D-Link®

User Manual

HD Cube Network Camera

DCS-2103

Preface

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Manual Revisions

Revision	Date	Description
2.0	December 09, 2014	DCS-2103 Revision B1 with firmware version 2.00

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DCS-2103 HD Cube Network Camera

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Introduction

Congratulations on your purchase of the DCS-2103 HD Cube Network Camera. The DCS-2103 is a versatile and unique solution for your small office or home. Unlike a standard webcam, the DCS-2103 is a complete system with a built-in CPU and web server that transmits high quality video images for security and surveillance. The DCS-2103 can be accessed remotely, and controlled from any PC/Notebook over your local network or through the Internet via a web browser. The simple installation and intuitive web-based interface offer easy integration with your Ethernet/Fast Ethernet network. This camera features Power over Ethernet connectivity, making it an ideal solution for a complete and cost-effective surveillance solution with easy clutter-free installation.

System Requirements

• Computer with Microsoft Windows® 7/8/Vista/XP, or Mac with OS X 10.6 or higher
• PC with 1.3 GHz or above; at least 128 MB RAM
• Internet Explorer 7, Firefox 12, Safari 6, or Chrome 20 or higher version with Java installed and enabled
• Existing 10/100 Ethernet-based network
• A microSD memory card (optional) is required for recording to onboard storage. SDHC Class 6 or above is recommended.

Features

Simple to Use
The DCS-2103 is a stand-alone system with a built-in CPU, requiring no special hardware or software. The DCS-2103 supports both ActiveX mode for Internet Explorer and Java mode for other browsers such as Firefox® and Safari®.

Supports a Variety of Platforms
Supporting TCP/IP networking, HTTP, and other Internet related protocols. The DCS-2103 can also be integrated easily into other Internet/Intranet applications because of its standards-based features.

Web Configuration
Using a standard Web browser, administrators can configure and manage the Network Camera directly from its own Web page via Intranet or Internet. This means you can access your DCS-2103 anytime, anywhere in the world.

Broad Range of Applications
With today's high-speed Internet services, the Network Camera can provide the ideal solution for delivering live video images over the Intranet and Internet for remote monitoring. The Network Camera allows remote access using a Web browser for live image viewing, and allows the administrator to manage and control the Network Camera anytime, anywhere in the world. Many applications exist, including industrial and public monitoring of homes, offices, banks, hospitals, child-care centers, and amusement parks.

IR LED for Day and night functionality
The built-in infrared LED enables night time viewing of up to 16 feet (5 meters).

PoE (Power over Ethernet) for Flexible Installation
The DCS-2103 can draw all the power it needs from a powered Ethernet port meaning installation is simple and clutter free.

Hardware Overview
Front

1	**Status LED**	Indicates the camera's current status
2	**Infrared LED**	Used to illuminate the camera's field of view at night
3	**PIR Sensor**	Passive infrared sensor for motion detection
4	**Camera Lens**	Records video of the surrounding area
5	**Microphone**	Records audio from the surrounding area
6	**Light Sensor**	The light sensor monitors lighting conditions and switches between day and night vision modes accordingly
7	**Speaker**	Can play audio sent to camera for two-way communication

Rear
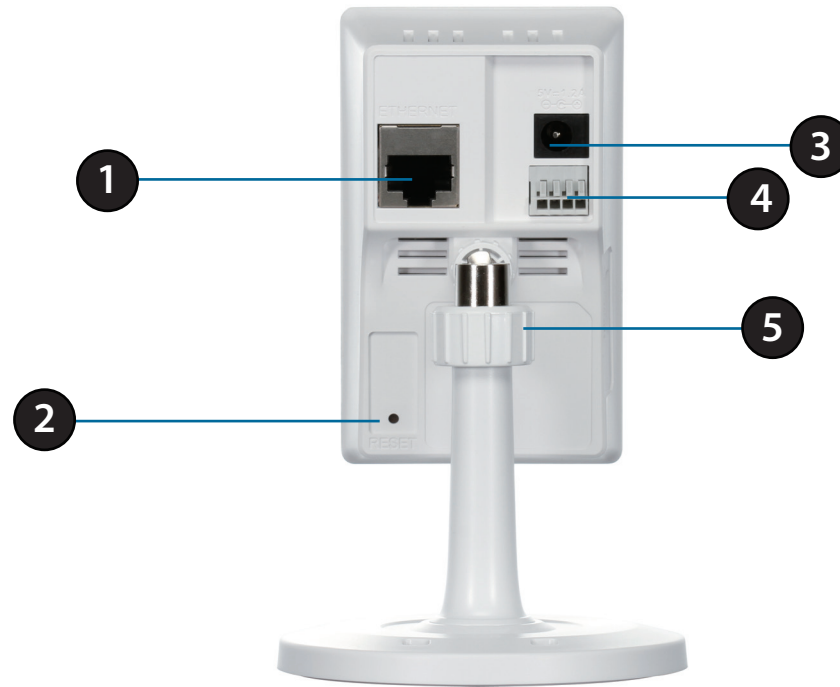
1	**PoE Ethernet Port**	Connects to your Ethernet network, can receive power from a PoE switch or PoE injector
2	**Reset Button**	Press and hold this button for 10 seconds to reset the camera
3	**Power Connector**	Connects to the DC 5 V power adapter (not included in package)
4	**DI/DO Connector**	I/O connectors for external devices
5	**Adjustment Ring**	Tighten or loosen the adjustment ring to adjust the camera's position

Sides

1	microSD Card Slot	Insert a microSD card for storing recorded images and video locally

Installation
Setup Wizard SE Installation

The installation process for the setup wizard should start automatically. Make sure that your internet connection is active. Click **Next** to continue.

Note: Do not plug in DCS-2103 yet

Click **Yes** to accept the license agreement and continue the installation.
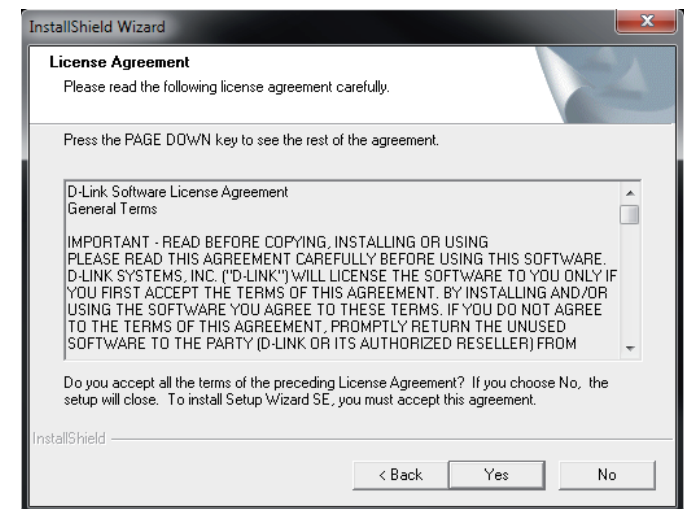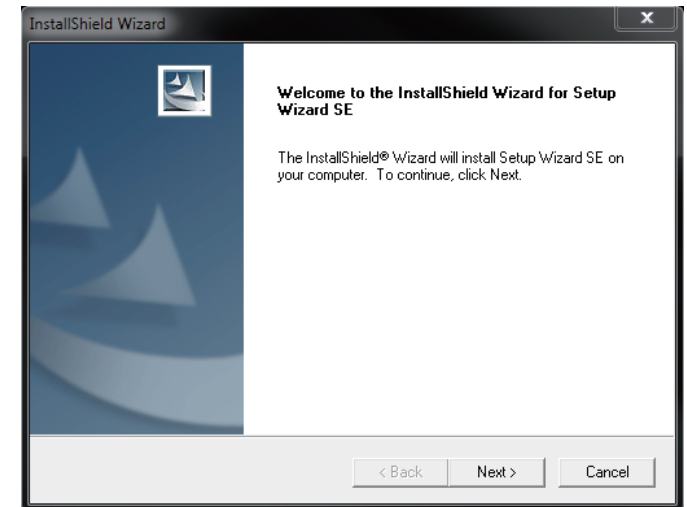
If you want to install **Setup Wizard SE** into a different location than the default, click **Browse** and select the desired installation folder.

Click **Next** to continue.

The installation process will proceed and the installation progress will be displayed.

If you want to start **Setup Wizard SE** after the installation, check the launch box.

If you haven't plugged in the DCS-2103, please refer to "Manual Hardware Installation" on page 14 before continuing.

