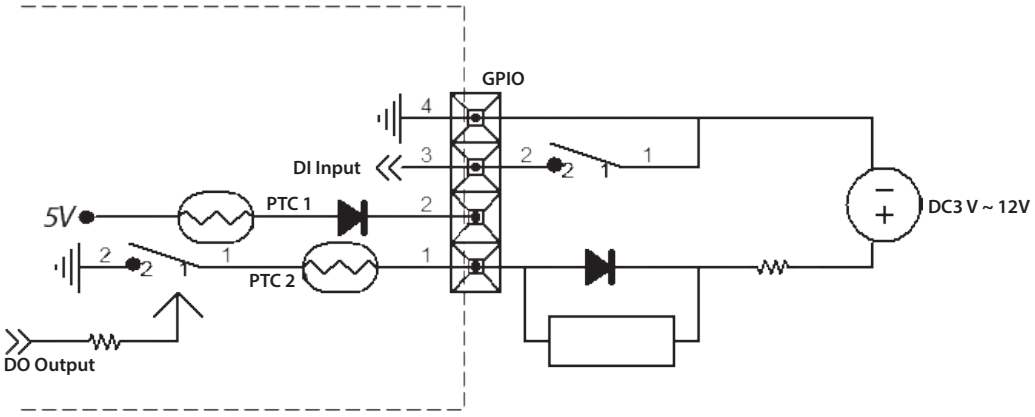


PIN	FUNCTION	NOTE
1	**Digital Out (DO)**	Uses an open-drain NFET transistor with the source connected to GND in camera. If used with an external relay, a diode must be connected in parallel with the load for protection against voltage transients. Max loading is 100 mA.
2	**DC5V OUTPUT**	DC 5 V Output / Max. 100 mA
3	**Digital In (DI)**	A switch from DI to GND, activated by setting NO. or NC.
4	**GND**	GND

Internal 5V Power



External 3~12V Power



Contacting Technical Support

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

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

- Model number of the product (e.g., DCS-5029L)
- Hardware Revision (located on the label on the bottom of the network camera (e.g., rev A1))
- Serial Number (s/n number located on the label on the bottom of the network camera).

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

For customers within the United States:

Phone Support:
(877) 453-5465

Internet Support:
http://support.dlink.com

For customers within Canada:

Phone Support:
(866) 354-6599

Internet Support:
http://support.dlink.ca

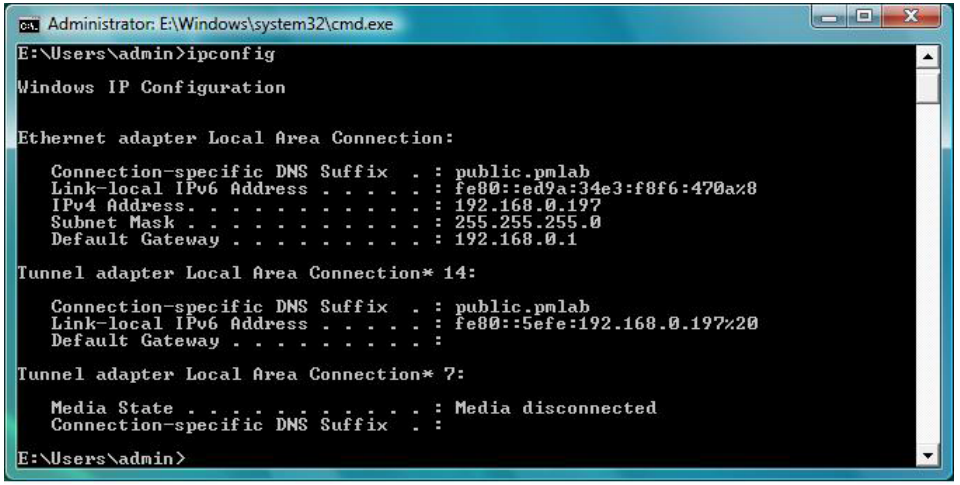
Networking Basics

Check Your IP Address

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

Windows® 8 Users

- Press the **Windows key** and **R** together. Type **cmd** in the box and click **OK**.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.



Windows® 7/Vista® Users

- Click **Start**, type **cmd** in the search box and then click **OK**.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and 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.