Click **Finish** to continue.
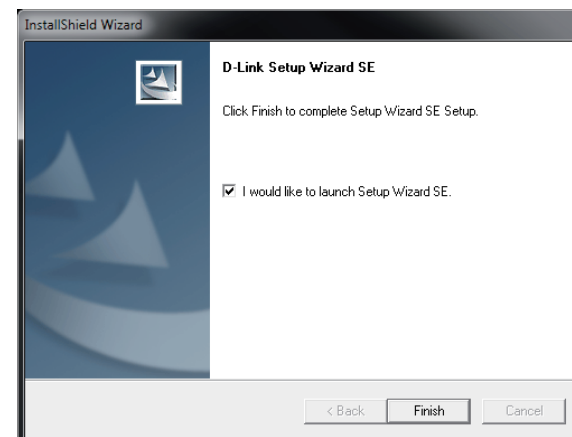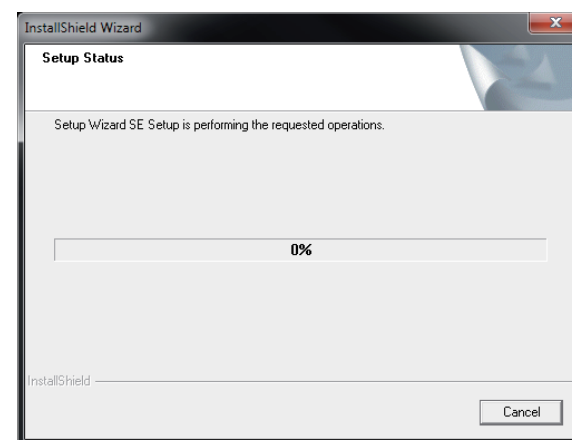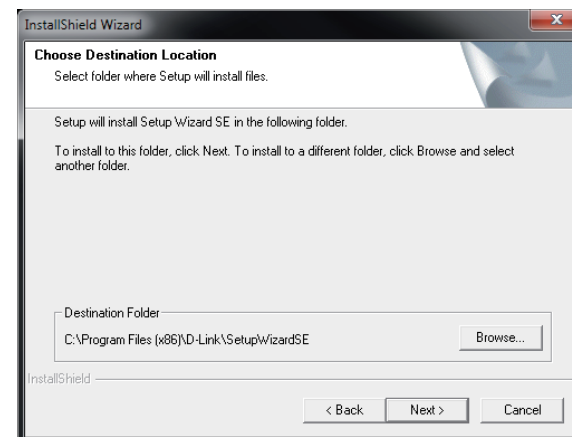
Setup Wizard SE

If the DCS-2103 is correctly connected to your local network, the Setup Wizard will automatically find it. To begin the initial configuration process, click on the DCS-2103 in the found devices list, and then click on **Wizard**.

Enter the **Admin ID** and **Password**. The default **Admin ID** is "admin" and **Password** is not set. To set the **Password** or change the **Admin ID**, check the **Change** box and enter the new **Admin ID** and **Password**. Click **Next** to continue.

Set the IP address for the DCS-2103 by choosing either **DHCP** or **Static IP.** If **Static IP** is selected, enter the necessary details for the DCS-2103. Click **Next** to continue.

The Setup Wizard will display a summary of the configured settings. If changes need to be made, click **Back**. Otherwise click **Restart** to save the settings and restart the DCS-2103.

From a web browser open a new windor and type in the IP address of the DCS-2103. Enter the username and password that was configured during the setup wizard process to log in and continue configuring the DCS-2103.
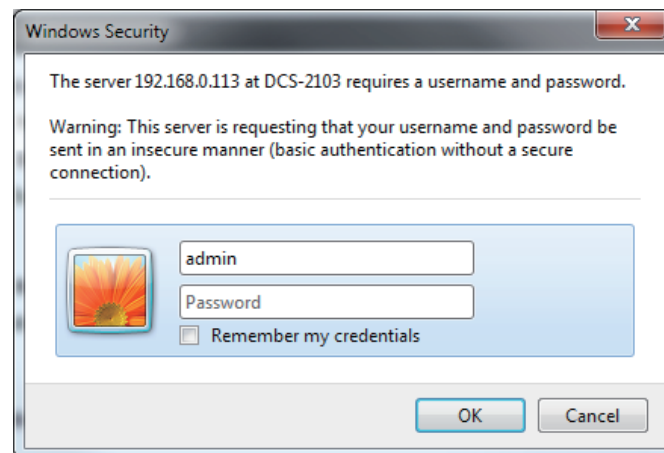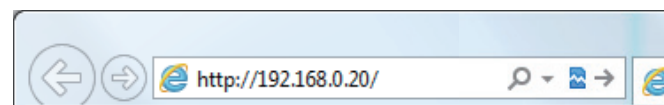
Manual Hardware Installation

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

Connect the Ethernet Cable

Connect the included Ethernet cable to the network cable connector located on the panel at the rear of the DCS-2103 and attach it to the network.

Mount the Camera

Please refer to the steps below to assist you with mounting the camera.

ℹ️ We suggest that you configure the camera before mounting.

1. Place the mounting base where you want to position the camera and use a pencil to mark the holes.
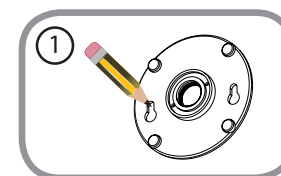
2. Depending on the material of the wall or ceiling, use proper tools to drill two holes or screws where you marked. If the wall is made out of concrete, drill the holes first, insert the plastic anchors and then the screws.
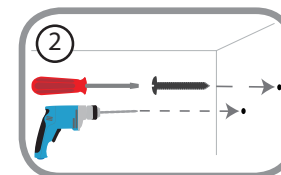
⚠️ The space between the camera and the screwheads should be 3 mm.

3. Place the mounting base over the screw that is mounted on the wall. Make sure to fit the screw-heads over the big holes and slide it downward to lock firmly. Lightly pull the base forward to make sure that it is locked.
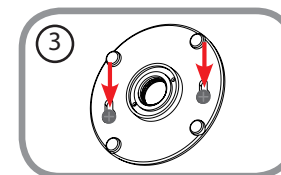
4. Place the base cover on the base and screw the camera stem clockwise into the mounting base.
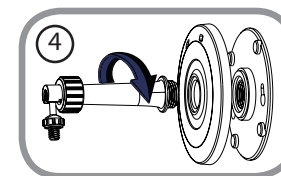
5. Adjust the angle of the camera as desired, then tighten the collar on the camera stem to lock it in place.
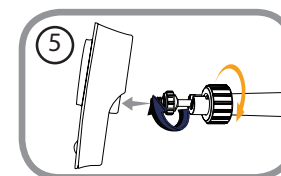
Configuration
Using the Configuration Interface

After completing the Camera Installation Wizard, you are ready to use your camera. The camera's built-in Web configuration utility is designed to allow you to easily access and configure your DCS-2103. At the end of the wizard, enter the IP address of your camera into a web browser, such as Mozilla Firefox. To log in, use the User name **admin** and the password you created in the Installation Wizard. If you did not create a password, the default password is blank. After entering your password, click **OK**.
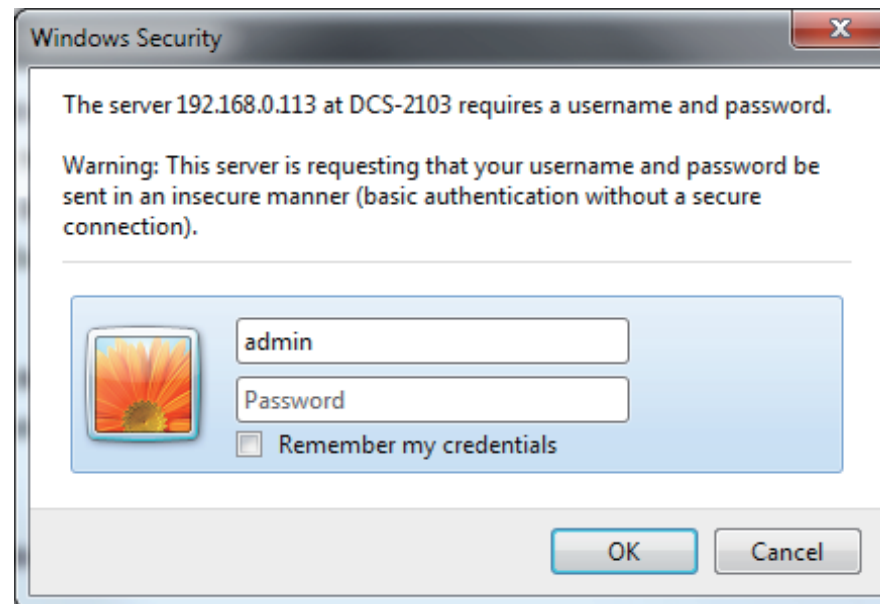
Live Video

This section shows your camera's live video. You may select any of the available icons listed below to operate the camera. You may also select your language using the drop-down menu on the left side of the screen.

You can zoom in and out on the live video image using your mouse. Right-click to zoom out or left-click to zoom in on the image.

SD Status: This option displays the status of the microSD card. If no microSD card has been inserted, this screen will display the message "Card Invalid."

IO Status: This option displays the status of your I/O device if a device has been connected.

	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 trigger event occurs. **Note:** The video motion feature for your camera must be enabled.
	Recording Indicator	When a recording is in progress, this indicator will change color.
	Control Pad	This control pad can be used to electronically pan, tilt, and zoom (ePTZ) within the camera's predefined view area, if one has been defined.
	Auto Pan	Starts the automatic panning function.
	Stop	Stops automatic panning.
	Preset Path	Starts the camera's motion along the predefined path.

ePTZ Speed: You may select a value between 0 and 64. 0 is the slowest and 64 is the fastest.
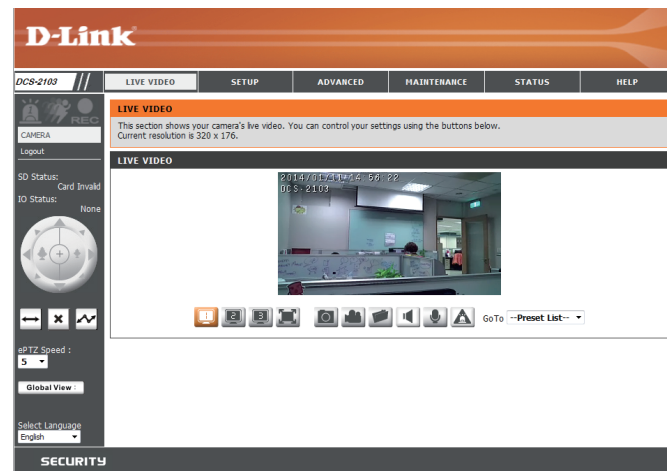
Global View: This window indicates the total field of view (FOV) of the camera. The red box indicates the visible region of interest (ROI).

Language: You may select the interface language using this menu.

|	
Video Profile 1	Record a Video Clip
Video Profile 2	Set a Storage Folder
Video Profile 3	Listen/Stop Audio In (from microphone)
Full screen mode	Start/Stop Audio Out (to speaker)
Taking a Snapshot	Start/Stop Digital Output

Go To (Preset List): If any presets have been defined, you can select them here to move the camera to the selected preset.
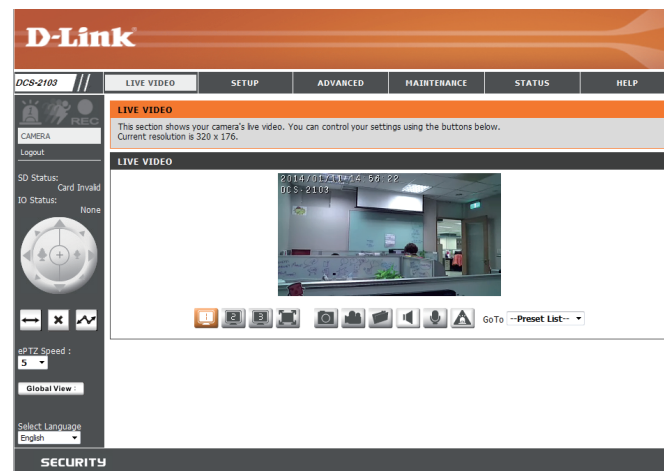
Setup
Setup Wizard

To configure your Network Camera, click **Internet Connection Setup Wizard**. Alternatively, you may click **Manual Internet Connection Setup** to manually configure your Network Camera and skip to "Network Setup" on page 24.

To quickly configure your Network Camera's motion detection settings, click **Motion Detection Setup Wizard**. If you want to enter your settings without running the wizard, click **Manual Motion Detection Setup** and skip to"Motion Detection" on page 35.
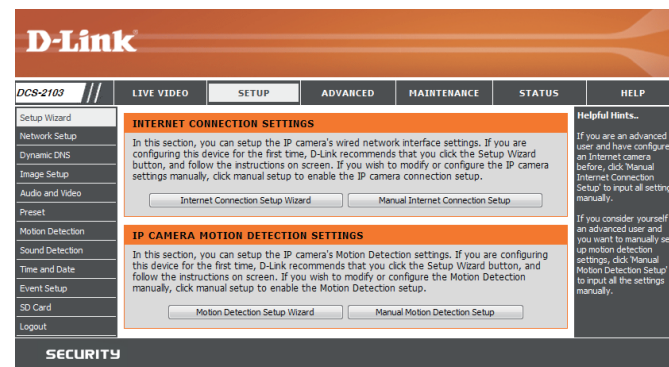
Internet Connection Setup Wizard

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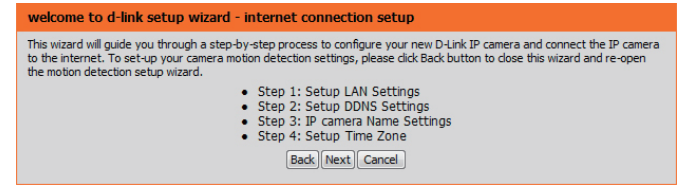
Select how the camera will connect to the Internet.

If your router is connected to a router, or you are unsure how your camera will connect to the Internet, select **DHCP Connection**.

Select **Static IP** if your Internet Service Provider has provided you with connection settings, or if you wish to set a static address within your home network. Enter the correct configuration information and click **Next** to continue.

If you are using PPPoE, select **Enable PPPoE** and enter your user name and password.

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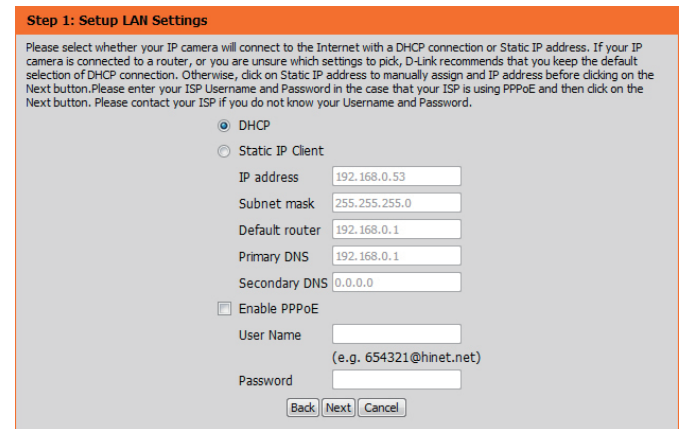
If you have a Dynamic DNS account and would like the camera to update your IP address automatically, Select **Enable DDNS** and enter your host information. Click **Next** to continue.

Enter a name for your camera and click **Next** to continue.

Configure the correct time to ensure that all events will be triggered as scheduled. Click **Next** to continue.

If you have selected DHCP, you will see a summary of your settings, including the camera's IP address. Please write down all of this information as you will need it in order to access your camera.

Click **Apply** to save 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 may specify whether the camera should capture a snapshot or a video clip when motion is detected.

Please see the **Motion Detection** section on "Motion Detection" on page 35 for information about how to configure motion detection.

Step 2

This step allows you to enable motion detection based on a customized schedule. Specify the day and hours. You may also choose to always record whenever motion is detected.
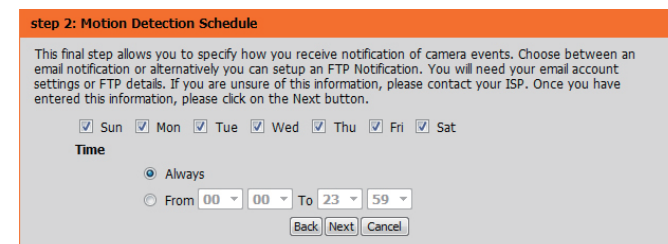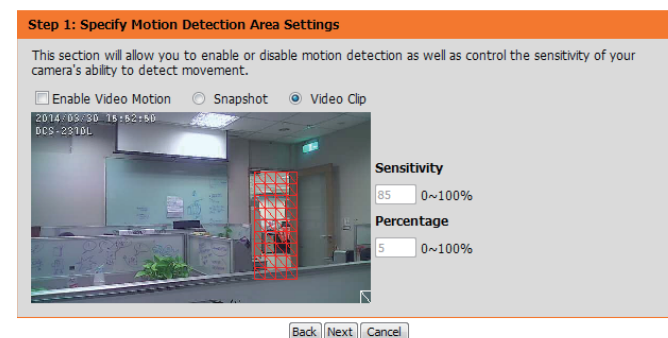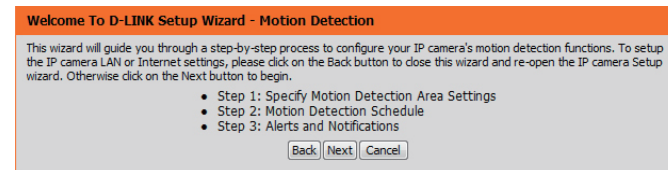
Step 3

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.