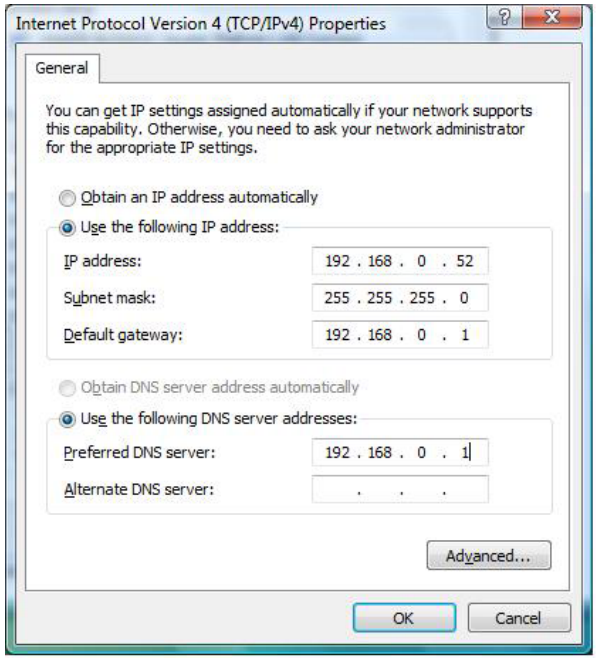
Statically Assign an IP Address

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

Windows® 8 Users

- Press the **Windows** key and then type **IP**. Click **Settings** on the right side and then click **View Network Connections**.
- Right-click on the adapter which represents your D-Link wireless network adapter.
- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router or network.

  Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.
- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.



Windows® 7/ Vista® Users

- Click on **Start** > **Control Panel** (make sure you are in Classic View). Double-click on the **Network and Sharing Center** icon. If you are using Windows Vista, click on **Manage network connections** along the left panel in the window. For Windows® 7, click on **Change adapter settings**.

- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter which will be connected to your network.

- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.

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

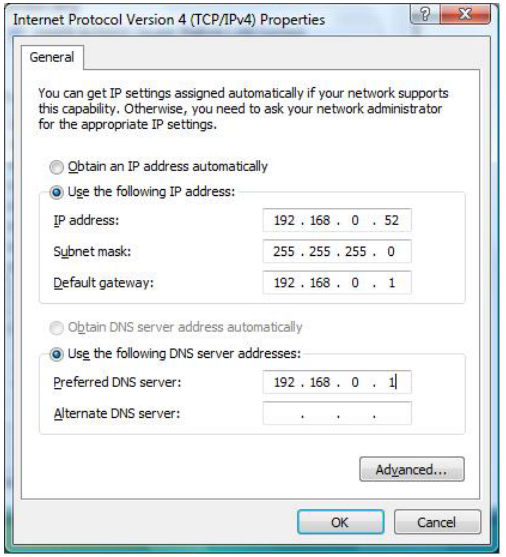
  Example: If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.

- Set **Primary DNS** the same as the LAN IP address of your router or gateway.

- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).

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



Warranty

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

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

Limited Warranty:

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

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

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

Limited Software Warranty:

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

Non-Applicability of Warranty:

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

Submitting A Claim (USA):

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

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.

- The customer must obtain a Case ID Number from D-Link Technical Support at https://support.dlink.com, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at http://rma.dlink.com/.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Please refer to shipping and packaging instructions located online at http://rma.dlink.com/.

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

Submitting A Claim (Canada):

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

- Customers need to provide their receipt (proof of purchase) even if the product is registered. Without a receipt, no warranty service will be done. The registration is not considered a proof of purchase.

- The customer must submit with the product as part of the claim a written description of the Hardware defect or Software nonconformance in sufficient detail to allow D-Link to confirm the same, along with proof of purchase of the product (such as a copy of the dated purchase invoice for the product) if the product is not registered.

- The customer must obtain a Case ID Number from D-Link Technical Support at 1-800-361-5265, who will attempt to assist the customer in resolving any suspected defects with the product. If the product is considered defective, the customer must obtain a Return Material Authorization ("RMA") number by completing the RMA form and entering the assigned Case ID Number at https://rma.dlink.ca/.

- After an RMA number is issued, the defective product must be packaged securely in the original or other suitable shipping package to ensure that it will not be damaged in transit, and the RMA number must be prominently marked on the outside of the package. Do not include any manuals or accessories in the shipping package. D-Link will only replace the defective portion of the product and will not ship back any accessories.

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

- RMA phone number: 1-800-361-5265 Hours of Operation: Monday-Friday, 9:00AM – 9:00PM EST

What Is Not Covered:

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

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

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

Disclaimer of Other Warranties:

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

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

Limitation of Liability:

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

Governing Law:

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

Trademarks:

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Copyright Statement:

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CE Mark Warning:

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

FCC Statement:

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

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

FCC Caution:

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTICE:

FCC Radiation Exposure Statement:

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

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

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

Industry Canada Statement:

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

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

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

Registration

Register your product online at registration.dlink.com

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

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