Please enter the relevant 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.

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

Network Setup

Use this section to configure the network connections for your camera. All relevant information must be entered accurately. After making any changes, click the **Save Settings** button to save your changes.

LAN Settings: This section lets you configure settings for your local area network.

DHCP: Select this connection if you have a DHCP server running on your network and would like your camera to obtain an IP address automatically.

If you choose DHCP, you do not need to fill out the IP address settings.

Static IP Client: You may obtain a static or fixed IP address and other network information from your network administrator for your camera. A static IP address may simplify access to your camera in the future.

IP Address: Enter the fixed IP address in this field.

Subnet Mask: This number is used to determine if the destination is in the same subnet. The default value is 255.255.255.0.

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

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

Secondary DNS: The secondary DNS acts as a backup to the primary DNS.

Enable UPnP Presentation: Enabling this setting allows your camera to be configured as a UPnP device on your network.

Enable UPnP Port Forwarding: Enabling this setting allows the camera to add port forwarding entries into the router automatically on a UPnP capable network.

PPPoE Settings: Enable this setting if your network uses PPPoE.

User Name / Password: Enter the username and password for your PPPoE account. Re-enter your password in the Confirm Password field. You may obtain this information from your ISP.

HTTP Port: The default port number is 80.

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.

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. 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: Enabling the Class of Service setting implements a best-effort policy without making any bandwidth reservations.

Enable QoS: Enabling QoS 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 address, specify an optional IP address, specify an optional router and an optional primary DNS.

Enable Multicast for stream The DCS-2103 allows you to multicast each of the available streams via group address and 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 defaults.

Enable Bonjour: Enable this to allow other network devices to connect to this camera using Bonjour.

Bonjour Name: Enter the name to identify this camera on Bonjour.

Dynamic DNS

DDNS allows you to access your camera using a domain name instead of an IP address. To do this, you will need to have an account with one of the DDNS services listed in the drop-down box on this page.

Enable DDNS: Select this checkbox to enable the DDNS function.

Server Address: Select your Dynamic DNS provider from the pull down menu or enter the server address manually.

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

User Name: Enter the user name or e-mail used to connect to your DDNS account.

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

Timeout: Enter the DNS timeout values you wish to use.

Status: Indicates the connection status, which is automatically determined by the system.

Image Setup

In this section, you may configure the video image settings for your camera. A preview of the image will be shown in Live Video.

Enable Privacy Mask Setting: The Privacy Mask setting allows you to specify up to 3 rectangular areas on the camera's image to be blocked/excluded from recordings and snapshots.

You may click and drag the mouse cursor over the camera image to draw a mask area. Right clicking on the camera image brings 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 the video flickers, try enabling this setting.

Mirror: This will mirror the image horizontally.

Flip: This will flip the image vertically. When turning Flip on, you may want to consider turning Mirror on as well.

Power Line: Select the frequency used by your power lines to avoid interference or distortion.

White Balance: Use the drop-down box to change white balance settings to help balance colors for different environments. You can choose from Auto, Outdoor, Indoor, Fluorescent, and Push Hold. Push Hold will save and lock the currently detected white balance settings when you click Save.

Exposure Mode: Changes the exposure mode. Use the drop-down box to set the camera for Indoor, Outdoor, or Night environments, or to Moving to capture moving objects. The Low Noise option will focus on creating a high-quality picture without noise. You can also create 3 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: This setting controls the amount of noise reduction that will be applied to the picture.
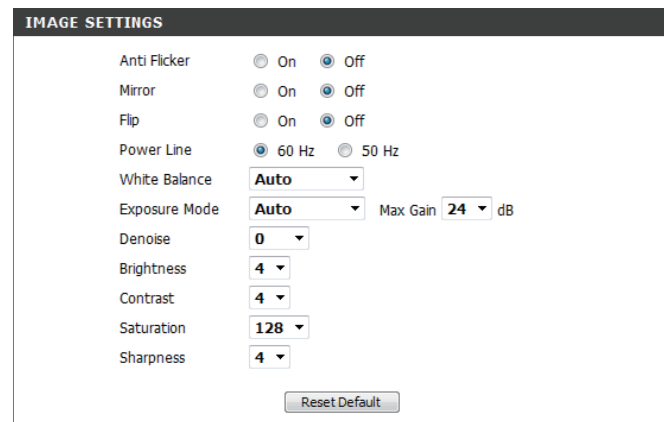
Brightness: Adjust this setting to compensate for backlit subjects.

Contrast: Adjust this setting to alter the color intensity/strength.

Saturation: This setting controls the amount of coloration, from grayscale to fully saturated.

Sharpness: Specify a value from 0 to 8 to specify how much sharpening to apply to the image.

Reset Default: Click this button to reset the image to factory default settings.

IMAGE SETTINGS		
Anti Flicker	○ On ◉ Off	
Mirror	○ On ◉ Off	
Flip	○ On ◉ Off	
Power Line	◉ 60 Hz ○ 50 Hz	
White Balance	Auto ▾	
Exposure Mode	Auto ▾	Max Gain 24 ▾ dB
Denoise	0 ▾	
Brightness	4 ▾	
Contrast	4 ▾	
Saturation	128 ▾	
Sharpness	4 ▾	
	Reset Default	

Audio and Video

You may configure up to 3 video profiles with different settings for your camera. Hence, you may set up different profiles for your computer and mobile display. In addition, you may also configure the two-way audio settings for your camera. After making any changes, click the **Save Settings** button to save your changes.

Aspect ratio: Set the aspect ratio of the video to 4:3 standard or 16:9 widescreen.

Mode: Set the video codec to be used to MJPEG or H.264.

Frame size / View window area: Frame size determines the total capture resolution, and View window area determines the Live Video viewing window size. If the Frame size is larger than the Live Video size, you can use the ePTZ controls to look around.

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

Note: If your View window area is the same as your Frame size, you will not be able to use the ePTZ function.

Maximum frame rate: A higher frame rate provides smoother motion for videos, and requires more bandwidth. Lower frame rates will result in stuttering motion, and requires less bandwidth.

Video Quality: This limits the maximum bandwidth, which can be combined with the "Fixed quality" option 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: The bps will affect the bit rate of the video recorded by the camera. Higher bit rates result in higher video quality.

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

Audio in off: Selecting this checkbox will mute incoming audio.

Audio in gain level: This setting controls the amount of gain applied to incoming audio to increase its volume.

Audio out off: Selecting this checkbox will mute outgoing audio.

Audio out volume level: This setting controls the amount of gain applied to outgoing audio to increase its volume.

VIDEO PROFILE 3	
Mode	H.264 ▾
Frame size	640x360 ▾
View window area	640x360 ▾
Maximum frame rate	30 ▾
Video quality	
Constant bit rate	⦿ 1M ▾
Fixed quality	◯ Excellent ▾

AUDIO SETTINGS	
☐ Audio in off	
Audio in gain level	20dB ▾
☐ Audio out off	
Audio out volume level	7 ▾

[Save Settings]　[Don't Save Settings]

Preset

This screen allows you to set preset points for the ePTZ function of the camera, which allows you to look around the camera's viewable area by using a zoomed view. Presets allow you to quickly go to and view a specific part of the area your camera is covering, and you can create preset sequences, which will automatically change the camera's view between the different presets according to a defined order and timing you can set.

Note: If your View window area is the same as your Frame size, you will not be able to use the ePTZ function.

Video Profile: This selects which video profile to use.

ePTZ Speed: You may select a value between 0 and 64. 0 is the slowest and 64 is the fastest.

Arrow Buttons and Home Button: Use these buttons to move to a specific part of the viewing area, which you can then set as a preset. Click the Home button to return to the center of the viewing area.

Input Preset Name: Enter the name of the preset you want to create, then click the **Add** button to make a new preset. If an existing preset has been selected from the Preset List, you can change its name by typing in a new name, then clicking the **Rename** button.

Preset List: Click this drop-down box to see a list of all the presets that have been created. You can select one, then click the **GoTo** button to change the displayed camera view to the preset. Clicking the **Remove** button will delete the currently selected preset.

Preset Sequence: This section allows you to create a preset sequence, which automatically moves the camera's view between a set of preset views.

Preset List: To add a preset to the sequence, select it from the drop-down box at the bottom of this window, set the **Dwell time** to determine how long the camera view will stay at that preset, then click the **Add** button. The preset name will appear in the list, followed by the dwell time to view that preset for.

You can rearrange your presets in the sequence by selecting a preset in the sequence, then clicking the arrow buttons to move it higher or lower in the current sequence.

Clicking the trash can button will remove the currently selected preset from the sequence.

If you want to change the dwell time for a preset, select it from the list, enter a new dwell time, then click the **Update** button.
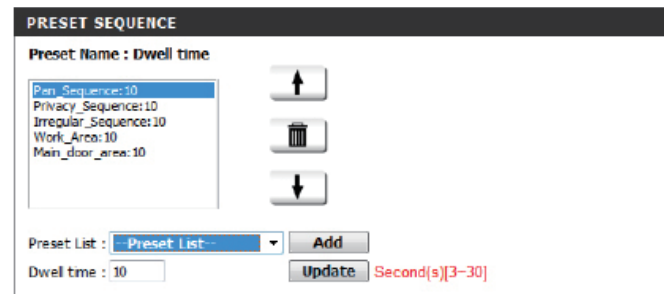
Motion Detection

Motion detection enables the camera to monitor the video feed for movement. Here, you can adjust the sensitivity and percentage settings, which work together to determine whether motion is detected by the camera or not. After making any changes, click the **Save Settings** button to save your changes.

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

Sensitivity: Specifies how sensitive motion detection will be from 0% to 100%. A low sensitivity setting means that there must be large changes between two images in order to detect motion, and a high sensitivity setting means that even small changes will cause motion to be detected.

Low sensitivities may be useful when monitoring an area that has flickering lights or a window to the outside in view. High sensitivities may be useful when monitoring an area that rarely changes, such as a storeroom or warehouse.

Percentage: Specifies how much of the area being monitored for motion must change for motion to be detected. A low percentage means that only part of the area being monitored needs to change to detect motion, and a high percentage means that most of the area needs to change to detect motion.

Low percentages can be useful when monitoring a large area such as an entire room, and high percentages can be useful when you are only monitoring a specific part of the camera's view, such as a doorway.

Draw Motion Area: Use your mouse to click and drag on the area that you would like to monitor for motion.

Erase Motion Area: To erase a motion detection area, simply click on the red square that you wish to remove.

Right clicking on the camera image brings up the following menu options:

- **Select All:** Draws a motion detection area over the entire screen.
- **Clear All:** Clears any motion detection areas that have been drawn.
- **Restore:** Restores the previously specified motion detection areas.
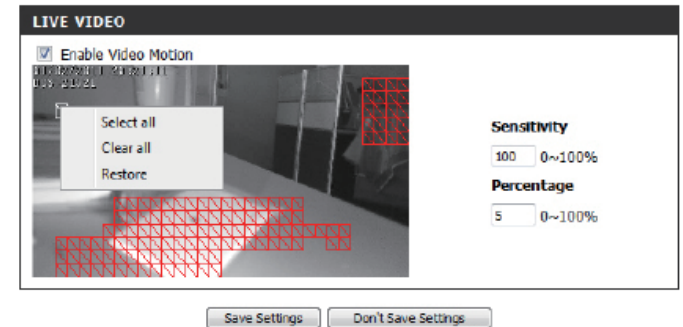
Sound Detection

Sound detection enables the camera to monitor the environment for loud sounds. You may set the volume threshold used to determine whether sound was detected or not.

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

Detection Level: Specifies the measurable level that would indicate sound. Please enter a value between 50 and 90, the higher the number the more sensitive the camera will be to sound.

Time and Date

This section allows you to automatically or manually configure, update, and maintain the internal system clock for your camera. After making any changes, click the **Save Settings** button to save your changes.

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

Enable Daylight Saving: Select this to enable Daylight Saving Time.

Auto Daylight Saving: Select this option to allow your camera to configure the Daylight Saving settings automatically.

Set Date and Time Manually: Selecting this option allows you to configure the Daylight Saving date and time manually.

Offset: Sets the amount of time to be added or removed when Daylight Saving is enabled.

Synchronize with NTP Server: Enable this feature to set the time automatically by using an NTP server.

NTP Server: Network Time Protocol (NTP) synchronizes the DCS-2103 with an Internet time server. Choose the one that is closest to your location.

Set the Date and Time Manually: This option allows you to set the time and date manually.

Copy Your Computer's Time Settings: This will synchronize the time information from your PC.

Event Setup

In a typical application, when motion is detected, the DCS-2103 sends images to a FTP server or via e-mail as notifications. As shown in the illustration below, an event can be triggered by many 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 Network Camera to send snapshots or videos to your e-mail address or FTP site.
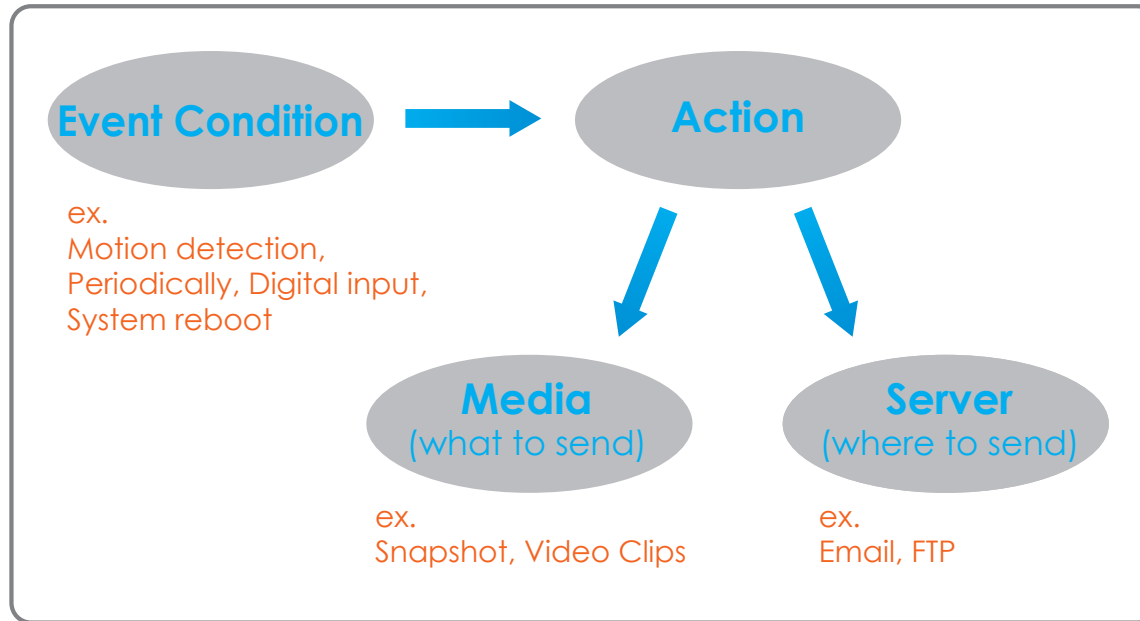
To start plotting an event, it is suggested to configure server and media columns first so that the Network Camera will know what action shall be performed when a trigger is activated.

The Event Setup page includes 4 different sections.

- Server
- Media
- Event
- Recording

1. To add a new item - "event, server or media," click **Add**. A screen will appear and allow you to update the fields accordingly.

2. To delete the selected item from the pull-down menu of event, server or media, click **Delete**.

3. Click on the item name to pop up a window for modifying.

Add Server

You can configure up to 5 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.

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 "Audio and Video" on page 31 for more information on video profiles.

Send pre-event image(s) [0~4]: Set the number of pre-event images to take. Pre-event images are images taken before the main event snapshot is taken.

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

File name prefix: The prefix name will be added on the file name.

Add date and time suffix to file name: Check it to add timing information as file name suffix.

Video clip: Select this option to set the media type to video clips.

Source: Set the video profile to use as the media source. Refer to "Audio and Video" on page 51 for more information on video profiles.

Pre-event recording: This sets how many seconds to record before the main event video clip starts. You can record up to 4 seconds of pre-event video.

Maximum duration: Set the maximum length of video to record for your video clips.

Maximum file size: Set the maximum file size to record 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.

Add Event

Create and schedule up to 2 events with their own settings here. After making any changes, click the **Save Settings** button to save your changes.

Event name: Enter a name for the event.

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

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

Delay: Select the delay time before checking the next event. It is being used for both events of motion detection and digital input trigger.

Trigger: Specify the input type that triggers the event.

Video Motion Detection: Motion is detected during live video monitoring. Select the windows that need to be monitored.

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

Digital input: The external trigger input to the camera.

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 detects movement.

Sound Detection: Triggers an event when sound is detected.

Time: Select **Always** or enter the time interval.

Action: If you have created Server and Media entries, you will see them appear here. Select which Server you want to send to and which Media you want the camera to send.

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

Add Recording

Here you can configure and schedule the recording settings. After making any changes, click the **Save Settings** button to save your changes.

Recording entry name: The unique name of the entry.

Enable this recording: Select this to enable the recording function.

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

Source: The source of the stream.

Recording schedule: Scheduling the recording entry.

Recording settings: Configuring the setting for the recording.

Destination: Select the folder where the recording file will be stored.

Total cycling recording size: Please input a HDD volume between 1 MB and 2 TB for recording space. The recording data will replace the oldest record when the total recording size exceeds this value. For example, if each recording file is 6MB, and the total cyclical recording size is 600MB, then the camera will record 100 files in the specified location (folder) and then will delete the oldest file and create new file for cyclical recording.

Please note that if the free HDD space is not enough, the recording will stop. Before you set up this option please make sure your HDD has enough space, and it is better to not save other files in the same folder as recording files.

RECORDING

Recording entry name: [   ]

☐ Enable this recording
Priority: [normal ▼]
Source: [Profile 1 ▼]

RECORDING SCHEDULE

☑ Sun ☑ Mon ☑ Tue ☑ Wed ☑ Thu ☑ Fri ☑ Sat
Time
  ⦿ Always
  ○ From [00 ▼] [00 ▼] To [23 ▼] [59 ▼]

RECORDING SETTINGS

Destination [None ▼]
Total cycling recording size: [1000] Mbytes [200~2000000]
⦿ Size of each file for recording: [10 ▼] Mbytes
○ Time of each file for recording: [10 ▼] seconds
File Name Prefix: [   ]

[Save Settings] [Don't Save Settings]

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

Time of each file for recording: If this is selected, 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).

RECORDING SETTINGS

Destination None

Total cycling recording size: 1000 Mbytes [200~2000000]

◉ Size of each file for recording: 10 Mbytes
○ Time of each file for recording: 10 seconds
File Name Prefix:

[Save Settings] [Don't Save Settings]

SD Card

Here you may browse and manage the recorded files which are stored on the microSD card.

Format SD Card: Click this icon to automatically format the microSD card and create "picture" & "video" folders.

View Recorded Picture: If the picture files are stored on the microSD card, click on the picture folder and choose the picture file you would like to view.

Playback Recorded Video: If video files are stored on the microSD card, click on the video folder and choose the video file you would like to view.

**Refresh:** Reloads the file and folder information from the microSD card.

Advanced
Digital Input/Output

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 and once triggered images will be taken and e-mailed. After making any changes, click the **Save Settings** button to save your changes.

Select D/I or D/O Mode: The camera will send a signal when an event is triggered, depending upon the type of device connected to the DI circuit.

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."
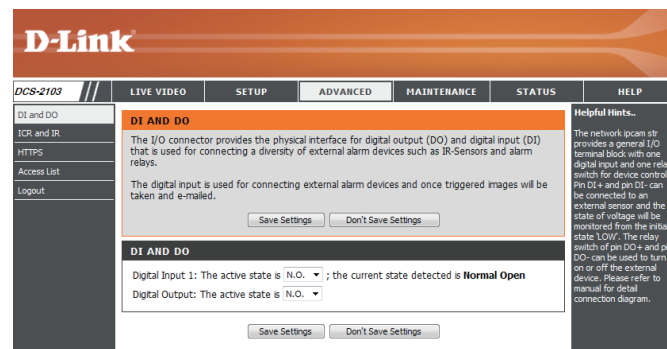
ICR and IR

Here you can configure the ICR and IR settings. The IR(Infrared) Cut-Removable(ICR) filter can be disengaged for increased sensitivity in low light environments.

Automatic: The Day/Night mode is set automatically. You can use the Sensitivity dropdown box to set when the camera will switch to Night mode. The text box to the right shows what lighting conditions are currently being detected by the camera for reference. You can refresh this status by clicking the **Refresh** button.

Day Mode: Day mode enables the IR Cut Filter.

Night Mode: Night mode disables the IR Cut Filter.

Schedule Mode: Set up the Day/Night mode using a schedule. The camera will enter Day mode at the starting time and return to Night mode at the ending time.

IR Light Control: The camera can enable or disable the IR (infrared) light according to your preferences. This setting provides additional controls depending on your specific application.

Off: The IR light will always be off.

On: The IR light will always be on.

Sync with ICR: The IR light will turn on when the ICR sensor is on.

Schedule: The IR light will turn on or off according to the schedule that you specify below.

HTTPS

This page allows you to install and activate an HTTPS certificate for secure access to your camera. After making any changes, click the **Save Settings** button to save your changes.

Enable HTTPS Secure Connection: Enable the HTTPS service.

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

- Create a self-signed certificate automatically
- Create a self-signed certificate manually
- Create a certificate request and install

Status: Displays the status of the certificate.

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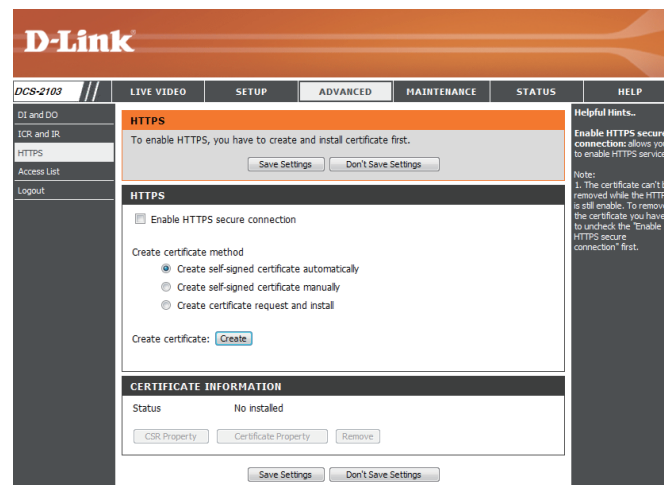
Access List

Here you can set access permissions for users to view your DCS-2103.

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

Start IP address: The starting IP Address of the devices (such as a computer) that have permission to access the video of the camera. Click **Add** to save the changes made.

Note: A total of seven lists can be configured for both columns.

End IP address: The ending IP Address of the devices (such as a computer) that have permission to access the video of the camera.

Delete allow list: Remove the customized setting from the Allow List.

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

Delete deny list: Remove the customized setting from the Delete 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 IPs located between 171.0.0.0 and 192.255.255.255 can access the Network Camera.
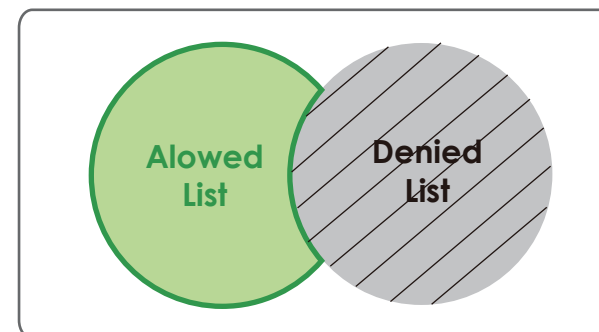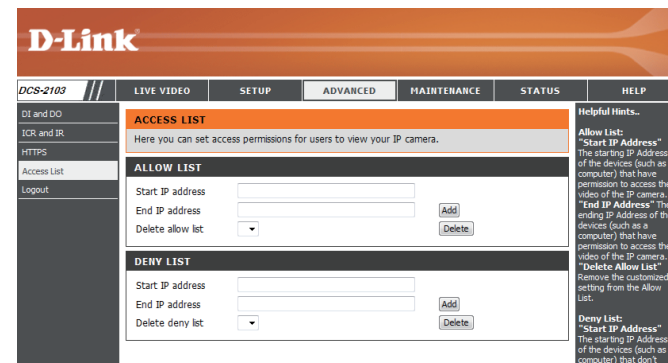
Maintenance
Device Management

You may modify the name and administrator's password of your camera, as well as add and manage the user accounts for accessing the camera. You may also use this section to create a unique name and configure the OSD settings for your camera.

Admin Password Setting: Set a new password for the administrator's account.

Add User Account: Add a new user account.

User Name: Enter the user name for the new account.

Password: Enter the password for the new account.

User List: All the existing user accounts will be displayed here. You may delete accounts included in the list, but you may want to reserve at least one as a guest account.

IP Camera Name: Create a unique name for your camera that will be added to the file name prefix when creating a snapshot or a video clip.

Enable OSD: Select this option to enable the On-Screen Display feature for your camera.

Label: Enter a label for the camera, which will be shown on the OSD when it is enabled.

Show Time: Select this option to enable the time-stamp display on the video screen.

LED: You may specify whether or not to illuminate the status LED on the camera.

System

In this section, you may back up, restore and reset the camera configuration, or reboot the camera.

Save To Local Hard Drive: You may save your current camera configuration as a file on your computer.

Local From Local Hard Drive: Locate a pre-saved configuration by clicking **Browse** and then restore the pre-defined settings to your camera by clicking **Load Configuration**.

Restore to Factory Default: You may reset your camera and restore the factory settings by clicking **Restore Factory Defaults**.

Reboot Device: This will restart your camera.

Enable Schedule Reboot: You can schedule the camera to reboot according to a schedule. Select the days and time you want the camera to automatically reboot.
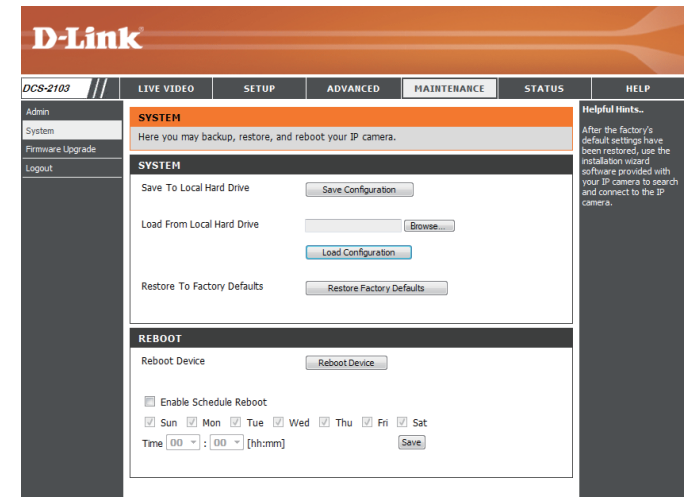
Firmware Upgrade

The camera's current firmware version will be displayed on this screen. You may visit the D-Link Support Website to check for the latest available firmware version.

To upgrade the firmware on your DCS-2103, please download and save the latest firmware version from the D-Link Support Page to your local hard drive. Locate the file on your local hard drive by clicking the **Browse** button. Select the file and click the **Upload** button to start upgrading the firmware.

Current Firmware Version: Displays the detected firmware version.

Current Product Name: Displays the camera model name.

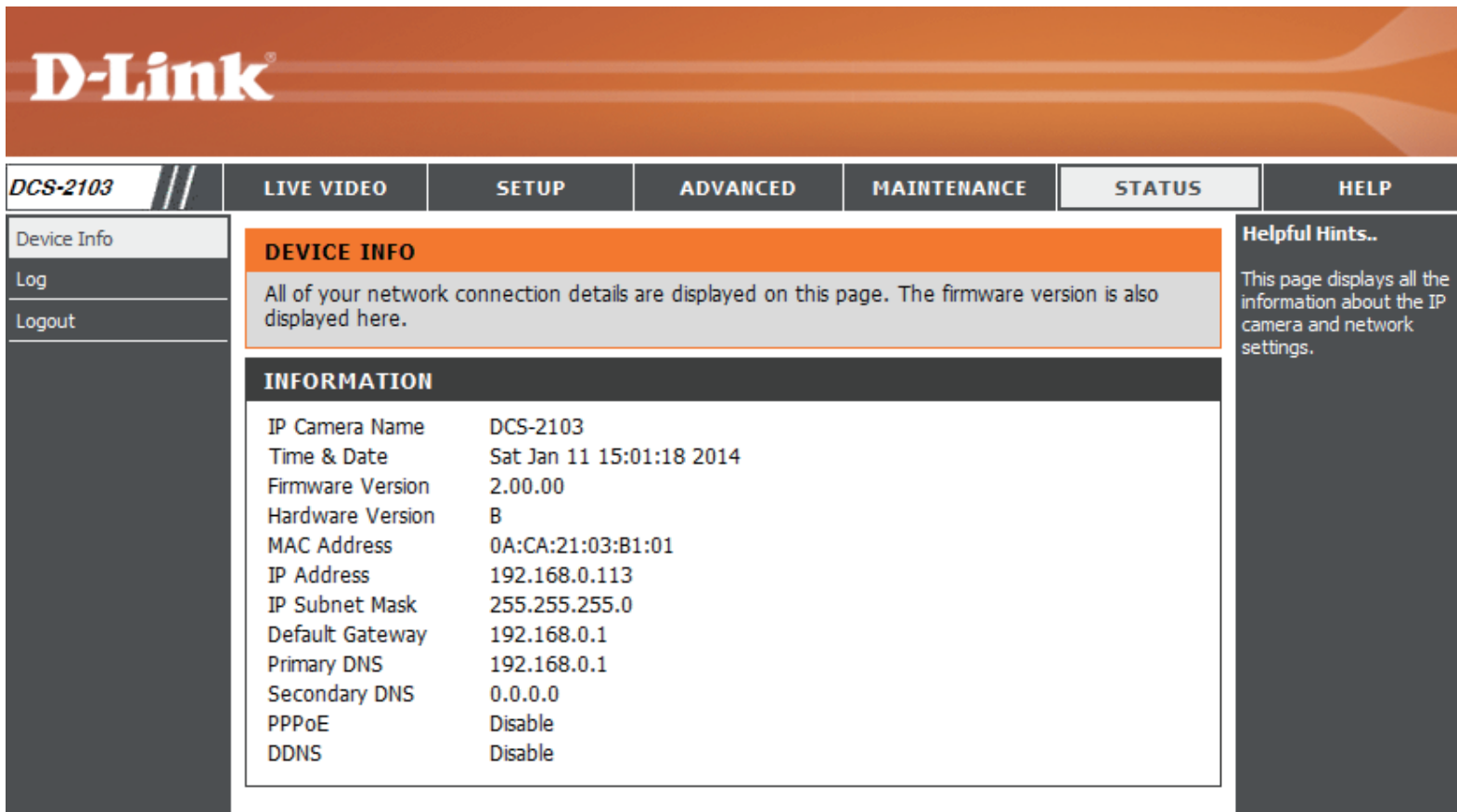**File Path:** Locate the file (upgraded firmware) on your hard drive by clicking **Browse**.

Upload: Uploads the new firmware to your camera.
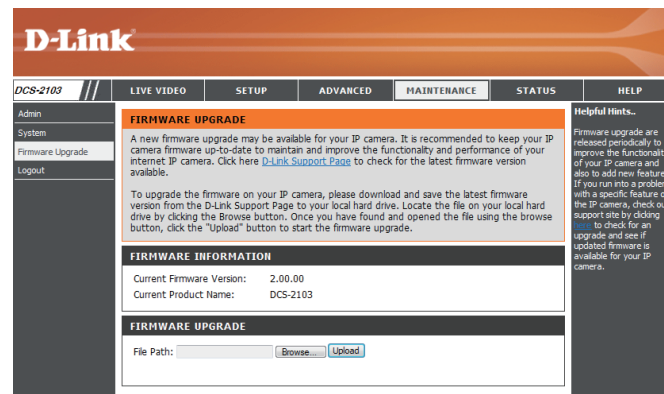
Status
Device Info

This page displays detailed information about your device and network connection.

Logs

This page displays the log information of your camera. You may download the information by clicking **Download**. You may also click **Clear** to delete the saved log information.

Help

This page provides helpful information regarding camera operation.

DI/DO Specifications

Pin 1 → ← Pin 4

Pin 2 → ← Pin 3

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	**Digital In (DI)**	A switch from DI to DC 5 V, activated by setting NO. or NC.
3	**DC5V OUTPUT**	DC 5 V Output / Max. 100 mA
4	**GND**	GND

Internal 5V Power

DC Power 5V

DND

5V

N.C / N.O — DI

Reed switch

DO

100 mA

Diode

R

ALARM

External 3~12V Power

DC Power 5V

DND

5V

DC Power 3V~12V

N.C / N.O — DI

Reed switch

DO

100 mA

Diode

R

ALARM
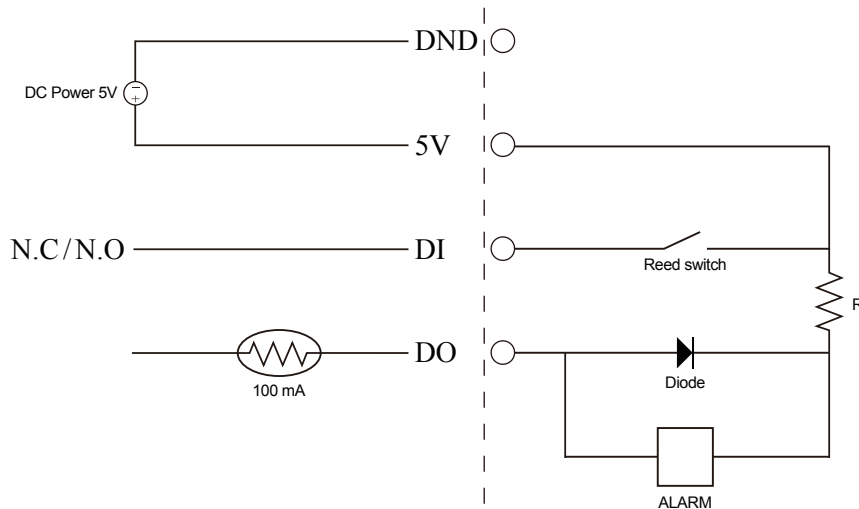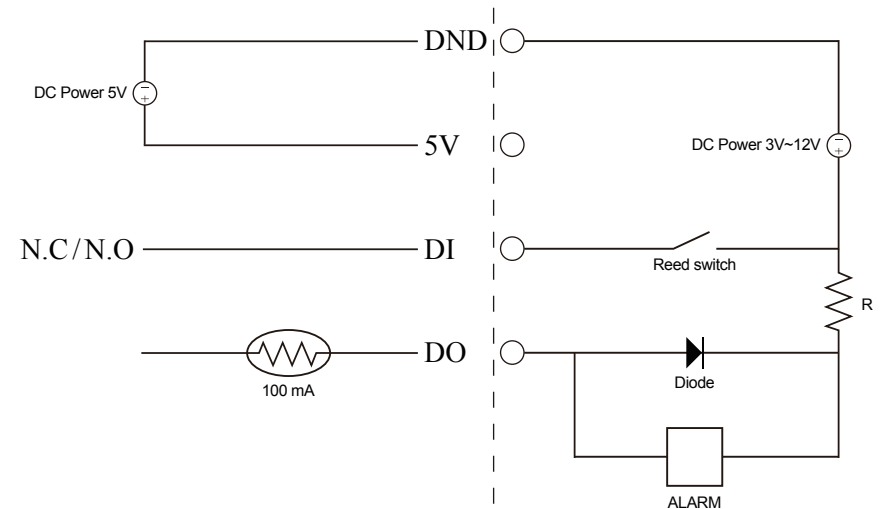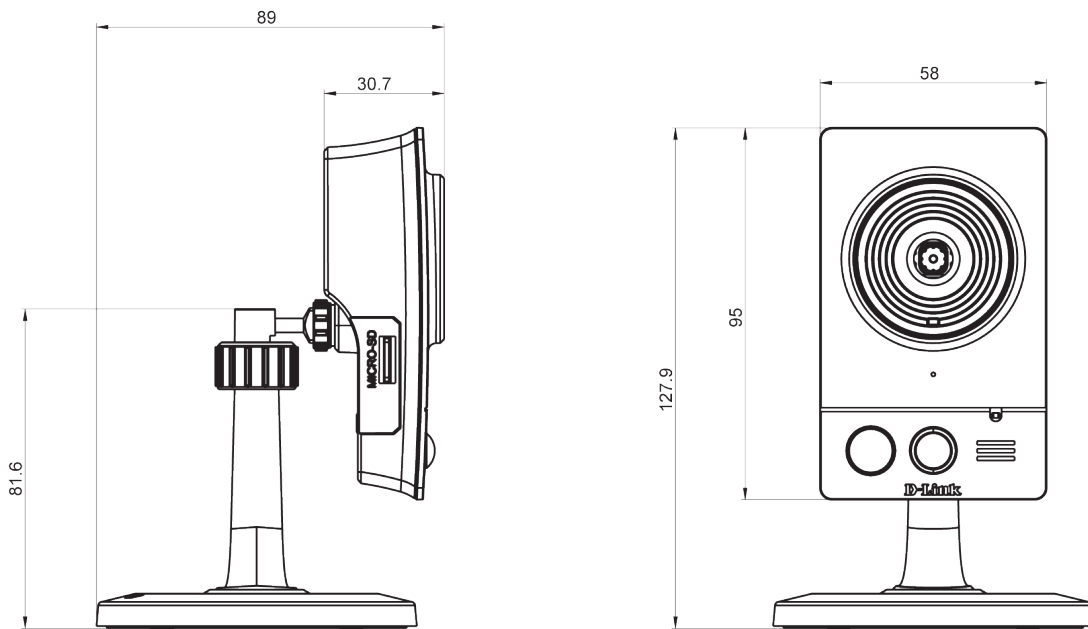
Technical Specifications

Camera	Camera Hardware Profile	▪ 1/4" Megapixel progressive CMOS sensor
		▪ 5 meter IR illumination distance
		▪ Minimum illumination: 0 lux with IR LED on
		▪ Built-in Infrared-Cut Removable (ICR) Filter module
		▪ Built-in PIR sensor (5 meter)
		▪ Built-in microphone and speaker
			▪ 10x digital zoom
			▪ Focal length: 3.45 mm
			▪ Aperture: F2.0
			▪ Angle of view:
			  ▪ (H) 57.8°
			  ▪ (V) 37.8°
			  ▪ (D) 66°

	Image Features	▪ Configurable image size, quality, frame rate, and bit rate ▪ Time stamp and text overlays ▪ Configurable motion detection windows	▪ Configurable privacy mask zones ▪ Configurable shutter speed, brightness, saturation, contrast, and sharpness
	Video Compression	▪ Simultaneous H.264/MJPEG format compression ▪ H.264 multicast streaming	▪ JPEG for still images
	Video Resolution	16:9 - 1280x720, 800x448, 640x360, 480x272, 320x176	4:3 - 960x720, 800x592, 640x480, 480x352, 320x240
	Audio Support	G.711, AAC	
	External Device Interface	▪ 10/100 BASE-TX Fast Ethernet port ▪ DI/DO port	▪ MicroSD/SDHC card slot
Network	Network Protocols	IPv6 IPv4 TCP/IP UDP ICMP DHCP client NTP client (D-Link) DNS client DDNS client (D-Link) SMTP client FTP client	HTTP / HTTPS Samba Client PPPoE UPnP port forwarding RTP / RTSP/ RTCP IP filtering QoS CoS Multicast IGMP ONVIF compliant
	Security	▪ Administrator and user group protection ▪ Password authentication	▪ HTTP and RTSP digest encryption

System Management	System Requirements for Web Interface	▪ Operating System: Microsoft Windows 7/Vista/XP/2000	▪ Browser: Internet Explorer, Firefox, Chrome
	Event Management	▪ Motion detection ▪ Event notification and uploading of snapshots/video clips via e-mail or FTP	▪ Supports multiple SMTP and FTP servers ▪ Multiple event notifications ▪ Multiple recording methods for easy backup
	Remote Management	▪ Take snapshots/video clips and save to local hard drive	▪ Configuration interface accessible via web browser
General	Weight	116g	
	Power Supply	PoE (802.3af Class 2) / 5 VDC, 1.2 A(not included in package)	
	Power Consumption	4.1 +-5% watts(PoE)	
	Temperature	Operating: 0 to 40 °C (32 to 104 °F)	Storage: -20 to 70 °C (-4 to 158 °F)
	Humidity	Operating: 20% to 80% non-condensing	Storage: 5% to 95% non-condensing
	Certifications	CE CE LVD	FCC C-Tick
Dimensions			